



Global Deposit Book 20

An Overview of Deposit
Return Systems for Single-Use
Beverage Containers

22





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About us

ReLoop is an international non-profit organisation that works at the intersection of governments, industry stakeholders and NGOs who share a common vision of a thriving circular economy. Our mission and values are focused on building a waste-free world, where resources remain resources.

ReLoop's policy positions and recommendations are based on data-driven research, best-in-class principles, real world case studies, and the collective expertise of our team.



Disclaimer

ReLoop provides the information contained in this report in good faith, and every attempt has been made to ensure accuracy. However, we recognise that in a report of this breadth, some errors of accuracy or omission are possible. The facts and data contained in this document are taken primarily from external sources, including publicly accessible annual reports released by system operators, stewardship agencies, or other involved entities. Other information was obtained through personal communication and e-mail correspondence. We welcome any comments, clarifications, and suggestions for improvement to our Money Back Programme Coordinator at:



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Aseptic carton or container

Also known as Tetra Pak/Tetra Brik, drink box, liquid paperboard, or multi-material container. It is a packaging type made of layered paper, aluminium foil, and plastic. Often used for juice or milk.

Barcode-based system

A system that employs barcode scanning technology to identify and verify eligible drinks containers for the purposes of providing refunds, collecting accurate data for reporting and financial auditing. All deposit return systems in Europe are barcode-based as well as most American programmes.

California Refund Value (CRV)

A sum of money paid by consumers to retailers at the point of purchase, which is refunded to consumers when they return empty drinks containers to certified collection points for recycling. Like deposits in other jurisdictions. See “Deposit.”

Clearing system

The process by which deposit return claims are managed and settled among all participating entities in the system. Key responsibilities of a deposit system clearinghouse include aggregation of data from automated and manual redemption points and settling of deposits across the different trade levels in the system.

Consumer container fee

A per unit non-refundable fee paid at the point of purchase. In Saskatchewan (Canada), the fee is called an Environmental Handling Charge. In Yukon, it is called a Recycling Fund Fee, and in the Northwest Territories it is called a Container Handling Fee. In other jurisdictions, like British Columbia, it is called a Container Recycling Fee. Unlike some other fees which are set by the government or other responsible entity, the Container Recycling Fee is usually variable as it represents the net cost of collection and recycling per container type.

Deposit

A sum of money that is charged on applicable drinks containers at the point of purchase, which retailers are required to collect from consumers. Intended to function as an incentive to recycle, it is refunded when the consumer returns the empty container to an authorised redemption centre/depot or retailer for recycling. In some jurisdictions, deposit levels are set in legislation, and in others they are established by the system operator. Deposit values can be variable or flat; in a system with variable deposit values, the deposit varies depending on the size of the drinks container, material type, or even beverage type. In contrast, in a system with a flat deposit value, all drinks containers, regardless of size or material type, have the same deposit placed on them.

Deposit initiator

The first agent (i.e., producer, bottler, distributor, importer) to collect the deposit on a drinks container sold in the jurisdiction.

DRS

Deposit return system



EU

European Union

GST

Goods and Services Tax (Canada, Australia)

Handling fee

A fee that is paid, often by bottlers/distributors (or in some cases, the state [e.g., California]) to retailers and/or redemption centres/depots as compensation for receiving, sorting, and storing redeemed drinks containers. On a long-term basis, handling fees also cover expenses related to investments in reverse vending machines (RVM), manual and automated redemption points, electricity costs, space requirements, and additional personnel required to handle the containers. In most North American deposit return systems, the handling fee is either set at a flat rate or is different for alcohol and non-alcoholic drinks. Conversely, in most European systems, handling fees vary depending on the mode of recovery and the degree of sorting and processing (i.e., whether containers are collected manually or via a RVM).

HORECA (Hotels, Restaurants, and Catering)

European term for the food service and hotel industries that consists of establishments that prepare and serve food and drinks. These businesses are required to pay the deposit price on drinks they purchase for sale on their premises but are not required to pass the deposit price on to the consumer. If they do, they are required to provide a take-back service in line with the requirements set for other collection points.

HDPE

High density polyethylene. A type of resin commonly used in plastic drinks bottles, especially those used for milk.

Hybrid redemption system

A collection model in which privately-owned redemption centres operate alongside retail stores to facilitate the return of empty drinks containers.

Collection method

In the context of this report, refers to the way in which empty drinks containers are returned for recycling, sorted, and/or counted. Empty containers can either be returned manually (i.e., handed over at the counter to a retail clerk, or through bulk return systems), or automatically via reverse vending machines (see “Reverse Vending Machine”). When collection is done automatically, containers are scanned, counted, usually condensed, and stored by the RVM. In contrast, when collection is done manually, empty containers need to be sent to a counting centre to be counted and verified.

Material owner

The owner of the recyclable commodity (empty containers) that can sell the material to the market or keep the material to have it converted into raw material for new bottles or cans.

Material Recovery Facility (MRF)

A waste facility that receives commingled recyclable materials from residential and commercial recycling programmes for the purpose of sorting, processing, and marketing them for sale to recyclers. These facilities are not typically accessible to the public.

Material revenues

Money generated from the sale of collected empty drinks container material. These funds are generally used to help fund the system.

PET

Polyethylene terephthalate. A type of plastic resin that is widely used for packaging drinks, especially soft drinks, juices, and water.

Processing fee

A per unit fee paid by system operators to material processors in some North American deposit return systems. Similar to producer fee in other jurisdictions (see “Producer Fee”).

Processing payment

In California’s system, processing payments are defined as the difference between the average cost to recycle and the average scrap value for the material, and processing fees are equal to a percentage of processing payments ranging from 10-65%. If a material scrap value is high enough to cover recycling costs, then no processing fee is imposed. If a material’s scrap value is less than the state-wide, weighted-average recycling costs, then a processing fee is intended to make up this difference, or net cost.

Processing refund¹

In some Australian states (e.g., Australian Capital Territory, New South Wales), qualified MRF operators are entitled to claim processing refunds for eligible containers collected through kerbside recycling bins. Operators are paid a processing refund for each container delivered for reuse or recycling. A container factor is used to convert container weights into a count that is calculated based on independent sampling data collected at kerbside for glass and from the MRF output streams for all other material types. The factors are published on the Exchange for Change (EfC) website: <https://www.exchangeforchange.com.au/who-we-are/publications-and-reports.html>

¹ Exchange for Change. “ACT Container Deposit Scheme 2020/21 Annual Statutory Report.” <https://www.exchangeforchange.com.au/who-we-are/publications-and-reports.html>



Processors

Entities that provide services that may include counting, weighing, and measuring, of empty drinks containers. They may be responsible for scrap buying/selling, overseas shipping and brokering, as well as materials transformation.

Producers

For the purposes of this report, a producer is the entity first selling the eligible drinks container in the market, which technically could be a brand owner, manufacturer, an importer, or a distributor. Producers sell their products to retailers, who sell them to consumers.

Producer fee

Also known as a producer administration fee, extended producer responsibility (EPR) fee, or processing fee, this is a fee paid by beverage producers/importers/distributors to the system operator to cover the proportion of system costs not covered by material revenues and/or unredeemed deposits. Although different terms may be used in different jurisdictions, they all represent the same thing.

Redemption centre (depot)

A dedicated establishment for the collection of empty drinks containers in exchange for a deposit refund. These centres, which can be owned by private businesses or the central system operator, are typically situated in retail parking lots, outside entrance strip malls, or warehouses on the outskirts of a town or city. In some jurisdictions, redemption centres complement the return-to-retail collection network by offering a more suitable option for individuals or organisations redeeming large volumes of containers.

Retailer

Party that buys drinks from producers and sells them to consumers through a retail establishment. In best practice deposit return systems, they are also responsible for accepting empty drinks containers from consumers and paying out deposit refunds.

Return rate

The amount of drinks container material that is collected (by unit) expressed as a percentage of the amount of drinks container material placed on the market, excluding exports. In terms of system results, it is important to point out that the way in which system performance is measured or reported on can vary between jurisdictions. While some system operators may report out a 'collection rate,' others report a 'recycling rate' or 'redemption rate.' For the sake of consistency and because it is impossible to know exactly how performance is measured in each jurisdiction, this report uses 'return rate' as a catch-all term.

Return-to-redemption centre (depots)

Redemption model that relies on consumers taking empty drinks containers to return facilities established solely for this purpose.

Return-to-retail

Redemption model that relies on beverage retailers to accept—and refund the deposit on—empty deposit-bearing drinks containers from consumers for the purpose of recycling. In some jurisdictions, retailers below a certain size (e.g., 100 m²) might be exempt from participating in the deposit system. This model is considered best-in-class as it is most convenient for consumers and offers benefits for retailers through increased foot traffic, economic incentives, and an improved corporate image. Return-to-retail models are most common in Europe but are also used in some North American systems.

Reverse Vending Machine (RVM)

An automated mechanical device that accepts one or more types of empty drinks containers and issues a deposit refund. In some cases, they may also have a compaction function. Used by consumers at redemption locations.

System operator

Entity responsible for the operation of a DRS, including (but not limited to): meeting performance targets; managing the system's finances; designing and funding the return infrastructure; registering producers and new products into the system; establishing contracts with service providers; auditing activities; and quality assurance. DRS are usually operated by beverage producers, but can also be operated by government, a not-for-profit agency, or multiple parties, each with a specific assigned responsibility.

Unredeemed deposits

The value of paid deposits on containers that have not been redeemed by a consumer - discarded in rubbish/as litter, recycled through other means (e.g., kerbside recycling programmes), or lost.

VAT

Value Added Tax (European Union)



Foreword

The world today faces a severe climate crisis. At the same time, a waste crisis is unfolding—both on land and in our oceans—as we face unprecedented demands to reduce our dependence on virgin resources. The scale and urgency of these dual crises means that we no longer have the luxury of waiting to take action. Now is the time to implement proven solutions that will help us meet our climate mitigation and waste prevention objectives. Deposit return systems are a proven solution that are not only beneficial for the environment, but also create jobs and economic opportunities.

For Reloop, DRSs are a cornerstone principle of the circular economy. By enabling the collection of high volumes of top-quality, colour-sorted material that can be directed into closed-loop recycling applications again and again, these systems deliver bountiful circularity by allowing us to produce new containers from used containers multiple times. This is especially relevant in the context of the COVID-19 pandemic, which has impacted beverage container demand and recycling, and disrupted the supply chain of recycled material.

As part of Reloop's core focus on packaging, we have examined the economic and environmental impacts of higher rates of separate collection and closed-loop recycling (i.e., bottle-to-bottle or can-to-can) for drinks packaging in the 27 European Union (EU) Member States, and the results of our analysis are compelling. The overall net impact of reaching a 90% recycling rate for single-use drinks packaging—which can only be achieved through DRS—is a reduction of virgin material demand, which, in turn, results in a significant reduction in global carbon emissions.

Aside from higher collection and increased material circularity, DRS for drinks packaging is an effective means by which governments can encourage greater use of refillable bottles—because it establishes the infrastructure by which all containers (single-use and refillable) can be returned (a prerequisite for a successful reuse system). This is good news not only for large brands that have existing agreements with retailers, but also for small and medium-sized companies that are keen to switch to refillables but are unable to collect their bottles back.

From proposals for new DRS programmes to amendments of existing laws, to the passage and implementation of new legislation, Reloop's Global Deposit Book 2022 reveals that more jurisdictions now realise a need for DRS to address the massive crisis in wasted containers, too many of which end up as litter.

We are excited to share this report with you. We believe it will serve as a valuable reference guide for governments, industry and NGOs by providing a comprehensive overview of all DRS for single-use drinks containers around the world.



Clarissa Morawski
CEO & Co-founder



Introduction

By the end of 2022, it is expected that around 352.9 million people² worldwide will live in jurisdictions where deposit return systems (DRS) are in place for the collection and recycling of single-use drinks containers. Deposit return systems, also known as “container deposit (or refund) schemes” (CDS or CRS) in Australia, or “bottle bills” in the United States of America (USA), have proven to be one of the most direct and effective tools to improve circular economy outcomes by collecting high quantities of drinks containers in a manner that reduces contamination and ensures a clean stream of materials fit for closed-loop (bottle-to-bottle or can-to-can) recycling. These systems see customers pay a small amount of money upfront, which is reimbursed when they return the empty container to a collection point. The container can then be reused or recycled to make new drinks packaging. This reduces waste and avoids the need for virgin materials.

The fact that no other method of collection can effectively recover 90% of drinks containers for closed-loop recycling explains why governments around the world have shown a renewed interest in DRS in recent years; introducing new programmes or amending existing legislation to improve participation and increase redemption rates. According to our knowledge of existing programmes, as well as programmes that are committed to but not yet operational, it is reasonable to predict that by the end of 2026, more than 70 jurisdictions worldwide (covering about 746 million people) will have a DRS for single-use drinks containers. This is an increase from 48 jurisdictions (covering about 291 million people) in 2020, the year in which our last report was published.

In the European Union (EU) alone, the first half of 2022 saw two countries – Latvia and Slovakia – establish DRS for single-use drinks containers, and Malta is set to launch its programme in mid-November. Several European countries have expanded the scope of their systems, too: the Netherlands, for example, will add beverage cans to its DRS by the end of 2022, and juice and syrup products will be included in Sweden’s system as of January 2023.

Elsewhere in Europe, several DRS programmes are expected to roll out over the next couple of years, including in Austria (2025), Greece (2023), Hungary (2023/24), Portugal (2023/24), Romania (2023), the Republic of Ireland (2023), Scotland (2023), and Turkey (2023).

Although not yet legislated, plans for DRS are also in place in Cyprus (2024/25), France (2025/26), Poland (2024/25),

Slovenia (2024/25), Spain (2025/26), and England, Wales, and Northern Ireland (2024/25).

DRS is also gaining ground in the USA, where lawmakers are working on a draft bill for a nationwide DRS. The legislative language and makeup of supportive stakeholders are still evolving, but if passed, the bill would likely allow states with existing DRS to continue with their programmes or have the option of joining the national programme.³ At the same time, lawmakers in several states—including California, Iowa, Massachusetts, and Vermont—are working to debate and potentially update their existing legislation to increase container deposits and/or to add more types of containers to the programme.

Parts of Asia have jumped on the DRS bandwagon, too: the Republic of Korea’s scheme for single-use cups (the world’s first) is expected to go into effect in December 2022 in the two regions of Sejong and Jeju, and Singapore has announced that it will implement a DRS for drinks containers by 2023 as the first phase of its EPR approach to tackling packaging waste. The government of Hong Kong has also decided to press ahead with the introduction of a new producer responsibility scheme on plastic drinks bottles, underpinned by a rebate arrangement where people would receive a small refund for each plastic bottle they return for recycling at collection points.

Momentum around DRS is also growing in Oceania, where a number of small island countries are pursuing implementation of DRS as a sustainable financing mechanism for waste management. The Pacific island state of Tuvalu, for instance, →

² This includes the population of Malta, which is scheduled to implement a DRS on 14 November 2022. It also includes the entire population of Republic of Korea, which was scheduled to launch a DRS by the end of 2022. However, on 23 September 2022, it was announced that the DRS would go into effect in December 2022 only in the two regions of Sejong and Jeju, marking a scale-back of the ministry’s initial plan for a nationwide implementation.

³ Quinn, M. 25 August 2021. “Supporters planning national bottle bill legislation separate from Break Free From Plastic Pollution Act. Waste Dive. Accessed from <https://www.wastedive.com/news/national-bottle-bill-legislation-congress-break-free/605564/>



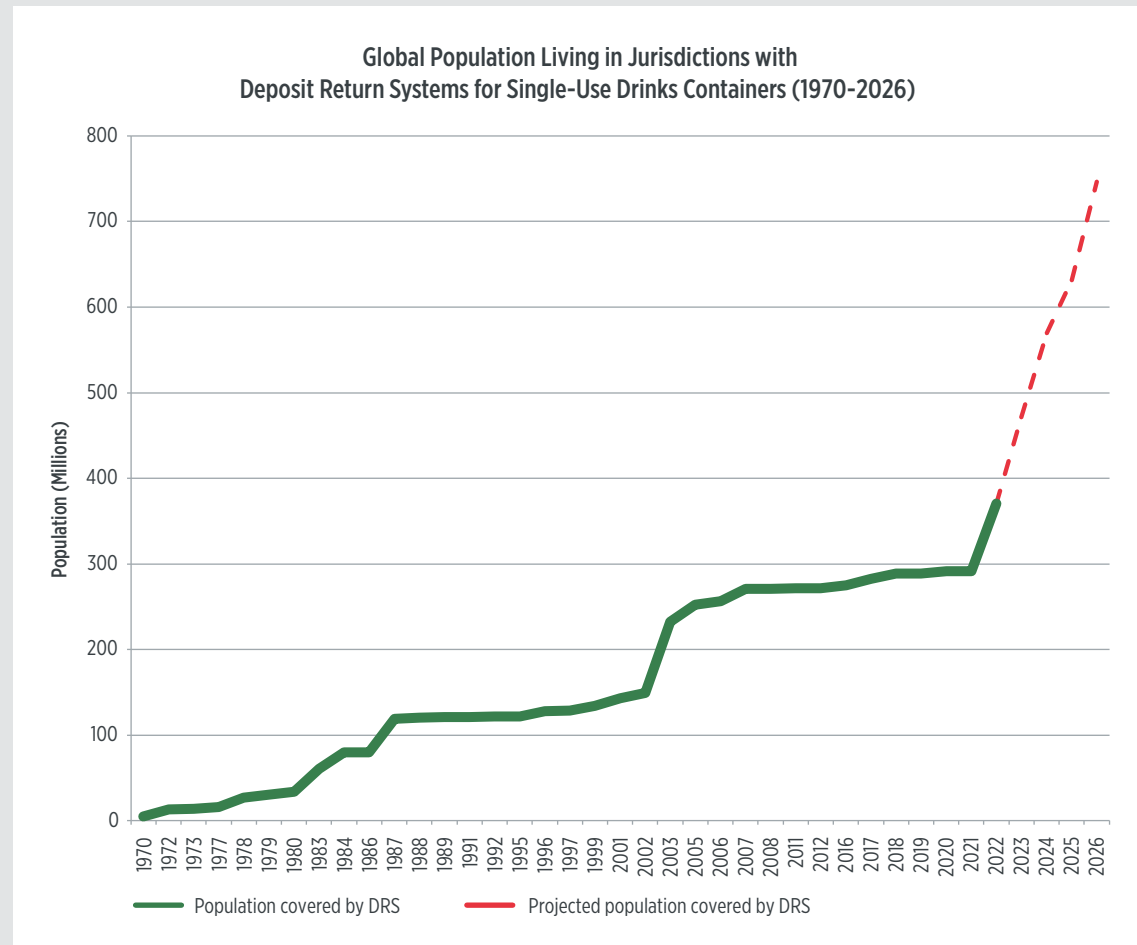
implemented a DRS in 2019, and Samoa is currently preparing for the development of regulations that aim to introduce deposits on a broad scope of materials including PET and aluminium drinks containers.⁴ These initiatives are being supported by the PacWastePlus Programme, a 72-month project (2018-2023) funded by the European Union and implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP).⁵

PacWastePlus has assisted with the establishment of working groups for the design and implementation of DRS in the Cook Islands, Nauru, Niue, the Solomon Islands, and Vanuatu, and has also provided assistance to some of these states in the development of regulatory documentation required to progress deposit regulations.⁶

In the Caribbean, Jamaica's Minister without Portfolio in the Ministry of Economic Growth and Job Creation recently announced (June 2022) that the Jamaican government will be focusing on a DRS for plastic bottles backed by legislation, and that it will be working with all stakeholders to "develop the policy, legislation and operational ways".⁷

Over in Australia, it is anticipated that both Tasmania and Victoria will have their systems up and running in 2023, making Australia the first continent to have DRS across every state and territory. The New Zealand government has also announced a commitment to implement a DRS as part of a suite of proposals to transform the country's recycling systems. According to the government's proposed timeline, regulations are proposed to be drafted and consulted on in 2024 for implementation by mid-2025.⁸

So, what is behind this growing global momentum towards DRS?



⁴ The World Bank. 25 September 2021. "Samoa Waste Characterization and Situation Analysis Report: Analysis of Waste Generation and Disposal Data and a Review of the Current Waste Management Systems in Samoa." <http://rio-samoa.mnre.gov.ws/sites/default/files/World%20Bank%20Samoa%20Report%20FINAL.pdf>

⁵ Secretariat of the Pacific Regional Environment Programme. 19 November 2021. "Clean Pacific Roundtable Enables Pacific Islands to Enhance Understanding of Waste Management Sustainable Financing Systems." Accessed from <https://www.sprep.org/news/clean-pacific-roundtable-enables-pacific-islands-to-enhance-understanding-of-waste-management-sustainable-financing-systems>

⁶ PacWastePlus Steering Committee. 12 May 2022. "Meeting Report." Zoom Teleconference. <https://pacwasteplus.org/wp-content/uploads/2022/05/PacWastePlus-Steering-Committee-Meeting-Report-2022.pdf>

⁷ Salmon, S. 21 June 2022. "Jamaica moving to increase collection of plastic bottles for recycling." <https://www.caribbeanationalweekly.com/news/caribbean-news/jamaica-moving-to-increase-collection-of-plastic-bottles-for-recycling/>

⁸ New Zealand Ministry for the Environment. Container Return Scheme: An option for Aotearoa New Zealand. <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/container-return-scheme-reducing-waste-landfill/#what-happens-next>



Deposit return systems = higher collection rates

In Europe, a key driver of interest has been the requirement in the EU's Single-Use Plastics Directive (SUPD) for Member States to achieve a target of 90% separate collection for plastic drinks bottles by 2029. Most European countries with DRS achieve return rates above 90% (with Germany showing the best results at 98%), diverting significant quantities of drinks containers from disposal and keeping that material circulating in the economy. According to a recent report by Reloop⁹, wastage levels in jurisdictions with a DRS were on average 78.6% lower in 2017 than comparable jurisdictions without deposits. The same report also estimated what the effect would be of adopting a DRS with return rates equivalent to the median rates achieved by national systems of this sort. Those median return rates were 91% for PET bottles, 89% for cans, and 97% for glass; significantly higher than the rates achieved by typical municipal recycling systems.

Deposit return systems = less litter

Aside from increasing the recycling of drinks containers, a key benefit of DRS—and one that cannot be achieved without them—is reduced littering. The most robust evidence for DRS' positive impact on litter reduction comes from studies that have compared litter rates in DRS and non-DRS jurisdictions. A report¹ by Keep South Australia Beautiful offers one such comparison. According to the report, in 2018-2019, drinks container litter comprised only 2.9% of litter items in South Australia—which has had a DRS in place since 1977—compared with 14.2% in Western Australia—which at that time did not have a DRS.ⁱⁱ A similar study¹⁰ by Keep America Beautiful found substantially less litter overall in DRS states. On a per capita basis, states with DRS had 50% less deposit material litter and 30% less non-deposit material litter than states without a DRS.

Deposit return systems = improved circularity

The fact that more governments are passing minimum recycled content laws is yet another reason deposit programmes are likely to expand over the coming years. As demand for recycled materials grows, a paradox is created in which there is not enough high-quality material being collected and recycled to meet that demand. Deposit systems offer a solution by generating a clean stream of materials fit for closed-loop recycling, by collecting and managing materials in a way that minimises contamination and ensures high-quality outputs. This is why more drinks companies and industry associations have begun to throw their support behind such schemes.

After years of opposing DRS, industry is starting to realise that these programmes are the only realistic way to increase the recycled content of their bottles and cans. In an open letter to the European Commission in September 2020, Natural Mineral Waters Europe (NMWE, formerly the European Federation of Bottled Waters [EFBW]) and the Union of European Soft Drinks Associations (UNESDA) called for the widespread adoption of DRS in European countries to meet the recycled content targets set in the EU's Single-Use Plastics Directive.¹¹ More recently in October 2021, NMWE and UNESDA (in association with Zero Waste Europe) urged the EU to acknowledge the role of DRS in achieving a circular economy for drinks packaging in Europe, and to support the establishment of minimum requirements for new DRS in the revision of the Packaging and Packaging Waste Directive.¹²

High levels of public support

As governments worldwide continue to consider and implement DRS, they will be happy to know that [public support](#) for these systems is high. According to a recent survey conducted by AstraRicerche, 83% of Italians support the introduction of a DRS in their country.¹³ A similar survey found that 91.6% of the Portuguese are in favour of introducing a DRS for all drinks packaging, and that approximately 90% stated that their recycling habits would change with the introduction of such a system.¹⁴ Support for DRS is also high in Slovakia, where almost 86% of poll respondents indicated they were supportive of the DRS legislation.¹⁵

⁹ Reloop. 2021. "What we waste." <https://www.reloopplatform.org/wp-content/uploads/2021/04/What-We-Waste-Reloop-Report-April-2021-1.pdf>

¹⁰ Keep America Beautiful. May 2021. "2020 National Litter Study: Summary Report." Accessed from https://kab.org/wp-content/uploads/2021/05/Litter-Study-Summary-Report-May-2021_final_05172021.pdf

¹¹ EFBW and UNESDA. September 2020. "DRS: UNESDA and EFBW call for a wide deployment of well-designed deposit return systems (DRS) in EU countries in order to meet the targets of the Single Use Plastics Directive." <https://www.unesda.eu/wp-content/uploads/2020/09/UNESDA-EFBW-joint-paper-DRS.pdf>

¹² Natural Mineral Waters Europe, Soft Drinks Europe (UNESDA), and Zero Waste Europe. 6 October 2021. "It's time to acknowledge the role of Deposit Refund Systems (DRS) in achieving a Circular Economy for beverage packaging in the EU." https://naturalmineralwaterseurope.org/wp-content/uploads/2021/10/Press-release_DRS_NMWE-UNESDA-ZeroWaste-Europe-06-10-21.pdf

¹³ Associazione Comuni Virtuosi. "Sondaggio." <https://www.buonrendere.it/sondaggio/>

¹⁴ SCIAENA. "91.6% of the Portuguese wanted a generalized deposit return system for drinks." <https://www.sciaena.org/en/446-91-6-of-portuguese-people-want-a-generalized-deposit-return-system-for-drinks>

¹⁵ TOMRA. 5 January 2022. "New deposit return system for beverage containers launches in Slovakia." Accessed from <https://newsroom.tomra.com/deposit-return-system-launches-slovakia/>



Report overview

This report, now in its fourth edition, provides a comprehensive summary of over 50 DRSs that are currently in place – including those scheduled to be implemented by the end of 2022¹⁶ – in Europe, North America, Central America and the Caribbean, Africa, the Middle East, Asia, and Oceania.¹⁷ For each jurisdiction profiled, the report identifies the following (where available):

- › **Legislative framework** (legal basis for the DRS);
- › **Scope** (drinks and container types included in the DRS);
- › **Deposit and fees** (deposit/refund values and different fees paid by various participants in the system, such as handling fees and producer fees);
- › **System structure and administration** (clearing system, system operator, system finance);
- › **Container return and refund points** (redemption system, population per collection point, method of container return, barcode verification);
- › **Return rates** (overall and material-specific, if available); and,
- › **Money, material, and data flow** (a visual flow schematic showing the physical flow of drinks containers, money, and sales/returns data through the system).

