Fact Sheet

Deposit return systems: Key factors impacting performance

December 2025

reloop resources remain resources

Contents

Deposit return systems

Key factors impacting performance

Around the world, deposit return systems are transforming how beverage containers are collected and recycled. With collection rates above 90% in top-performing regions, the results speak for themselves. Supported by new data from over 40 jurisdictions, this fact sheet explores why DRS outperform other collection systems and what drives their success.

Introduction

The global adoption of deposit return systems (DRS) continues to accelerate. Between 2020 and 2024 alone, 10 new deposit systems were implemented, more than in any other five-year period in history (see Figure 1), and as of the end of 2025, over 396 million people across 60 countries, states, and territories live in places with a DRS. Most of this population is concentrated in Europe (57%), followed by North America (33%) and Australia (7%).

Since the release of our previous fact sheet in May 2024, new systems have launched in Austria (January 2025), Tasmania (May 2025), and Poland (October 2025). And by the end of 2027, a further 189 million people are expected to gain access as systems roll out in places like Türkiye, Singapore, Portugal, Uruguay, and the United Kingdom (UK).

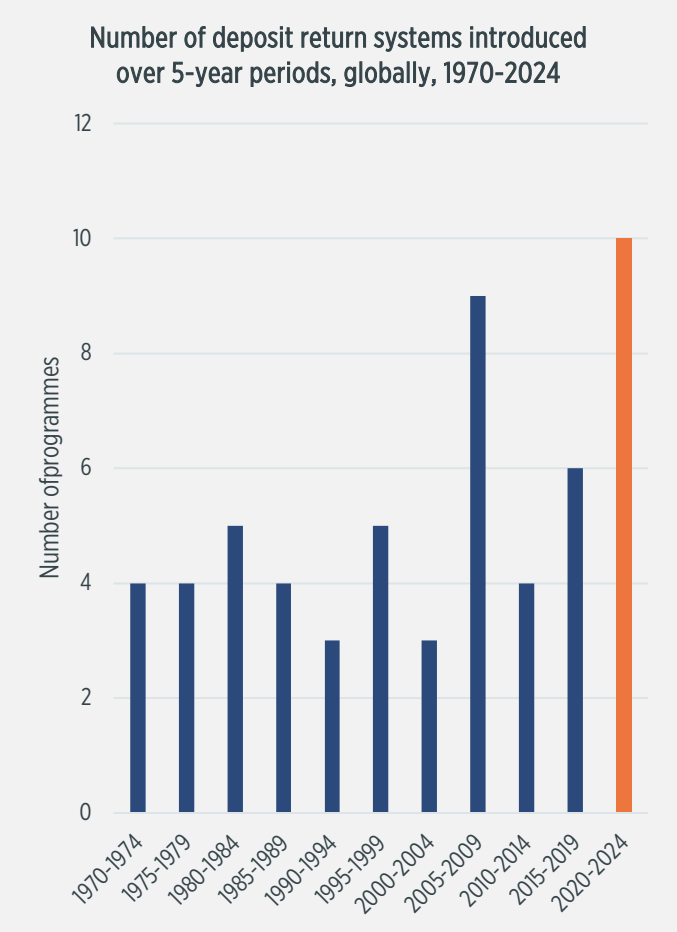


Figure 1 Number of deposit return systems introduced over 5-year periods, globally, 1970-2024

The EU's Packaging and Packaging Waste Regulation (PPWR), published in early 2025, has been a key driver of this global expansion. Article 7 of the PPWR sets mandatory recycled content targets for single-use plastic beverage bottles (30% by 2030 and 65% by 2040), while

Article 50 establishes a 90% collection-for-recycling target for beverage cans and plastic bottles up to 3 litres by 1 January 2029 and requires member states to implement DRS or equivalent systems to achieve these targets. Together, these provisions have accelerated DRS implementation across the EU, recognising them as most effective means of achieving high collection rates and securing high-quality recycled material.

The latest data show that beverage container collection rates in top-performing jurisdictions consistently reach 90% or higher, while municipal kerbside recycling programmes typically do not exceed 50% once material losses are accounted for.[i] Evidence from the United States (US) echoes this trend. A report[ii] from Eunomia and Ball Corporation, *The 50 States of Recycling*, found that nine of the ten US states with the highest recycling rates have a DRS. Although DRS states represent only 27% of the US population, they account for 47% of all packaging recycled nationally, including 51% of all aluminium cans and glass bottles and 61% of all PET bottles. Overall, states with a DRS recycle 34% of packaging (excluding fibres and flexible plastics) through closed-loop end markets, compared with just 7% in non-DRS states.

The effectiveness of DRS is also evident in recent programme launches. In the Republic of Ireland, beverage container collection rates rose from 49% pre-DRS implementation to 81% within the first year.[iii] Likewise, Lithuania saw PET beverage bottle collection jump from 34% pre-DRS to 74.3% after the first year and 91.9% after the second.[iv] In Queensland, Australia, only 18% of eligible beverage containers were collected for recycling prior to the DRS. Today, more than 67% are being collected through the scheme, an increase of 270%.[v]

Figure 2 presents the median collection rates across deposit systems, by region, based on data primarily from 2024. European systems lead with a median collection rate of 90%, followed by Canadian deposit systems at 77%, 69% in the US, and 68% in Australia (note: rates presented for Canada and Australia include containers collected via MRFs, which receive material from kerbside recycling programmes and the ICI sector. These jurisdictions have a higher share of containers recovered through these channels).

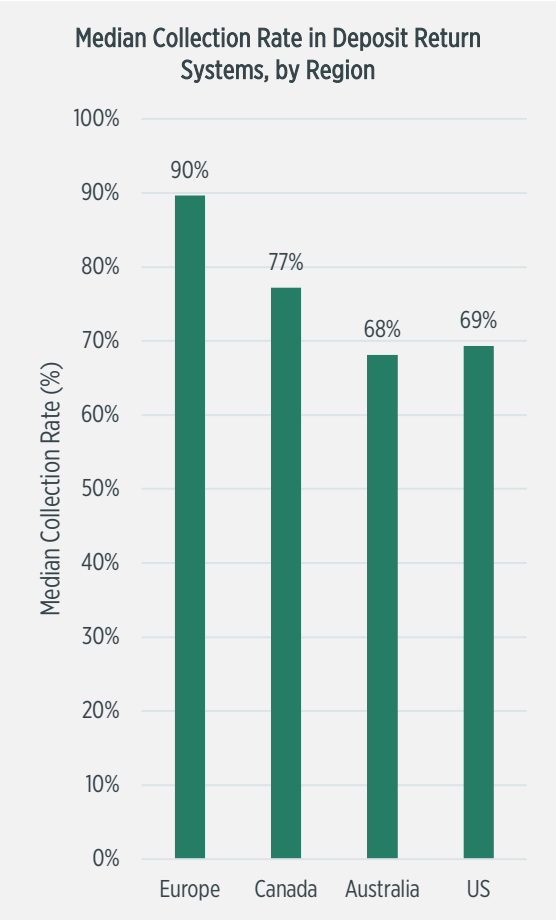


Figure 2 Median collection rate across deposit return systems, by region (Note: Canadian and Australian figures include containers collected via MRFs, which receive material from kerbside recycling programmes and the ICI sector. These jurisdictions have a higher share of containers recovered through these channels)

This fact sheet examines the performance of deposit systems worldwide, exploring the complex interplay of design, operational, and contextual factors that influence outcomes. By identifying what drives high collection rates, and where barriers persist, it aims to support policymakers, system operators, and other industry stakeholders seeking to optimise DRS performance and drive continuous improvement.

How performance is tracked and measured

While the performance of a DRS can be assessed using several indicators (see Figure 3), the most common key performance indicator (KPI) is the **collection rate**, also known as the **return rate** or **redemption rate**. In a DRS, this rate is typically defined as the number of eligible beverage containers collected for recycling compared with the number sold during the same period, expressed as a percentage:

Units Collected ÷ Units Sold = Collection Rate (%)

This unit-based definition reflects the inherent precision of a deposit system: every sale and every return is recorded within a closed accounting framework that tracks containers down to the individual unit. Producers and distributors report the number of eligible containers placed on the market, while return points, such as depots, retailers, and reverse vending machines, record returns. Because of this traceability, DRS operators can calculate collection rates with a high degree of accuracy and confidence. While most systems report unit-based collection rates, a few report by weight (that is, the total tonnes of containers collected divided by the tonnes sold). Some jurisdictions report both metrics, which can help with cross-checking and fraud mitigation.

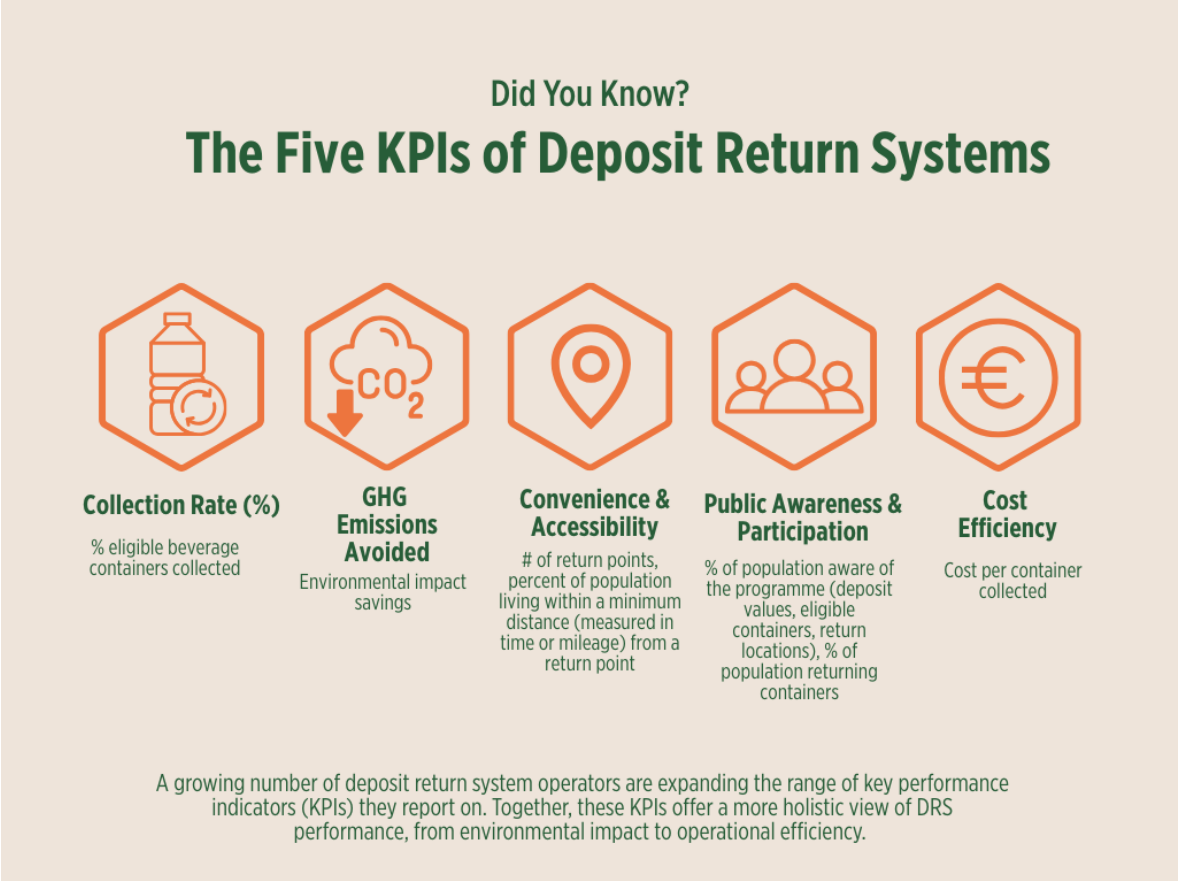


Figure 3 The five most used KPIs to measure the performance of deposit return systems

In many kerbside or 'bring' recycling systems, especially single-stream ones, the terms collection rate and recycling rate are often used interchangeably. However, this can be misleading, as these terms represent different stages of

the recycling process. In a kerbside system, collection simply means materials have been picked up from households and sorted in a materials recovery facility (MRF). It does not mean they have been successfully recycled.

Because kerbside-collected materials are mixed with other recyclables, significant losses occur during collection, transport, and processing. Contamination, breakage, and sorting inefficiencies, particularly for glass bottles, mean that a considerable portion of what is collected never makes it into new beverage containers. As a result, reported kerbside collection rates often overstate actual recycling performance, since they measure what enters the system, not what comes out as usable recycled material.

By contrast, deposit systems operate as closed, single-material collection streams, where beverage containers are collected separately from other recyclables. This separation dramatically reduces contamination and yield loss. While some degree of material loss still occurs (for instance, due to the caps, labels, and glue that remain on the containers after sorting), the scale of that loss is minimal compared to kerbside systems and MRFs.

Did you know?
In a DRS, every sale and every return is recorded within a closed accounting framework that tracks containers down to the individual unit. Producers and distributors report the number of eligible containers placed on the market, while return points (i.e. depots, retailers, reverse vending machines), record redemptions. Because of this traceability, DRS operators can calculate collection rates with a high degree of accuracy and confidence.

For this reason, although some DRS operators may use the terms collection rate and recycling rate interchangeably, the difference between them is typically very small. Because DRS containers are clean, pre-sorted, and sent directly to specialised counting and processing facilities, collection in a DRS almost equals recycling, with collection rates usually within a few percentage points of the true recycling rate.

Reporting practices and transparency

When comparing the performance of deposit systems across jurisdictions, it's important to note that reporting practices vary widely, both in scope and transparency. In some systems, the operator produces an annual report that is publicly available on its website, while in others, no data is published, or it can only be obtained by contacting the system operator directly. In most jurisdictions, a central system operator, or clearinghouse, collects, verifies, and reports results on behalf of all producers. Where multiple operators exist (e.g. British Columbia, Canada, where Encorp Pacific and the Brewers Recycled Container Collection Council [BRCCC] each manage a portion of the system), data must be combined to calculate an overall collection rate.

Most DRS report both total and material-specific collection rates (allowing identification of lower-performing materials and targeted improvement efforts), however there are others that provide only an overall rate (more common in the US). A few, like Yukon and Vermont, report by beverage type (e.g. liquor vs. non-liquor, milk vs. other beverages) or container size rather than material. In rare cases, such as Iowa, there is no formal reporting requirement at all; beverage distributors are not required to report sales or returns to the state, and collection rates are instead estimated through periodic material characterisation studies.

Another major source of variation is whether reported collection rates include deposit containers that are collected through alternate collection channels (i.e. kerbside recycling programmes, 'bring' sites, or mixed recyclables from the industrial, commercial, and institutional [IC&I] sector) that ultimately end up at MRFs. In some jurisdictions, reporting clearly distinguishes between containers returned through the DRS network (where consumers receive their deposit refund) and those recovered through these other channels. In others, no such breakdown is provided, and the reported collection rate reflects a combined total. The level of transparency around this reporting differs greatly, complicating cross-jurisdictional comparisons. For example:

- **Canada:** In Canada, only two system operators (Encorp Pacific in British Columbia and Quebec Beverage Container Recycling Association (QBCRA) in Quebec) publicly report the share of deposit containers collected through MRFs versus those returned through the DRS network in their annual reports. Quebec provides one of the clearest breakdowns, reporting 63% collected through DRS return points and 15.7% via kerbside.[vi] Encorp Pacific is also transparent in its reporting, disclosing that about 10.6% of containers are recovered through MRFs (7.6% from kerbside and about 3% from the industrial, commercial, and institutional [IC&I] sector); however, BC's second operator, BRCCC, does not publish corresponding data, making it impossible to determine how many deposit containers, overall, come through each collection channel.