Like our 2020 report, this edition features information on upcoming programmes that have been legislated and that are expected to be implemented over the next few years. Also included is a brief summary of “proposed” programmes; jurisdictions that have formally committed to introducing a DRS, but where supporting legislation has yet to be enacted. The data presented in our 2020 report was pre-pandemic

(i.e., 2018 and 2019 return rates), whereas most data in this report is from 2020 or 2021. This is worth noting because numerous jurisdictions experienced a decline in return rates during 2020, as governments chose to temporarily suspend container redemption regulations. One example is the US state of Michigan, whose return rate dropped from 89% in 2019 to 73% in 2020. Oregon’s programme experienced a similar drop in container returns, from 86% in 2019 to 77% in 2020. With that being said, there are some jurisdictions that have used the pandemic and its related restrictions as justification for their low return rates, when in reality their programme’s poor performance can be explained by low convenience levels or deposit values, or other elements of system design.

Data sources

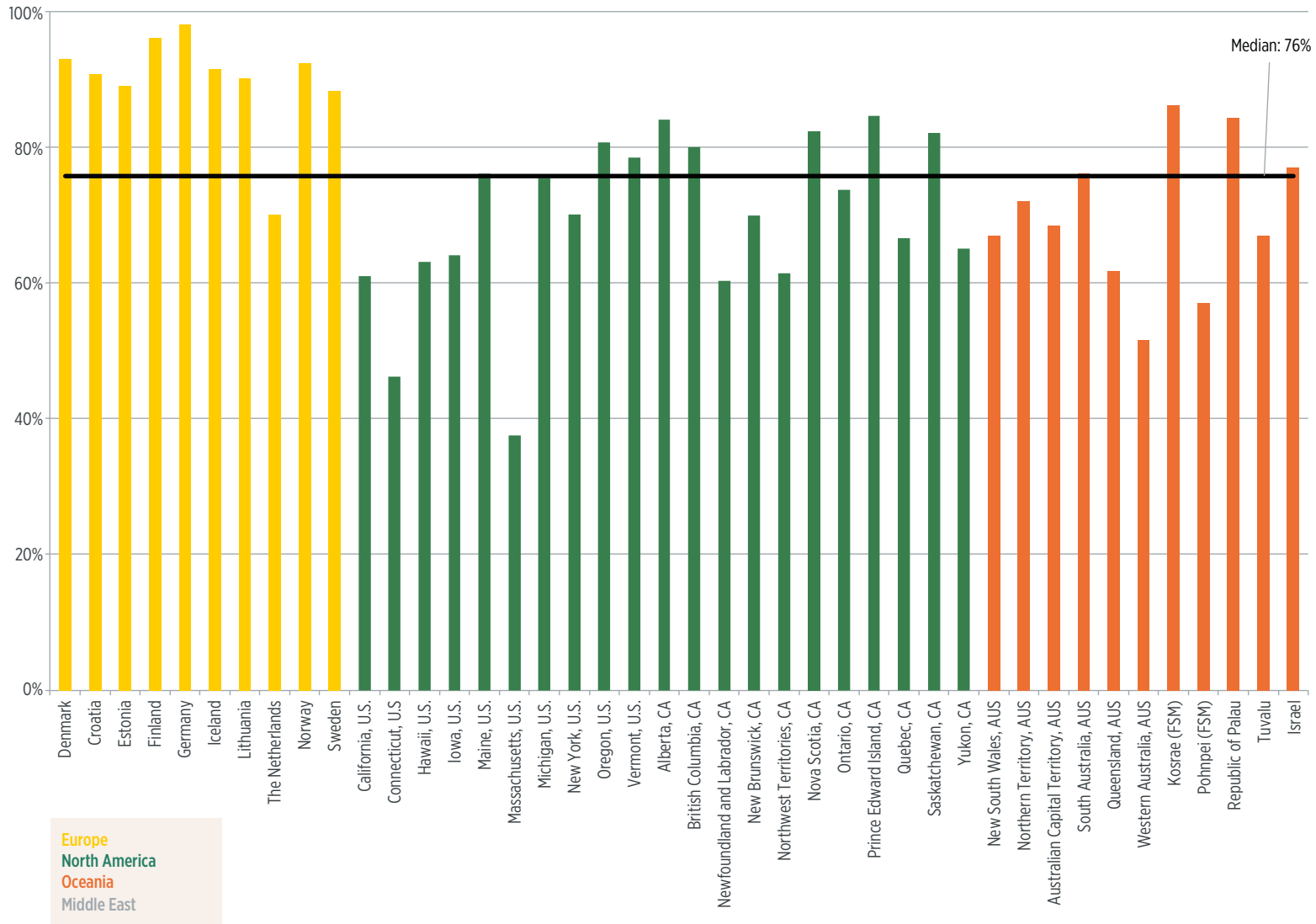
Information for this report was obtained from system operators, internal documents, government reports, as well as consultancy reports. A list of sources consulted is provided in each programme summary. The Appendix includes links to each jurisdiction’s DRS legislation, where available. →

¹⁶ This includes Malta (scheduled for Q3/Q4 2022), Romania (scheduled for October 2022), and Republic of Korea (scheduled for December 2022).

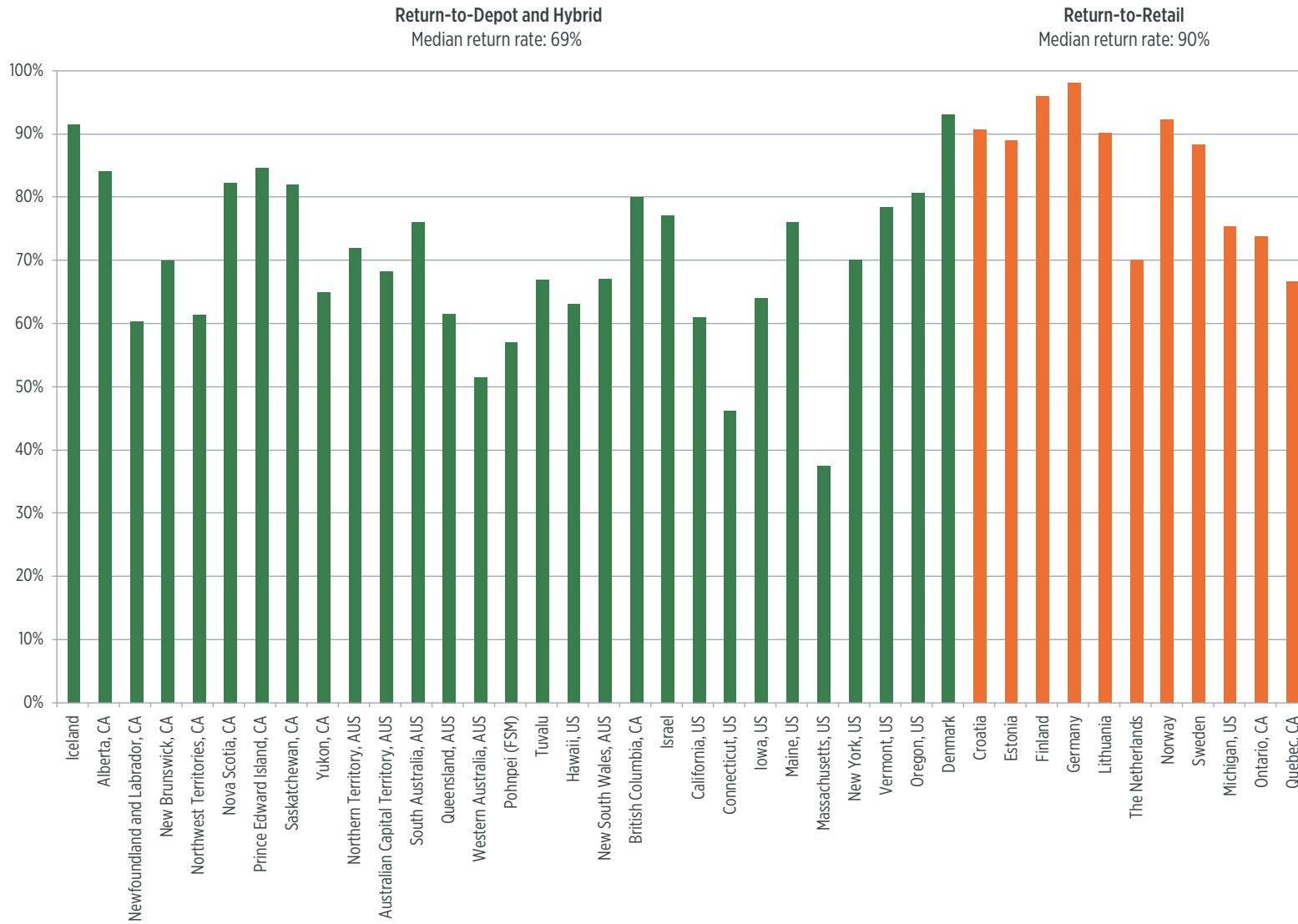
¹⁷ While a number of jurisdictions operate a mandatory DRS for single-use drinks containers alongside a DRS for refillables, this report covers information on DRS for single-use drinks containers only. This is because most DRS for refillable drinks packaging are voluntary and are operated by bottlers/producers, therefore data on system performance is difficult to obtain.



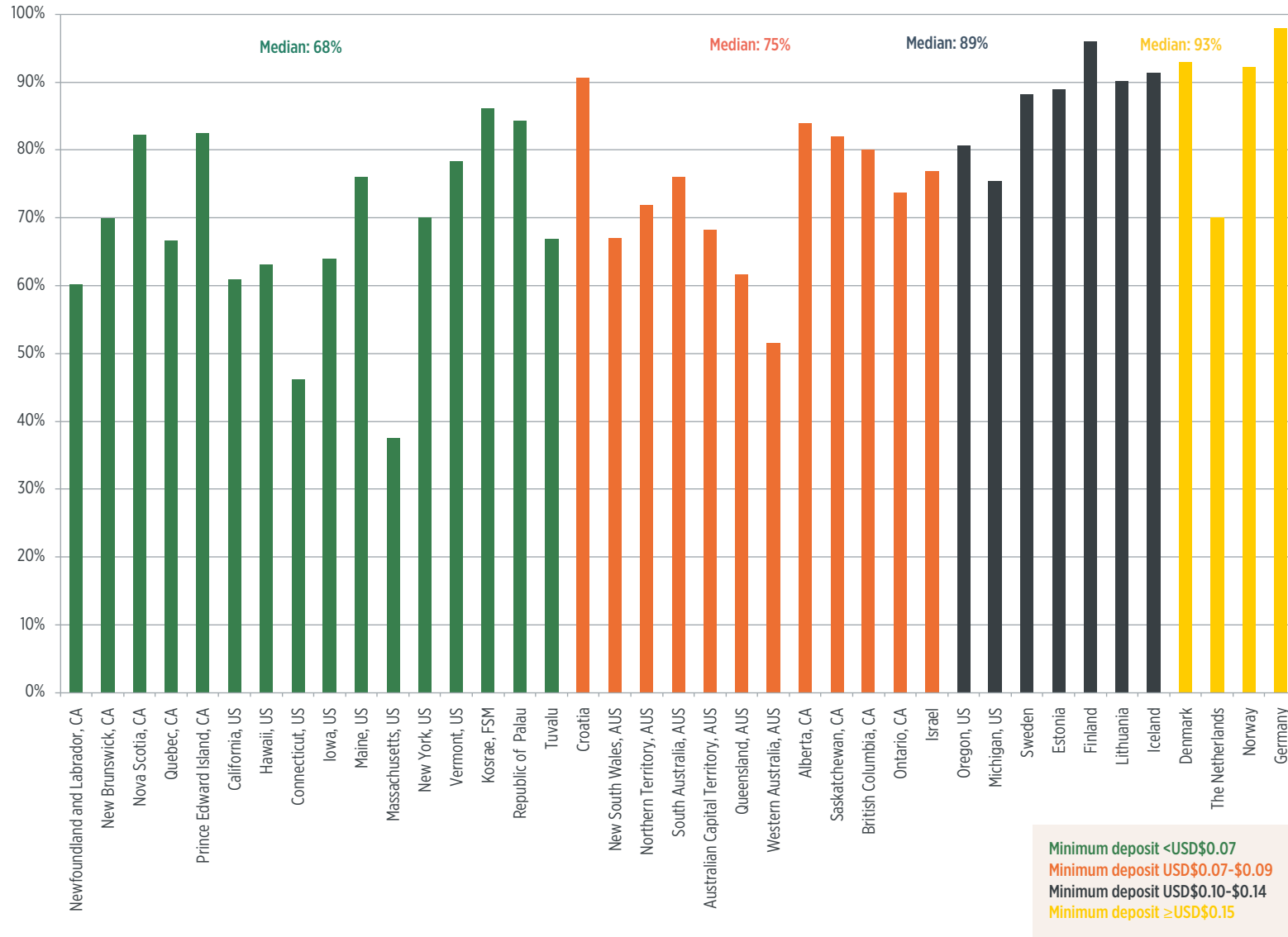
Latest Return Rates in Global Deposit Return Systems for Single-Use Drinks Containers



Latest Return Rates in Global Deposit Return Systems by Type of Redemption System



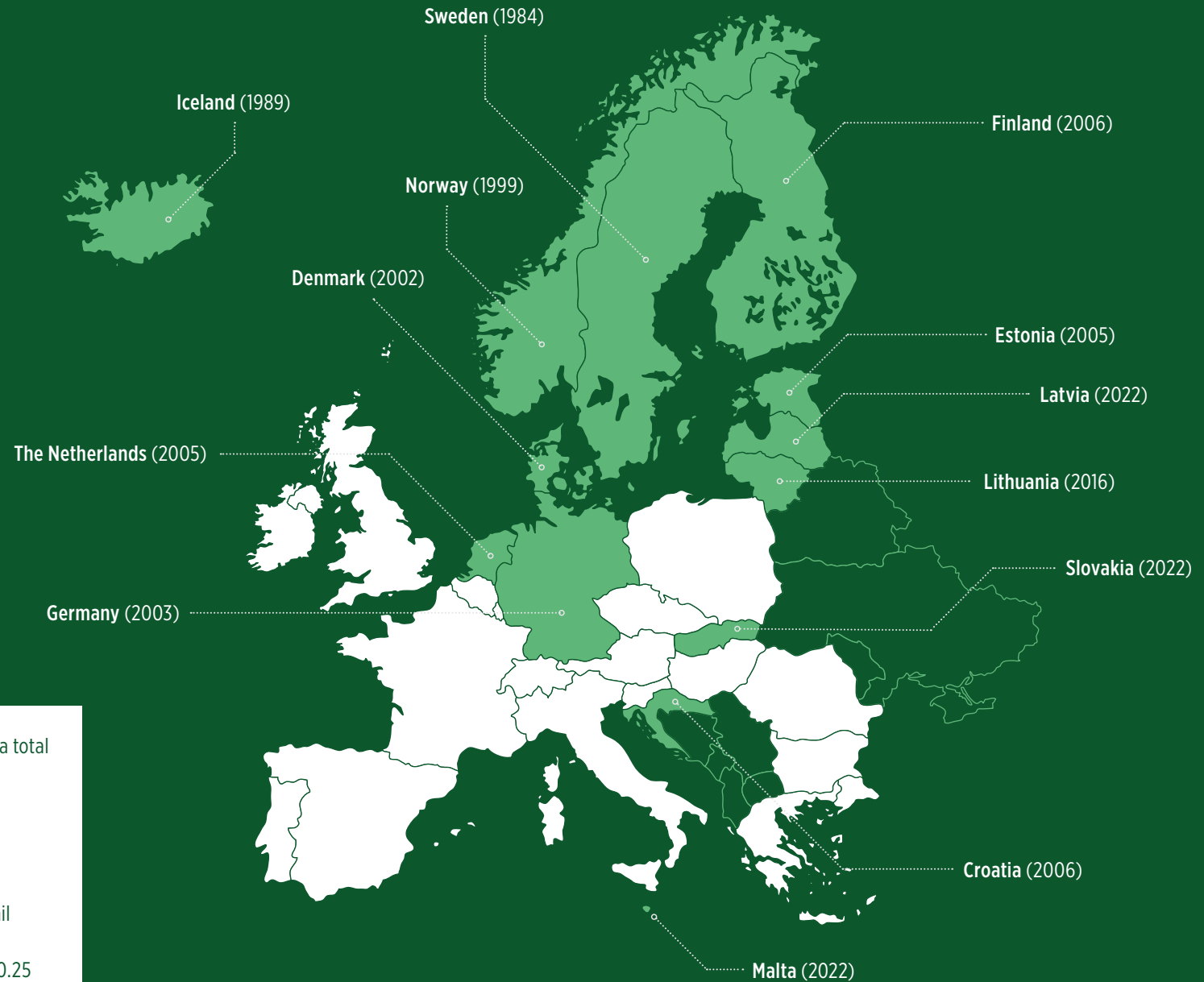
Latest Return Rates in Global Deposit Return Systems by Minimum Deposit Value



Existing programmes



Europe



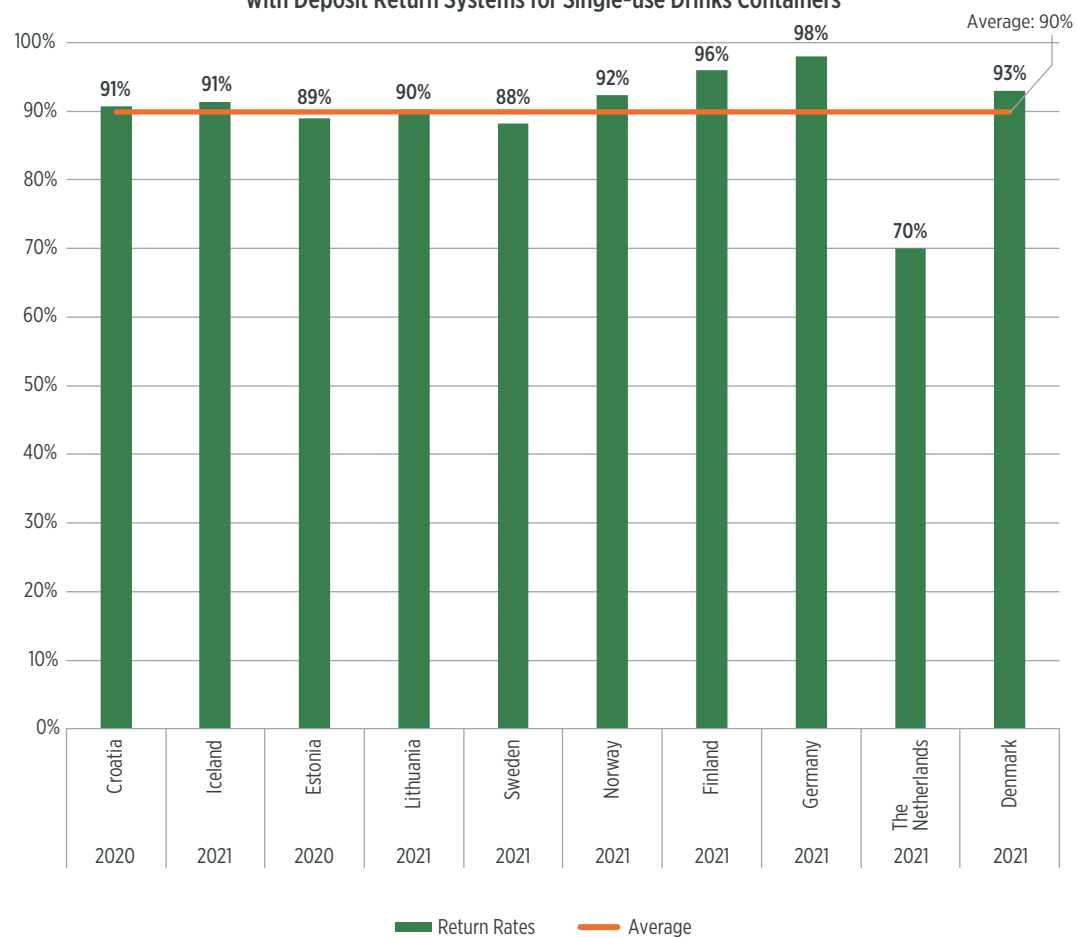
Region snapshot

- › 13 countries with DRS, covering a total of 144.2 million people
- › Average return rate: 90%
- › Median return rate: 91%
- › Most systems are centralised (Germany is the exception)
- › Most systems are return-to-retail (Iceland is the exception)
- › Deposit ranges from €0.07 to €0.25 (USD\$0.07 to \$0.27)



Europe

Latest Return Rates in European Countries
with Deposit Return Systems for Single-use Drinks Containers



| Country | 2021 Population (million) | Legislation Enacted | System Started |
|-----------------|---------------------------|---------------------|----------------|
| Croatia | 4.1 | 2005 | 2006 |
| Denmark | 5.8 | 2001 | 2002 |
| Estonia | 1.3 | 2004 | 2005 |
| Finland | 5.5 | 1994 | 1996 |
| Germany | 83.2 | 1991 | 2003 |
| Iceland | 0.4 | 1989 | 1989 |
| Latvia | 1.9 | 2019 | 2022 |
| Lithuania | 2.8 | 2014 | 2016 |
| Malta | 0.5 | 2020 | 2022 |
| The Netherlands | 17.5 | 2003 | 2005 |
| Norway | 5.4 | 1993 | 1999 |
| Slovakia | 5.5 | 2019 | 2022 |
| Sweden | 10.4 | 1982 | 1984 |



Croatia

Population: 4.1m

Population density: 72.8/km²

System operator's website:

Sources

- (1) https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1602852020.pdf
- (2) Personal communication with system operator (Environmental Protection and Energy Efficiency Fund [FZOEU])
- (3) Environmental Protection and Energy Efficiency Fund (FZOEU). 29 June 2021. "Milk and dairy products packaging back in the deposit system:" <https://www.fzoeu.hr/en/milk-and-dairy-products-packaging-back-in-the-deposit-system/8586>
- (4) Musulin, N. 2019. "Tehno-ekonomska analiza sustava gospodarenja otpadnom ambalažom putem povratne naknade u RH." <https://repositorij.fsb.unizg.hr/en/islandora/object/fsb%3A4673/datastream/PDF/view>
- (5) "Environmental Protection and Energy Efficiency Fund (EPEEF)." https://www.ca-eed.eu/wp-content/uploads/2021/10/EPEEF_AHalavanja.pdf
- (6) https://narodne-novine.nn.hr/clanci/sluzbeni/2015_09_97_1872.html
- (7) https://narodne-novine.nn.hr/clanci/sluzbeni/2020_01_7_93.html

Legislative framework

Name of legislation

Ordinance on Packaging and Packaging Waste (97/05), Ordinance on Packaging and Waste Packaging (88/15), Regulation on management of waste packaging (97/15), and Act on Sustainable Waste Management (84/21).

Legislation enacted

July 2005

Appointment of system operator

July 2005

System started

2006

Key updates

- › January 2021 – expansion to all drinks ≥ 200 ml
- › July 2021 – expansion to milk and dairy products

Regulatory authority

Ministry of Economy and Sustainable Development

Legislated targets

Recycling: 80%

In addition to an overall recycling target of 80%, the Act on Sustainable Waste Management transposes the provisions of the EU's Single-Use Plastics Directive concerning plastic bottles, which require that 77% of single-use plastic bottles with caps and lids be separately collected and recycled by 2025 (increasing to 90% by 2029).

Scope

Material type

Plastic (predominately PET), metal (aluminium, steel), glass

Beverage type

All alcohol (beer, wine, hard liquor) and non-alcohol drinks (including juices, waters, soft drinks, milk and dairy products, etc.)

Size

≥ 200 ml (0.05 gal)

Excluded

None

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Fixed rate:** 0.50 HRK (€0.07, USD\$0.07)

Handling fee (2022)

- › **Manual:** 0.05 HRK (€0.01, USD\$0.01) (25% VAT included)
- › **RVM:** 0.18 HRK (€0.02, USD\$0.03) (25% VAT included)

Producer fee (2022)

- › **Milk containers:** 0.20 HRK (€0.026, USD\$0.028)
- › **All other containers:** 0.10 HRK (€0.013, USD\$0.014)



System structure & administration

Clearing system

Centralised

System operator

Environmental Protection and Energy Efficiency Fund
(Fond za zaštitu okoliša i energetska učinkovitost – FZOEU)
(extra-budgetary public institution)

System finance

Material revenues, unredeemed deposits, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: Retailers $\geq 200\text{m}^2$ are obliged to take back empty containers from consumers. Smaller retailers ($<200\text{m}^2$) may decide to participate voluntarily in the DRS provided they are approved by FZOEU. There are approximately $\sim 2,100$ return locations.