  In Prince Edward Island and Newfoundland and Labrador, system operators track MRF-sourced volumes but this information is not publicly available through annual reports; through direct communication, we confirmed that MRF collections account for 8.5%[vii] and 2.8% of the reported return rates, respectively. In Saskatchewan, containers collected through kerbside programmes are returned to depots for refund and recycling and are included in the reported annual return volumes; however, because only a small number of kerbside operators participate and their return data is commercially confidential, a precise kerbside share is not available (though the system operator estimates it accounts for less than 5%[viii] of total returns).

  For all other provinces (except for the Northwest Territories which does not have any kerbside collection of recyclables, and Ontario[1]), including Alberta, New Brunswick, Nova Scotia, and Yukon [ix], deposit containers recovered through MRFs are included in reported collection rates, but the exact proportions are either not tracked or not publicly disclosed.

- **Australia:** As in Canada, Australia's deposit systems are designed to operate alongside kerbside collection programmes, with deposit-bearing containers recovered through MRFs included in reported collection rates. In most states, MRF-recovered containers are tracked and reported separately from those returned through the depot network, often with data broken down by material type. The exceptions are South Australia and the Northern Territory, where deposit containers are recovered through MRFs but no separate tracking or public reporting distinguishes these from depot returns.

[1]In Ontario, while it is technically possible for MRF operators to remove DRS containers from sorting lines and return them to DRS return points to claim the refund, this is very unlikely in practice. Ontario's DRS includes only alcohol containers, and MRFs can sort by material type (e.g. PET, glass, aluminium) but do not typically distinguish by beverage type.

- **United States:** In most US states with deposit systems, kerbside recycling programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network (estimates of additional containers recycled at kerbside, provided by the Container Recycling Institute, are included in Appendix D but are not part of the rates presented in this fact sheet). California is the exception, providing detailed data on containers recovered through both DRS return points and kerbside or drop-off programmes. Some MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, but these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.
- **Europe:** In Europe, while some deposit containers may be collected through kerbside, 'bring systems,' or other non-deposit collection channels, these represent a very small share compared to Canada or Australia, typically estimated at only 1–2%. The only country where a quantified figure is available is Iceland, where about 3.6% of deposit containers in 2024 were recovered through MRFs. Most European system operators do not accept MRF-collected containers due to strict quality standards for DRS material, and in many cases, there is no formal relationship between system operators and MRFs because the volumes involved are negligible. As a result, reported European collection rates generally reflect containers returned directly through the DRS, making them more comparable across jurisdictions. Norway's reported collection rate includes a very small proportion (less than 1%) of containers recovered through "waste sorted at source"; these have been subtracted in our reporting so that the collection rates used for cross-country comparisons reflect DRS returns only.

Knowing how much material comes from DRS versus other collection channels is important because it directly affects the quality and end use of the recovered material. Containers returned through dedicated DRS networks are typically clean, intact, and well-sorted, making them far more likely to be recycled into new beverage containers or other food-grade applications. In contrast, containers recovered through kerbside recycling and ending up at MRFs, particularly single-stream facilities, are subject to more contamination and yield loss. Glass bottles frequently break during kerbside collection or at the MRF, while aluminium cans can become flattened or caught in paper streams, ending up in paper bales instead of being recycled back into new cans. These quality losses mean MRF-derived materials are less suitable for closed-loop recycling and less valuable to producers, especially in jurisdictions with recycled content requirements.

Design elements associated with high performance

Now that we have a clear understanding of how DRS performance is measured and the factors to consider when comparing across jurisdictions, it's useful to examine the system features that top-performing systems have in common. Large-scale data analyses across dozens of jurisdictions show that certain design elements consistently correlate with higher collection rates. Among these, three stand out as the most influential and broadly applicable (Figure 4):

- **Meaningful deposit/refund value**
- **Convenient and accessible return network**
- **Broad scope (i.e. beverages, container types, and container sizes included)**

These factors are critical to system success and form the foundation of top-performing DRS. The next section examines each in turn, exploring how variations in deposit level, return network accessibility, and programme scope influence outcomes across jurisdictions.

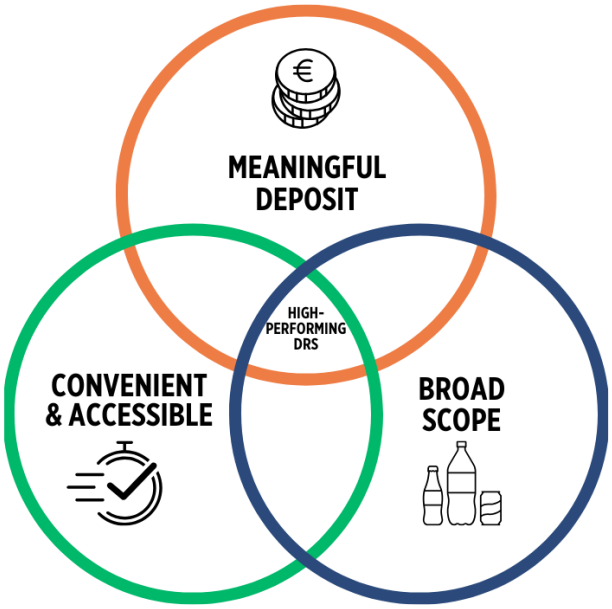


Figure 4 Top three system design elements associated with high DRS performance

Deposit level

The deposit/refund value is one of the most powerful levers for driving participation and boosting collection rates. Relatively higher deposits provide a strong financial incentive to return containers, while low deposits can lead to "return fatigue," where the perceived effort of returning a container outweighs the reward.

A recent global survey[X] of over 16,000 respondents across 16 countries underscores importance of a meaningful deposit. The survey found that financial rewards such as deposit refunds were the strongest motivator for recycling for 41% of respondents. Among those living in markets without a DRS, 29% said that the introduction of a deposit scheme would encourage them to recycle more of beverage packaging. When asked what would motivate them to return more containers, "more money back per container" was the second most popular response (45%).

Surveys across individual jurisdictions reveal similar findings. In the US, a 2022 nationwide survey[xi] asked how large the refund would need to be for people to hold onto a container and return it later. As shown in Figure 5, the majority (37%) of respondents said $0.11–$0.50 (€0.10-€0.43), while only 13% indicated that a refund of USD$0.10 (€0.09) or less would be sufficient. This is notable given that most US states offer a $0.05 (€0.04) to $0.10 (€0.09) refund, highlighting a mismatch between current deposit levels and consumer motivation. Similarly, a 2024 Australian survey found that 61% of respondents would be much more likely to use the DRS if the refund increased from AUD$0.10 (€0.06, USD$0.07) to $0.20 (€0.11, USD$0.13).[xii]

Modelling and empirical studies reinforce the link between deposit value and collection rates. A 2024 study[xiii] by Eunomia which reviewed DRS programmes in Alberta, Norway, and Oregon found that roughly doubling deposits increased collection rates by 4 to 29 percentage points over three years. Standardised, this equates to an average rise of about 2.4 percentage points for every CAD$0.01 (€0.01) increase. The study concluded that even modest increases, such as increasing the deposit from CAD$0.05 (€0.03) to $0.15 (€0.09), can deliver significant gains, particularly in jurisdictions where deposits remain low.[xiv]

Reloop's latest global dataset shows the same pattern. Across 32 jurisdictions with DRS, median return rates increase steadily as deposit values rise: 69% for systems with deposits of €0.05 (USD$0.06) or less, 73% for systems with deposits of €0.06 (USD$0.07) to €0.10 (USD $0.12), and 90% for systems with deposits of €0.11 (USD$0.13) or higher (Figure 6).

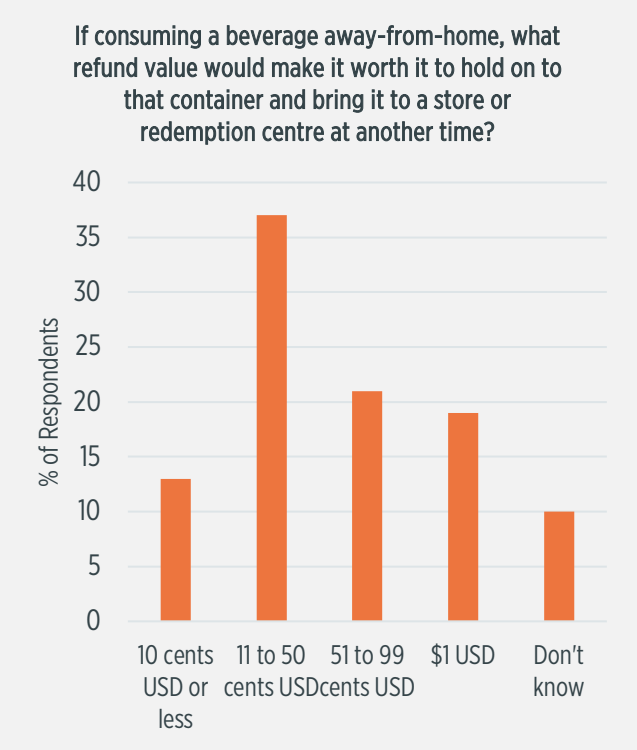


Figure 5 Consumer willingness to return containers by refund amount in the US[1]

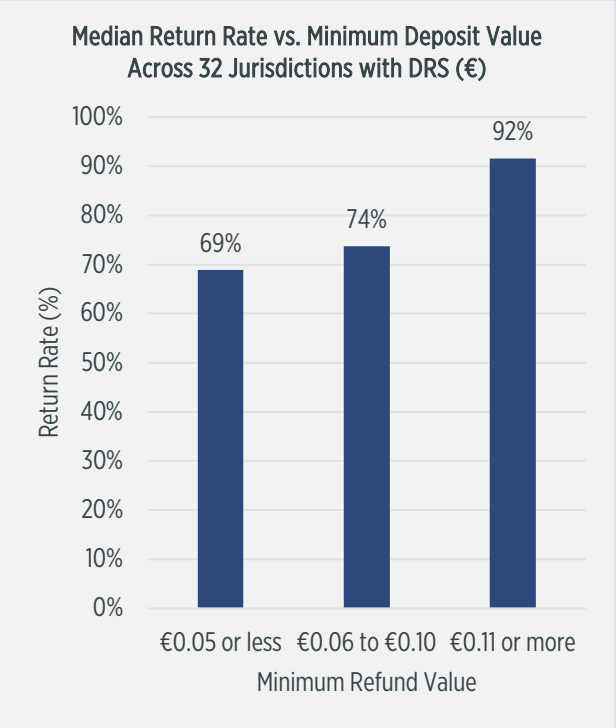


Figure 6 Median return rates across 32 jurisdictions with DRS by minimum refund value (excludes jurisdictions whose rates include MRF collections [i.e. kerbside containers] as well as those with fewer than two years of reported data)

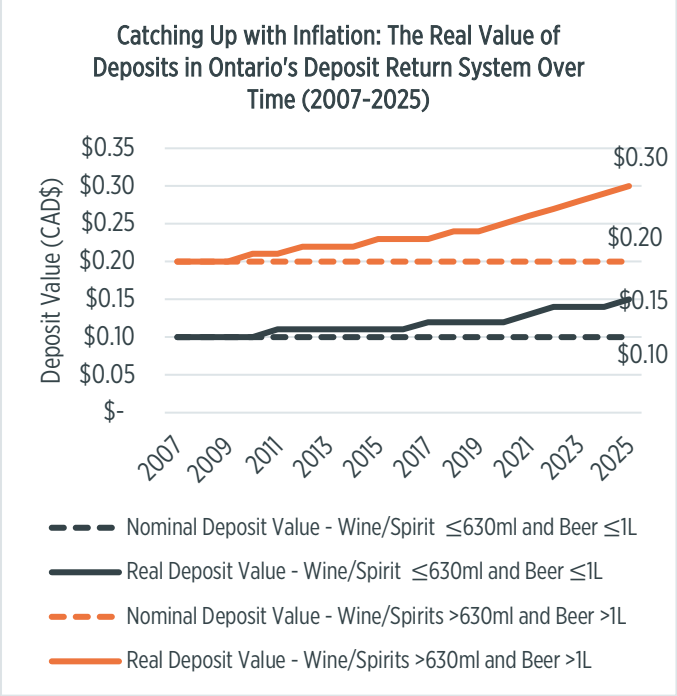
While higher deposits are critical for driving participation, they must be carefully calibrated to balance effectiveness with potential risks. If deposits are set too high, especially relative to neighbouring jurisdictions, and anti-fraud measures such as market-specific barcodes and barcode verification are not in place, systems can become vulnerable to fraudulent activity, like cross-border returns. At the same time, inflation can erode the real value of a deposit over time, reducing its incentive effect and causing collection rates to stagnate or decline (see call-out box). To maintain effectiveness, deposit rates should be reviewed periodically and adjusted to account for inflation and changes in consumer purchasing power.

In recognition of the importance of maintaining a meaningful incentive for sustaining participation, several jurisdictions have increased deposit rates in recent years. The Canadian provinces of Quebec[xv] and New Brunswick[xvi], for example, raised their refunds in 2023 and 2024, and Prince Edward Island (PEI) is set to follow in April 2026.[xvii] Sweden's DRS operator also raised deposits in September 2025, doubling the rate on aluminium cans and small PET bottles from SEK 1 (€0.09, USD$0.11) to SEK 2 (€0.18, USD$0.21) and increasing large PET bottle deposits from SEK 2 (€0.18, USD$0.21) to SEK 3 (€0.27, USD$0.32). Similar updates to deposit rates have been made in Connecticut (2024), Oregon (2017), and Norway (2017). By contrast, some long-standing deposit systems (e.g. Iowa, New York, Vermont, South Australia) have not adjusted their deposit rates since their programmes began, many in the 1970s and 1980s.

Yet increasing deposit levels can be politically sensitive. Governments are often reluctant to be seen as "raising costs" for households, even when deposits are fully refundable. In practice, however, polling consistently shows that consumers support higher deposits, especially when they understand the environmental and economic benefits. Recent surveys underscore this point: in Queensland[xviii] (2025), 86% of respondents supported raising the refund from AUD$0.10 (€0.06) to $0.20 (€0.11), with 61% strongly supportive and only 6% opposed; in Iowa[xix] (2024), 72% supported increasing the state's USD$0.05 (€0.04) deposit to USD$0.10 (€0.09); and in New York[xx] (2025), 61% backed raising the deposit from USD$0.05 (€0.04) deposit to USD$0.10 (€0.09), with strong support across party lines.