Pop. per collection point

$\sim 1,922$

Method of return

70% manual / 30% automatic

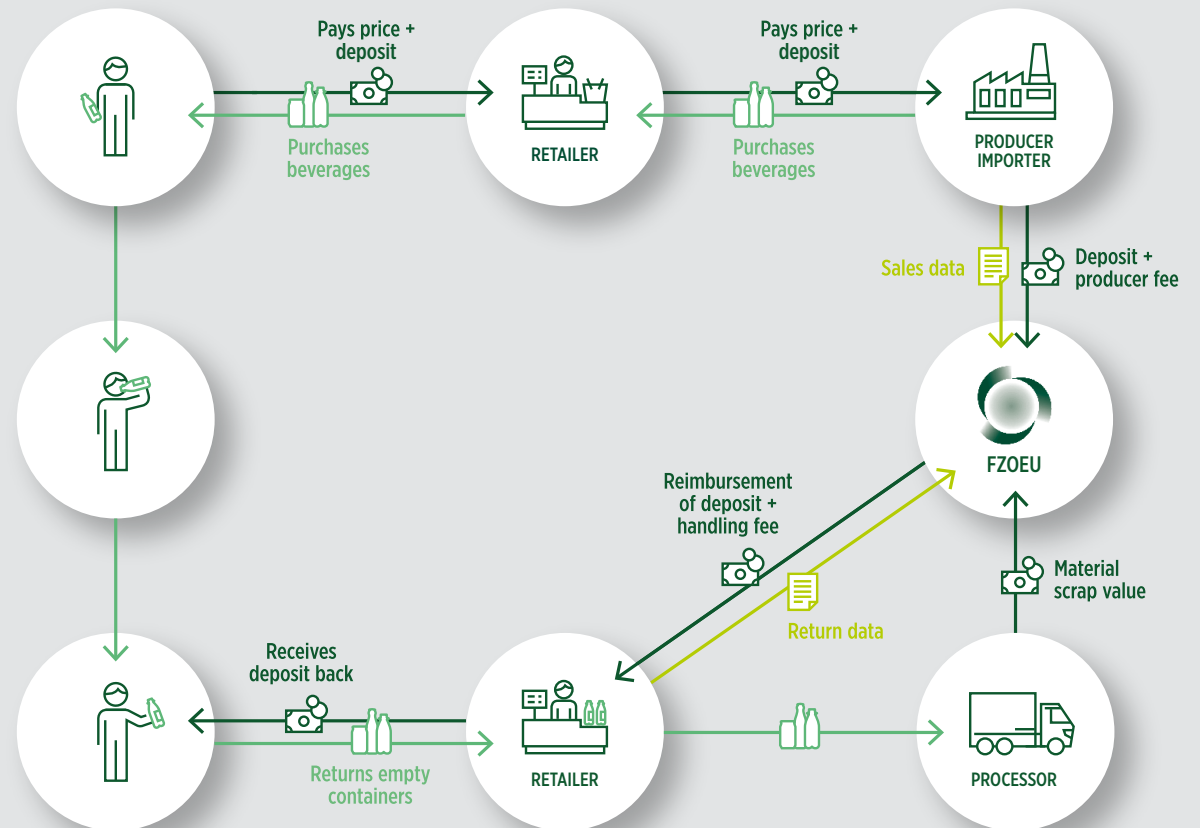
Barcode-based system?¹

Yes (partial)

Return rate (2020)

| Plastic (PET) | Metal | Glass | Total |
|---------------|-------|-------|-------|
| 87.9% | 81.1% | 93.4% | 90.7% |

Money, material & data flow



¹ Collected amounts are reported in both units and tonnes, depending on the type of collection.



Denmark

Population: 5.8m

Population density: 138.5/km²

System operator's website:



Sources

- (1) Dansk Retursystem. "Where to take bottles and cans." <https://danskretursystem.dk/en/about-deposits/where-return/>
- (2) Dansk Retursystem A/S. "Årsrapport 2021." <https://danskretursystem.dk/app/uploads/2022/03/Aarsrapport-2021.pdf>
- (3) Dansk Retursystem A/S. "Driftsgebyrer 2022." https://danskretursystem.dk/app/uploads/2021/12/Driftsgebyrer_2022-nv.pdf

Legislative framework

Name of legislation

Statutory Order on Deposits and Collection etc. of Packaging for Beer and Certain Soft Drinks, Order No. 1787 under the Environmental Protection Act

Legislation enacted

May 2001

Appointment of system operator

June 2001

System started

23 September 2002

Key updates

- › March 2005 – expansion to include alcoholic soft drinks ('alcopops'), cider, and energy drinks
- › April 2008 – expansion to include non-carbonated drinks such as mineral water, lemonade, and iced tea
- › January 2020 – expansion to include fruit juices and fruit concentrates

Regulatory authority

Danish Environmental Protection Agency (Miljøstyrelsen)

Legislated targets


None

Scope

Material type

Plastic (predominantly PET), metal (predominantly aluminium), glass

Beverage type

Ready-to-drink alcohol and non-alcohol drinks including beer, carbonated drinks (soft drinks with an alcohol content of 0-0.5%), fermented drink products other than wine and alcohol drinks made from fruit (such as cider with an alcohol content <10%), mixer products (spirits, wine or other fermented products mixed with other drinks such as soft drinks, cider or juice), mineral water, water, lemonade, iced tea, syrup, juice 

Size

<20L (5.28 gal)

Excluded

Milk and milk-based products, cocoa, wine and spirits, plastic containers >10L (2.64 gal) containing water/spring water/non-carbonated mineral water, certain types of barrels or casks, packaging made of cardboard (including laminates consisting of cardboard and other materials)

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› Variable rate:

- › Metal, glass <1L (0.26 gal): 1 DKK (€0.13, USD\$0.15)
- › Plastic <1L (0.26 gal): 1.5 DKK (€0.20, USD\$0.23)
- › Metal, glass, plastic 1-20L (0.26 to 5.28 gal): 3 DKK (€0.39, USD\$0.45)

Handling fee (2022)

› Manual:

- › Metal: 4.6 øre (€0.006, USD\$0.007)
- › Plastic < 1L (0.26 gal): 7.5 øre (€0.010, USD\$0.011)
- › Plastic > 1L (0.26 gal): 10.8 øre (€0.015, USD\$0.016)
- › Glass: 15.3 øre (€0.021, USD\$0.023)

› RVM with compaction:

- › Metal: 2.6 øre (€0.004, USD\$0.004)
- › Plastic < 1L (0.26 gal): 3.1 øre (€0.004, USD\$0.005)
- › Plastic > 1L (0.26 gal): 3.4 øre (€0.005, USD\$0.005)
- › Glass: 7.8 øre (€0.010, USD\$0.012)

Producer fee (2022)

- › Plastic: 0-63 øre (€0.00-€0.85, USD\$0.00-\$0.093)
- › Metal: 0-97 øre (€0.00-€0.13, USD\$0.00-\$0.14)
- › Glass: 4-400 øre (€0.005-€0.54, USD\$0.0059-\$0.59)



System structure & administration

Clearing system

Centralised

System operator

Dansk Retursystem A/S (private non-profit organisation established by a number of breweries together with the Danish retail trade; ownership is split as follows: Dansk Retursystem Holding [85.63%], which is owned by Carlsberg, Royal Unibrew, Thisted Bryghus, and Bryggeriet Fuglsang; Harboes Bryggeri A/S [14.27%]; and A/S Bryggeriet Vestfyen [0.1%])

System finance

Material revenues, unredeemed deposits, producer fees*

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Hybrid: Retailers with RVMs are required to accept all types of single-use drinks packaging. Stores without RVMs that sell drinks are required to accept the same types of packages as the ones they sell regardless of the brand. In addition to retail return locations, consumers can return containers in bulk to 'Pantstations' (buildings designed for the sole purpose of accepting empty containers). 'Pantstations' are available in 12 towns/cities throughout the country.

Pop. per collection point

~1,900 (population per automated collection point)

Method of return

95% automated / 5% manual (nearly 3,000 stores have RVMs)

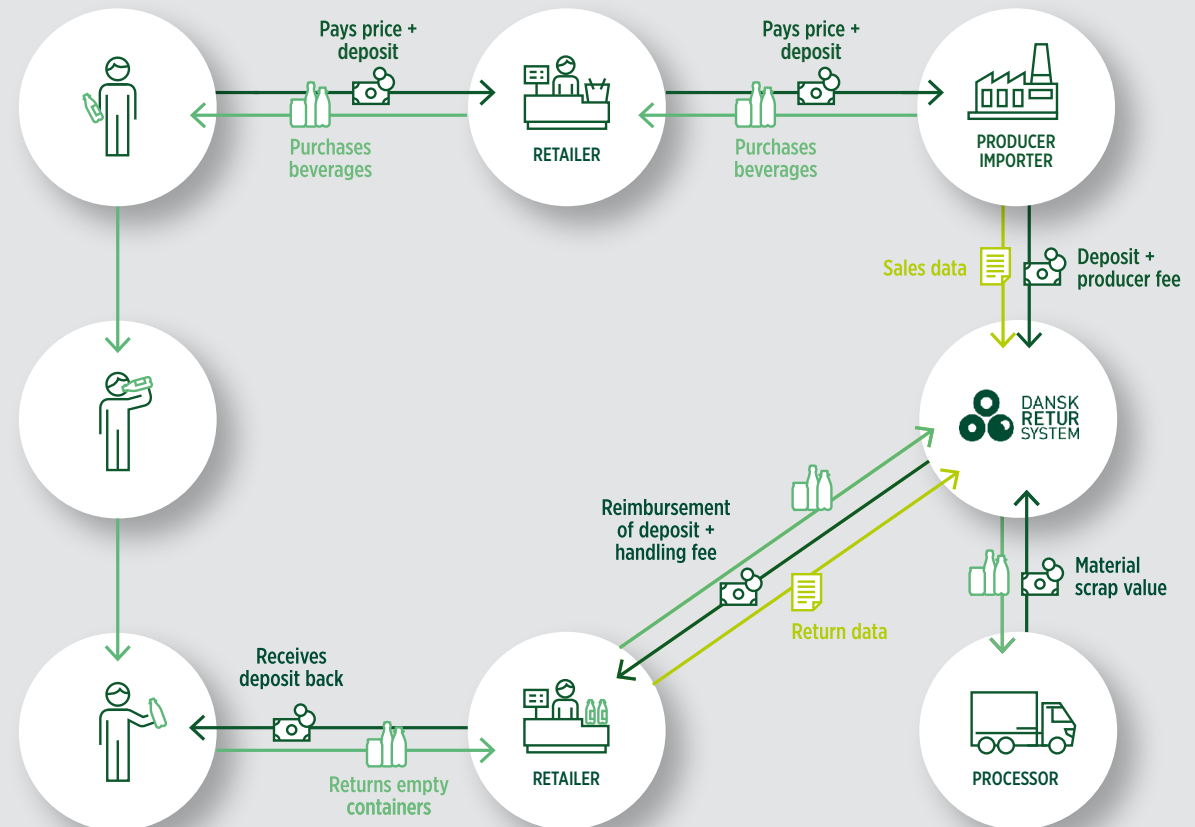
Barcode-based system?

Yes

Return rate (2021)

| Plastic (PET) | Metal | Glass | Total |
|---------------|-------|-------|-------|
| 95% | 92% | 93% | 93% |

Money, material & data flow



*Note: Materials that are more difficult to recycle (e.g., coloured plastic bottles, containers made of PVC or PP plastic, aluminium containers with a plastic sleeve, etc.) are subject to additional fees, which Dansk Retursystem refers to as "circular fees." Circular fees are intended to encourage producers to use materials that are more easily recyclable. For 2022, these fees range from 4 øre/container to 62 øre/container.



Estonia

Population: 1.3m

Population density: 30.5/km²

System operator's website:



Sources

- 1) Eesti Pandipakend. "Ülevaade Eesti Pandipakend OÜ tegevusest 2020. aastal." <https://eestipandipakend.ee/wp-content/uploads/2021/09/Tegevusaruanne-2020.pdf>
- 2) PAKENDITE ÜLEANDMISE JA SELLEGA SEONDUVATE TEENUSTE LEPING - LISA 1 HÜVITISE MÄÄRAMINE. <https://eestipandipakend.ee/wp-content/uploads/2021/01/Retailer-contract--Appendix-1--Compensation-rates.pdf>
- 3) "Contract for Organising the Collection and Recovery of Packaging and Packaging Waste – Annex 1: Rates of Handling Fee, Rate of Service Charge, Rates of Accession Fee and Registration Fee." <https://eestipandipakend.ee/wp-content/uploads/2019/11/Annex1-01012020.pdf>
- 4) Personal communication with Kaupo Karba, Eesti Pandipakend OÜ, 5 May 2022.

Legislative framework

Name of legislation

Packaging Act (Pakendiseadus) and Packaging Excise Duty Act (Pakendiaktsiisi seadus)

Legislation enacted

June 2004

Appointment of system operator

March 2005

System started

May 2005

Key updates

- › February 2015 – deposit increase
- › 2021 – amendment to allow producers of some low and strong alcohols and syrups to voluntarily join the DRS

Regulatory authority

Ministry of Environment

Legislated targets

Regarding general targets for all packaging, at least 60% of the total mass of packaging waste in a calendar year shall be recovered and 55-80% should be recycled. Material-specific targets: 70% recycling for glass; 60% recycling for metal; and 55% recovery, 45% recycling, and 22.5% reprocessing for plastic. A higher target of 85% applies to PET and glass covered by the DRS. For metal cans subject to the DRS, the recycling target is 50%.

Scope

Material type

Plastic (PET), metal (aluminium, steel), glass

Beverage type

Soft drinks, water, juice, juice concentrates, nectars, beer, cider, perry, low-alcohol (\leq 6% alcohol content) drinks

Size

100ml to <3L
(0.02 gal to 0.78 gal)

Excluded¹

Strong alcohol drinks (vodka, wine, etc. – excluded from mandatory DRS but producers can join voluntarily as of 2022), dairy products, cartons, aseptic containers

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Fixed rate:** €0.10 (USD\$0.11)

Handling fee (2022)

› Manual:

› Plastic and metal: €0.0123 + VAT (USD\$0.013)

› Glass: €0.0138 + VAT (USD\$0.015)

› RVM without compaction:

› Plastic and metal: €0.0215 + VAT (USD\$0.024)

› RVM with compaction:

› Plastic and metal: €0.0354 + VAT (USD\$0.039)

› RVM:

› Glass: €0.0268 + VAT (USD\$0.029)

Producer fee (2022)

› Steel: €0.0240 (USD\$0.026)

› Aluminium: €0.00

› Plastic \leq 750ml: €0.0090 (USD\$0.0099) (national barcode), €0.0140 (USD\$0.015) (international barcode)

› Plastic >750ml: €0.0162 (USD\$0.018) (national barcode), €0.0212 (USD\$0.023) (international barcode)

› Single-use glass: €0.0162 (USD\$0.018) (national barcode), €0.0212 (USD\$0.023) (international barcode)



System structure & administration

Clearing system

Centralised

System operator

Eesti Pandipakend OÜ (state-accredited, non-profit organisation owned by producers and retailers through relevant trade associations; ownership is split as follows: the Association of Producers of Soft Drinks (25%), the Association of Importers of Soft Drinks and Beer (25%), the Estonian Association of Brewers (25%), and the Estonian Retailers Association (25%])

System finance

Material revenues, unredeemed deposits, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: Retailers $\geq 200\text{m}^2$ are obliged to take back empty containers on their premises. Smaller retailers (retail space of $20\text{-}199\text{m}^2$) can apply to their local municipality to be exempt. Retailers $< 20\text{m}^2$ are exempt from the take-back obligation. It is estimated that 800 stores across Estonia accept empty containers. In addition, there are 430 pick-up points at HORECA locations.

Pop. per collection point

~1,663

Method of return

93% automated / 7% manual

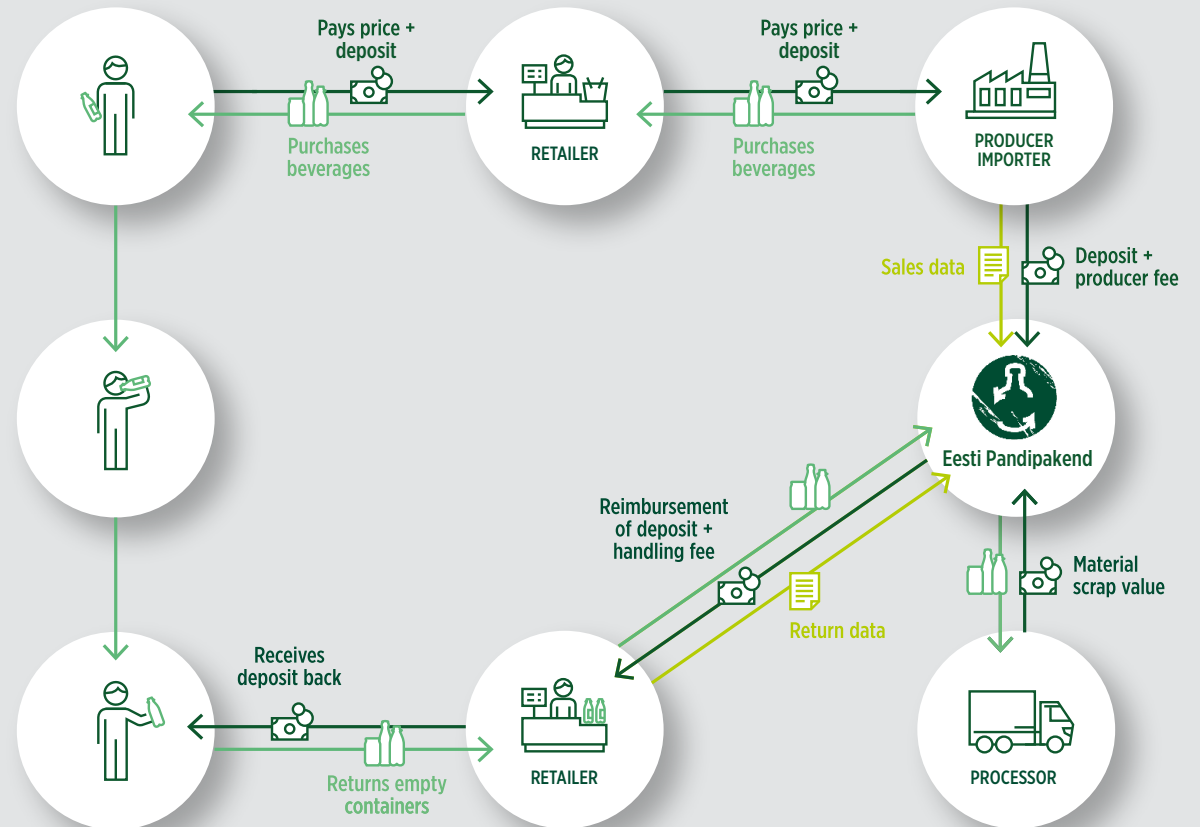
Barcode-based system?

Yes

Return rate (2020)

| Plastic (PET) | Metal | Glass | Total |
|---------------|-------|-------|-------|
| 91% | 94% | 87% | 89% |

Money, material & data flow



¹ In 2021, changes were made to the Estonian Packaging Act to allow producers of alcohol drinks with an alcohol content exceeding 6% to voluntarily join the DRS.



Finland

Population: 5.5m

Population density: 18.2/km²

System operator's website:



Sources

- (1) PALPA. "Deposit-based system." <https://www.palpa.fi/beverage-container-recycling/deposit-refund-system/#return-rates>
- (2) PALPA. "Price list – PET bottle." http://palpa.fi/static/studio/pub/Materiaalipankki/Hinnastot/Price+list_PET_2022-01-01.pdf
- (3) PALPA. "Price list – Beverage can." http://palpa.fi/static/studio/pub/Materiaalipankki/Hinnastot/Price+list_Can_2022-01-01.pdf
- (4) PALPA. "Price list – Glass bottle." http://palpa.fi/static/studio/pub/Materiaalipankki/Hinnastot/Price+list_Glass+bottle_2022-01-01.pdf
- (5) Personal communication with Tommi-Vihavainen. 28 March 2022.

Legislative framework

Name of legislation

Government Decree on a return system for beverage containers (526/2013), Waste Act (646/2011), and Act on Excise Duty on Certain Beverage Packaging (2037/2004)

Legislation enacted

1994

Establishment of system operator

1996

System started

March 1996

Key updates

- › 2008 – expansion to PET bottles
- › 2010 – expansion to glass bottles

Regulatory authority

Ministry of Environment

Legislated targets

Recycling: 90% (by weight)

Scope

Material type

Plastic (predominantly PET), metal (aluminium), glass

Beverage type

Almost all soft drinks; water; beer; cider; sport drinks; juice and beverage concentrates; liquor/spirits/wine sold by Alko

Size

100ml to 3L (0.03 gal to 0.79 gal)

Excluded

Milk

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› Variable rate:

- › Plastic ≤350ml (0.09 gal): €0.10 (USD\$0.11) (VAT included)
- › Plastic 351ml to 999ml (0.09 gal to 0.263 gal): €0.20 (USD\$0.22) (VAT included)
- › Plastic ≥1L (0.26 gal): €0.40 (USD\$0.44) (VAT included)
- › Metal: €0.15 (USD\$0.17) (VAT included)
- › Glass: €0.10 (USD\$0.11) (VAT included)

Handling fee (2022)

› Manual or RVM without compaction:

- › Plastic, metal: €0.01974 (USD\$0.022)

› RVM with compaction:

- › Plastic: €0.02901 (USD\$0.032)
- › Metal: €0.02347 (USD\$0.026)
- › Glass: €0.01974 (USD\$0.022)

Producer fee (2022)

- › Plastic: €0.01052 – €0.07867 (USD\$0.012 – \$0.086)
- › Aluminium: €0.00140 (USD\$0.0015)
- › Glass: €0.06610 – €0.16868 (USD\$0.072–\$0.18)

Note: Unlike most other European DRS, Finland's DRS is voluntary; producers are not obliged to participate; however, if they do not create or join a DRS, they must pay a packaging tax to the government. This tax, in place since 1994, is levied on soft and alcohol drinks. The rate is €0.51/L for product lines not part of the DRS.



System structure & administration

Clearing system

Centralised

System operator

Suomen Palautuspakkaus Oy (PALPA) (not-for-profit company; ownership is split 50/50 between retailers and drinks producers, including Alko Oy, Inex Partners Oy (S Group), Kesko Oyj, Oy Hartwall Ab, Olvi Oyj, and Oy Sinebrychoff Supply Company Oy)

System finance

Material revenues, unredeemed deposits, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: Retailers selling deposit-bearing drinks are obliged to take back the empty containers. Small retailers can refuse to accept packaging if the volume is disproportionately high in relation to its size. There are ~4,000 RVMs in operation with 4,500 retail collection points for consumers and an additional 9,000 HORECA recycling points.

Pop. per collection point

1,230

Method of return

97% automated / 3% manual

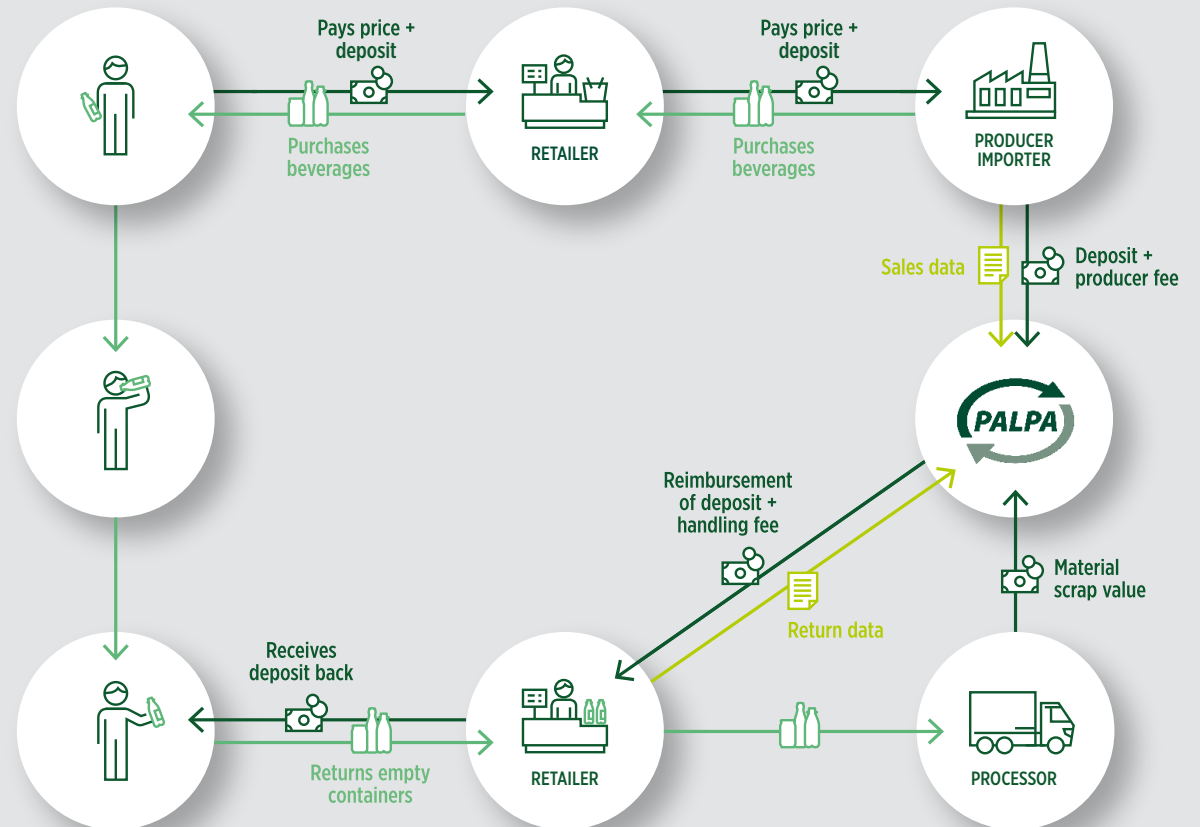
Barcode-based system?

Yes

Return rate (2021)

| Plastic (PET) | Metal | Glass | Total |
|---------------|-------|-------|-------|
| 90% | 97% | 98% | 96% |

Money, material & data flow



Germany

Population: 83.2m

Population density: 235.2/km²

System operator's website:



Sources

- 1) DPG Deutsche Pfandsystem GmbH. 6 December 2021. "Expansion of deposit obligation as of 1 January 2022." <https://dpg-pfandsystem.de/index.php/en/the-one-way-deposit-system/useful-information/108-legal-changes/302-expansion-of-deposit-obligation-as-of-1-january-2022.html>.
- 2) DPG Deutsche Pfandsystem GmbH. "Overview of drinks subject to deposit." <https://dpg-pfandsystem.de/images/pdf/220105-DPG-Overview-drinks-3cols-S.pdf>.
- 3) Kalkan, D. 15 December 2020. "How the deposit return scheme was introduced in Germany." <https://www.economia.rs/how-the-drs-for-packaging-was-introduced-in-germany/>.

Legislative framework

Name of legislation

German Packaging Act (VerpackG)
(replaced the Packaging Ordinance)

Legislation enacted¹

July 1991

Appointment of system operator

Not applicable

System started

January 2003

Key updates

- › January 2022 – expansion to include alcohol drinks and juices in single-use plastic bottles and cans, as well as milk-based mixed drinks in cans

Regulatory authority

Ministry of Environment

Legislated targets

None

Scope

Material type

Plastic (predominantly PET), metal (aluminium), glass

Beverage type²

Water (mineral, spring, table and medicinal waters and all other drinkable waters carbonated and non-carbonated), carbonated and non-carbonated soft drinks (e.g. lemonades, fizzy drinks, iced tea, milk substitutes such as oat milk, soy milk, etc.), milk and mixed milk drinks and other drinkable milk products with a milk content of at least 50% (if packaged in cans), milk and mixed milk drinks with a milk content of less than 50% (regardless of material), fruit juices and

vegetable juices, non-carbonated fruit and vegetable nectars, carbonated fruit spritzers, dietary drinks exclusively offered to infants or young children (if packaged in cans), dietary drinks not exclusively offered to infants or young children (regardless of material), sparkling wine/prosecco as well as sparkling drinks made from non-alcohol or reduced-alcohol wine, wine, beer (including non-alcohol beer), other alcohol products and alcohol drinks (including de-alcoholised mixed drinks)

Size

100ml to 3L
(0.026 gal to 0.79 gal)

Excluded

Beverage cartons in the form of block, gable or cylinder packaging as well as polyethylene tubular bags and foil stand-up pouches

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Fixed rate:**
€0.25 (USD\$0.27) (VAT included)

Handling fee (2022)

None

Producer fee (2022)

None (there are no producer fees; however, every member of the DPG is required to pay a small annual fee, which is dependent on the size of its operations)

System structure & administration

Clearing system

Decentralised (There are several clearing service providers including CCR Clearing GmbH, Clearing Solution GmbH, Der Grüne Punkt – Duales System Deutschland GmbH, Intercycle GmbH, Interseroh Pfand-System GmbH, Reconsys Dienstleistungsgesellschaft mbH, Remondis Recycling GmbH & Co. KG)



System operator

Producers and retailers (in the case of private labels)

Standard setting organisation

Deutsche Pfandsystem GmbH (DPG) (not-for-profit company founded in 2005; operates the central database for deposit clearing and manages the marking standards related to the deposit label (DPG security mark and barcode identification number); its shareholders include the German Retail Federation [50%] and the Federation of German Food and Drink Industries [50%])

System finance³

Annual membership fees paid by producers go to DPG to cover costs related to maintaining the central barcode data base. All other operational costs, e.g. for the redemption infrastructure or logistics, are covered by each individual party.

Unredeemed deposits

Producers and retailers (in the case of private labels)

Material owner

Retailers

Container return & refund points

Collection model

Return-to-Retail: Retailers are required to take back empty containers, but only those of the type they sell (i.e. a retailer that only sells PET bottles is not obliged to take back aluminium or glass containers, but must accept all PET bottles regardless of their size or brand). Retailers <200m² are exempt; they only need to accept empties of the products they sell, without any cap. Retailers have the option of accepting containers via RVMs or automatically. There are approximately 130,000 collection locations.

Pop. per collection point

~640

Method of return

90% automated / 10% manual

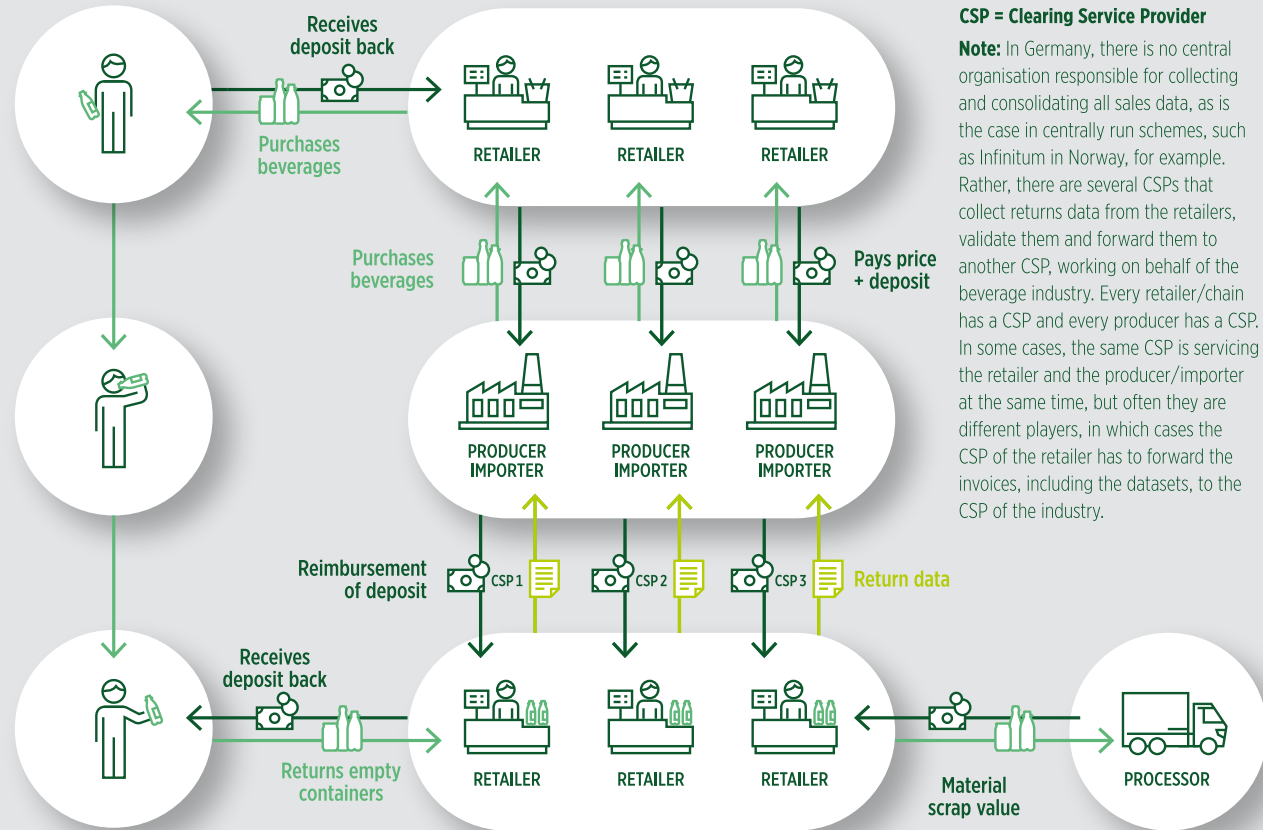
Barcode-based system?

Yes

Return rate (2021)

| |
|--------------|
| Total |
| 98% |

Money, material & data flow



¹ This regulation stipulates that the national market share of refillable packaging must reach 72%, and in case this quota is not met, a mandatory deposit will be imposed for single-use beverage packaging. After only a few years, the share of refillable packaging fell below the target quota, and in early 2003, a mandatory DRS was introduced.

² Mixed milk drinks and other drinkable milk products packaged in single-use plastic bottles will only be subject to a deposit from 1 January 2024 and cannot yet be included in the system.



Iceland

Population: 0.4m

Population density: 3.6/km²

System operator's website:



Legislative framework

Name of legislation

Law No. 52/1989 (Law on environmental pollution from disposable packaging) and Regulation 368/2000 (Regulation on collection, recycling and deposit on disposable packaging for drinks)

Legislation enacted

1989

Appointment of system operator

May 1989

System started

August 1989

Key updates

› July 2021 – deposit increase

Regulatory authority

Ministry of Environment

Legislated targets

› **Collection:**

› Aluminium and PET: 90%

› Glass: 85%

Scope

Material type

Plastic (predominantly PET), metal (aluminium), glass

Beverage type

All ready-to-drink alcohol and non-alcohol drinks

Size

All

Excluded

Milk and milk products, juice extract

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Fixed rate:**

18 ISK (€0.12, USD\$0.14)

Handling fee (2022)

3 ISK (€0.02, USD\$0.02)

Producer fee (2022)

None

Sources

1) Personal communication with Helgi Lárusson, Managing Director, Endurvinnslan, 25 March 2022

2) <http://endurvinnslan.is/english/>



System structure & administration

Clearing system

Centralised

System operator

Endurvinnslan (ownership is split between the state (Ministry of Finance), the state's alcohol and tobacco company (Vínbúðin), the Icelandic association of local authorities (Samband íslenskra sveitarfélaga), two metal treatment companies (Alkan and Elkam), Icelandic scout association (Bandalag íslenskra skáta), Icelandic association of merchants (Kaupmannasamtök Íslands), and two Icelandic drink companies (Ölgerðin and Coca-Cola))

System finance

Material revenues, unredeemed deposits, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Depot: There are over 60 return facilities.

Pop. per collection point

6,147

Method of return

80% automated / 20% manual

Barcode-based system?

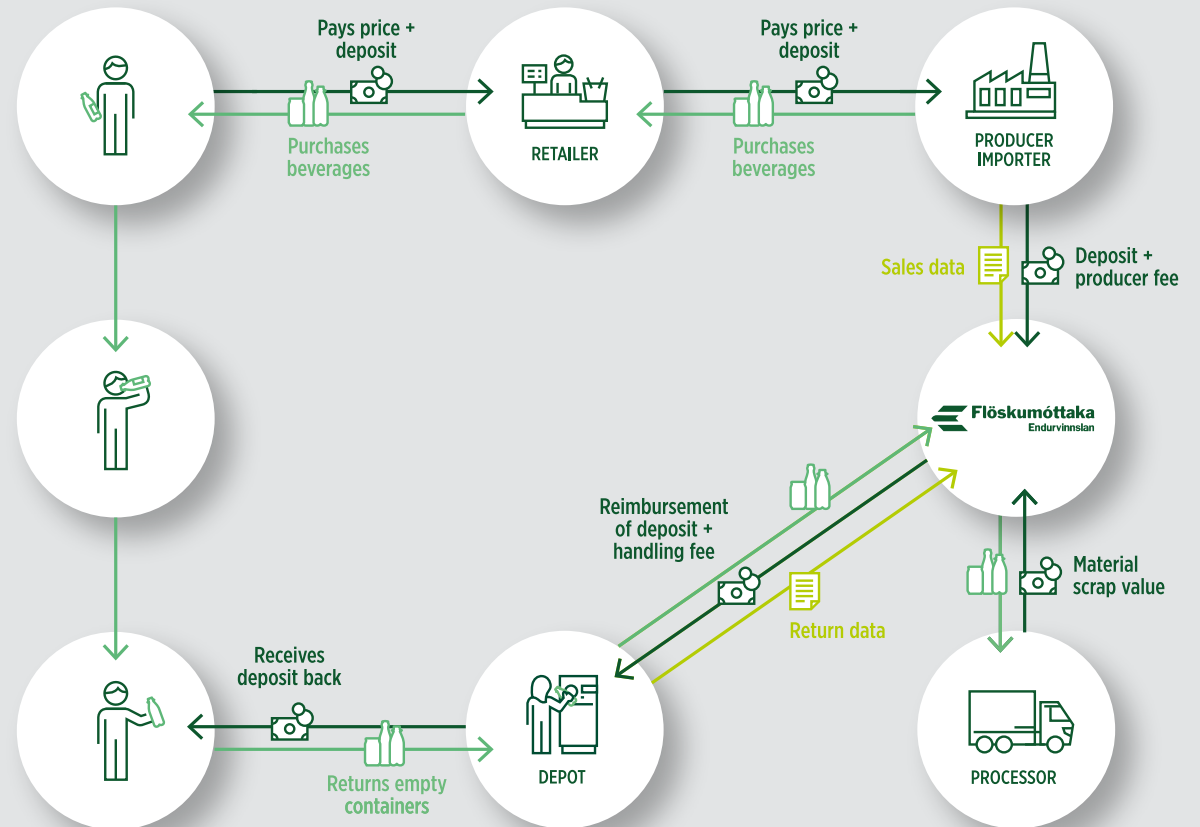
Yes

Return rate (2021)*

| Plastic (PET) | Metal | Glass | Total |
|---------------|-------|-------|-------|
| 92.1% | 93.2% | 82.5% | 91.4% |

*As of 2019, Iceland uses the same reporting methodology as other Nordic countries, which include single-use containers collected in other systems (e.g., Green Dot system) in the return rate.

Money, material & data flow



Latvia

Population: 1.9m

Population density: 30.2/km²

System operator's website:

Sources

- 1) "Latvia chooses packaging deposit system operator." 29 December 2020. <https://balticword.com/latvia-chooses-packaging-deposit-system-operator/>
- 2) Lielnora, Patricija. 31 January 2022. "Deposit system to be launched in Latvia this week." <https://eng.lsm.lv/article/society/environment/deposit-system-to-be-launched-in-latvia-this-week.a441286/>
- 3) Depozīta Iepakojuma Operators. <https://depozitapunkts.lv/en>
- 4) Depozīta Iepakojuma Operators. <https://depozitapunkts.lv/business-for-sellers-en>
- 5) Depozīta Iepakojuma Operators. "Operating plan for the arrangement and implementation of the deposit system." <https://depozitapunkts.lv/par-mums-en>
- 6) DIO. 3 January 2022. "Handbook for Producers...version 03.01.2022."
- 7) Brizga, J. "Packaging tax in Latvia." Institute for European Environmental Policy. <https://ieep.eu/uploads/articles/attachments/2295371a-be98-4ab0-92be-9cd755a148e4/LV%20Packaging%20Tax%20final.pdf?v=63680923242>
- 8) Depozīta sistēmas darbības noteikumi. <https://likumi.lv/ta/id/316731-depozita-sistemas-darbibas-noteikumi>
- 9) Personal communication with Depozīta Iepakojuma Operators.

Legislative framework

Name of legislation

Cabinet Regulation No. 519 – Regulations Regarding the Operation of the Deposit System

Legislation enacted

October 2019 (amended August 2020)

Appointment of system operator

January 2021

System started

February 2022

Regulatory authority

Ministry of Environmental Protection and Regional Development

Legislated targets¹

From 1 February 2022 to 31 December 2023:

Collection: glass (70%), plastic (70%), metal (60%), aluminium (40%)
Recycling: glass (65%), plastic (50%), metal (60%), aluminium (40%), overall (60%) Reuse: glass (5%)

From 1 January 2024 to 31 December 2024:

Collection: glass (73%), plastic (73%), metal (65%), aluminium (45%)
Recycling: glass (67%), plastic (53%), metal (65%), aluminium (45%), overall (63%) Reuse: glass (6%)

From 1 January 2025 to 31 December 2025:

Collection: glass (77%), plastic (77%), metal (70%), aluminium (50%)
Recycling: glass (70%), plastic (55%), metal (70%), aluminium (50%), overall (65%) Reuse: glass (7%)

From 1 January 2026 to 31 December 2027:

Collection: glass (81%), plastic (80%), metal (72%), aluminium (52%),
Recycling: glass (71%), plastic (57%), metal (72%), aluminium (52%), overall (66%) Reuse: glass (10%)

From 1 January 2028 to 31 December 2029:

Collection: glass (85%), plastic (85%), metal (75%), aluminium (55%)
Recycling: glass (73%), plastic (58%), metal (75%), aluminium (55%), overall (68%) Reuse: glass (12%)

From 1 January 2030:

Collection: glass (90%), plastic (90%), metal (80%), aluminium (60%)
Recycling: glass (75%), plastic (60%), metal (80%), aluminium (60%), overall (70%) Reuse: glass (15%)

Scope

Material type

Plastic (predominantly PET), metal, (aluminium, steel), glass

Beverage type

Carbonated and non-carbonated non-alcohol drinks (e.g. drinking water, mineral water, lemonade, energy drinks, iced teas, juices, nectars), beer, other fermented products with an alcohol content of up to 6% (e.g. cider, alcohol cocktails with an alcohol content of 0.5% to 6%)

Size

Dependent on beverage and container type, as follows:

› Carbonated and non-carbonated non-alcohol drinks:

› Glass, plastic: 100ml to 3L (0.03 to 0.79 gal)

› Metal: 200ml to 1L (0.05 to 0.26 gal)

› Beer:

› Glass: 100ml to 3L (0.03 to 0.79 gal)

› Plastic: 100ml to 1L (0.03 to 0.26 gal)

› Metal: 200ml to 1L (0.05 to 0.26 gal)

› Other fermented products containing ≤6% alcohol:

› Glass: 100ml to 750 (0.03 to 0.20 gal)

› Plastic: 100ml to 1L (0.03 to 0.26 gal)

› Metal: 200ml to 1L (0.05 to 0.26 gal)

Excluded

Wine (including sparkling wine and fruit wine), hard liquor, milk and dairy products, aseptic containers

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Fixed rate:** €0.10 (USD\$0.11)
(not subject to VAT)

Handling fee (2022)

› **Manual:** €0.0203 (USD\$0.022)

› **RVM with compaction:** €0.0223 (USD\$0.024)

› **RVM without compaction:** €0.0195 (USD\$0.021)



Note: Under Latvia's DRS law, manufacturers and importers that join the DRS will receive an exemption from the waste management and natural resources tax for the containers that are managed within the DRS. Manufacturers and importers that bring enough beverage products to the market and produce more than 150 kg/year of deposit packaging must participate in the system.



Producer fee (2022)²

- › Clear PET: €0.009 (USD\$0.0097) › Steel: €0.0093 (USD\$0.010)
- › Coloured PET: €0.0037 (USD\$0.0040) › Glass: €0.0180 (USD\$0.019)
- › Aluminium: €0

System structure & administration**Clearing system**

Centralised

System operator

Depozīta Iepakojuma Operators (DIO) (private company founded in June 2020, bringing together Baltic regional market leaders in the beverage industry, local small and medium beverage producers, as well as AS PET Baltija, the largest recycler of PET in the Baltics. The interests of retailers in the DRS are represented by the Latvian Retailer Association [Latvijas Mazumtirgotāju Biedrība])

System finance

Unredeemed deposits,
material revenues,
producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points**Collection model**

Return-to-Retail: Retailers with a floor space $\geq 60\text{m}^2$ (in rural areas) and $\geq 300\text{m}^2$ (in cities including Daugavpils, Jēkabpils, Jelgava, Jūrmala, Liepāja, Rēzekne, Rīga, Valmiera, Ventspils, Ogre) are obliged to set up a collection point to accept all types of deposit packaging at its point of sale, on its territory, or in the proximity of the sales point, not to exceed a distance of 150m from the point of sale. Regardless of these criteria, DIO is open to considering any retailer's interest in joining the DRS, even if its retail area is $<60\text{m}^2$. As of system launch, there are approximately 1,350 return locations. 

Pop. per collection point

~1,402

Method of return³

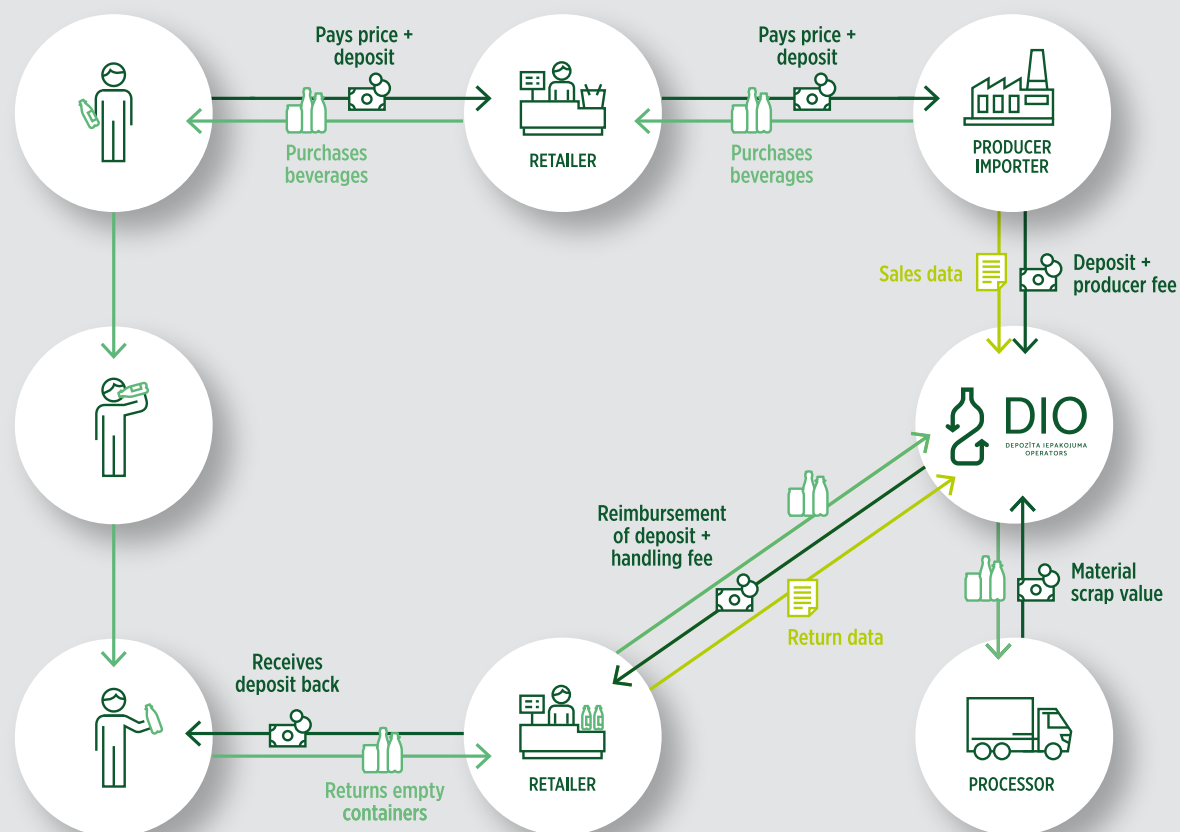
Automated and manual

Barcode-based system?

Yes

Return rate

Data not available

Money, material & data flow

¹ The system operator has committed to collecting 90% of materials by Year 3.

² The calculation methodology for the producer fee is determined by the Public Utilities Commission in their 2 July 2020 Decision No. 1/8 (Minutes No. 28, 6.p), "The methodology for the calculation of the industry fee." Since the total costs of the DRS are currently unclear, DIO has set the following transitory fees for 2022, taking into account the estimated costs and the potential revenue from the sale of collected deposit packaging.

³ The system operator provides all retailers that legally must accept deposit packaging and that expect to or actually receive at least 3,000 returned units of deposit packaging a month with the possibility of delivering and installing RVMs for returning deposit packaging, free of charge. The operator also undertakes to maintain the RVMs and repair them in the event of defects or malfunctions.



Lithuania

Population: 2.8m

Population density: 44.6/km²

System operator's website:



Sources

- 1) USAD. "How to return?" <https://grazintiverta.lt/en/how-to-return/71>
- 2) <https://grazintiverta.lt/en/retailers/rates/110>
- 3) Galadauskas, S. "Lithuania's Deposit System." Powerpoint Presentation. <https://www.zazemiata.org/wp-content/uploads/2021/06/DRS-Lithuania.pdf>
- 4) USAD. "Ataskaitos." <https://grazintiverta.lt/dokumentai/ataskaitos/144/2021-12>
- 5) Varnas, G. "Lithuanian Deposit System – Environmental Champion in Eastern Europe." <https://www.reloopplatform.org/wp-content/uploads/2019/03/USAD.pdf>
- 6) Personal communication with Gintaras Varnas, Užstato sistemos administratorius, 9 April 2022.