The Impact of Inflation on Deposit Values

The Ontario Deposit Return Programme (ODRP), launched in 2007, set deposits at CAD$0.10 (€0.06, USD$0.07) for wine and spirit containers ≤630ml and beer ≤1L, and $0.20 (€0.12, USD$0.14) for larger containers. As a result of inflation, in 2025 these deposits are effectively worth only $0.05 (€0.03, USD$0.04) and $0.10 (€0.06, USD$0.07), respectively. To match the original 2007 incentive in today's dollars, deposits would need to rise to $0.15 (€0.09, USD$0.11) for smaller containers and $0.30 (€0.18, USD$0.21) for larger ones, based on the Bank of Canada's inflation calculator.



Programme scope

The performance of a DRS is also influenced by its scope, that is, which beverages, container materials, and sizes are covered. Beyond reducing waste and litter, a comprehensive beverage scope improves economies of scale by increasing the total number of like-containers managed, making collection and processing more cost-efficient. It also simplifies the consumer experience: one consistent return action applies to all beverage containers, reducing confusion and encouraging participation. Table 1 highlights examples of deposit systems with broad scope, covering the full range of beverages and container types commonly sold today.

Table 1 Examples of deposit systems with broad scope

	Maine (US)	Alberta (Canada)	Finland	Lithuania
Beverage type	Sealed beer, ale or other drink produced by fermenting malt, spirits (including 'nips' [50ml (0.01 gal) liquor bottles]), wine, hard cider, wine coolers, soft drinks, non-carbonated water, non-alcohol carbonated or non-carbonated drinks in liquid form and intended for human consumption **Excluded:** Unflavoured milk and milk substitutes, certain containers composed of a combination of aluminium and plastic/paper filled with non-alcohol drinks, Maine-produced juices and cider, infant formula, nutritional supplements, products frozen at sale or intended for consumption in a frozen state, paper or cardboard containers.	All sealed, ready-to-drink alcohol, non-alcohol, and cannabis drinks **Excluded:** None	Almost all soft drinks; water; beer; cider; sport drinks; juice and beverage concentrates; liquor/spirits/wine sold by Alko **Excluded:** Milk	Beer, beer cocktails, cider and other fermented drinks, mixed alcohol and non-alcohol drinks including water, soft drinks, juices, nectars, fruit wine and fruit-wine-based drinks, fruit-wine cocktails (only when sold in plastic and metal packaging) **Excluded:** None (the law does not define exclusions)
Container material type	Plastic, metal, glass	Plastic (PET, HDPE, other), metal (aluminium, bi-metal), glass, gable top, aseptic, bag-in-box, pouches	Plastic, metal, glass	Plastic, metal, glass
Container size range	≤4L (1.1 gal)	≤ 50L (13.2 gal)	100ml to 3L (0.02 gal to 0.79 gal)	100ml to 3L (0.03 to 0.79 gal)

Recent global analysis[xxi] reinforces the value of broad coverage. A 2024 review of 36 deposit systems worldwide by Eunomia Research and Consulting found that systems excluding large beverage categories, such as bottled water or non-alcoholic drinks, averaged a collection rate of just 67%, compared to 81–82% for systems covering most beverage types. [xxii] After controlling for other variables such as deposit level and convenience, Eunomia's regression analysis indicated that a narrow-scope system can expect collection rates to be about 11 percentage points lower than those of comprehensive, high-scope systems.

Despite these benefits, many systems remain far narrower than they could be. Modern reverse vending machines (RVMs) can recognise and process nearly all container types, yet many systems continue to exclude key material types or entire beverage categories, often for political reasons rather than technical constraints. Milk and dairy products are the most common exemption: across 60 deposit systems worldwide, only 16 jurisdictions include these containers. Other common exemptions are liquid paperboard (LBP) containers, especially in Europe, and glass bottles (despite its high recyclability and the capacity of collection technology to handle it). The UK's upcoming DRS, set to launch in 2027 across England, Scotland, and Northern Ireland, will omit glass entirely; Wales, by contrast, has opted to include it.[xxiii] In North America, Michigan's DRS still excludes bottled water and other non-carbonated drinks, leaving about 45% of all beverages sold in the state outside the system. [xxiv]

Public support for expanding DRS scope

Public opinion and survey data consistently show that consumers prefer broad, inclusive deposit systems. In Australia, a 2018 survey in the Northern Territory found that nearly half (46%) of residents cited limited container eligibility as the main barrier to using the DRS, while a 2021 survey in Western Australia showed that 87% of respondents would use the scheme more often if more containers (such as wine bottles, milk cartons, and spirits) were included.

Polling in North America reveals similar attitudes. In Massachusetts, a 2024 survey found that once voters learned the state's DRS legislation had not been updated since 1983 and that the programme excludes many popular beverages, 75% agreed it needs an overhaul and 88% supported adding common beverages like water. In Ontario, Canada, where only alcohol beverages are included in the DRS, a 2024 poll found that 81% of residents support expanding the system to include non-alcohol drinks like water and soft drinks.

This aligns with global findings: a 2025 survey of more than 16,000 respondents across 16 countries showed that 87% believe DRS should include all single-use beverage packaging.

Encouragingly, more jurisdictions are now recognising the benefits of broader inclusion (see Figures 7 and 8). The Netherlands added small plastic bottles and beverage cans to its DRS in 2021 and 2023, respectively, while Germany expanded its system to include juices and mixed drinks in 2022, and milk and dairy-based drinks in 2024. In Canada, British Columbia added milk and plant-based beverages to its long-standing DRS in 2022, and Quebec, whose system historically covered only soft drinks and beer, is in the midst of a major, multi-phase expansion that brings all beverage types into the programme. The addition of plastic beverage bottles alone added 1.4 billion containers to the system.[xxv]

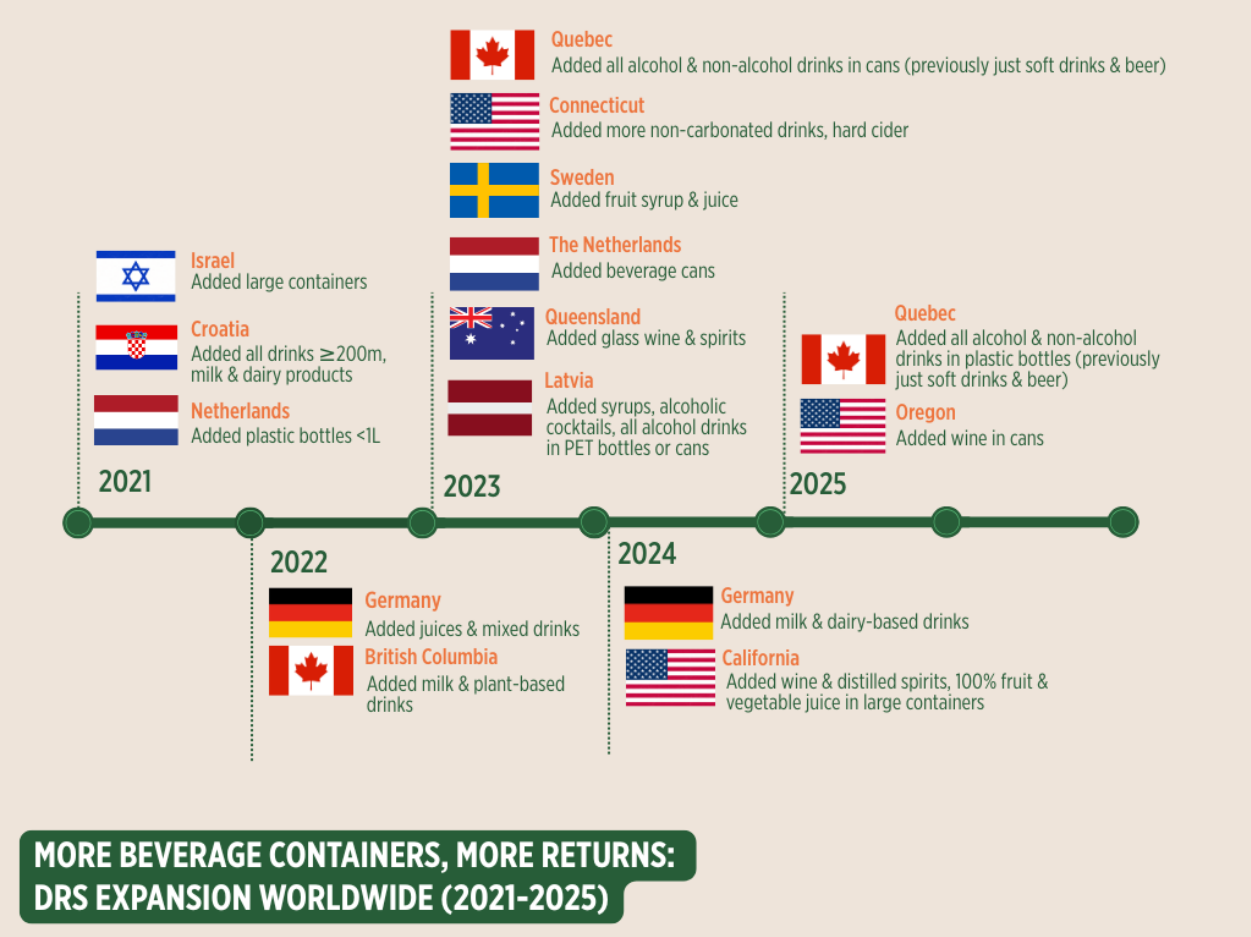


Figure 7 Deposit return system expansions around the world, 2021-2025

Australian states and territories are increasingly harmonising their schemes to cover a broader and more consistent range of beverages. Queensland expanded its system in November 2023 to include glass wine and spirit bottles. Western Australia will follow on in July 2026 with a major expansion covering almost all beverage containers from 150 mL to 3L, including wine and spirits (glass, plastic, sachets, casks), juice, flavoured milk, cordial and water casks. The Northern Territory will introduce similar changes in 2026, expanding eligibility to all beverage containers up to 3L, including wine, spirits, larger juice and flavoured milk formats, and plain milk. New South Wales (NSW) and South Australia will also expand their schemes by late 2027, bringing their programmes in line with the others; this expansion is expected to return nearly half a billion additional containers annually across both states. [xxvi]

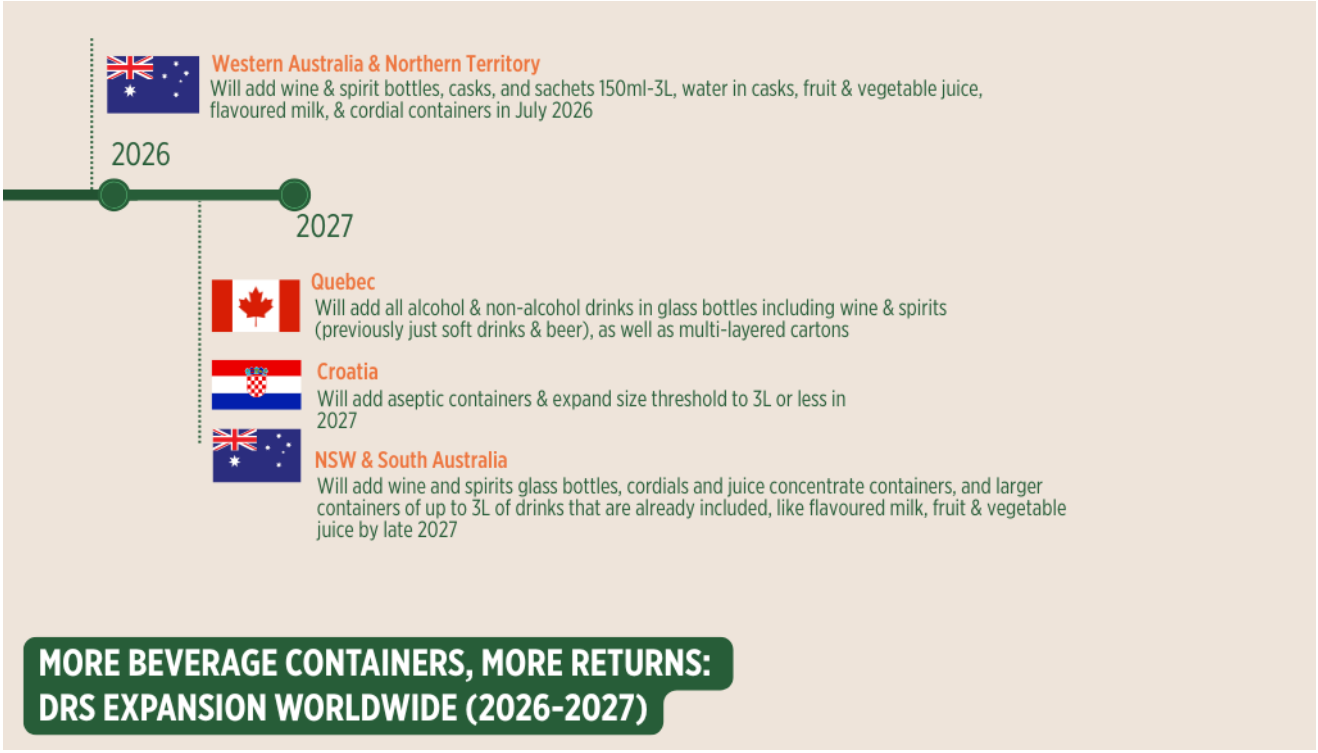


Figure 8 Future deposit return system expansions, 2026-2027

Convenience and accessibility of returns

Alongside deposit value and scope, convenience is one of the strongest predictors of system performance. Top-performing deposit systems make returns as easy as purchasing the beverage itself, embedding recycling into consumers' normal routines and reducing the need for special trips.

The collection model is central to this convenience. Return-to-retail (R2R) systems allow consumers to return containers where they shop, often through reverse vending machines (RVMs), making recycling part of everyday life. Return-to-redemption centre (R2RC) systems, by contrast, rely on centralised (often stand-alone) facilities that are often less conveniently located and require a dedicated trip. Many North American systems use a hybrid model, combining retail return points with stand-alone depots, ensuring accessibility for different user groups, including individuals, community organisations, and ICI customers. Analysis of return rates (excluding MRF collected containers) across 32 jurisdictions (8 R2RC, 11 hybrid, and 13 R2R) shows median collection rates of 90% for deposit systems that utilise a R2R

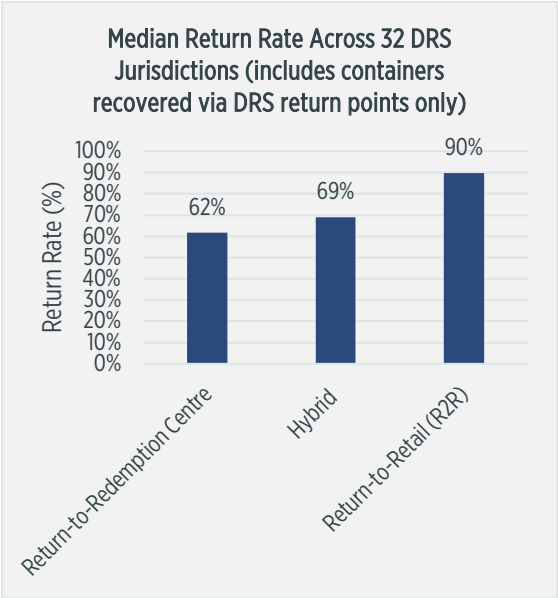


Figure 9 Median return rates across 32 DRS jurisdictions, by redemption model. Note: Excludes Victoria, Romania, Hungary, and the Republic of Ireland (fewer than two years of reported data), Pacific Island countries (no recent data), and jurisdictions where DRS-only return rates are unavailable (several Canadian provinces [BC, SK, AB, NB, NS, and YK], two Australian states [NT, SA], and Iowa (US)

collection model, 69% for hybrid systems, and 62% for those relying on depots/redemption centres only (Figure 9).