Legislative framework

Name of legislation

The Law on Packaging and Packaging Waste Management

Legislation enacted¹

May 2014

Appointment of system operator

August 2014

System started

February 2016

Key updates

None

Regulatory authority

Ministry of Environment

Legislated targets

› Collection (2021 and onwards):

- › PET: 90%
- › Metal: 90%
- › Glass: 85%

Scope

Material type

Plastic (PET), metal (aluminium, steel), glass

Beverage type

Beer, beer cocktails, cider and other fermented drinks, mixed alcohol and non-alcohol drinks, water, soft drinks, juices, nectars, and fruit wine and fruit-wine-based drinks and fruit-wine cocktails (only when sold in plastic and metal packaging)

Size

100ml to 3L
(0.03 gal to 0.79 gal)

Excluded

None
(the law does not define exclusions)

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Fixed rate:** €0.10 (USD\$0.11)

Handling fee (2022)

› Manual or RVM without compaction:

- › PET: €0.0197 (USD\$0.021)
- › Metal: €0.0162 (USD\$0.018)
- › Glass: €0.0214 (USD\$0.023)

› RVM with compaction:

- › PET: €0.0223 (USD\$0.024)
- › Metal: €0.0163 (USD\$0.018)
- › Glass: €0.0369 (USD\$0.040)

Producer fee (2022)

- › PET: €0.0270 (USD\$0.029)
- › Metal (aluminium): €0.0060 (USD\$0.0065)
- › Metal (steel): €0.050 (USD\$0.054)
- › Glass: €0.050 (USD\$0.054)



System structure & administration

Clearing system

Centralised

System operator

Užstato sistemos administratorius (USAD) (not-for-profit organisation; founding members include the Lithuanian Association of Breweries, the Association of Lithuanian Trade Enterprises, and the Lithuanian Natural Mineral Water Manufacturers' Association [combined, these organisations are responsible for more than 80% of drinks containers sold in Lithuania])

System finance

Material revenues, unredeemed deposits, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: Retailers that sell deposit-bearing drinks are required to accept empty containers and return the deposit, regardless of whether they sell the products in identical packaging. The law stipulates that collection shall be organised at the trading venues, or nearby sites that are no further than 150m away. Retailers with a shop area up to 300m² (in bigger cities) and up to 60m² (in smaller cities and rural areas) are exempt from this obligation. All other retailers of drinks subject to the deposit are allowed to participate on a voluntarily basis. There is a total of 2,700 return-to-retail locations in addition to 663 HORECA collection points.

Pop. per collection point

~1,035

Method of return²

91% automated / 9% manual

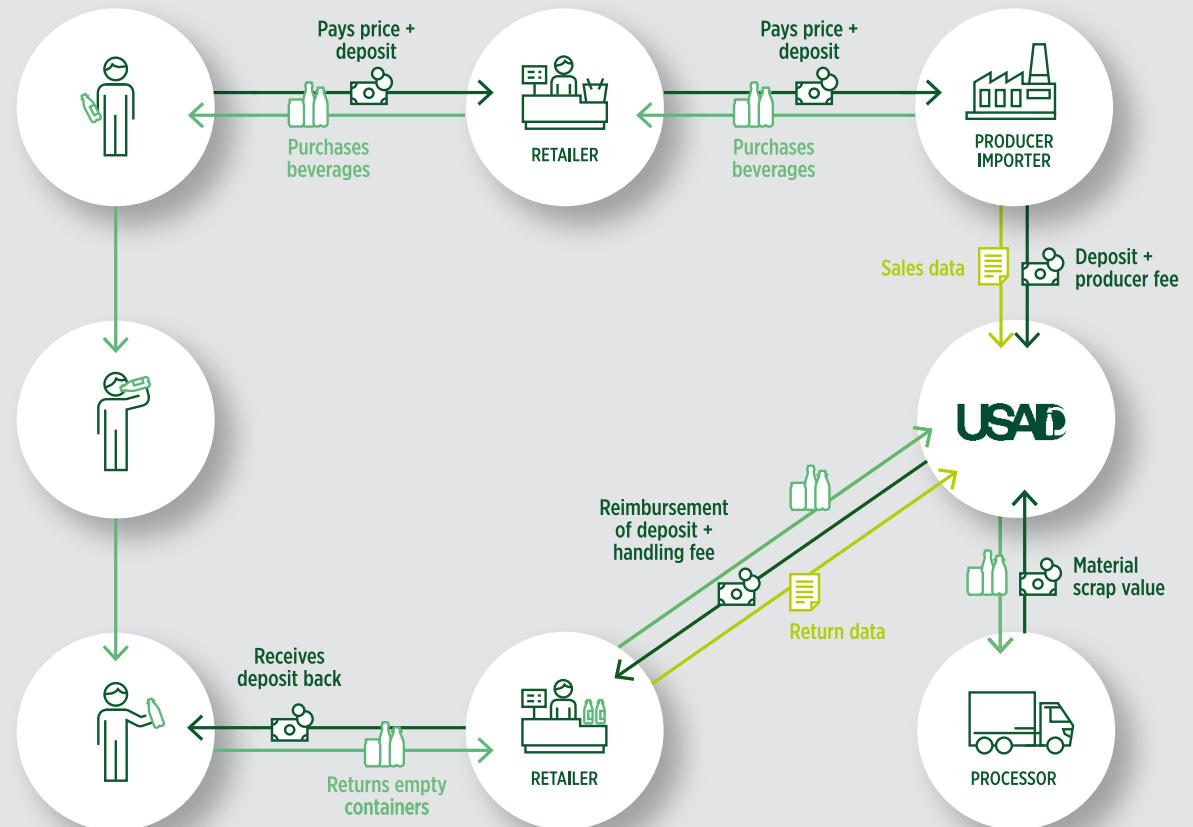
Barcode-based system?

Yes

Return rate (2021)

| Plastic (PET) | Metal | Glass | Total |
|---------------|-------|-------|-------|
| 90% | 92% | 84% | 90% |

Money, material & data flow



¹The Lithuanian Ministry of Environment initiated the deposit process in April 2013, passing amendments to the packaging law through parliament a year later.

²If a retailer collects <60,000 units of eligible drinks containers, collection is done manually.

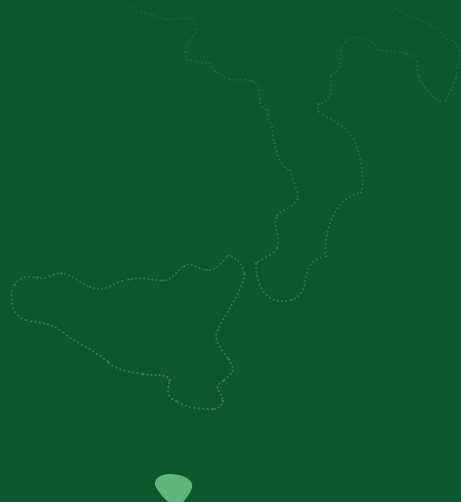


Malta

Population: 0.5m

Population density: 1,595.1/km²

System operator's website:



Sources

- 1) L.N. 311 of 2020. Environment Protection Act (CAP. 549). <http://extwprlegs1.fao.org/docs/pdf/mlt201231.pdf>
- 2) Beverage Container Refund Scheme Malta. "The Beverage Container Refund Scheme." <https://bcrcsmalta.mt>
- 3) Zammit, M.L. 28 March 2022. "Launch of reverse vending machines postponed." <https://timesofmalta.com/articles/view/launch-of-reverse-vending-machines-postponed.944520>
- 4) BCRS Malta Ltd. "Beverage Container Refund Scheme." <https://www.smechamber.mt/wp-content/uploads/2021/07/BCRS-Malta-Presentation.pdf>
- 5) Personal communication with BCRS Malta Ltd, May 2022
- 6) Spiteri, L. 4 August 2020. "Circular Economy: Beverage Containers Recycling Regulations in Force." <https://www.lexology.com/library/detail.aspx?q=0b9737eb-1bdd-4fb5-93ea-112e2a52dbbc>

Note: On 28 March 2022, it was announced that the launch of Malta's DRS would be postponed from 1 April 2022 to a later date in 2022. As of the time of writing (August 2022), this date has yet to be announced, but the system is expected to launch by the end of 2022.)

Legislative framework

Name of legislation

Beverage Containers Recycling Regulations 2020 – LN 311/2020, under the Environment Protection Act

Legislation enacted

July 2020

Appointment of system operator

September 2020

System started¹

14 November 2022 (originally scheduled for 1 April 2022)

Key updates

None

Regulatory authority

Circular Economy Malta (CE Malta)

Legislated targets

› Collection (2022 and onwards):

- › From 1 January to 31 December 2022: 70%
- › From 1 January to 31 December 2023: 70%
- › From 1 January to 31 December 2024: 80%
- › From 1 January to 31 December 2025: 85%
- › From 1 January to 31 December 2026: 90%

Scope

Material type

Plastic (PET), metal (steel or aluminium), glass

Beverage type

Water and flavoured water, carbonated and non-carbonated soft drinks, ciders, beers, and other malt drinks, ready-to-drink coffee, flavoured alcohol drinks with an alcohol content up to 5%, dilutables

Size

100ml to 3L
(0.26 gal to 0.79 gal)

Excluded

Dairy, juice and nectars, wines and spirits, drinks in cartons/ HDPE containers/pouches

Deposits & fees

Deposit initiator

Producer/Distributor/
Importer

Deposit value

› **Fixed rate:** €0.10 (USD\$0.11)
(not subject to VAT)

Handling fee (2022)

› **Manual:** €0.01

› RVM:

- › First 400,000 containers: €0.01 (excl. VAT)
(Subject to a minimum of €4,000 [revisable annually])
- › Additional containers: €0.008 (excl. VAT)

Producer fee (2022)

- › PET (clear): €0.009 (excl. VAT)
- › PET (light blue): €0.009 (excl. VAT)
- › PET (other): €0.016 (excl. VAT)
- › Glass (clear and other): €0.037 (excl. VAT)
- › Steel: €0.016 (excl. VAT)
- › Aluminium: €0.007 (excl. VAT)

Note: In addition to the producer administration fees shown above, producers and importers are required to pay a one-time registration fee of €100 (excl. VAT) to the system operator to complete registration. Retailers are required to pay a yearly company registration fee according to the outlet's retail space area: €100/annum (excl. VAT) for retailers >500m², €50/annum (excl. VAT) for retailers between 250m² and 500m², and €25/annum (excl. VAT) for retailers <250m².



System structure & administration

Clearing system

Centralised

System operator

BCRS Malta Ltd. (incorporated by the Malta Beverage Producers Association, the Malta Beverage Importers Association and the Malta Beverage Retailers Association)

System finance

Unredeemed deposits, producer administration fees, material revenues

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: All retailers (no exemptions) with a minimum floor space of 150m² are obliged to take back empty containers and refund the deposit. According to BCRS's website, over 300 RVMs are being installed across supermarkets, major beverage retail outlets and within Public Recycling Hubs around all of Malta and Gozo.

Pop. per collection point

~1,720

Method of return

Unknown

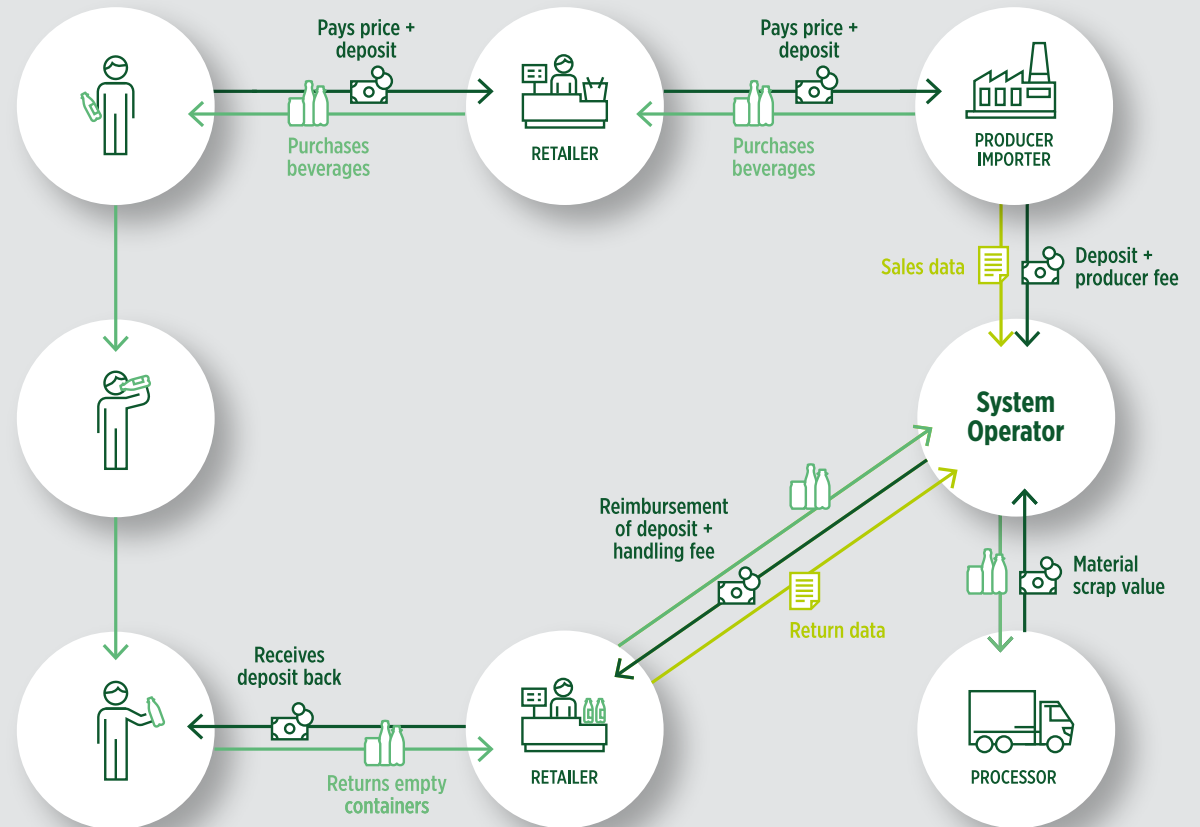
Barcode-based system?

Yes

Return rate

Data not available

Money, material & data flow



The Netherlands

Population: 17.5m

Population density: 507.3/km²

System operator's website:



Sources

- 1) Government of the Netherlands. 3 February 2021. "Can deposit system becomes fact." <https://www.government.nl/latest/news/2021/02/03/can-deposit-system-becomes-fact>
- 2) Government of the Netherlands. 30 April 2020. "Deposit on small plastic bottles to reduce street litter." <https://www.government.nl/latest/news/2020/04/30/deposit-on-small-plastic-bottles-to-reduce-street-litter>
- 3) DACHIST. "Deposit-Refund System." <https://www.dachist.org/en/netherlands/living/shopping/deposit.html>
- 4) <https://zoek.officielebekendmakingen.nl/stcrt-2020-13521.html>

Legislative framework

Name of legislation

Packaging Management Decree

Legislation enacted

2003

Appointment of system operator

Unknown

System started

2005

Key updates

- › 1 July 2021 – expansion to small (>1L) plastic bottles
- › 31 December 2022 – expansion to beverage cans ≤3L

Regulatory authority

Ministry of Infrastructure and Water Management

Legislated targets¹

› Separate collection:

- › 90% of all plastic bottles from 1 January 2022
- › 90% of metal cans from 1 January 2024

Scope

Material type²

Plastic (predominantly PET) (expansion to cans as of 31 December 2022)

Beverage type³

Soft drinks, water (as of 31 December 2022, the following drinks in cans will be included: soft drinks, water, juices, dairy, single-use beer (with and without alcohol), moderately alcohol drinks (e.g. cider and breezers))

Size²

≤3L (0.79 gal)

Excluded

Medical drinks, wine (and fruit wine), spirits, moderately alcohol drinks, cartons (those intended for drinks and consist of at least 80% paper or paperboard), glass, metal cans (until 30 December 2022), beverage packaging in which the producer or importer can demonstrate on an annual basis < 500,000 units of consumer packagings be made available

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value⁴

› Variable rate:

- › Plastic <1L (0.26 gal): €0.15 (USD\$0.16)
- › Plastic 1-3L (0.26-0.79 gal): €0.25

Handling fee (2022)

€0.03–€0.04 (estimate, as this is confidential)

Producer fee (2022)

€0.015 (estimate, as this is confidential)



System structure & administration

Clearing system

Centralised

System operator

Statiegeld Nederland (a not-for-profit organisation established by the soft drink and mineral water suppliers in cooperation with the food trade; took over operation of the system from Stichting Retourverpakking Nederland as of March 2021)

System finance

Producer fees

Unredeemed deposits

Producers/Importers

Material owner

Producers

Container return & refund points

Collection model

Return-to-Retail: Although there is NO legal obligation for retail to take back empty containers, approximately 5,000 registered supermarkets are currently taking them back, plus some train stations and gas stations (for a total of approximately 5,600 collection points).

Pop. per collection point

~3,121

Method of return

97% automated / 3% manual

Barcode-based system?

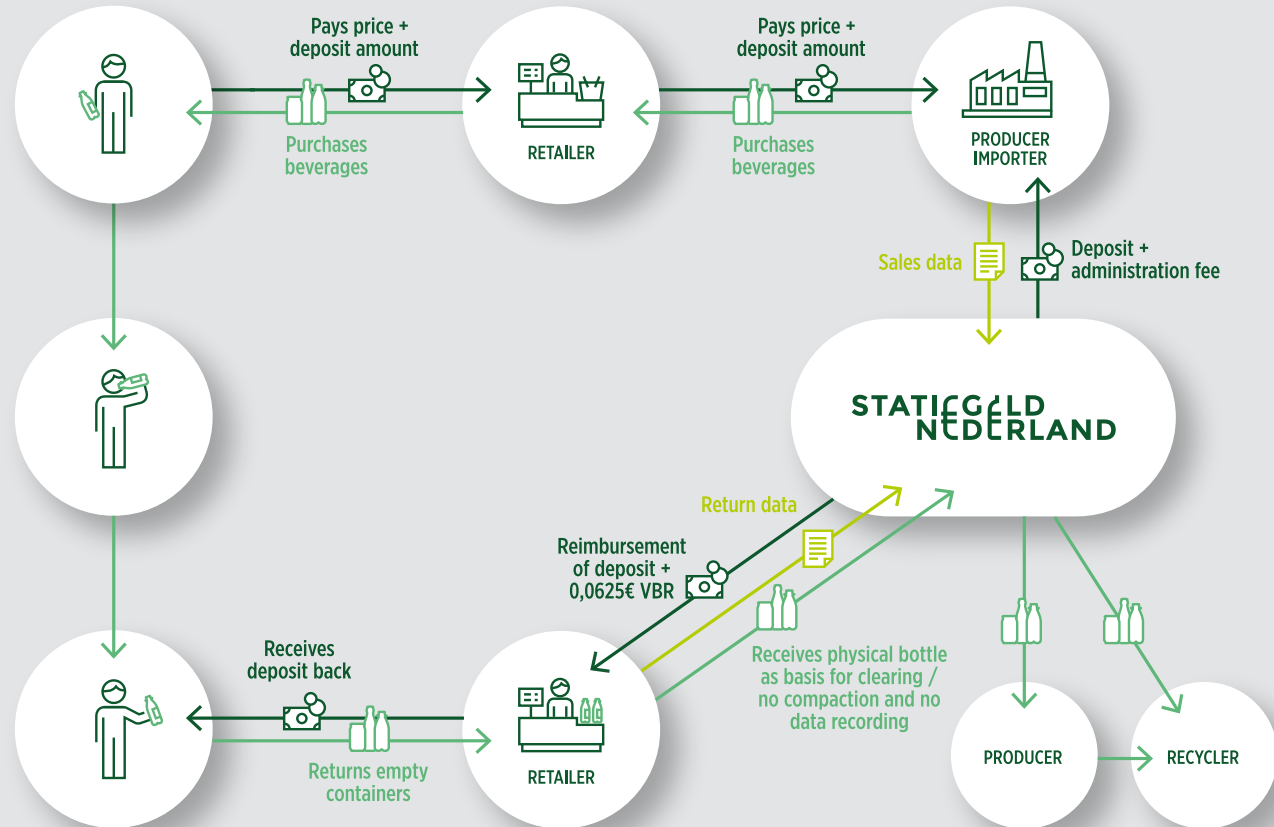
Yes

Note: The overall return rate of 70% is for the second half of 2021. Material-specific return rates are estimated as there is simply no accurate data publicly available due to lack of transparency on the part of the system operator. It is estimated that 90% of the 600 million large bottles are collected and 57% of the 900 million small bottles are collected.

Return rate (2021)

| Plastic <1L | Plastic 1-3L | Total |
|-------------|--------------|-------|
| 57% | 90% | 70% |

Money, material & data flow



¹Dutch law allows for these targets to be met with up to 10 percentage points of the contribution coming from alternative capture methods outside of the DRS, if this material is of comparable quality to separate collection.

²Until recently, the Netherlands' DRS applied only to large plastic bottles (>1L). For decades, a small group of members of the Dutch beverage and food industry had prevented a DRS on small plastic bottles and cans in the Netherlands. In 2018, the State Secretary for Infrastructure and Water Management Stientje van Veldhoven presented producers of cans and small plastic bottles with an ultimatum: they either reduced the amount of beverage packaging as found in litter by 70%, or the government would expand the deposit return scheme. Initially, the agreement only applied to the small plastic bottles. The number of small plastic bottles in litter did not decrease, but increased in 2019. That is why the Dutch cabinet decided in April 2020 to put a deposit on small plastic bottles, which went into effect on 1 July 2021. After parliamentary motions of MPs Jan Paternotte and Carla Dik-Faber in October 2019, the government in April 2020 decided to set up a similar trajectory for cans, with a deadline for industry in the second half of 2021. The deposit system will expand to beverage cans as of 31 December 2022.

³As of 31 December 2022, when metal beverage cans 3L or less are added to the DRS, single-use beer and other low alcohol drinks will also be included in the system.

⁴The deposit on cans will be the same as that on small plastic bottles (€0.15 (USD\$0.16)).



Norway

Population: 5.4m

Population density: 17.3/km²

System operator's website:

Sources

- 1) Infinitum. "Annual Report 2021." https://infinitum.no/media/scdgvtx3/en/infinitum_a-rsrapport_2021_100422_01.pdf
- 2) Papineschi, J.; Hogg, D.; Chowdhury, T.; Durrant, C., and A. Thomson. 2019. "Analysis of Nordic regulatory framework and its effect on waste prevention and recycling in the region." Link
- 3) The Norwegian Tax Administration. "Beverage packaging – Rates for 2021." <https://www.skatteetaten.no/en/business-and-organisation/vat-and-duties/excise-duties/about-the-excise-duties/beverage-packaging/>
- 4) Infinitum. "Kostnadskalkulator." <https://infinitum.no/kostnadskalkulator/>

Legislative framework

Name of legislation

Regulations relating to the recycling of waste (Waste Regulations) under the Product Control Act (Forskrift om gjenvinning og behandling av avfall (avfallsforskriften) – Kapittel 6 Returnssystemer for emballasje til drikkevarer)

Legislation enacted¹

December 1993

Establishment of system operator

November 1996

System started

1 May 1999

Key updates

› September 2018 – deposit increase

Regulatory authority

Norwegian Environment Agency

Legislated targets²

The system is expected to achieve a minimum 25% return rate. To be exempt from the environmental tax on drinks packaging, the return rate for cans and plastic bottles must be 95%.

Scope

Material type

Plastic (predominantly PET), metal (aluminium, tinplate)

Beverage type

All (the regulation does not specify the types of drinks covered by DRS)

Size

125ml to 4.9L
(0.03 to 1.29 gal)

Excluded

Glass bottles, milk products, fruit and vegetable juices, dietetic products, and products exclusively for infants

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Variable rate:**

› Plastic, metal <0.5L (0.13 gal): 2 NOK (€0.20, USD\$0.22)

› Plastic, metal ≥ 0.5L (0.13 gal): 3 NOK (€0.30, USD\$0.33)

Handling fee (2022)

› **RVM with compaction:**

› Plastic: 0.25 NOK (€0.03, USD\$0.03)

› Metal: 0.20 NOK (€0.02, USD\$0.02)

› **Manual or RVM without compaction:**

› Plastic: 0.10 NOK (€0.01, USD\$0.01)

› Metal: 0.05 NOK (€0.01, USD\$0.01)

Producer fee (2022)

› Aluminium: -0.06 NOK (-€0.0063, -USD\$0.0069)

› Steel: 0.21 NOK (€0.02, USD\$0.024)

› PET: 0.14 NOK (€0.015, USD\$0.016)

› HDPE: 0.14 NOK (€0.015, USD\$0.016)

In addition to producer fees, producers wanting to join the Infinitum system are required to pay a one-time registration fee for the company and a fee for each new packaged product placed on the market.



System structure & administration

Clearing system

Centralised

System operator

Infinitem (formerly Norsk Resirk) (not- profit organisation equally owned by beverage producers and Norwegian grocery producers through their relevant industry associations; ownership is split as follows: Virke Kiosk og Bensin [1.5%], Daglivareleverandørens Servicekontor [7.5%], NHO Mat & Drikke [7.5%], COOP Norge AS [15.0%], Dagligvarehandelens Miljøforum AS [33.5%], and Bryggeriog Drikkevareforeningens Servicekontor AS [35%])

System finance

Material revenues, unredeemed deposits, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: Retailers selling in-scope drinks must take back the empty containers and refund the deposit. Retailers can decide how to organise the collection on their premises (manually or using RVMs). There are ~3,500 automated and 11,500 manual collection points.

Pop. per collection point

~360

Method of return

93% automated / 7% manual

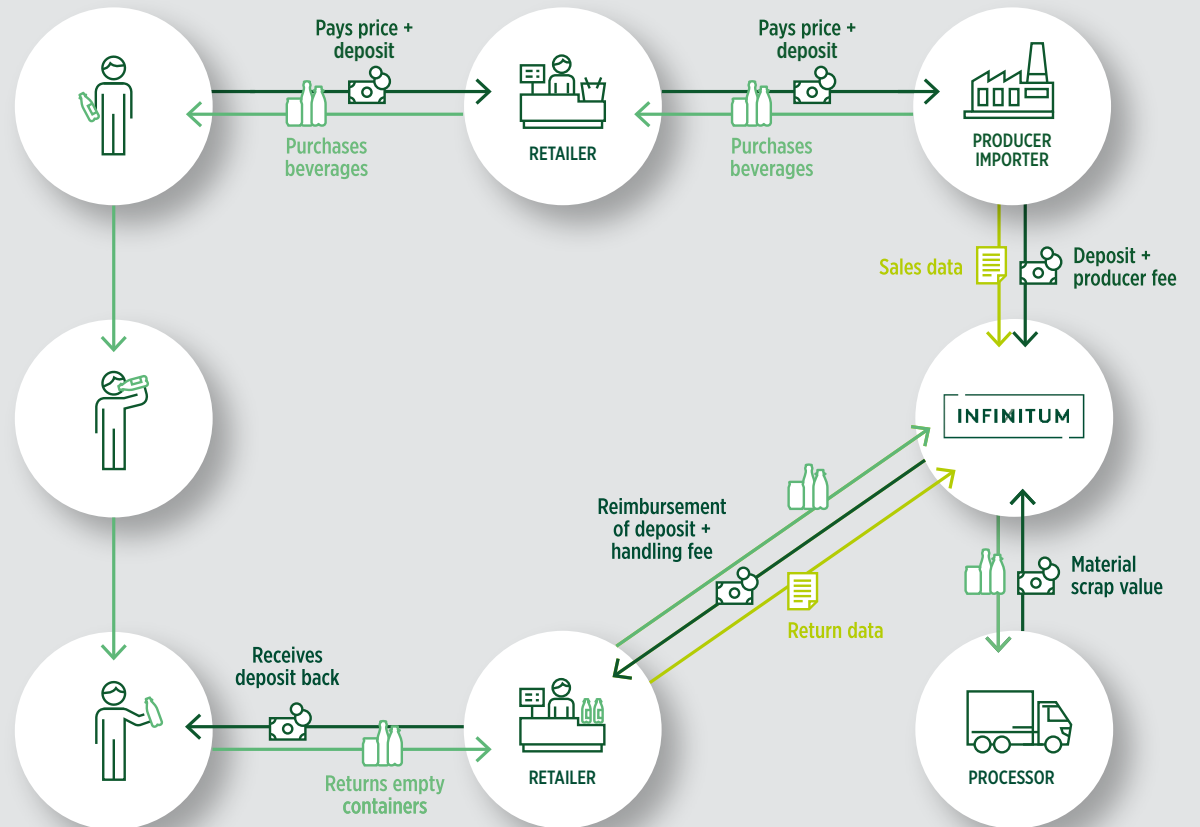
Barcode-based system?

Yes

Return rate (2021)

| Plastic | Metal | Total |
|---------|-------|-------|
| 92.8% | 91.5% | 92.3% |

Money, material & data flow



¹The Product Control Act of 1976 set up return systems for beverage packaging, and was updated in 1999 to include the formal regulation of deposit and return systems. It was later incorporated into the Waste Regulations (2004) as Chapter 6.

²In Norway, an environmental tax applies on all producers and importers placing plastic bottles and metal cans on the market for sale. The tax rate is determined by the government and as of 2021 was 3.80 NOK per plastic bottle and 6.28 NOK per metal can. Individually or collectively, producers and importers must report on the recovery rate of their products. Packaging covered by an approved DRS is subject to a lower environmental tax rate depending on the return rate. Containers with return rates between 25% and 95% are subject to a tax that is inversely proportional to the return rate; the lower the return rate, the higher the tax. Containers with return rates beyond 95% are exempt from the tax altogether. Since 1994, an additional "basic tax" of 0.70 NOK has been imposed on all single-use drinks packaging in addition to the environmental tax regardless of the return rate. This value of this tax has been raised to keep up with inflation and as of 2021 was 1.29 NOK per unit.



Slovakia

Population: 5.5m

Population density: 112.0/km²

System operator's website:

Sources

- 1) Správca zálohového systému. "Deposit return system in Slovakia." <https://www.spravcazalah.sk/en/>
- 2) Kören, M. "Slovakia first country in region to adopt deposit scheme for plastic bottles." Euractiv. https://www.euractiv.com/section/politics/short_news/slovakia-first-country-in-region-to-adopt-deposit-scheme-for-plastic-bottles/
- 3) 302/2019 Z. z. Zákon o zálohovaní jednorazových obalov na nápoje | Aktuálne znenie (zakonyprejudi.sk)
- 4) https://www.svps.sk/legislativa/kodex_01_01.asp
- 5) <https://www.teraz.sk/ekonomika/enviro-cena-napoj-a-bude-v-obchodoch-uv/601846-clanok.htm>

Legislative framework

Name of legislation

Act No. 302/2019 Coll. on the Deposit Return Scheme for Disposable Beverage Containers and on amendments to certain acts (the "Single-use Beverage Packaging Act")

Legislation enacted

September 2019

Appointment of system operator

February 2021

System started

January 2022

Key updates

None

Regulatory authority

Ministry of the Environment

Legislated targets¹

› Collection:

- › 60% by the end of 2022,
- › 80% by 2023,
- › 85% by 2024,
- › and 90% by 2025

Scope

Material type

Plastic (PET), metal

Beverage type

The law does not specify which beverage products are included in the DRS. Rather, the definition of 'beverage' is derived from the Food Code: "liquid, with more than 80% of water and aiming to satisfy the need of water; it can be alcoholic and non-alcoholic, excluding milk."

Size

100ml to 3L
(0.03 gal to 0.79 gal)

Excluded

Milk and milk-based drinks, syrups, alcohol drinks containing >15% alcohol (i.e. spirits)

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Fixed rate:** €0.15 (USD\$0.16)

Handling fee (2022)

Not available

Producer fee (2022)

› Containers with domestic barcode:

- › Clear PET bottle: €0.0030 (USD\$0.0032)
- › Coloured PET bottle: €0.0042-€0.0075 (USD\$0.0045-0.0081)
- › Aluminium: €0.0001 (USD\$0.0001)
- › Steel: €0.0060 (USD\$0.0065)

› Containers with international barcode:

- › Clear PET bottle: €0.0033 (USD\$0.0035)
- › Coloured PET bottle: €0.0046-€0.0083 (USD\$0.0049-0.0089)
- › Aluminium: €0.0001 (USD\$0.0001)
- › Steel: €0.0066 (USD\$0.0071)

*Note: Producers that use materials which are more difficult to recycle (e.g., containers with sleeves, adhesives, etc.) and not in line with the system operator's technical standards are subject to an additional fee of €0.0025/unit (USD\$0.0027).



System structure & administration

Clearing system

Centralised

System operator

Správca zálohového systému (SZS) (non-profit organisation created by a consortium of four entities [the Soft Drinks Association, the Malt and Breweries Association, Trade Union of Slovakia, the Slovak Alliance of Modern Commerce] that represent beer, soft drink and mineral water producers, and representatives of wholesale and retail; together, their members represent almost 80 % of all drink containers placed on the market and >3,000 retail stores in Slovakia)

System finance

Unredeemed deposits, material revenues, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: Retailers >300m² are required to take back empty containers and return the deposit, regardless of whether they sell the products in identical packaging. Smaller shops can join the system voluntarily. There are approximately 2,000 collection points.

Pop. per collection point

~2,730

Method of return

80% automated / 20% manual

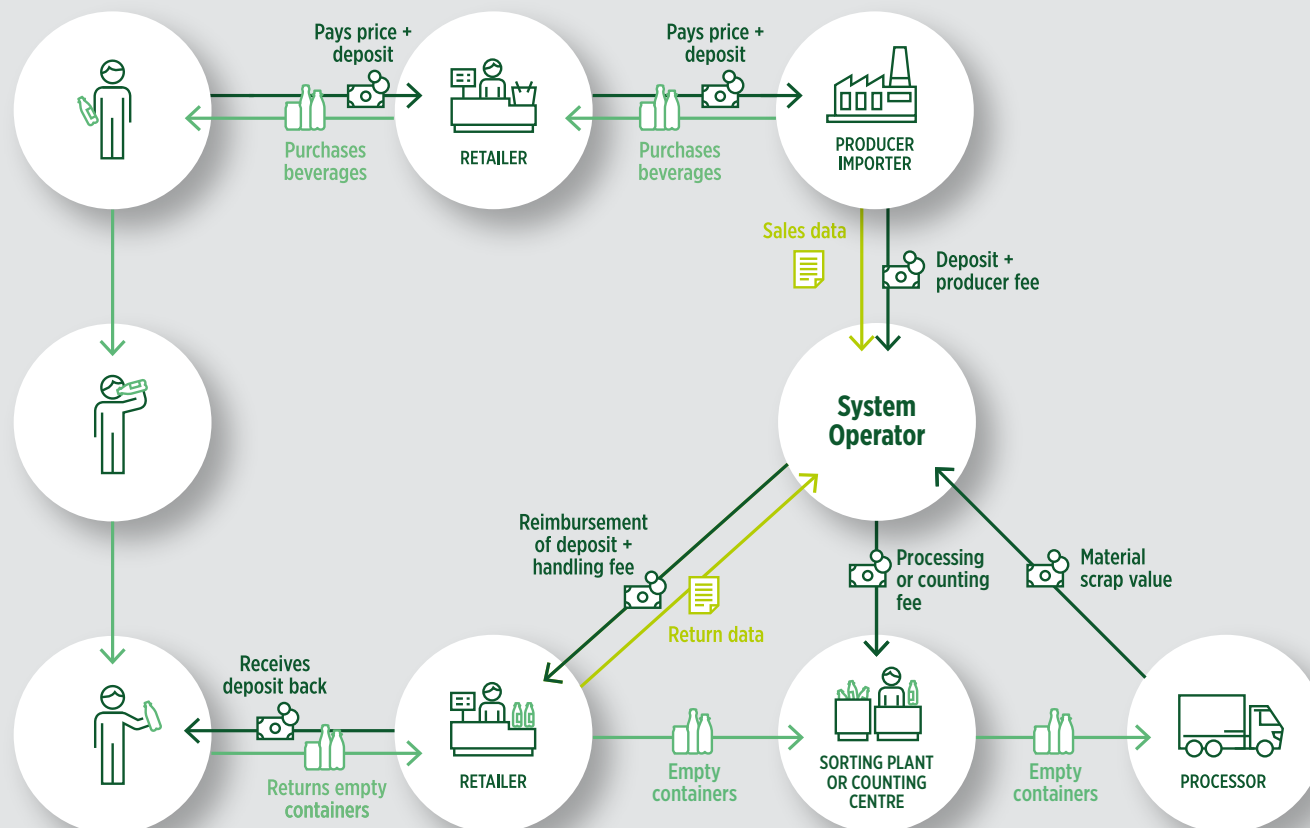
Barcode-based system?

Yes

Return rate

Data not available

Money, material & data flow



¹If successful, this would put Slovakia four years ahead of the targets in the European Union's Single-Use Plastics Directive, which requires member states to separately collect 90% of single-use plastic bottles by 2029



Sweden

Population: 10.4m

Population density: 25.2/km²

System operator's website:

Sources

- 1) Returpack. "Deposit statistics." <https://pantamera.nu/en/private-citizen/facts--statistics/deposit-statistics/>
- 2) Returpack. "Hållbarhetsredovisning 2021." https://assets.rp-pm-prod.pantamera.nu/4980e0/globalassets/documents/returpack_hallbarhetsredovisning2021.pdf
- 3) Returpack. "Sustainability Report 2020." https://assets.rp-pm-prod.pantamera.nu/49615f/globalassets/documents/eng_sustainability-report-2020.pdf
- 4) Returpack. "Sustainability Report 2019." https://assets.rp-pm-prod.pantamera.nu/4a3baa/globalassets/documents/returpack_sustainability_report2019_webb.pdf
- 5) Returpack. 23 December 2021. "Handling fee 2022." <https://assets.rp-pm-prod.pantamera.nu/48d2b4/globalassets/documents/handling-fee-2022.pdf>
- 6) Returpack. "Appendix 3, Deposit, Administration fee and Sorting fee per Aluminium can with alcohol content less than 3,5%." <https://assets.rp-pm-prod.pantamera.nu/496e4f/globalassets/documents/appendix-3---deposit-and-fees.pdf>

Legislative framework

Name of legislation

Regulation (SFS 2005:220) on return systems for plastic bottles and metal cans (Förordning (2005:220) om retursystem för plastflaskor och metallburkar)

Legislation enacted

May 1982

Appointment of system operator

1982

System started

March 1984

Key updates

- › 1994 – expansion to plastic (PET) bottles
- › 2010 – deposit increase for metal cans

Regulatory authority

Swedish Board of Agriculture (supervisory authority for Returpack) and the Swedish Environmental Protection Agency (authority responsible for setting recycling targets)

Legislated targets

- › **Recycling:**
- › Plastic: 90%
- › Metal: 90%

Scope

Material type¹

Plastic (PET), metal (aluminium, steel)

Beverage type²

All ready-to-drink drinks including beer, soft drinks, cider, bottled water

Size

PET bottles: 190ml to 3L (0.05 to 0.79 gal)
Metal cans: 150ml to 950ml (0.04 to 0.25 gal)

Excluded²

Drinks that contain ≥50% dairy products, vegetable/fruit/berry juice

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› Variable rate:

- › Metal: 1 SEK (€0.11, USD\$0.12) (VAT included)
- › Plastic ≤1L (0.26 gal): 1 SEK (€0.11, USD\$0.12) (VAT included)
- › Plastic >1L (0.26 gal): 2 SEK (€0.19, USD\$0.21) (VAT included)

Handling fee (2022)³

› Manual:

- › Metal: 0 SEK (€0.00, USD\$0.00) + 25% VAT
- › Plastic ≤1L (0.26 gal): 0.2 SEK (€0.02, USD\$0.02) + 25% VAT
- › Plastic >1L (0.26 gal): 0.2 SEK (€0.02, USD\$0.02) + 25% VAT

› RVM with compaction – pick-up with compact truck:

- › Metal: 0.174 SEK (€0.016, USD\$0.017) + 25% VAT
- › Plastic ≤1L (0.26 gal): 0.275 SEK (€0.026, USD\$0.028) + 25% VAT
- › Plastic >1L (0.26 gal): 0.346 SEK (€0.033, USD\$0.036) + 25% VAT

› RVM with compaction – pick-up by wholesaler/reseller:

- › Metal: 0.194 SEK (€0.018, USD\$0.02) + 25% VAT
- › Plastic ≤1L (0.26 gal): 0.342 SEK (€0.032, USD\$0.035) + 25% VAT
- › Plastic >1L (0.26 gal): 0.515 SEK (€0.048, USD\$0.053) + 25% VAT

Producer fee (2022)⁴

- › Plastic ≤ 1L (0.26 gal): 0.19 SEK + 25% VAT (€0.018, USD\$0.020)
- › Plastic > 1L (0.26 gal): 0.44 SEK + 25% VAT (€0.043, USD\$0.047)
- › Steel: 0.25 SEK + 25% VAT (€0.024, USD\$0.027)
- › Aluminium: 0 SEK

Sorting fee (2022):

- › Coloured plastic (regardless of size): 0.05 SEK + 25% VAT (€0.0049, USD\$0.0053)

Note: In addition to producer administrative fees and sorting fees, producers have to pay an annual membership fee of 10,000 SEK, which goes directly to the Swedish Board of Agriculture (there is no annual fee for producers who voluntarily join the system).



System structure & administration

Clearing system

Centralised

System operator

AB Svenska Returpack (privately-owned, not-for-profit company, which operates under a commercial brand known as “Pantamera”; ownership is split between the Swedish Brewers Association [50%], the Swedish Food Retailers Federation [25%], and the Swedish Grocery Stores Association [25%])

System finance

Material revenues, unredeemed deposits, producer fees, annual membership fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Hybrid: Joining the system is voluntary as there is no legal obligation for retailers to take back empty containers. There are 11,835 return points, including 3,160 stores with RVMs and 8,675 other collectors (i.e. supermarkets, cafes, restaurants, airports, etc). Consumers can also return bottles and cans to 62 Pantamera Express points (larger RVMs). Returpack also uses a mobile collection station (Pant-o-Bil) to collect containers at festivals, and has recently began collecting containers sold by online retailers with one company at two locations.

Pop. per collection point

~877

Method of return

96% automated /4% manual
(In 2021, there were 3,160 shops with RVMs and a total of 4,260 RVMs)

Barcode-based system?

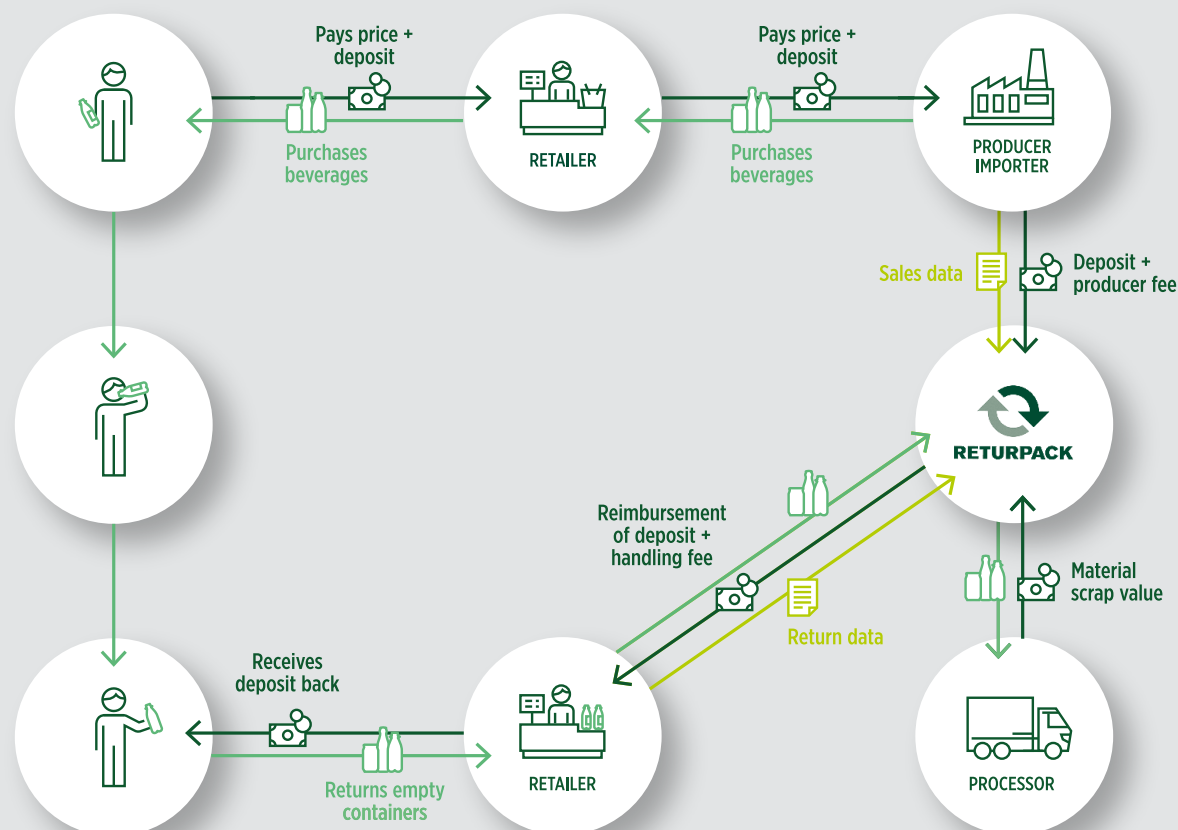
Yes

Return rate (2021)*

| Plastic | Metal | Total |
|---------|-------|-------|
| 86.4% | 89.0% | 88.2% |

*Note: The price differences between drinks sold in Sweden and Norway mean that an estimated 15% of the drinks in deposit packaging sold in Sweden are taken out and consumed in Norway. Approximately 1/3 of this volume is refunded in Sweden, while the remainder is dealt with in Norway. According to Returpack, “this has a major impact on the reported rate of recycling using the system in Sweden, as we estimate that of the volume that is sold and also consumed in Sweden, the rate of recycling is well over 90% and approaching 95%.”

Money, material & data flow



¹ The historical two laws governing aluminium can and PET bottle recycling had narrower definitions: drink packaging made of aluminium, and bottles that are made of polyethylene terephthalate. The definition in the new law (Ordinance 2005:220) that replaced the existing laws have broader definitions (packaging made of ‘metal’ and ‘primarily of polymer material’).

² Since 2015, 2018, and 2021, respectively, producers of vegetable/fruit/berry juices, dilutable/concentrate drinks (“soft”), and dairy products (in metal cans only) can voluntarily join the DRS. However, from 1 January 2023, juice and syrup products will become mandatory in the system, and milk-based products will become mandatory from January 2029.

³ In addition to variable handling fees per container, stores with a compacting RVM receive a fixed annual fee of 20,000 SEK/year (excluding VAT) as compensation for receiving and handling deposit packages. Both the fixed and variable fees are paid weekly.

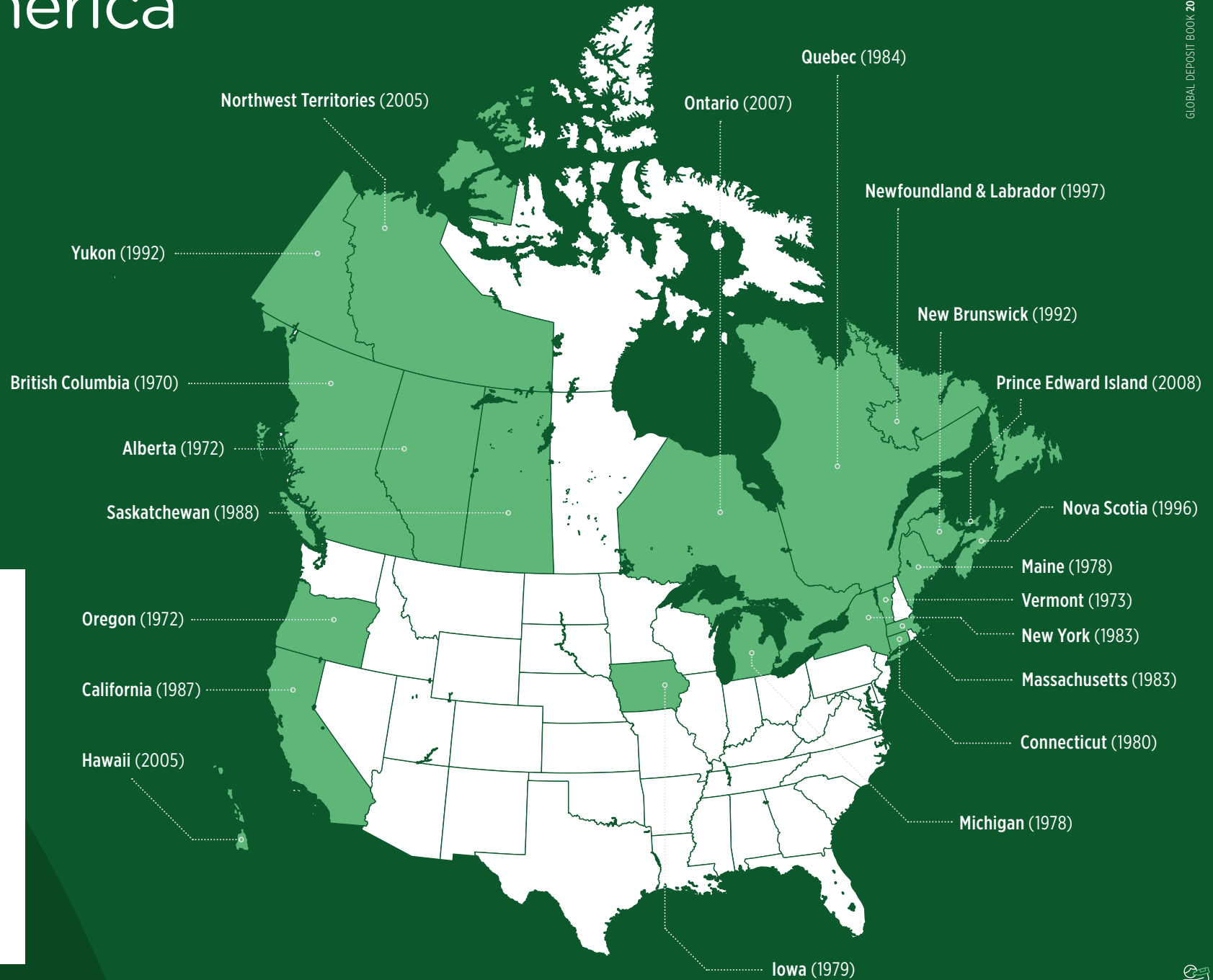
⁴ For plastic bottles and steel cans, the manufacturer or importer pays a fee for each container sold to Returpack. This fee covers costs related to administration, collection, and sorting. For plastic bottles, the fee varies depending on the size and colour of the container; clear, transparent bottles have lower fees than coloured bottles. There are no administrative or sorting fees for aluminium cans.