Closely linked to collection model type is the number and distribution of return points. A well-distributed network reduces the average distance and time needed to return containers, improving participation. Systems with fewer people per return location generally achieve higher collection rates, as illustrated in Figures 10 and 11. Additional design features, such as bag-drop ("drop and go") options, mobile collection in remote areas, and cashless refunds can further enhance convenience.

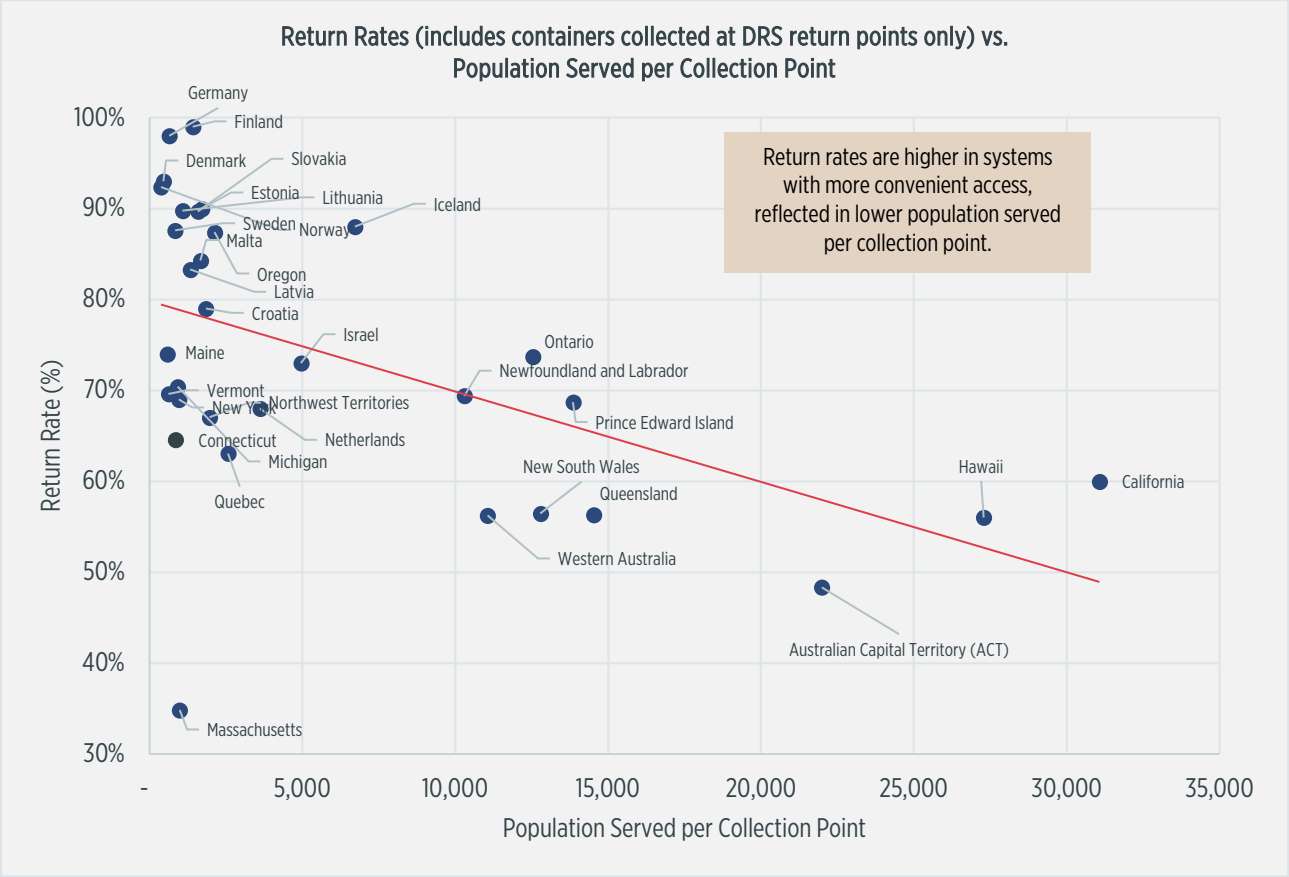


Figure 10 Return rates vs. population served per return point in deposit return systems, globally. Note: Excludes Victoria, Romania, Hungary, and the Republic of Ireland (fewer than two years of data), Pacific Island countries (no recent data), and jurisdictions where DRS-only return rates are unavailable—several Canadian provinces (BC, AB, SK, NB, NS, YK), two Australian states (NT, SA), and Iowa (US). Median values reflect containers returned through the DRS return network only (not via MRFs/kerbside).

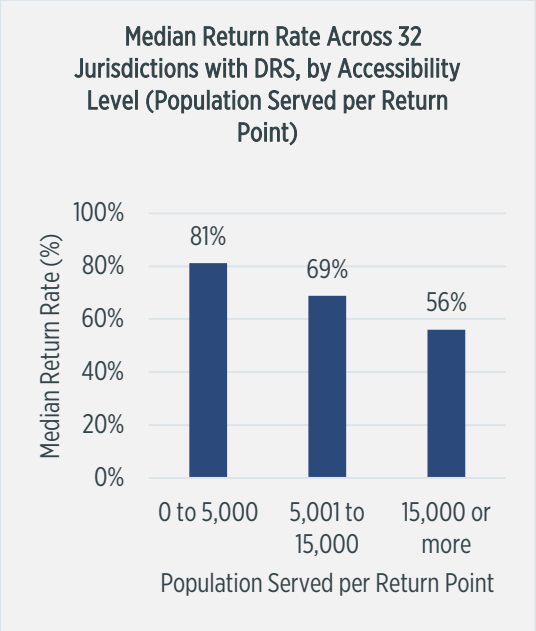


Figure 11 Median return rate across jurisdictions with DRS vs. population served per return point Note: Excludes Victoria, Romania, Hungary, and the Republic of Ireland (fewer than two years of data), Pacific Island countries (no recent data), and jurisdictions where DRS-only return rates are unavailable—several Canadian provinces (BC, AB, SK, NB, NS, YK), two Australian states (NT, SA), and Iowa (US). Median values reflect containers returned through the DRS return network only (not via MRFs/kerbside).

Consumer research consistently shows that convenience strongly influences participation. A 2024 global survey[xxvii] found that nearly half of respondents (46%) would be encouraged to return containers by convenient return locations, while 38% wanted a quicker, simpler return experience. Convenience had an even stronger pull in metropolitan areas, where 50% cited location and 46% cited convenient process as motivators, compared with 39% and 29% in rural areas.

National and regional research echoes these findings. A 2023 survey in Scotland[xxviii] identified the lack of nearby return locations and the time required to return containers as the main reasons people would not use the proposed DRS. In Romania (2024), survey respondents[xxix] cited "no collection point nearby" as their main barrier to returning containers, while a 2024 Alberta poll[xxx] found the same issue was the leading obstacle to depot use. Similarly, national polling in Australia (2024) revealed that location accessibility, lack of time, and inconvenient hours were among the most common reasons for non-participation.[xxxi]

These findings underline that convenience is defined not just by proximity, but by the time, effort, and comfort involved in returning containers. Consumers value short travel times (ideally within a 10–15 minute drive in urban and regional areas), minimal wait times, simple instructions, and safe, accessible facilities. Depending on local needs and circumstances, systems may also incorporate optional accessibility enhancements such as RVMs with tactile buttons, voice prompts, or flexible scanning methods, and, in some contexts, alternatives like staffed counters or bag-drop systems may be added to support users who are unable to use automated machines.

Finally, accessibility must be equitable. Rural and remote communities may require tailored solutions such as mobile collection points, while urban systems should prioritise inclusive design, extended operating hours, and multilingual signage. Systems that address these factors achieve not only higher collection rates but also broader public participation across demographic and regional lines.

Real-world evidence: How design impacts performance

The impact of deposit value, programme scope, and convenience on DRS performance is clear across jurisdictions. Case studies below illustrate how adjustments to these design features have driven higher collection rates, as well as how shortcomings in system design can limit performance.

CASE STUDY: Alberta, Canada

In 2008, Alberta raised its deposits to CAD $0.10 (€0.06) (up from $0.05 [€0.03]) for containers 1 litre and under, and $0.25 (€0.15) (up from $0.20 [€0.12]) for those over 1 litre. Around the same time, the programme expanded its scope: in 2009, milk was added, making Alberta the first North American jurisdiction to include milk containers in a DRS, and beer cans, previously managed under a different programme, were rolled into the Alberta Beverage Container Recycling Corporation (ABCRC) system. These combined changes helped drive a rapid increase in collection, from 70% in 2007 to 81% in 2009, 82% in 2010, and 83% in 2011 (Figure 12).

The impact of deposit value can be seen even more clearly when looking at aluminium cans specifically. Before 2008, beer cans carried a CAD$0.10 (€0.06) deposit while soft drink cans had only $0.05 (€0.03), resulting in collection rates for beer cans that were typically 10–13 percentage points higher. Once the deposit on soft drink cans was raised to $0.10, collection rates for both types quickly converged (Figure 13), underscoring the strong influence of financial incentives on consumer behaviour.

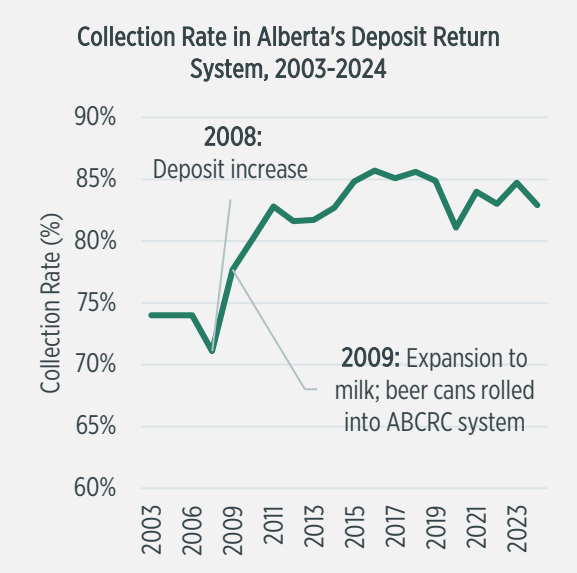


Figure 12 Overall collection rate in Alberta's DRS (including containers collected from MRFs), 2003-2024

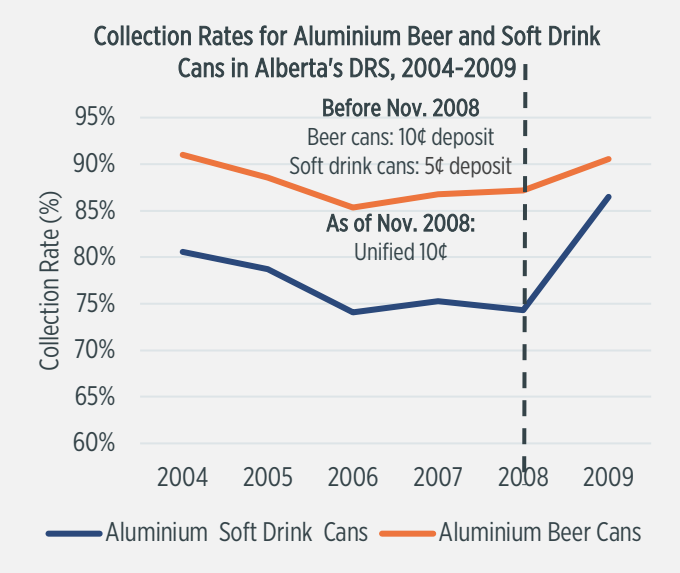


Figure 13 Collection rates for aluminium beer and soft drink cans in Alberta's DRS, 2004-2009 (including containers collected from MRFs)

CASE STUDY: Ontario, Canada

Ontario remains one of only two provinces in Canada without a comprehensive DRS covering all beverage containers. The province's existing system applies only to alcoholic beverages, leaving millions of water, juice, and soft drink containers reliant on less efficient kerbside collection. The performance gap between these two streams clearly illustrates the impact of deposit systems: in 2024, alcohol containers were collected at a rate of 74%, compared to just about 50%[xxxii] for non-alcohol containers collected through kerbside programmes.

In July 2024, Eunomia, in partnership with the Canadian Beverage Association, released a report showing that expanding Ontario's DRS to include non-alcoholic beverages would be the most effective way to increase collection rates and achieve the province's 2030 target of 80% for non-alcohol beverage containers. [xxxiii]

CASE STUDY: Oregon, US

In 2017, Oregon doubled the deposit from USD$0.05 (€0.04) to USD$0.10 (€0.09), followed by a major expansion in 2018 to include a wider range of beverages (energy and sports drinks, coffee and tea drinks, ready-to-drink cocktail mixers, kombucha, hard cider, juice, protein drinks, and marijuana beverages). These two reforms, taken together, had an immediate impact: collection rates jumped from 64–65% in the years prior to 73% by the end of 2017, 81% in 2018, and 86% in 2019. As of 2024, Oregon remains the top-performing US deposit system, achieving an 87% collection rate (Figure 14).

Another feature of Oregon's system which contributes to higher returns is the BottleDrop 'bag-drop' system, which allows consumers to fill pre-labelled bags and redeem containers in bulk, with refunds automatically credited to their accounts. This system makes returning large quantities of containers easy, removing a key barrier to participation.

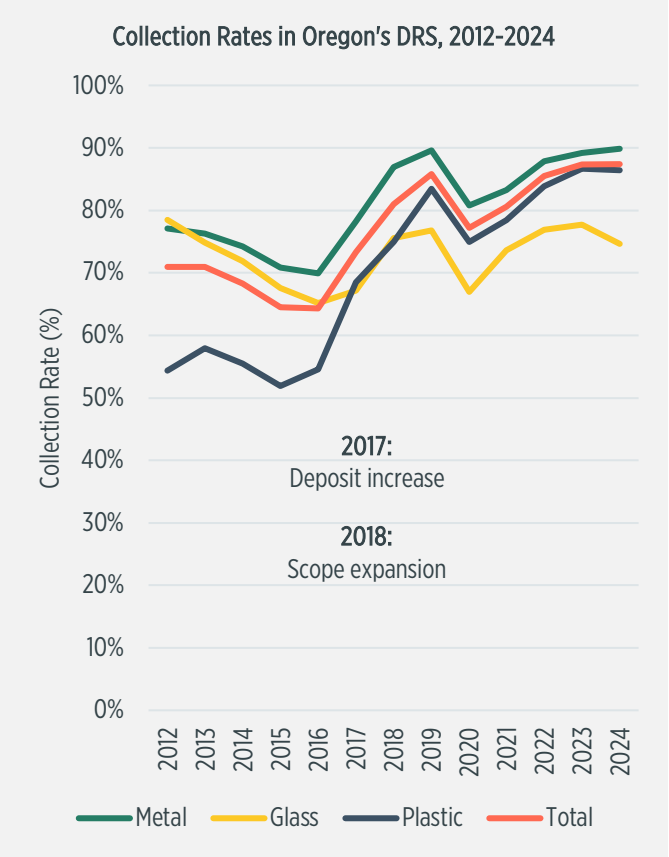


Figure 14 Collection rates in Oregon's DRS, 2012-2024

CASE STUDY: Connecticut, US

Connecticut's DRS historically had one of the lowest collection rates in the US, in part due to limited access for consumers and a low deposit. SB 1037, passed in 2021 (later renamed Public Act 21-58), set out to change this by expanding and modernising the system through a phased rollout of reforms. One of the earliest impacts was an

expansion of return locations. Handling fees for retailers and redemption centre operators were increased, making it more financially viable to accept containers. The Container Recycling Institute (CRI) estimates an additional USD$25 million in fees were paid in 2024 compared to 2021.[xxxiv] Chain stores with at least 10 locations in the state and over 7,000 sq. ft. were required to provide at least two RVMs per store, adding roughly 300 new return points.[xxxv] A USD$5 million grant programme also supported the establishment of four new redemption centres in underserved areas. In total, 15 new centres opened[xxxvi], effectively doubling the number of redemption locations compared to pre-2021 levels and significantly improving consumer access across the state.

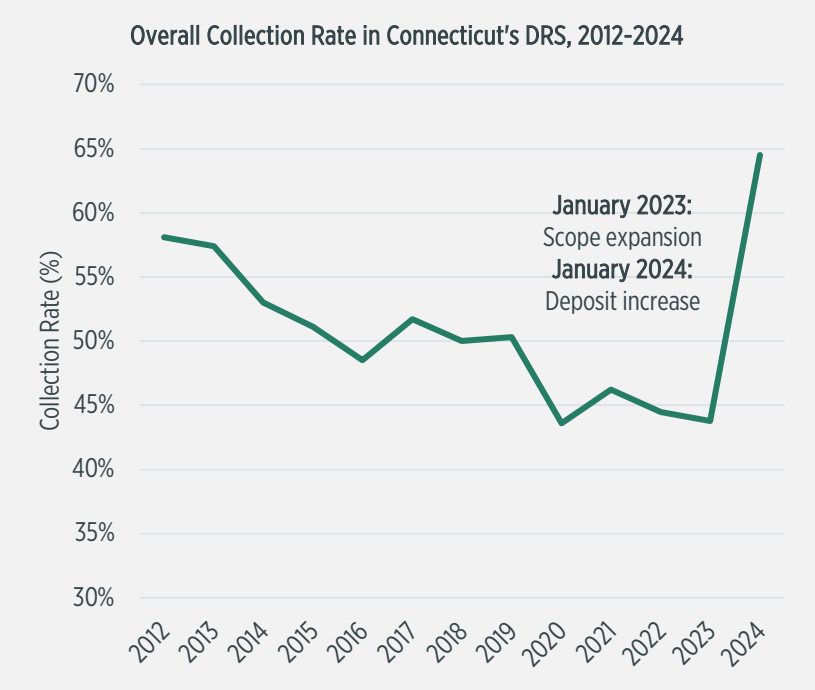


Figure 15 Overall collection rate in Connecticut's DRS, 2012-2024

In January 2023, the programme expanded its scope to include non-carbonated beverages, malt-based hard seltzers, and previously exempt HDPE containers. These changes broadened the range of containers eligible for redemption and simplified the rules for consumers. The total number of containers sold on deposit increased by more than 113 million from 2021 to 2024, an 11% rise, reflecting the impact of the expanded scope and greater accessibility of return points.[xxxvii]

Building on these changes, the deposit amount for all eligible containers doubled in January 2024, from USD$0.05 (€0.04) to USD$0.10 (€0.09). The higher financial incentive drove immediate and substantial results: collection rates rose from 44% in 2023 to 65% in 2024, a 21-point year-over-year increase, and the highest rate ever recorded in the programme's history (see Figure 15). In Q2 2025, Connecticut's Department of Energy and Environmental Protection (DEEP) reported that 440.5 million containers were collected, corresponding to a quarterly collection rate of 87%, up from 57% in Q2 2024. [xxxviii]

This increase contrasts sharply with trends in other states over the same period. Many jurisdictions saw modest declines of 1–3% in collection rates, while New York saw a 1% increase and California and Oregon remained largely static. Some have speculated that Connecticut's gains could be influenced by cross-border returns, but there is no hard evidence of widespread fraud.[xxxix] Instead, the data strongly suggest that the combination of expanded access, broader programme scope, and a higher deposit under SB 1037 has been the primary driver of the state's record-breaking collection rates.

CASE STUDY: California, US

California serves as a cautionary example of how an inconvenient return network can weaken the effectiveness of a DRS. The state operates a hybrid collection model, where beverage containers can be returned either to redemption centres or to some retail stores. However, unlike most high-performing systems, retailers have no universal take-back obligation. They are only required to accept empties if they are located outside a designated "convenience zone," an area without a nearby redemption centre.

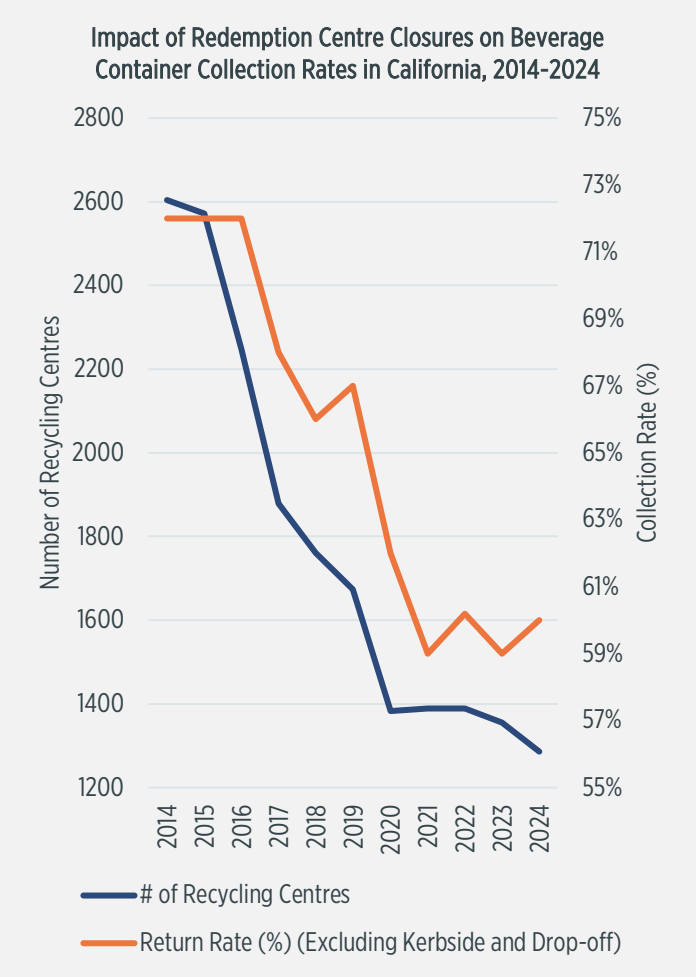


Figure 16 Impact of recycling centre closures on California's collection rates (excluding containers collected from kerbside and drop-off programmes), 2014-2024

For many years, even this requirement was loosely enforced. Until 1 January 2025, retailers could opt out entirely by paying a USD$100 (€86) per day fee to the system operator, a loophole that left large portions of the population without practical access to redemption. As a result, the number of redemption centres declined dramatically over the last decade, from 2,604 in 2014 to less than 1,300 in 2024. This translates to roughly one collection point for every 30,000 residents, far below the accessibility standard seen in most high-performing DRS. As Figure 16 illustrates, this loss of access coincided with a sharp drop in collection rates, from 72% in 2014 to around 60% in 2024 (note: these rates exclude containers recovered via kerbside and drop-off programmes). Importantly, California's kerbside and drop-off programmes did not compensate for this decline; the share of containers collected through these alternative channels increased only slightly, from 9.35% to 10.5% of all beverage containers, an increase of just 1.15 percentage points.[xl]

While residents in areas without a redemption centre are technically entitled to return containers to retailers, awareness and enforcement remain low. Few stores advertise this option, and compliance is inconsistent; a random audit in the Los Angeles area by Consumer Watchdog[xli] found that two-thirds of retailers refused to take returns.

California has since introduced reforms aimed at improving access. As of 2025, retailers can no longer pay to avoid take-back requirements. Those unwilling to redeem containers in-store must instead join new 'dealer cooperatives,' which are collectively operated redemption sites intended to fill service gaps in underserved areas. However, small stores (under 5,000 square feet or with less than USD$1.5 million in annual sales) remain exempt,

leaving questions about whether these measures will be sufficient to restore convenience and reverse the downward trend in return performance.

CASE STUDY: Germany

Germany's DRS consistently delivers one of the highest collection rates in the world, reaching an estimated 98% in 2024. A key driver is its high deposit level, set at €0.25 per container (the highest globally), which provides a strong incentive for consumers to return their bottles and cans. Convenience reinforces this incentive. Germany's retail take-back obligations ensure that consumers can return containers at approximately 130,000 redemption locations nationwide, about one point for every 640 residents. This exceptionally dense, accessible network, combined with the strong financial signal of a high deposit, underpins Germany's world-leading performance.

CASE STUDY: Norway

Norway operates one of the world's most established DRS, with consistently high collection rates for both PET and metal containers. In September 2018, the country increased its deposit values, from NOK 1 to NOK 2 for small containers and from NOK 2.50 to NOK 3 for large containers, to strengthen system incentives.

Collection-rate data show a clear stabilisation and gradual improvement following the increase. After a few years of decline (2014–2017), both PET and metal return rates began to rise again in 2018–2019, reaching more than 92% for all materials by 2020 and remaining above 91% through 2024 (Figure 17). While Norway was already a high performer, the higher deposit helped reinforce participation and maintain collection rates at the top end of global benchmarks.

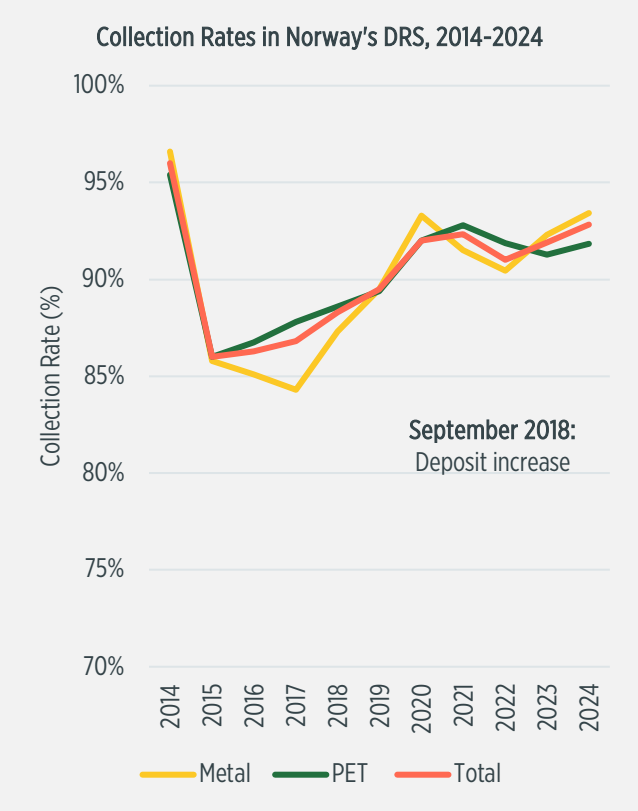


Figure 17 Collection rates in Norway's DRS, 2014-2024

CASE STUDY: The Netherlands

The Netherlands currently has the lowest collection rate among European DRS programme, at 68%[xlii] in 2023, well below the European average of 88%. Despite having one of the highest minimum deposit values in Europe, the number of designated DRS refund points is relatively low, with only 5,000 locations nationwide, equivalent to one collection point per 3,600 people, the second-highest population-to-refund-point ratio in Europe. By comparison, most other European programs have ratios ranging from 1:373 to 1:1,845.

Containers can also be returned to over 17,000 voluntary collection points, such as sports clubs, fast food chains, and cinemas. However, people are not necessarily motivated to return containers to these sites because they do not receive their deposit back (instead, the money goes to charity), limiting the effectiveness of these points for increasing collection rates. A 2025 survey found that 35% of respondents in the Netherlands said more convenient or easier-to-access return locations would encourage them to use the DRS.[xliii]

Beyond design: How context shapes DRS outcomes

While deposit levels, programme scope, and the convenience and accessibility of the return network are key factors impacting collection rates, they don't tell the whole story. DRS performance is also influenced by a complex interplay of external factors (Figure 18), including cultural and behavioural norms, consumer demographics (e.g. age, income, education, gender), urban form (e.g. population density, housing type, transit access, car ownership), consumer psychology, and local waste management infrastructure (e.g. presence and frequency of kerbside collection, source separation requirements).

For instance, survey data from Alberta show that older residents, people who own a vehicle, homeowners, people living in single-detached homes are more likely to return containers than younger residents, renters, those without access to a vehicle, or people living in higher-density duplexes/triplexes and multi-residence buildings.[xliv] Participation is also higher among long-term residents compared to newcomers (those living in the province for 5 years or less).