North America

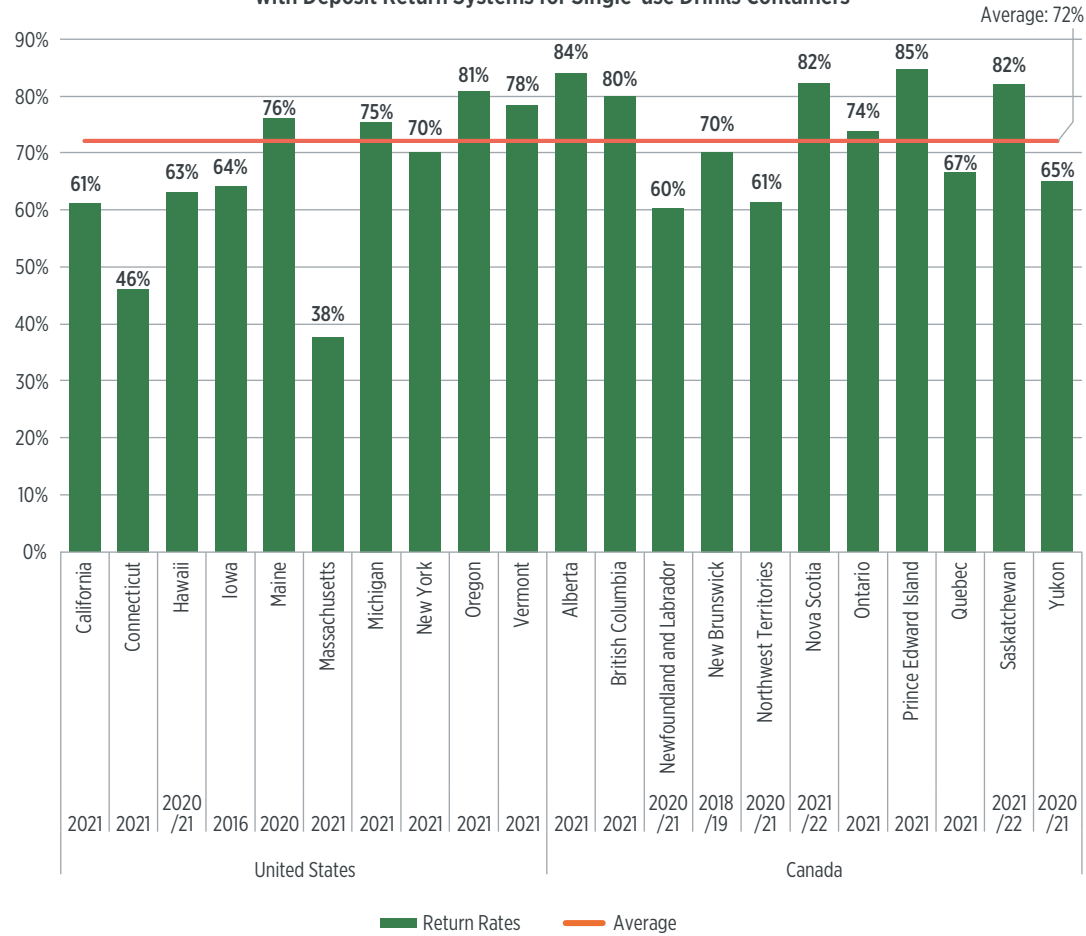
Region snapshot

- › 21 states/provinces/territories with DRS, covering a total of 126.2 million people
- › Average return rate: 69.6%
- › Median return rate: 70.0%
- › 7 jurisdictions operate decentralised systems
- › 14 jurisdictions operate centralised systems
- › Most systems operate a return-to-redemption centre or hybrid redemption model
- › Deposit ranges from €0.04 to €0.09 (USD\$0.04 to \$0.10)



North America

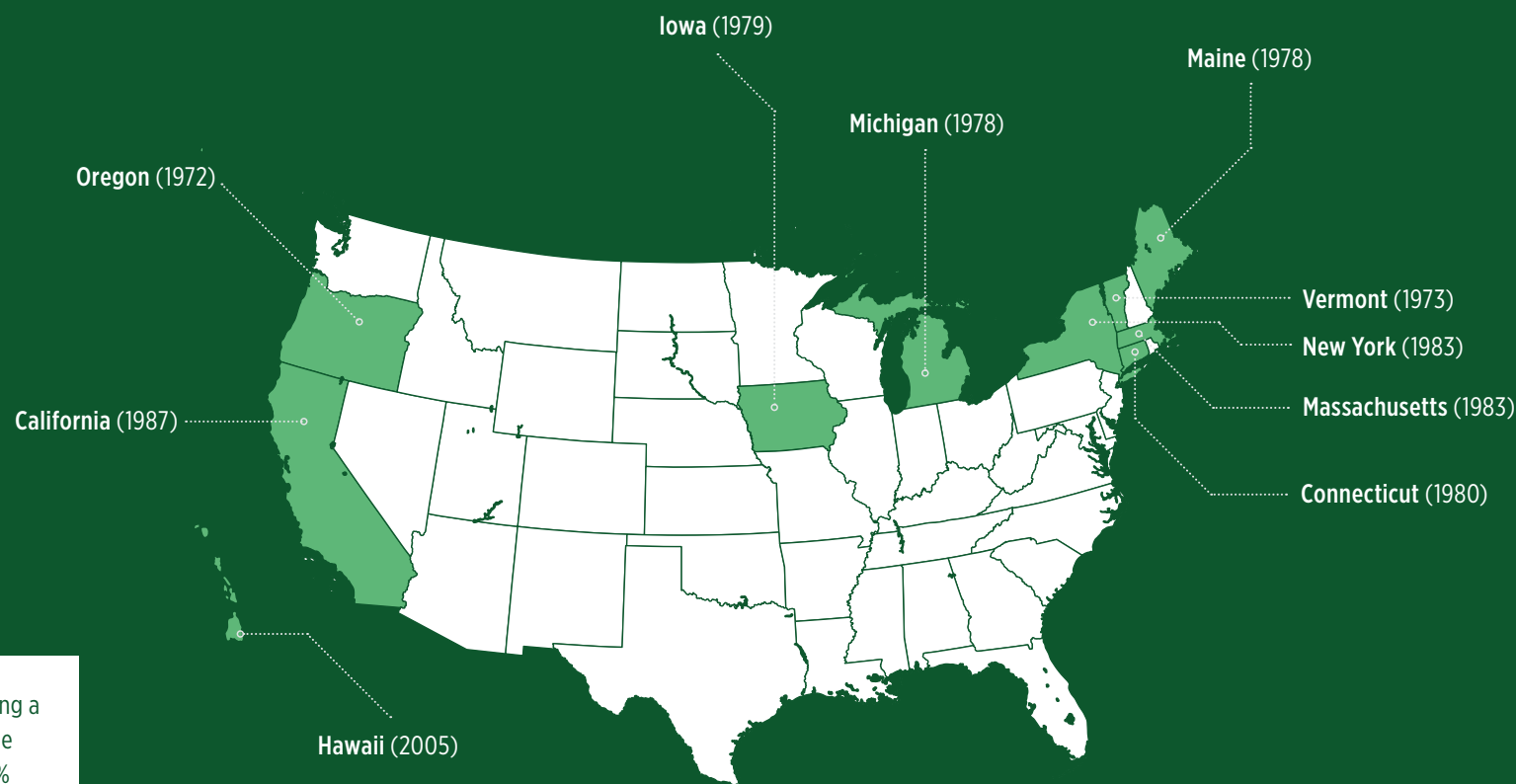
Latest Return Rates in North American States/Provinces/Territories with Deposit Return Systems for Single-use Drinks Containers



| State/Province/Territory | 2021 Population (million) | Legislation Enacted | System Started |
|--------------------------|---------------------------|---------------------|----------------|
| United States | | | |
| California | 39.2 | 1986 | 1987 |
| Connecticut | 3.6 | 1978 | 1980 |
| Hawaii | 1.4 | 2002 | 2005 |
| Iowa | 3.2 | 1978 | 1979 |
| Maine | 1.4 | 1976 | 1978 |
| Massachusetts | 7.0 | 1981 | 1983 |
| Michigan | 10.1 | 1976 | 1978 |
| New York | 19.8 | 1982 | 1983 |
| Oregon | 4.2 | 1971 | 1972 |
| Vermont | 0.6 | 1972 | 1973 |
| Canada | | | |
| Alberta | 4.3 | 1972 | 1972 |
| British Columbia | 5.0 | 1970 | 1970 |
| Newfoundland & Labrador | 0.5 | 1996 | 1997 |
| New Brunswick | 0.8 | 1991 | 1992 |
| Northwest Territories | 0.04 | 2003 | 2005 |
| Nova Scotia | 1.0 | 1995 | 1996 |
| Ontario | 14.2 | 2006 | 2007 |
| Prince Edward Island | 0.2 | 1988 | 2008 |
| Quebec | 8.5 | 1972 | 1984 |
| Saskatchewan | 1.1 | 1978 | 1988 |
| Yukon | 0.04 | 1991 | 1992 |



United States of America



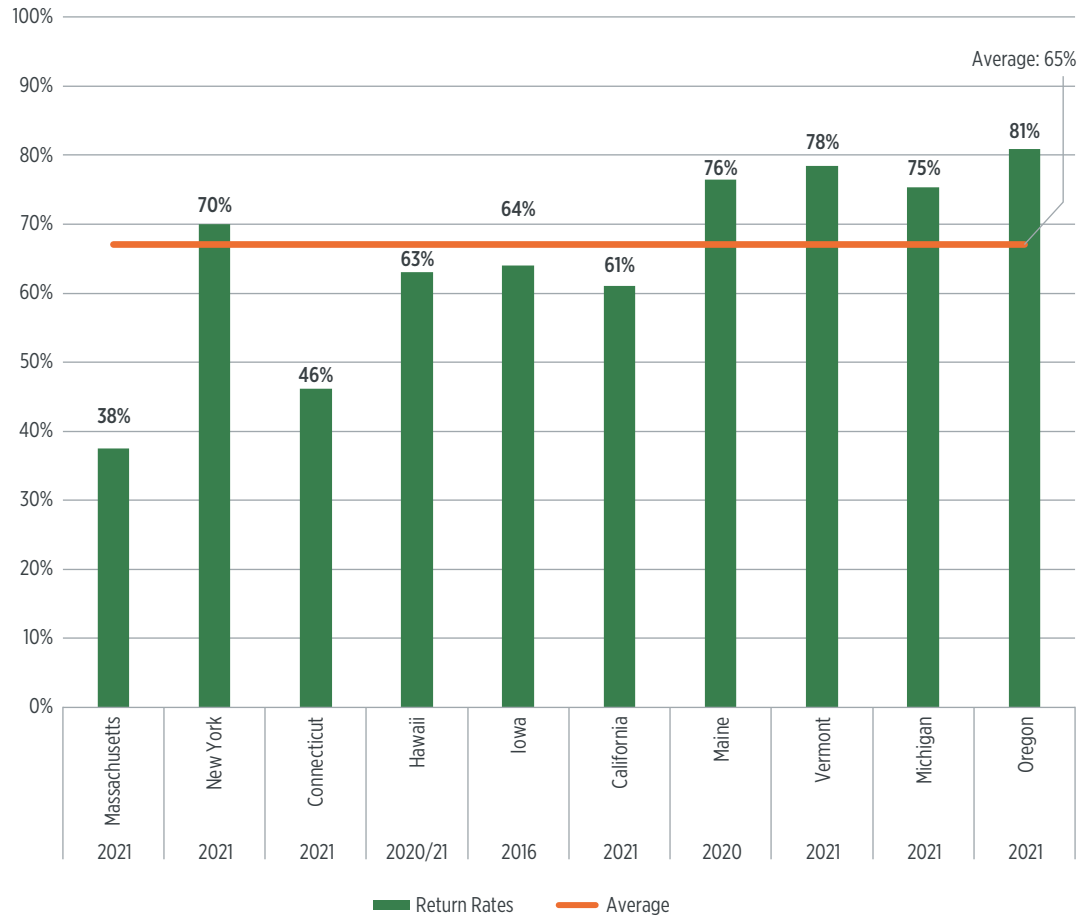
- › 10 states with DRS, covering a total of 90.6 million people
- › Average return rate: 65.2%
- › Median return rate: 67.0%
- › 7/10 systems are centralised
- › 9/10 states use a return-to-redemption centre or hybrid redemption model
- › Deposit ranges from USD\$0.05 to \$0.10 (€0.05 to €0.09)

Country snapshot



United States of America

Latest Return Rates in US States
with Deposit Return Systems for Single-use Drinks Containers



| State | 2021 Population (million) | Legislation Enacted | System started |
|----------------------|---------------------------|---------------------|----------------|
| United States | | | |
| California | 39.2 | 1986 | 1987 |
| Connecticut | 3.6 | 1978 | 1980 |
| Hawaii | 1.4 | 2002 | 2005 |
| Iowa | 3.2 | 1978 | 1979 |
| Maine | 1.4 | 1976 | 1978 |
| Massachusetts | 7.0 | 1981 | 1983 |
| Michigan | 10.1 | 1976 | 1978 |
| New York | 19.8 | 1982 | 1983 |
| Oregon | 4.2 | 1971 | 1972 |
| Vermont | 0.6 | 1972 | 1973 |



California

Population: 39.2m

Population density: 98.0/km²

System operator's website:

Sources

- 1) CalRecycle. 26 April 2022. "Biannual Report of Beverage Container Sales, Returns, Redemption, and Recycling Rates." <https://www2.calrecycle.ca.gov/Docs/Web/119868>
- 2) Plastic Minimum Content Standards (AB 793). <https://www.calrecycle.ca.gov/bevcontainer/bevdistman/plasticcontent/>
- 3) Container Recycling Institute. Bottle Bill Resource Guide. "California." <https://www.bottlebill.org/index.php/current-and-proposed-laws/usa/california>
- 4) Container Recycling Institute. 6 July 2022. "New Data Shows That 2021 Beverage Container Redemption Rates in Most U.S. Bottle Bill States Did Not Return to Pre-COVID Levels." <https://www.container-recycling.org/images/2022/Press%20release%20on%20redemption%20rates%20for%202021%20with%20chart%20final.pdf>
- 5) CalRecycle. "Handling Fee Changes, Effective July 1, 2022."
- 6) CalRecycle. 17 December 2021. "Notice: 2022 Processing Fees."
- 7) CalRecycle. 17 December 2021. "Notice: 2022 Processing Payments." <https://www2.calrecycle.ca.gov/Docs/Web/120174>
- 8) CalRecycle. 14 June 2022. "Third Quarter 2022 Processing Payments Notice – No Adjustment."
- 9) California State Auditor. June 2010. "Department of Resources Recycling and Recovery: Deficiencies in Forecasting and Ineffective Management Have Hindered the Beverage Container Recycling Program." <https://www.bsa.ca.gov/pdfs/reports/2010-101.pdf>
- 10) CalRecycle. "It's in Your Hands." <https://www.calrecycle.ca.gov/BevContainer/Consumers/>
- 11) CalRecycle. "Beverage Container Recycling Centres." <https://www2.calrecycle.ca.gov/BevContainer/RecyclingCentres/>
- 12) CalRecycle. "In-Store CRV Redemption." <https://www2.calrecycle.ca.gov/BevContainer/InStoreRedemption>
- 13) Thompson, D. 31 August 2022. "California may add wine, liquor bottles to recycling program." <https://financialpost.com/pm/business-pmn/california-may-add-wine-liquor-bottles-to-recycling-program>

Legislative framework

Name of legislation

California Beverage Container Recycling and Litter Reduction Act

Legislation enacted

September 1986

Appointment of system operator

1987 (California's Department of Conservation administered the programme from 1987-2009; responsibility was transferred to CalRecycle as of January 2010)

System started

September 1987

Key updates

- › 1999 – expansion to include more beverage types
- › 2024 – expansion to include wine and spirits

Regulatory authority

California Department of Resources Recycling and Recovery (CalRecycle)

Legislated targets

- › **Recycling:** 80% for all aluminium, glass, plastic, and bimetal containers
- › **Post-consumer recycled content for plastic deposit-bearing beverage containers:** 15% starting January 1, 2022, increasing to 25% by 2025 and 50% by 2030

Scope

Material type

Plastic, metal (aluminium, bimetal), glass

Beverage type¹

Sealed, ready-to-serve drinks including beer and malt drinks, wine coolers, distilled spirit coolers, all non-alcohol drinks (carbonated and non-carbonated fruit drinks/water/soft drinks, coffee and tea drinks, 100% fruit juice ≤ 46 oz., vegetable juice ≤ 16 oz)

Size

All

Excluded

Milk, medical food, infant formula, wine, spirits, 100% fruit juice ≥46 oz., 100% vegetable juice >16 oz.

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

California Refund Value (CRV):

› Variable rate:

- › Containers <24oz (710ml, 0.19 gal): USD\$0.05 (€0.05)
- › Containers ≥24oz (710ml, 0.19 gal): USD\$0.10 (€0.09)

Handling fee (2022)

USD\$0.00557 (€0.0053) (paid by CalRecycle to redemption centres in qualified "Convenience Zones")

Producer fee (2022)

- › Aluminium: none
- › Glass: USD\$0.00426/unit
- › PET: USD\$0.00045/unit
- › HDPE: USD\$0.00574/unit
- › Bimetal: USD\$0.05371/unit
- › Other: USD\$0.14628/unit

(paid by beverage manufacturers to system operator)

Processing payments (as of 14 June 2022)²

- › Aluminium: non
- › Glass: USD\$0.08266/lb
- › PET: USD\$0.13279/lb
- › HDPE: USD\$0.30763/lb
- › Bimetal: USD\$0.64455/lb
- › Other: USD\$0.69764/lb

(paid by system operator to certified redemption centres and to kerbside programme operators)



System structure & administration

Clearing system

Centralised

System operator

CalRecycle (a branch of the California Environmental Protection Agency that oversees the state's waste management, recycling, and waste reduction programmes)

System finance

Unredeemed deposits

Unredeemed deposits

System operator (held in Beverage Container Recycling Fund)

Material owner

Redemption centres and kerbside (and other) programme operators

Container return & refund points

Collection model

Hybrid: As of February 2022, there are approximately 1,265 redemption centres and 2,328 retailers statewide that take back empty CRV containers. By law, retailers that generate ≥\$2 million/year in revenue are obliged to take back beverage containers on site (in-store or in the parking lot) unless there is a state-certified redemption centre located within a half-mile radius around the store, or a 3-mile radius in rural areas. CalRecycle refers to this area as a 'convenience zone' (CZ). A retailer in a CZ without a certified redemption centre has the option—after a 60-day grace period—to pay a daily fee (USD\$100) to CalRecycle in lieu of redeeming empty drinks containers in-store. Consumers can also donate their empties to a drop-off site or a kerbside recycling programme.

Pop. per collection point

~10,921

Method of return

Manual

Barcode-based system?

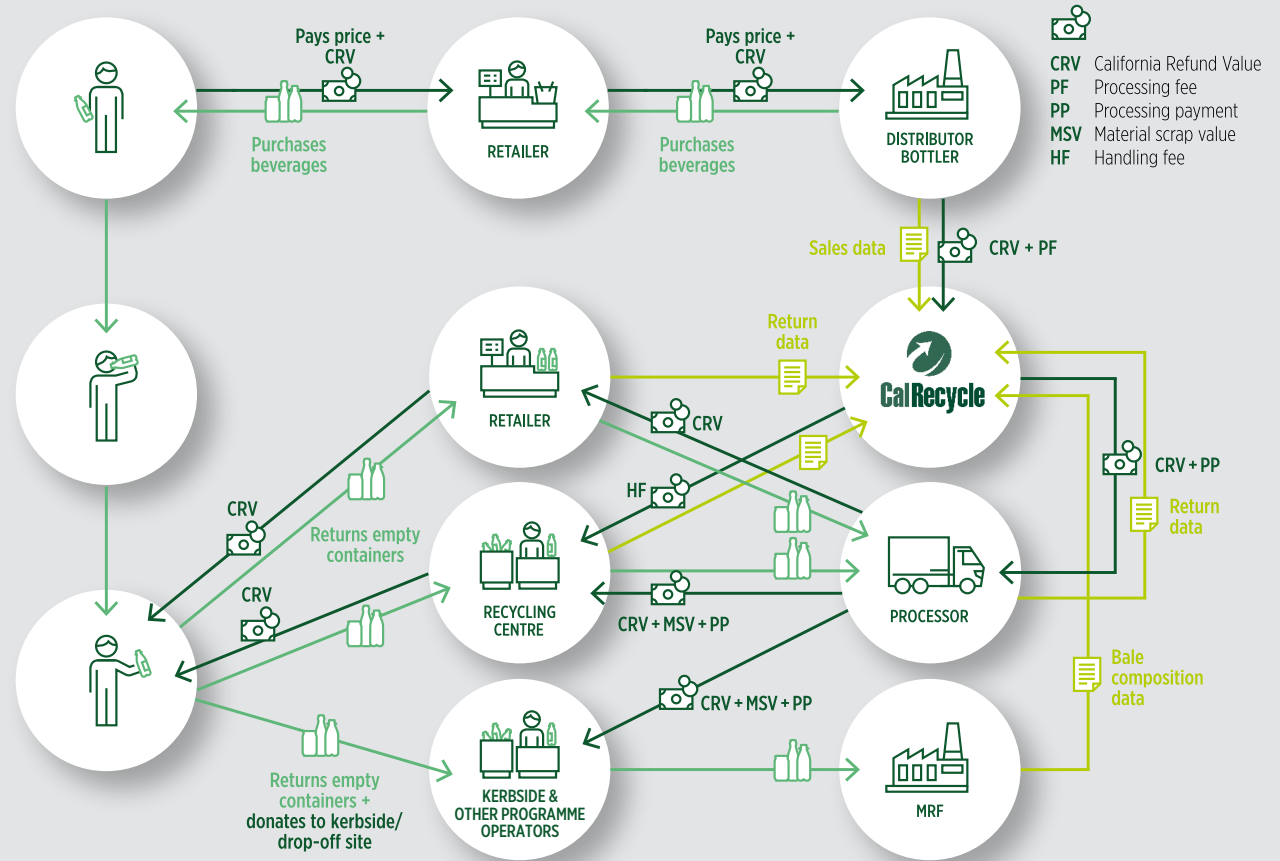
No

Return rate (2021)

| Plastic (PET) | Plastic (HDPE) | Aluminium | Glass | Total* |
|---------------|----------------|-----------|-------|---------|
| 66% | 53% | 73% | 64% | 68%/61% |

*Note: California includes drinks containers collected via kerbside collection programmes in the "recycling rate" (most other states report a "redemption" or "return" rate), therefore, the rates reported above on the left include CRV containers collected through kerbside collection and drop-off programmes in addition to certified recycling centres. If these containers are excluded from the calculation, the overall estimated "redemption" rate for CRV containers is as shown on the right.

Money, material & data flow



¹The California legislature approved a measure 31 August 2022 that would add wine and distilled spirits containers to the state's DRS. The measure will have an effective date of 1 July 2024, when Governor Gavin Newsom is expected to sign the bill into law. In addition, the law would allow retailers to form a cooperative organisation to collect empty containers as an alternative to the current law, which requires stores to take back the empties.

²CalRecycle establishes an annual processing payment and a processing fee for any beverage container type that has a scrap value less than the cost of recycling. CalRecycle makes processing payments to processors, who then pay recyclers the entire processing payment. Beverage manufacturers pay processing fees to CalRecycle.



Connecticut

Population: 3.6m

Population density: 287.5/km²

System operator's website:

Legislative framework

Name of legislation

Beverage Container Deposit and Redemption Regulations under the Beverage Container Deposit and Redemption Law, and the Act Concerning Solid Waste Management

Legislation enacted

April 1978

Appointment of system operator

Not applicable

System started

January 1980

Key updates

- › 1983 – variable handling fee implemented
- › 1986 – handling fee increase for beer
- › 2009 – expansion to water bottles, unredeemed deposits returned to State
- › 2021 – expansion to other non-carbonated drinks, HDPE containers (effective January 2023)
- › 2021 – deposit increase (effective 1 January 2024)
- › 2021 – handling fee increase (effective 1 October 2021)

Regulatory authority:

Connecticut Department of Energy and Environmental Protection (DEEP)

Legislated targets

- › **Return rate:** 80%

Scope

Material type

Plastic, metal (aluminium, steel), glass, carton

Beverage type¹

Sealed beer, malt, carbonated drinks (including mineral waters and soda waters), non-carbonated water

Size¹

<3L (0.79 gal)

Excluded¹

Other non-carbonated drinks, juice, wine, liquor, HDPE containers

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value¹

- › **Fixed rate:** USD\$0.05 (€0.05)

Handling fee (2022)¹

- › Beer/malt: USD\$0.025 (€0.023)
- › Other drinks: USD\$0.035 (€0.032)

System structure & administration

Clearing system

Decentralised

System operator

Producer/Distributor/Importer (each deposit initiator manages their compliance individually; a system operator may be formed if deposit initiators submit an application)

System finance

Material revenues

Unredeemed deposits¹

State of Connecticut's General Fund

Material owner

System operator

1) Connecticut Department of Energy and Environmental Protection. "CT Bottle Bill Redemption Data." https://portal.ct.gov/-/media/DEEP/reduce_reuse_recycle/bottles/bottle-bill-data---through-Q4-2020---TABLE.pdf

2) Container Recycling Institute. Bottle Bill Resource Guide. "Connecticut." <https://www.bottlebill.org/index.php/current-and-proposed-laws/usa/connecticut>

3) An Act Concerning Solid Waste Management. <https://www.cga.ct.gov/2021/SUM/PDF/2021SUM00058-R02SB-01037-SUM.PDF>

4) Paben, J. 8 June 2021. "Bottle bill update heads to Conn. governor's desk." Resource Recycling <https://resource-recycling.com/recycling/2021/06/08/bottle-bill-update-heads-to-conn-governors-desk/>

5) Personal communication with Chris Nelson, Supervising Environmental Analyst, CT Department of Energy & Environmental Protection, 17 May 2022.



Container return & refund points

Collection model

Hybrid: Retailers are required to take back deposit-bearing containers but have the authority to limit redemption to those brands, size, and type that they sell. In addition to retail locations, deposit-bearing containers can be returned to redemption centres. Anyone is allowed to open a redemption centre and can choose what deposit-bearing containers they take back, but redemption centres that are part of retail centres (e.g. grocery stores) may not redeem brands that they do not sell. Retailers are able to opt-out if they are within 1-mile (1.6km) of a redemption centre. In total, there are 18 redemption centres and an estimated 4,250 beverage retailers where consumers can return empty deposit-bearing containers.

Pop. per collection point

~845

Method of return

Mix of automated and manual (starting 1 October 2021, beverage retailers $\geq 7,000$ ft² are required to offer at least two RVMs for consumer use).

Barcode-based system?