Geography and tourism can also influence outcomes. Sweden's DRS operator, Returpack, reports higher per-capita collection in border and tourist municipalities, and notes that cross-border trade with Norway lowers Sweden's collection rate by roughly four percentage points for cans and one for PET bottles. Conversely, privately imported cans boost reported rates by about 2.5 points, illustrating how external factors can distort performance data.[xlv]

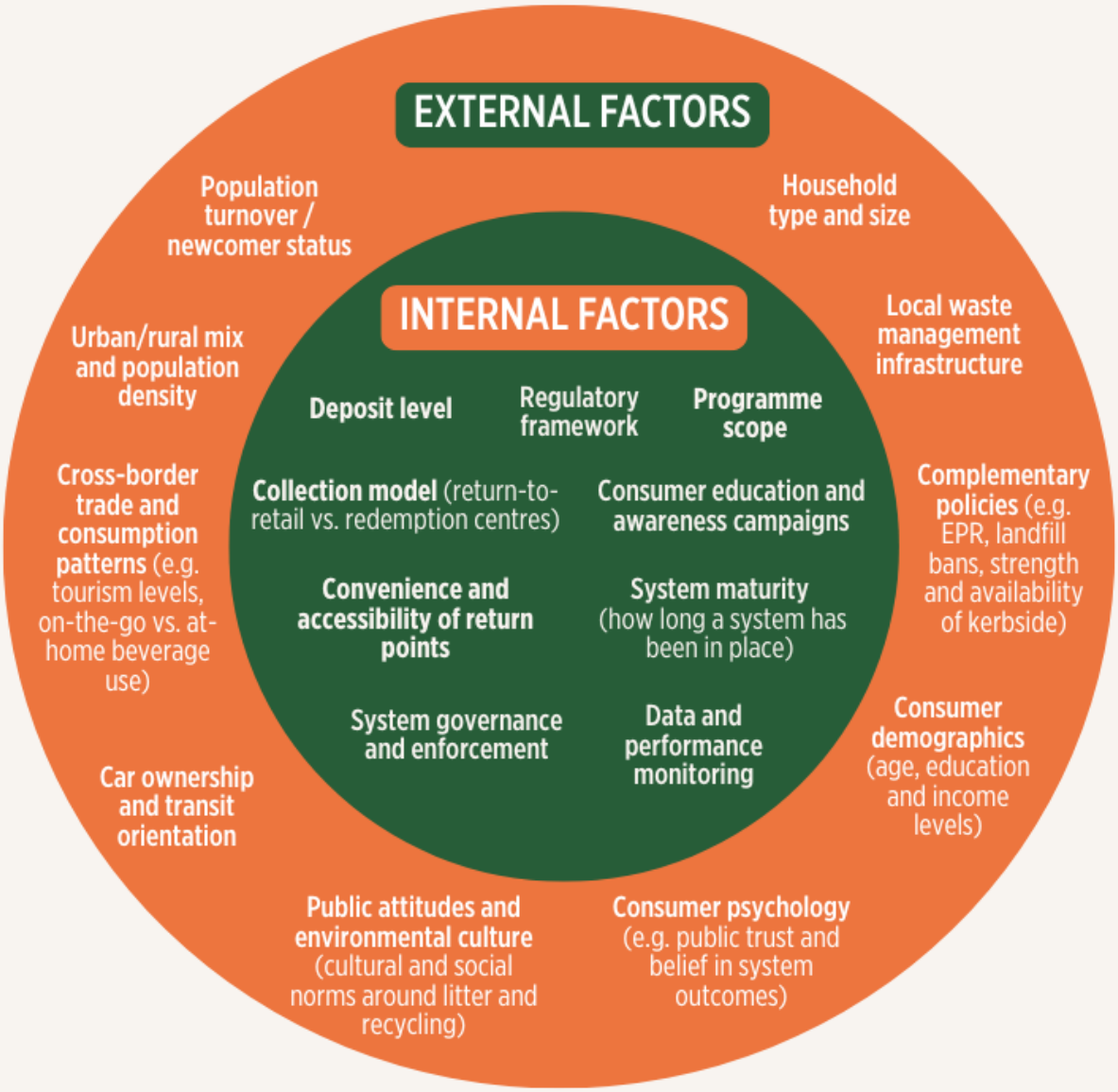


Figure 18 Complex interplay of factors impacting the performance of deposit return systems

Consumer psychology also plays a role. A 2025 Dutch study[xlvi] found that feelings of embarrassment and shame deterred people from returning containers in public spaces. As one participant put it: *"Honestly, it's embarrassing carrying all these cans through the supermarket."* In Sweden[xlvii], similar attitudes (associating returns with poverty or low social standing) reduced participation among young adults and some immigrant communities. One participant explained, "*Among immigrants, it's not normal to return containers. It's seen as something poor people do….*"[xlviii] Research from Western Australia[xlix] adds that public distrust in waste management practices and uncertainty about what happens to materials after collection can further discourage participation.

The economic conditions within which a DRS operates is another key contextual factor. A €0.10 deposit may represent a meaningful incentive in a lower-income country, while in wealthier countries, consumers may require

a higher nominal value to experience the same behavioural nudge. This variation helps explain why some high-income jurisdictions, such as Norway, Sweden, and Germany, set deposits as high as €0.25 (USD$0.29), while lower-income countries have achieved similar collection rates with deposits of €0.10–€0.14 (USD$0.12-$0.16) or lower.

Together, these findings demonstrate that no single factor, whether design-related or contextual, can fully explain a system's success or failure. Deposit systems operate within broader social, geographic, and behavioural ecosystems where contextual factors interact with design in ways that can either enhance or constrain performance. For example:

- **Alberta and Saskatchewan:** Despite being 100% depot-based (no return-to-retail) and having relatively low deposit values compared to European systems, both consistently achieve some of the highest collection rates in Canada (>80%)
- **Norway and Slovakia:** Although glass beverage containers fall outside the scope of their systems, they continue to achieve collection rates above 90%.

Understanding how contextual forces interact with system design is critical to explaining why systems with similar design features can produce very different outcomes, and why adaptation to local realities is just as important as the mechanics of system design.

Regional snapshot: DRS performance by region

Collection rates vary widely across jurisdictions, influenced by a range of both internal factors (system design and policy choices) and external factors explained in the previous sections. Examining performance within individual regions highlights patterns and benchmarks that can inform improvements. This section takes a closer look at performance in each region, showing the latest available collection rates for individual jurisdictions across Europe, North America (Canada and the US), Oceania (Australia), and other areas.

Europe

Across Europe, 18 countries have implemented deposit return systems (DRS). Among these, the highest collection rates are reported in Finland (99%), Germany (98%), Denmark (93%), and Norway (92%), while the Netherlands reports the lowest at 68%. Based on available data, the median collection rate across European DRS is 90%, with more than half of countries (seven) achieving rates of 90% or higher.

For this analysis, countries with fewer than two reported years of data (Romania, Hungary, the Republic of Ireland, Poland, and Austria) are excluded from the median calculation, as their systems are still in early implementation and have not yet reached steady-state performance. Even so, early results from these newer programmes indicate

strong progress. The Republic of Ireland's DRS, launched in February 2024, has already increased beverage container collection from 49% to 81%, with 66% of containers returned through the scheme and the remainder collected via MRFs.[I] Romania's system, launched in late 2023, has also scaled up quickly: between January and August 2025, consumers returned around 3.6 billion containers, translating to a collection rate of 81% in the first eight months of the year.[Ii]

Figure 19 presents the collection rates for all European DRS countries. Details on deposit levels, collection models, scope, and material-specific collection rates for each programme are provided in Appendix A.

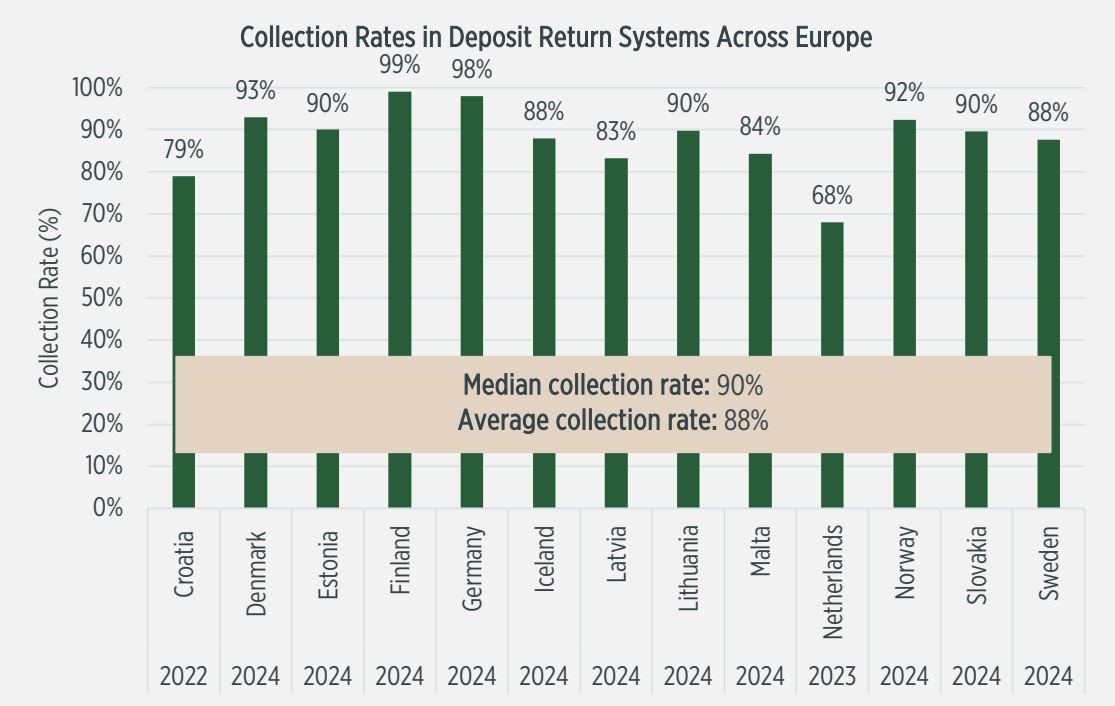


Figure 19 Collection rates in deposit return systems across Europe

North America

In North America, deposit systems operate at the state or provincial level, rather than nationally as in Europe. Overall, collection rates tend to be lower than in European programmes, even though most US and Canadian rates include containers recovered through alternate collection channels, like kerbside recycling programmes, in addition to DRS returns. This primarily reflects differences in deposit values (lower in North American systems), collection infrastructure (primarily depot-based or hybrid, as opposed to R2R), and convenience for consumers. Figures 20 and 21 show beverage container collection rates across the US and Canada. Additional details are provided in Appendix B.

In the US, the median collection rate across the ten states with DRS is just 69%, with wide variation between programmes. In 2024, Massachusetts had the lowest rate at 35%, while Oregon leads at 87%. Many states have seen declining performance over the past decade: Hawaii's rate fell from 67% in FY2015 to 55% in FY2024, Massachusetts from 66% in 2014 to 35% in 2024, and Michigan from 93% in 2015 to 70% in 2024.

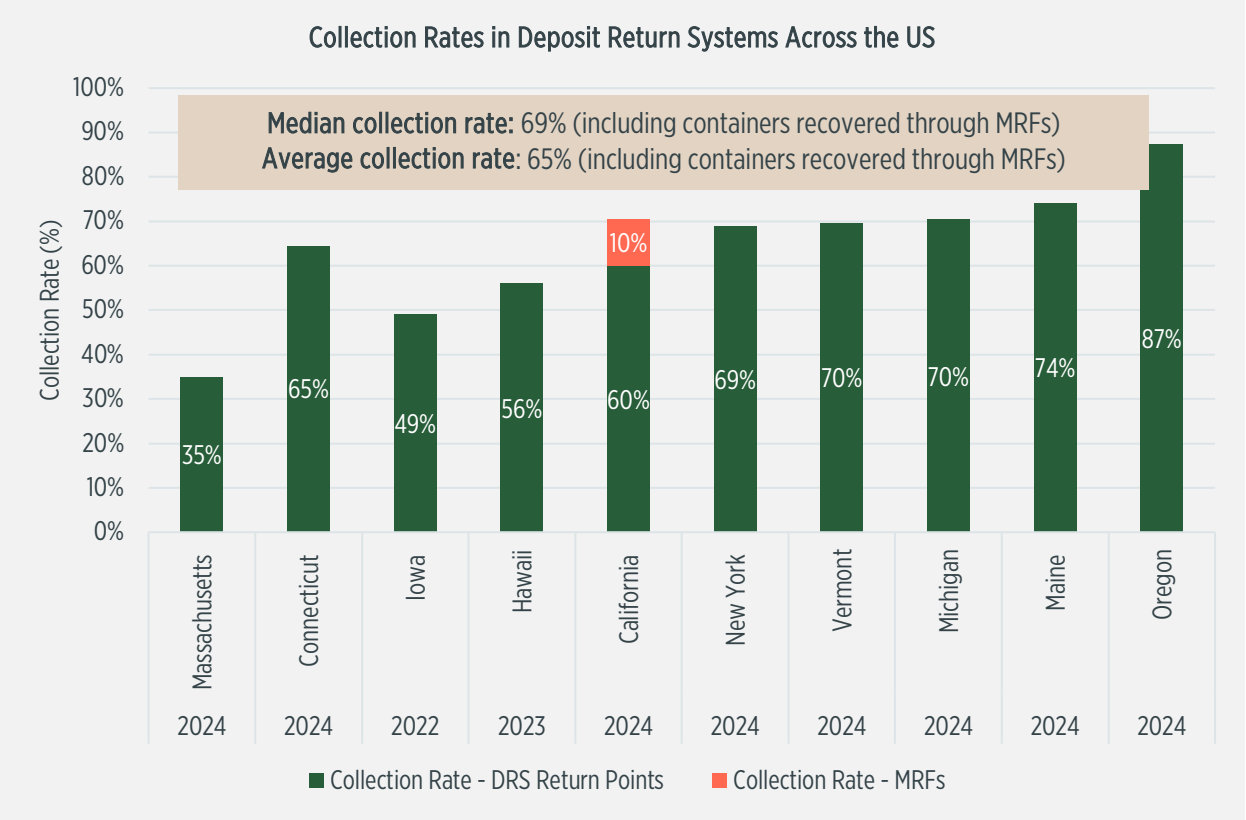


Figure 20 Collection rates in deposit return systems across the US (Note: In most US deposit states, kerbside recycling programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. California is the exception, providing detailed data on containers recovered through both DRS return points and kerbside or drop-off programmes).

In Canada, collection rates are generally higher. Nearly all provinces and territories operate some form of DRS, except Nunavut, with Manitoba (beer only) and Ontario (alcohol only) maintaining partial programmes. The strongest performing systems are found in the western provinces, with Alberta, British Columbia, and Saskatchewan achieving collection rates of 82–83%.

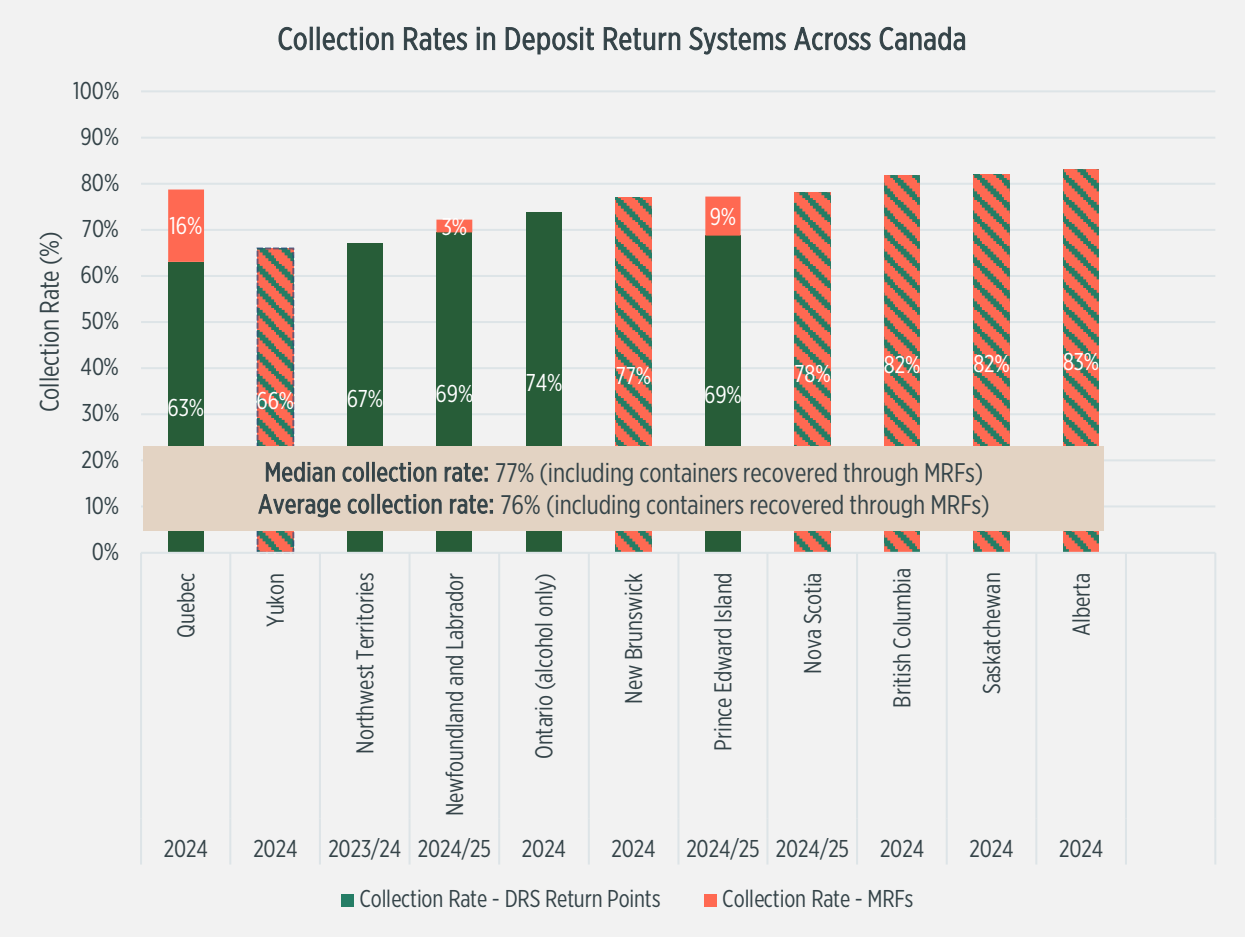


Figure 21 Collection rates in deposit return systems across Canada (Note: In almost all Canadian DRS, the collection rates reported by system operators include deposit containers collected via kerbside and/or drop-off recycling systems. In most provinces, it is not possible to determine the breakdown by collection stream, as this information is not reported, tracked, or disclosed. Where the breakdown is available, we present those provinces as stacked bar charts, with the green portion representing the DRS collection rate and the orange portion representing the percentage of containers that came from kerbside. Green-only bars represent true DRS collection rates, while the green/orange striped bars represent a combined rate where the breakdown is not available.

The province of Quebec, which had a DRS collection rate of 63% in 2024, is expected to see substantial increases in the coming years following a modernisation that expanded the return network, increased deposit values, and broadened programme scope. New Brunswick's collection rates are also expected to rise after switching in April 2024 from a half-back to a full-back DRS, effectively doubling the refund. The province of PEI is expected to transition to a full-back system by April 2026, which would similarly double deposit refunds and boost collection rates. In contrast, Ontario's 74% rate for alcohol containers (2024) may decline as The Beer Store return network contracts, unless new retail or privately operated depots emerge to maintain consumer access.

Oceania

As in North America, deposit systems in Australia operate at a state level as opposed to national. As of May 2025, all Australian states and territories operate DRS programmes, making Australia the first continent to achieve full coverage. Most programmes are relatively new: aside from South Australia and the Northern Territory, all others

launched within the past decade, including Victoria (late 2023) and Tasmania (May 2025), for which full-year performance data are not yet available.

Collection rates across Australia's deposit schemes remain modest compared with those in Europe and Canada. Excluding South Australia and the Northern Territory, which report combined results that include both DRS and kerbside collections, the median collection rate across Australia's DRS programmes is 56%, and the average is 54%. Including those two jurisdictions raises the median to 68% and the average to 71%, still well below European and Canadian performance levels. Lower results are partly linked to comparatively low deposit values and less convenient return networks, which rely mainly on depot or hybrid collection points rather than R2R systems. Several states, however, plan to expand their programmes to include glass wine and spirits bottles in the coming years, a change expected to drive higher collection rates.

Outside Australia, deposit systems also operate in the Federated States of Micronesia (FSM) and several Pacific island nations, including Palau, the Republic of the Marshall Islands, and Tuvalu, although recent performance data for these smaller programmes is unavailable.

Figure 22 shows collection rates across Australia. Additional details on deposit levels, collection models, and programme scope are provided in Appendix C.

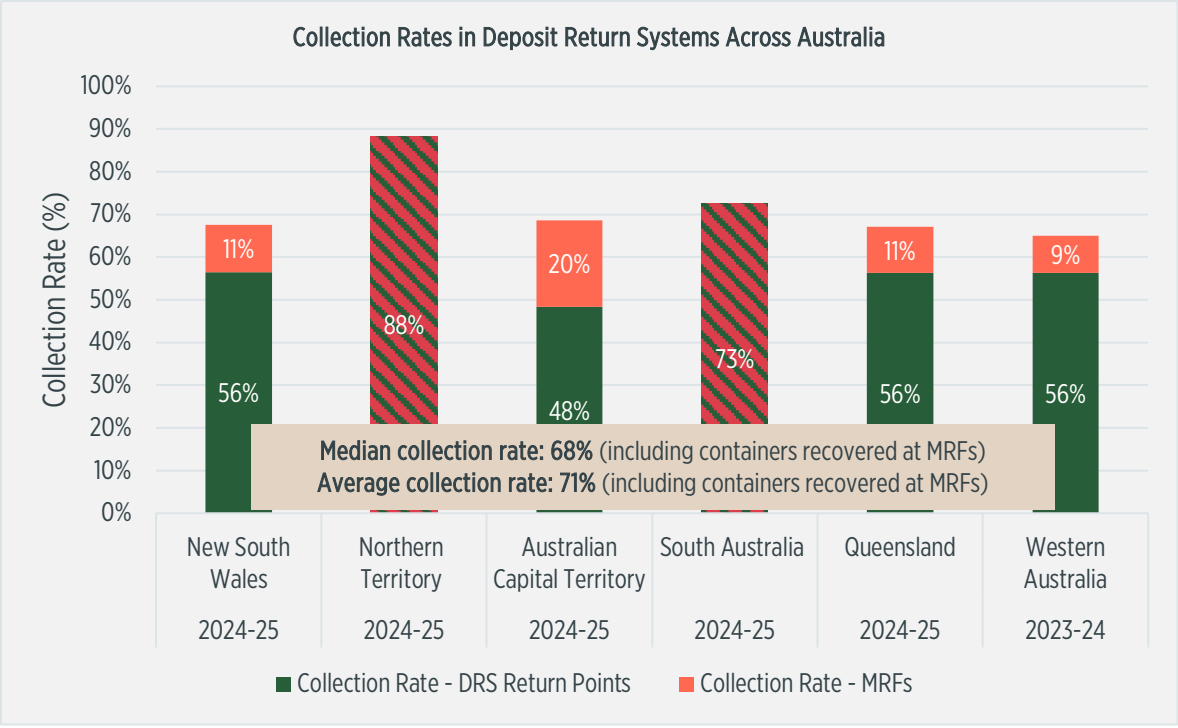


Figure 22 Collection rates in deposit return systems across Australia (Note: In most Australian DRS, containers recovered through Material Recovery Facilities (MRFs) are included in the reported collection rates. To reflect this unique structure, we present Australian collection rates as a stacked bar chart. All states except South Australia and Northern Territory provide a breakdown of recovery via MRF/kerbside programmes versus the DRS network. For South Australia and Northern Territory, the rates are shown in two colours to represent the combined rate, including containers recovered via both MRFs and the DRS network.)

Middle East

In the Middle East, Israel remains the only country to have implemented a DRS. With a deposit of 0.3 ILS (€0.08, USD$0.09), the system covers all PET, metal, and glass beverage containers, excluding milk and dairy. The latest available data indicate an overall collection rate of 73%.[lii]

Conclusion

The evidence is clear: when it comes to beverage packaging, deposit systems outperform every other collection alternative. No kerbside programme has achieved the same scale of container collection or purity of material for closed-loop recycling. Global and national analyses alike, from Europe to North America and Australia, confirm that DRS deliver the strongest recycling outcomes, highest-quality material streams, and most accurate performance data. They are also a proven solution to address beverage container litter, a finding reinforced by Reloop's *Littered With Evidence* report, which shows that DRS cuts container litter by more than 50%, on average.[liii]

While performance varies across jurisdictions, three factors consistently stand out in driving success: a meaningful deposit value, a high level of convenience when it comes to returning containers, and wide programme scope. Yet these elements rarely operate in isolation. Their effectiveness is shaped by broader contextual factors, from consumer attitudes and cultural norms to geography, socio-economic conditions, and the local waste management infrastructure, that can either amplify or constrain results.

In the end, what makes a deposit system work isn't just the deposit or the number of return points, it's how all the parts fit together. When good design meets the right local conditions, participation soars, materials stay in the loop, and both people and the environment benefit.

Appendix A: European DRS details

Table 2 European Deposit Return Systems – Programme Details

Country	Data Year	Refund Value	Redemption Model	Collection rate – DRS return points only	Notes
Austria	--	€0.25	R2R	Not available	
Croatia[liv]	2022	0.5 HRK (€0.07, USD$0.08)	R2R	Metal: 80% Plastic: 87% Glass: 77% **Total:** 79%	
Denmark[lv]	2024	1-3 DKK (€0.13-€0.40, USD$0.16-$0.47)	R2R	Metal: 93% Plastic: 92% Glass: 91% **Total:** 93%	
Estonia[lvi]	2024	€0.10 (USD$0.12)	R2R	Metal: 86% Plastic: 89% Glass: 91% **Total:** 90%	
Finland[lvii]	2024	€0.10-€0.40 (USD$0.12-$0.46)	R2R	Metal: 100% Plastic: 92% Glass: 100% **Total:** 99%	
Germany[lviii]	2024	€0.25 (USD$0.29)	R2R	**Total**: 98%	
Hungary[lix]	2024	HUF 50 (€0.13, USD$0.15)	R2R	Metal: 42% Plastic: 64% Glass: 35% **Total**: 55%	
Iceland[lx]	2024	22 ISK (€0.16, USD$0.18)	Depot	Metal: 89% Plastic: 86% Glass: 83% **Total:** 88%	An additional 3.6% of deposit containers are collected via alternate collection channels (e.g. kerbside), bringing the total collection rate up to 91.6%. By material, an additional 4% of metal cans come through kerbside, 3.5% of PET bottles, and 0.2% of glass bottles.
Latvia[lxi]	2024	€0.10 (USD$0.12)	R2R	Metal: 76%	

Country	Data Year	Refund Value	Redemption Model	Collection rate – DRS return points only	Notes
				Plastic: 86% Glass: 86% **Total**: 83%	
Lithuania[lxii]	2024	€0.10 (USD$0.12)	R2R	Aluminium: 91% Steel: 98% Plastic: 89% Glass: 86% **Total:** 90%	
Malta[lxiii]	2024	€0.10 (USD$0.12)	Hybrid	Metal: 85% Plastic: 85% Glass: 79% **Total:** 84%	
The Netherlands[lxiv,lxv]	2023	€0.15-€0.25 (USD$0.17-0.29)	R2R	Metal: 50% Plastic: 74% **Total**: 68%	Verpact has published 2024 material-specific return rates for plastic and metal but has not released an overall (total) return rate for 2024. Because sales and redemption volumes are not available to calculate a total rate independently, the 2023 overall return rate is reported here.[lxvi]
Norway[lxvii]	2024	2-3 NOK (€0.17-€0.26, USD$0.20-$0.30)	R2R	Metal: 93% Plastic: 92% **Total**: 92%	
Poland	--	0.50 PLN (€0.12, USD$0.14)	R2R	Not available	
Republic of Ireland[lxviii]	2024	€0.15-€0.25 (USD$0.16-$0.27)	R2R	**Total**: 66%	
Romania[lxix]	2024	0.50 RON (€0.10, USD$0.11)	R2R	Metal: 55% Plastic: 55% Glass: 53% **DRS Total:** 55%	
Slovakia[lxx]	2024	€0.15 (USD$0.16)	R2R	Metal: 90% Plastic: 90% **Total:** 90%	
Sweden[lxxi]	2024	2-3 SEK[a] (€0.18-€0.27, USD$0.21-$0.32)	R2R	Metal: 88% Plastic: 86% **Total**: 88%	

Country	Data Year	Refund Value	Redemption Model	Collection rate - DRS return points only	Notes

*Currency conversion accurate as of 13 October 2025

Notes:

[a:] In September 2025, deposit values in Sweden increased from SEK 1 to SEK 2 on aluminium cans and small PET bottles and from SEK 2 to SEK 3 on large PET bottles.

Appendix B: North American DRS details

Table 3 Deposit Return Systems in the United States – Programme Details

State	Data Year	Refund Value (USD)	Redemption Model	Collection rate _ DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
California[lxxii]	2024	$0.05-$0.10 (€0.04-€0.09)	Hybrid	Metal: 61% PET: 61% HDPE: 36% Glass: 38% **Total:** 60%	Metal: 10% PET: 13% HDPE: 26% Glass: 22% **Total:** 10%	Metal: 71% PET: 74% HDPE: 62% Other: 17% Glass: 60% **Total:** 70%	DRS-only collection rates were calculated by the Container Recycling Institute, using data published by CalRecycle.
Connecticut[lxxiii]	2024	$0.10 (€0.09)	Hybrid	**Total:** 65%	Unknown	Unknown	Kerbside recycling programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. While MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.
Hawaii[lxxiv]	2024	$0.05 (€0.04)	Redemption Centre	**Total:** 55%	Unknown	Unknown	Kerbside recycling programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. While MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.
Iowa[lxxv]	2022	$0.05 (€0.04)	Hybrid	Unknown	Unknown	Metal: 42% Plastic: 56% Glass: 76%	Beverage distributors in Iowa are not required to report sales or returns to the state. As a result, the beverage container collection rate is estimated using a material

State	Data Year	Refund Value (USD)	Redemption Model	Collection rate _ DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
						Total: 49%	characterisation study, carried out every few years, and this rate includes beverage containers collected in all channels (including kerbside).
Maine[lxxvi]	2024	$0.05-$0.15 (€0.04-€0.13)	Hybrid	**Total:** 74%	Unknown	Unknown	Kerbside recycling programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. While MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.
Massachusetts [lxxvii]	2024	$0.05 (€0.04)	Hybrid	**Total:** 35%	Unknown	Unknown	Kerbside recycling programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. While MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.
Michigan[lxxviii]	2024	$0.10 (€0.09)	R2R	**Total:** 70%	Unknown	Unknown	Kerbside recycling programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. While MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.

State	Data Year	Refund Value (USD)	Redemption Model	Collection rate _ DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
New York[lxxix]	2024	$0.05 (€0.04)	Hybrid	**DRS Total:** 69%	Unknown	Unknown	Kerbside programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. While MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.
Oregon[lxxx]	2024	$0.10 (€0.09)	Hybrid	Metal: 90% Plastic: 86% Glass: 75% **Total:** 87%	Unknown	Unknown	Kerbside programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. While MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.
Vermont[lxxxi]	2024	$0.05-$0.15 (€0.04-€0.13)	Hybrid	Non-liquor: 70% Liquor: 58% **Total**: 70%	Unknown	Unknown	Kerbside programmes operate independently of the DRS system, so containers entering MRFs are not reported to DRS operators; they are simply recycled through regular channels. As a result, reported collection rates reflect only containers returned through the DRS network. While MRF operators may remove containers from sorting lines and take them to refund points to claim the deposit, these flows are not tracked, and MRFs are treated simply as another customer of the redemption system.
*Currency conversion accurate as of 13 October 2025							

Table 4 Deposit Return Systems in Canada – Programme Details

Province / Territory	Data Year	Refund Value (CAD$)	Redemption Model	Collection rate _ DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
Alberta[lxxxii]	2024	$0.10-$0.25 (€0.06-€0.15, USD$0.07-$0.18)	Depot	Unknown	Unknown	Aluminium: 86% Bi-metal: 61% Clear PET: 77% HDPE: 84% Other plastics: 111% 87% Tetra: 74% Gabletop: 72% Pouches: 48% Bag-in-a-box: 50% **Total:** 83%	Alberta's DRS legislation requires all deposit containers to be returned through depots. Under long-standing practice, MRFs separate deposit-bearing containers and individual depots (under proprietary contracts with MRF operators) collect these materials and deliver them to ABCRC (system operator). Because these MRF-derived volumes are handled through depot contracts, detailed data are not publicly available.
British Columbia[lxxxiii,lxxxiv]	2024	$0.10 (€0.06, USD$0.07)	Hybrid	Unknown	Unknown	Aluminium: 87% Bi-metal: 79% Plastic: 80% Glass: 88% Drink box: 48% Gabletop: 61% Pouches: 24% Bag-in-a-box: 56% **Total:** 82%	Encorp Pacific, the stewardship corporation that represents brand owners of all non-alcohol beverages (soft drinks, juice, water, dairy), wine, spirits, some ciders and coolers, as well as some import beer, has a long-standing partnership with Recycle BC to ensure kerbside-collected containers are accurately counted and recycled. The proportion of containers collected through kerbside is determined through a rigorous sampling programme jointly implemented by Encorp and Recycle BC, with results integrated into Encorp's overall recovery rate calculations. British Columbia has two system operators: Encorp and the BC Brewers Recycled Container Collection Council (BRCCC). Encorp's 2024 annual report indicates that deposit-bearing containers collected through Recycle BC's kerbside programme accounted for 7.6% of its total recovery rate of 78.3%, and that containers collected from the ICI sector accounted for nearly 3%. The proportion coming from kerbside is determined through a rigorous sampling programme jointly implemented by Encorp and Recycle BC.

Province / Territory	Data Year	Refund Value (CAD$)	Redemption Model	Collection rate _ DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
							The collection rate reported by BRCCC (91.1%), which manages alcohol cans, also includes kerbside-collected volumes; however, no breakdown is provided publicly. As a result, the collection rate presented for BC includes kerbside containers, as a total separation between collection streams is not available.
Newfoundland and Labrador[lxxxv]	2024-25	$0.05-$0.10 (€0.03-€0.06, USD$0.04-$0.07)	Depot	Aluminium: 71% Bi-metal: 50% PET: 75% Other plastics: 24% Glass: 66% Gabletop: 29% Tetra: 39% **Total:** 69%	Aluminium: 2% Bi-metal: 16% PET: 3% Other plastics: 0% Glass: 0% Gabletop: 16% Tetra: 5% **Total:** 3%	Aluminium: 74% Bi-metal: 66% PET: 79% Other plastics: 24% Glass: 66% Gabletop: 44% Tetra: 43% **Total:** 72%	The system operator determines the number of deposit-bearing containers recovered through curbside collection and MRFs based on sampling conducted at the facilities. A breakdown of collection rates by collection stream is not publicly reported but was obtained through personal communication with the system operator.
New Brunswick[lxxxvi]	2024	$0.05-$0.10 (€0.03-€0.06, USD$0.04-$0.07)	Depot	Unknown	Unknown	Aluminium: 83% Steel: 56% Glass: 85% Cartons: 35% PET and clear HDPE (including lids/caps): 71% Other plastics / pouches (including lids/caps): 72% **Total:** 77%	Reported recovery rates include beverage containers collected through kerbside recycling, although no estimate of the kerbside portion is available. Prior to the introduction of EPR for PPP in November 2024, Encorp historically worked with Regional Service Commissions that provided kerbside collection and sorting services for recyclables, including deposit-bearing containers. According to its 2024 Stewardship Plan, discussions are now underway to expand this cooperation with the designated producer responsibility organisation, Circular Materials Atlantic. Under this arrangement, deposit- containers collected kerbside will be recycled by material type according to specifications agreed upon by Encorp Atlantic and Circular Materials Atlantic, with the agreement submitted to Recycle New Brunswick for

Province / Territory	Data Year	Refund Value (CAD$)	Redemption Model	Collection rate _ DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
							approval. This will allow all deposit containers collected and managed through kerbside recycling to be reported in Encorp's annual reports and counted toward its recovery targets.[lxxxvii]
Northwest Territories[lxxxviii]	2023-24	$0.10-$0.25 (€0.06-€0.15, USD$0.07-$0.18)	Depot	Aluminium: 72% Bi-metal: 52% Plastic: 65% Glass: 83% Gabletop/tetra: 44% Pouches: 25% Bag-in-a-box: 31% **Total:** 67%	0%	Aluminium: 72% Bi-metal: 52% Plastic: 65% Glass: 83% Gabletop/tetra: 44% Pouches: 25% Bag-in-a-box: 31% **Total:** 67%	There is no kerbside collection system in the Northwest Territories, so the reported collection rate reflects containers recovered through the DRS only.
Nova Scotia[lxxxix]	2024-25	$0.05-$0.10 (€0.03-€0.06, USD$0.04-$0.07)	Depot	Unknown	Unknown	**Total:** 78%	Material-specific return rates are not available from the system operator.
Ontario[xc]	2024	$0.10-$0.20 (€0.06-€0.12, USD$0.10-$0.15)	Return-to-Retail	Aluminium: 73% Plastic: 41% Glass: 82% Tetra/bag-in-a-box: 27% **Total:** 74%	Unknown	Unknown	Ontario's reported collection rate represents containers recovered through the DRS network only. While it is technically possible for MRF operators to remove DRS containers from sorting lines, this is very unlikely in practice. Ontario's DRS includes only alcohol containers, and MRFs can sort materials by type (e.g. PET, glass, aluminium) but do not distinguish by beverage type.
Prince Edward Island[xci]	2024-25	$0.05-$0.10[a] (€0.03-€0.06, USD$0.04-$0.07)	Depot	Aluminium: 73% Steel: 32% PET: 65% HDPE: 10% PVC: 39% Glass: 70% Gable/tetra: 66% **Total:** 68.7%	Aluminium: 8% Steel: 63% PET: 10% HDPE: 0% PVC: 39% Glass: 6%	Aluminium: 81% Steel: 95% PET: 75% HDPE: 10% PVC: 39% Glass: 76% Gable/tetra: 77% **Total:** 77.2%	

Province / Territory	Data Year	Refund Value (CAD$)	Redemption Model	Collection rate _ DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
					Gable/tetra: 11% **Total:** 8.5%		
Quebec[xcii]	2023	$0.10-$0.25[b] (€0.06-€0.15, USD$0.07-$0.18)	Hybrid	Plastic: 58% Metal: 64% Single-use glass: 53% **Total:** 63%	Plastic: 15% Metal: 15% Single-use glass: 25% **Total:** 15.7%	Plastic: 72.7% Metal: 79.4% Single-use glass: 77.6% **Total:** 78.7%	The system operator's annual report provides a detailed breakdown of total containers collected through both the deposit return and kerbside systems. Provincial regulations allow a maximum of 5% of beverage containers collected through kerbside recycling to count toward the system's official collection targets, but we've shown the total collection rate (including all kerbside and DRS containers) for comparison purposes, as other provinces do not have such a limit and we want to present an apples-to-apples comparison.
Saskatchewan[xciii]	2024	$0.05-$0.40 (€0.03-€0.25, USD$0.04-$0.29)	Depot	Unknown	Unknown	Metal: 88% Plastic: 80% Glass: 92% Tetra/cartons: 54% **Total: 82%**	In Saskatchewan, containers collected through kerbside programmes are returned to depots for refund and recycling and are included in the reported annual return volumes; however, because only a small number of kerbside operators participate and their return data is commercially confidential, a precise kerbside share is not available (though the system operator estimates it accounts for less than 5% of total returns).
Yukon[xciv]	2024	$0.05-$0.25 (€0.03-€0.15, USD$0.04-$0.18)	Depot	Unknown	Unknown	Milk + milk substitutes: 51% Small containers: 67% Large containers: 80% **Total:** 66%	The system operator confirmed that the reported collection rate includes kerbside-collected containers; however, these volumes are not tracked separately, and no estimate is available.[xcv]

*Currency conversion accurate as of 13 October 2025

Appendix C: Australian DRS details

Table 5 Deposit Return Systems in Australia – Programme Details

State	Data Year	Refund Value (AUD$)	Redemption Model	Collection rate - DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
Australian Capital Territory[xcvi]	2024-25	$0.10 (€0.06, USD $0.07)	Depot	Aluminium: 56% Glass: 50% HDPE: 50% PET: 42% Liquid paperboard: 22% Steel: 9% **Total**: 48%	Aluminium: 15% Glass: 17% HDPE: 24% PET: 34% Liquid paperboard: 0% Steel: 0% **Total**: 48%	Aluminium: 71% Glass: 67% HDPE: 73% PET: 76% Liquid paperboard: 22% Steel: 9% **Total:** 69%	Containers collected through kerbside recycling are tracked and reported separately because MRFs are eligible to claim processing refunds for each deposit container they handle. Since most MRFs cannot directly count individual containers, the system uses a statistical method whereby a state-wide "eligible container factor" is applied to the weight of each material type processed to estimate the number of eligible containers. This enables kerbside-collected containers to be reported separately from depot returns in scheme data.
New South Wales[xcvii]	2024-25	$0.10 (€0.06, USD $0.07)	Hybrid	Aluminium: 61% Glass: 61% PET: 36% HDPE: 55% Liquid paperboard: 19% Steel: 43% Other plastics: 6% Other material: 58% **Total:** 56%	Aluminium: 10% Glass: 17% PET: 14% HDPE: 11% Liquid paperboard: 0% Steel: 0% Other plastics: 0% Other material: 0% **Total:** 11%	Aluminium: 71% Glass: 78% PET: 50% HDPE: 66% Liquid paperboard: 19% Steel: 43% Other plastics: 6% Other material: 58% **Total**: 68%	Containers collected through kerbside recycling are tracked and reported separately because MRFs are eligible to claim processing refunds for each deposit container they handle. Since most MRFs cannot directly count individual containers, the system uses a statistical method whereby a state-wide "eligible container factor" is applied to the weight of each material type processed to estimate the number of eligible containers. This enables kerbside-collected containers to be reported separately from depot returns in scheme data.

State	Data Year	Refund Value (AUD$)	Redemption Model	Collection rate - DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
Northern Territory[xcviii]	2024-25	$0.10 (€0.06, USD $0.07)	Depot	Unknown	Unknown	Aluminium*: 99% Glass*: 119% PET: 68% HDPE: 18% Steel: 35% Liquid paperboard: 65% **Total:** 88%	In the Northern Territory, reported collection rates include containers recovered through MRFs, but no separate breakdown is available. **The rates for aluminium and glass are under review. The annual report states that "an investigation is a priority action to be undertaken by the Department to verify and understand the reasons for the high return rates including the potential under-reporting of the number of containers sold in the NT."*
Queensland[xcix]	2024-25	$0.10 (€0.06, USD $0.07)	Depot	Aluminium: 61% Glass: 61% HDPE: 42% PET: 52% Steel: 29% Liquid paperboard: 27% Other: 66% **Total:** 56%	Aluminium: 8% Glass: 24% HDPE: 29% PET: 7% Steel: 0% Liquid paperboard: 0% Other: 0% **Total:** 11%	Aluminium: 69% Glass: 85% HDPE: 71% PET: 58% Steel: 29% Liquid paperboard: 27% Other: 66% **Total:** 67%	Containers collected through kerbside recycling are tracked and reported separately because MRFs are eligible to claim processing refunds for each deposit container they handle. Since most MRFs cannot directly count individual containers, the system uses a statistical method whereby a state-wide "eligible container factor" is applied to the weight of each material type processed to estimate the number of eligible containers. This enables kerbside-collected containers to be reported separately from depot returns in scheme data.
South Australia[c]	2024-25	$0.10 (€0.06, USD $0.07)	Depot	Unknown	Unknown	Aluminium: 77% Liquid paperboard: 50% Glass: 84% PET: 64% HDPE: 42% **Total:** 73%	In South Australia, reported return rates include containers recovered through MRFs, but no separate breakdown is available. When the DRS was introduced in the 1970s, before councils offered kerbside recycling, council collectors could choose to separate deposit containers and redeem

State	Data Year	Refund Value (AUD$)	Redemption Model	Collection rate - DRS return points only	Collection rate - MRFs	Collection rate – DRS return points + MRFs combined	Notes
							them at depots. This practice has continued through the transition to modern kerbside systems and MRFs. As a result, MRFs are treated as another customer within the scheme, and their volumes are included in overall returns but not reported separately.[ci]
Tasmania	2025	$0.10 (€0.06, USD $0.07)	Hybrid	Not available	Not available	Not available	
Victoria	2023-24	$0.10 (€0.06, USD $0.07)	Hybrid	Not available	Not available	Not available	
Western Australia[cii]	2023-24	$0.10 (€0.06, USD $0.07)	Depot	Aluminium: 59% Steel: 56% Glass: 68% HDPE: 33% PET: 51% Liquid paperboard: 28% Other: 77% **Total:** 56%	Aluminium: 10% Steel: 0% Glass: 12% HDPE: 10% PET: 7% Liquid paperboard: 0% Other: 0% **Total:** 10%	Aluminium: 69% Steel: 56% Glass: 80% HDPE: 43% PET: 58% Liquid paperboard: 28% Other: 77% **Total:** 65%	Containers collected through kerbside recycling are tracked and reported separately because MRFs are eligible to claim processing refunds for each deposit container they handle. Since most MRFs cannot directly count individual containers, the system uses a statistical method whereby a state-wide "eligible container factor" is applied to the weight of each material type processed to estimate the number of eligible containers. This enables kerbside-collected containers to be reported separately from depot returns in scheme data.
*Currency conversion accurate as of 13 October 2025							

Appendix D: Estimates of deposit beverage containers captured through kerbside and drop-off programmes in the US

The Container Recycling Institute (CRI) has developed the following estimates of kerbside collection in US deposit states, drawing on data from CalRecycle in California. These estimates are intended to provide a more comprehensive view of total beverage container collection activity, recognising that kerbside programmes and deposit systems often operate in parallel to maximise diversion and recycling rates.

CRI uses this information to estimate overall collection rates for deposit containers across all US deposit states. These estimates are provided here for context but are not included in the collection rates reported in this fact sheet.

Table 6 Container Recycling Institute Estimates of Deposit Beverage Containers Captured Through Kerbside and Drop-off Programmes, based on CalRecycle data, as of January 2024[ciii]

DRS Collection Rate Range	Additional Containers Collected via Kerbside
85% to 89%	5%
80% to 84%	8%
75% to 79%	9.25%
70% to 74%	9.5%
65% to 69%	9.75%
60% to 64%	10%
55% to 59%	10.5%
50% to 54%	11%
45% to 49%	11.5%
40% to 44%	12%
35% to 39%	12.5%

Endnotes

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