No

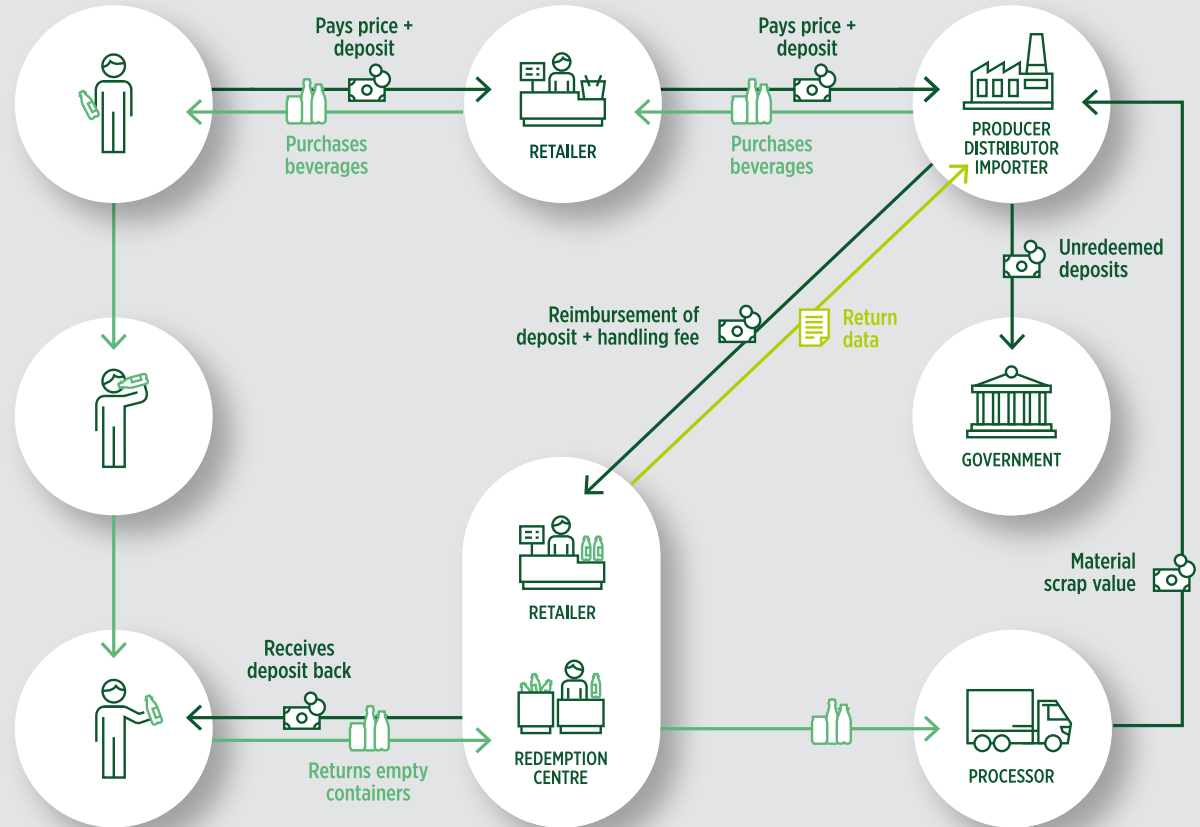
¹ On 16 June 2021, Connecticut passed legislation overhauling the state's DRS. Public Act 21-58 makes a number of significant changes to the state's existing programme, including (but not limited to):

- a. Expansion to eligible drinks types: Starting on July 1, 2023, the programme will be expanded to cover hard cider, hard seltzer, and "any water, including flavoured water, plant water, nutritionally enhanced water, juice, juice drinks, tea and coffee drinks, kombucha, plant-infused drinks, sports and energy drinks.
- b. Expansion to eligible container types: Starting January 2023, the new law eliminates the exemption on HDPE containers, sets a 2.5L exemption threshold for non-carbonated drinks, imposes a ≥ 3 L exemption for carbonated drinks, and exempts all containers of < 150 ml.
- c. Deposit increase: Starting in January 2024, the deposit will increase from USD\$0.05 to USD\$0.10.
- d. Handling fee increase: Effective 1 October 2021, the law increases handling fees beverage distributors pay to redemption centres and retailers, from USD\$0.015 to USD\$0.025 on beer and other carbonated alcohol drinks, while the USD\$0.02 fee for soda, water and other non-alcohol drinks increased to USD\$0.035.
- e. Unredeemed deposits: Under prior law, 100% of unredeemed deposits were placed into the State of Connecticut's General Fund. The new law incrementally decreases the amount that the State gets to keep, from 100% in 2022 to 45% by 2026. As such, starting in 2026 beverage distributors will be allowed to retain 55% of the money.

Return rate (2021)

Total
46.2%

Money, material & data flow



| | % Distribution of Unredeemed Deposits – General Fund | % Distribution of Unredeemed Deposits – Distributors |
|-----------------|--|--|
| Through 2022 | 100% | 0% |
| 2023 | 95% | 5% |
| 2024 | 65% | 35% |
| 2025 | 55% | 45% |
| 2026 and beyond | 45% | 55% |



Hawaii

Population: 1.4m

Population density: 87.5/km²

System operator's website:



Sources

- 1) Hawaii State Department of Health, "Overview of Handling Fee Evaluation Results for the Deposit Beverage Container (DBC) Program." <https://health.hawaii.gov/hi5/files/2021/05/Hawaii-Updated-Handling-Fees-Flyer-FINAL.pdf>
- 2) State of Hawaii Department of Health, "F.A.Q. What's In? What's Out?" https://health.hawaii.gov/hi5/files/2013/05/dist_FAQInOut.pdf
- 3) F.A.Q. Grocers & Retailers – Hawaii Deposit Beverage Container Program. https://health.hawaii.gov/hi5/files/2013/05/deal_FAQRetailers15.pdf
- 4) Personal communication with Jaylen Ehara, 10 February 2022.
- 5) Office of Solid Waste Management Amended Annual Report to the Thirtieth Legislature State of Hawai'i 2020. <https://health.hawaii.gov/shwb/files/2021/03/2020-OSWM-Annual-Report-Amended.pdf>

Legislative framework

Name of legislation

Deposit Beverage Container Law (Act 176) under Chapter 342G, Part VIII, Hawai'i Revised Statutes

Legislation enacted

June 2002

Appointment of system operator

Unknown

System started

January 2005

Key updates

- › 2009 – expansion to include 2L containers
- › 2013 – expansion to include energy drinks and dietary supplements

Regulatory authority

Hawaii State Department of Health, Solid and Hazardous Waste Branch

Legislated targets

None

Scope

Material type

Plastic (PET, HDPE), metal (aluminium, bimetal), glass

Beverage type

Beer, malt drinks, mixed spirits (<15% alcohol), mixed wine (<7% alcohol), all non-alcohol drinks (e.g. soft drinks, water, juice, tea, etc.)

Size

≤ 2L (0.53 gal)

Excluded

Milk and dairy products, wine, hard liquor (≥ 15% alcohol)

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› **Fixed rate:** USD\$0.05 (€0.05)

Handling fee (2022)

- › Aluminium/bimetal: USD\$0.034 (€0.031)
- › Glass: USD\$0.081 (€0.074)
- › Plastic: USD\$0.040 (€0.036)

Producer fee (2022)¹

USD\$0.01 (increases to USD\$0.015 when return rate >70%)



System structure & administration

Clearing system

Centralised

System operator

Hawaii State Department of Health

System finance

Unredeemed deposits, material revenues, producer fees

Unredeemed deposits

System operator

Material owner

Redemption centres

Container return & refund points

Collection model

Return-to-Redemption Centre: There are a total of 59 return locations state-wide (25 O'ahu; 18 Hawai'i; 11 Maui; 5 Kaua'i). Retailers are not obliged to accept containers unless they are located outside a 2-mile radius from an independent, state-certified redemption centre in high-density areas on the Island of Oahu (because there are no retailers that fall into this category, there are no R2R locations). Stores that have <5,000ft² of retail space, are located in a rural area (Hawaii, Kauai, and Maui counties), or that only sell deposit-bearing containers via vending machines are also exempt from the take-back obligation, but may choose to voluntarily provide redemption of the deposit as a 'value-add' service to customers.

Pop. per collection point

~24,433

Method of return

Manual

Barcode-based system?

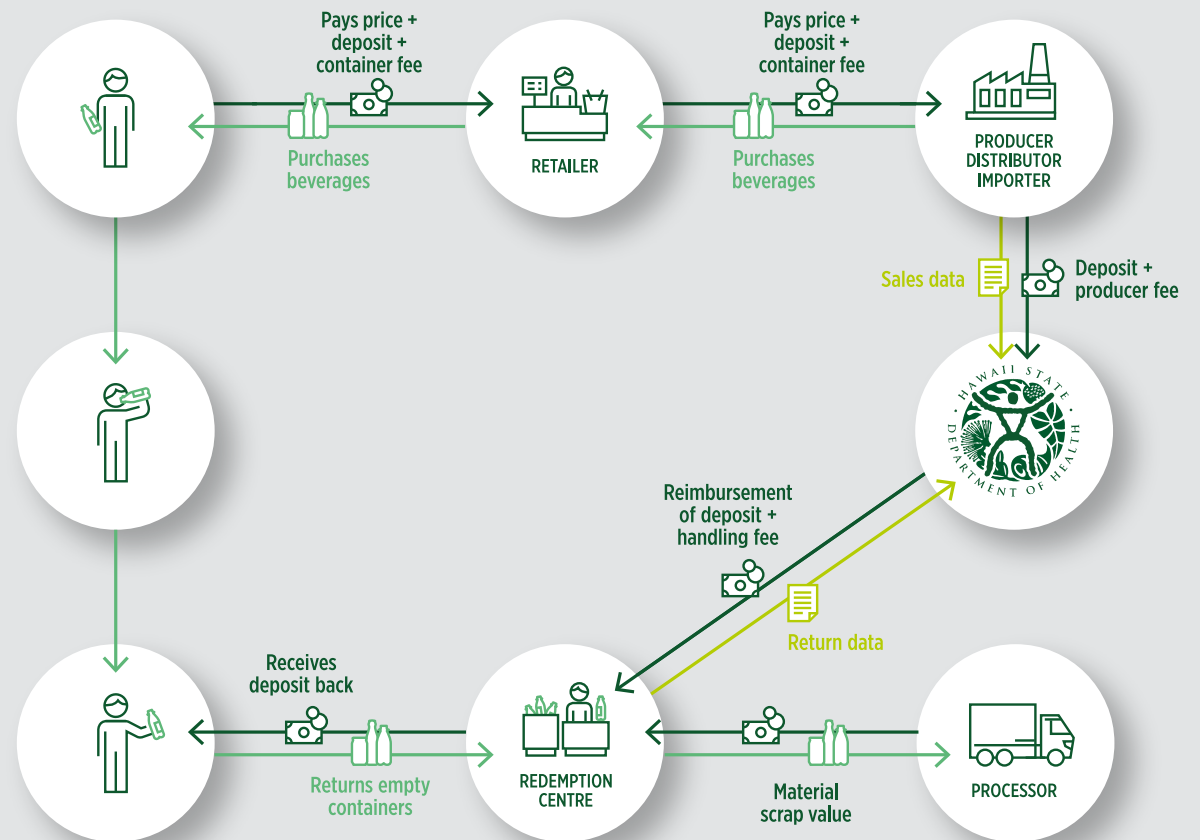
No

Return rate (2020-21)

| Plastic | Aluminium | Bimetal | Glass | Total |
|---------|-----------|---------|-------|--------|
| 57.9% | 67.6% | 56.5% | 60.9% | 63.1%* |

*Note: Data above is for the period July 2020-June 2021.

Money, material & data flow



¹The producer fee is referred to as a "non-refundable container fee" in Hawaii. This fee is passed on to retailers who are authorised to pass it on to consumers.

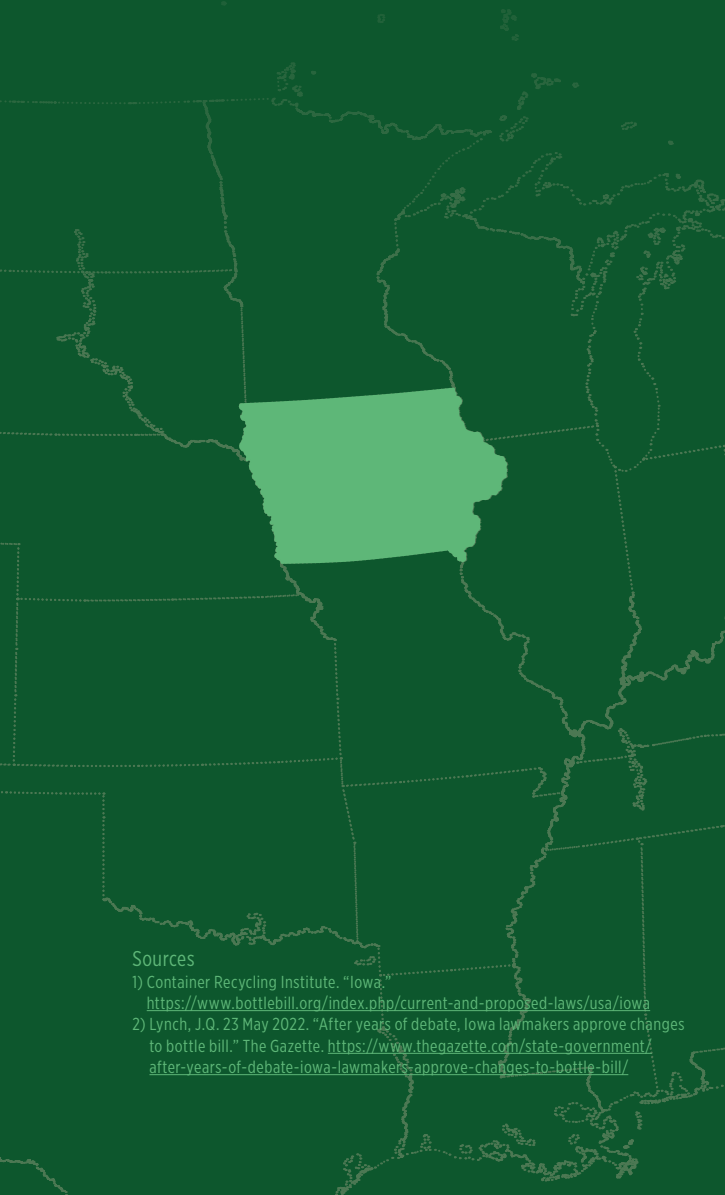


Iowa

Population: 3.2m

Population density: 22.1/km²

System operator's website:



Sources

- 1) Container Recycling Institute. "Iowa," <https://www.bottlebill.org/index.php/current-and-proposed-laws/usa/iowa>
- 2) Lynch, J.Q. 23 May 2022. "After years of debate, Iowa lawmakers approve changes to bottle bill." The Gazette, <https://www.thegazette.com/state-government/after-years-of-debate-iowa-lawmakers-approve-changes-to-bottle-bill/>

Legislative framework

Name of legislation

Beverage Containers Control Law

Legislation enacted

April 1978

Appointment of system operator

Not applicable

System started

May 1979

Key updates

› 2022

Regulatory authority

Iowa Department of Natural Resources (DNR)

Legislated targets

None

Scope

Material type

Plastic, metal, glass

Beverage type

Sealed, ready-to-serve drinks including beer, wine coolers, wine and liquor, carbonated drinks (including Kombucha), non-carbonated and non-carbonated mineral water

Size

All

Excluded

Non-carbonated, non-mineral water (bottled water), fruit and vegetable juices, fruit drinks, sports drinks, milk and milk products

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› **Fixed rate:** USD\$0.05 (€0.05)

Handling fee (2022)¹

USD\$0.01 (€0.01) (paid to retailers and redemption centres)



System structure & administration

Clearing system

Decentralised

System operator

Producer/Distributor/Importer

System finance

Unredeemed deposits, material revenues

Unredeemed deposits

Producer/Distributor/Importer

Material owner

Producer/Distributor/Importer

Container return & refund points

Collection model¹

Hybrid: Retailers are required to take back empty deposit-bearing containers of the same kinds, sizes, and brands they sell. Retailers can opt out if they use an approved, state-certified redemption centre that is located within a “convenient” distance from the retailer. There are an estimated 3,300+ beverage retailers and 60 redemption centres.

Pop. per collection point

~950

Method of return

Unknown (Most of the large grocery retailers have RVMs. Redemption centres typically redeem containers manually but some have bulk automated redemption capabilities)

Barcode-based system?

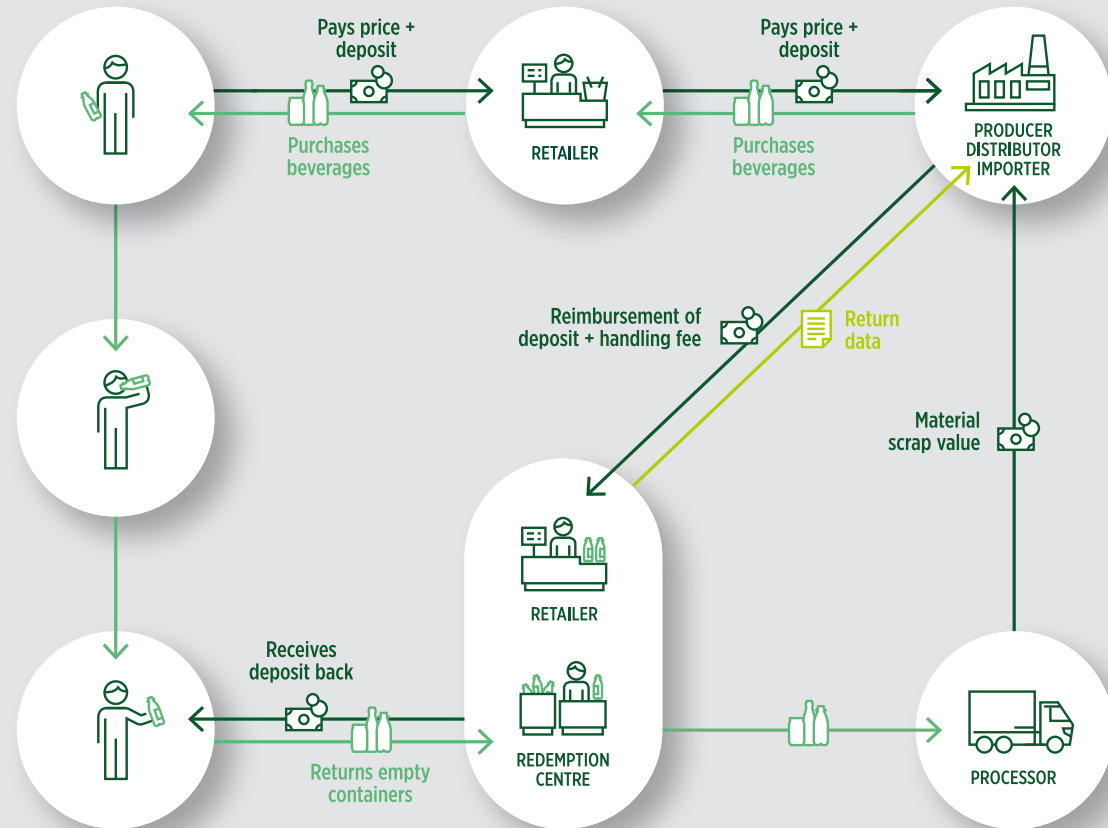
Yes

Return rate (2016)

| Plastic | Metal | Glass | Total |
|---------|-------|-------|-------|
| 53% | 62% | 76% | 64%* |

*Note: The State of Iowa does not collect sales or returns data on deposit-bearing containers. Material-specific redemption rates were calculated by the Container Recycling Institute (CRI) and the DNR while analysing “Final 2017 Iowa Statewide Waste Characterization Study,” SCS Engineers for Iowa DNR, 12/28/17. This study reported a 71% overall recycling rate for deposit-bearing containers. The rates shown above reflect deductions made by the Container Recycling Institute for deposit-bearing containers recycled through kerbside and drop-off programmes, using kerbside and drop-off percentages from California (2012 and 2016) as proxies.

Money, material & data flow



¹On 23 May 2022, the Iowa Legislature approved and sent to the governor major changes to the state’s DRS. If signed by the governor, Senate File (SF) 2378 will raise the handling fee from USD\$0.01 to \$0.03 per container. It will also allow retailers that meet certain conditions to opt out of redeeming containers. Specifically, retailers can opt out if they have an agreement for a mobile redemption system or are in a county with >30,000 people and within 10 miles of a redemption centre, or a county with <30,000 and within 15 miles of a redemption centre. These changes will come into effect 1 January 2023.



Maine

Population: 1.4m

Population density: 17.1/km²

System operator's website:

Legislative framework

Name of legislation

Maine Returnable Beverage Container Law

Legislation enacted

November 1976

Appointment of system operator

Not applicable

System started

January 1978

Key updates

- › 1980 – handling fee increase
- › 1990 – expansion to wine, liquor, water, and non-alcohol carbonated or non-carbonated drinks; handling fee increase
- › 2003 – handling fee increase
- › 2009 – handling fee increase
- › 2017 – expansion to ‘nips’ (wine and spirits ≤50mL)
- › 2019 – handling fee increase

Regulatory authority

Maine Department of Environmental Protection (DEP)

Legislated targets

None

Scope

Material type

Plastic, metal, glass

Beverage type

Sealed beer, ale or other drink produced by fermenting malt, spirits (including 50ml (0.01 gal) liquor known as ‘nips’), 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

Size

≤4L (1.06 gal)

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

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› Variable rate:

- › Wine and spirits >50ml (0.01 gal): USD\$0.15 (€0.14)
- › Other drinks (incl. wine and spirits ≤50mL): USD\$0.05 (€0.05)

Handling fee (2022)

USD\$0.045 (€0.041) (\$0.035 (€0.032) for containers subject to a qualified commingling agreement; \$0.03 (€0.03) for containers for a brewer that produces ≤50,000 gallons of product or a water bottler who sells ≤250,000 containers of ≤1 gallon annually)

Sources

- 1) <https://legislature.maine.gov/doc/2316>
- 2) Container Recycling Institute, 6 July 2022. "New Data Shows That 2021 Beverage Container Redemption Rates In Most U.S. Bottle Bill States Did Not Return to Pre-COVID Levels." <https://www.container-recycling.org/images/2022/Press%20release%20on%20redemption%20rates%20for%202021%20with%20chart%20final.pdf>



System structure & administration

Clearing system

Decentralised

System operator

Producer/Distributor/Importer

System finance

Material revenues, unredeemed deposits (for distributors who are part of a commingling group, which makes up the majority of containers in the system)

Unredeemed deposits

Escheated to the State of Maine (unless the unredeemed deposits are from the sale of containers that are part of a commingling agreement)

Material owner

Producer/Distributor/Importer

Container return & refund points

Collection model

Hybrid: There are ~330 redemption centres as of early 2022, and an estimated 2,100+ beverage retail return locations. Retailers can opt-out of take-back obligations if they have an agreement with the closest redemption centre (as measured by road miles).

Pop. per collection point

~565

Method of return

Mostly manual

Barcode-based system?

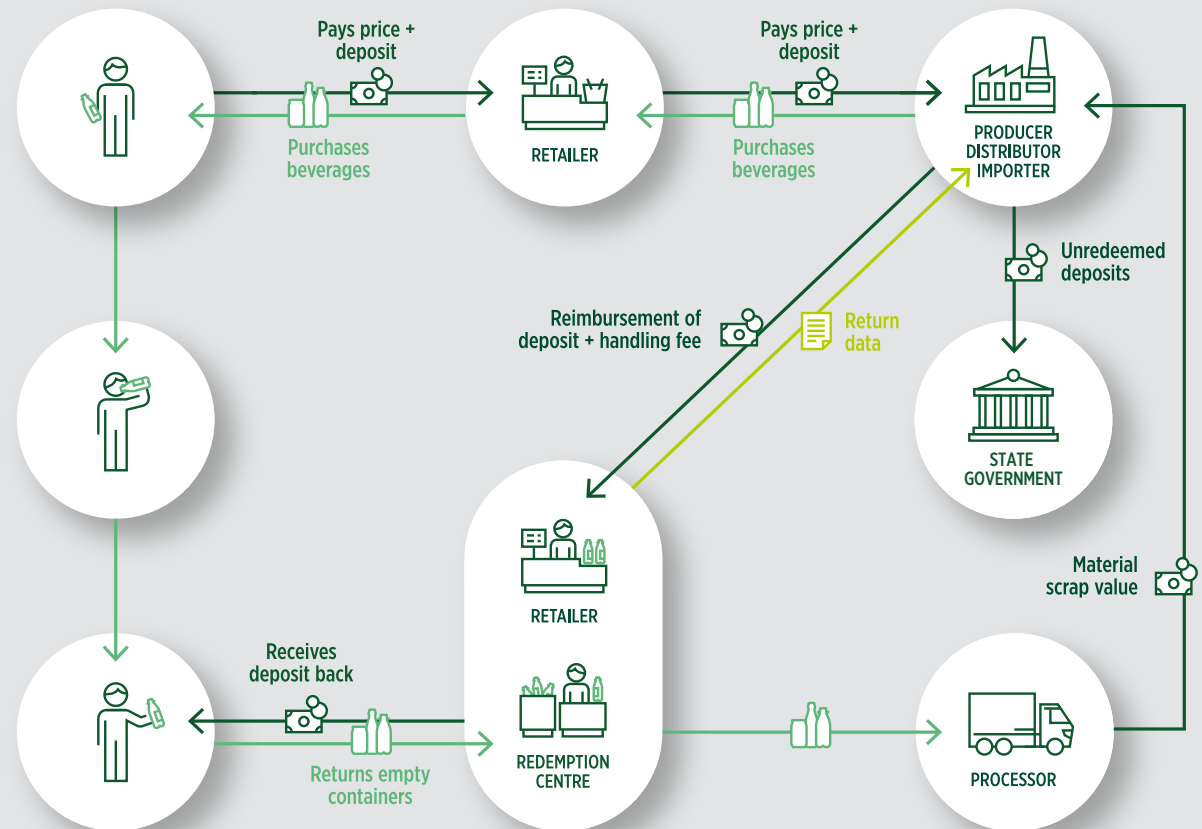
Yes

Return rate (2020)

Total
76% (plastics only)

*Note: Prior to 2018/19, the return rate was not measured and reported on annually in Maine. In 2019, the law was amended to make it mandatory for deposit initiators and pick-up agents to report the number of beverage containers sold and collected from redemption centres for recycling. Under these new requirements, official return rates for 2020 were first reported by the Maine Department of Environmental Protection in July 2021. As of the time of writing, the only data available is for plastics.

Money, material & data flow

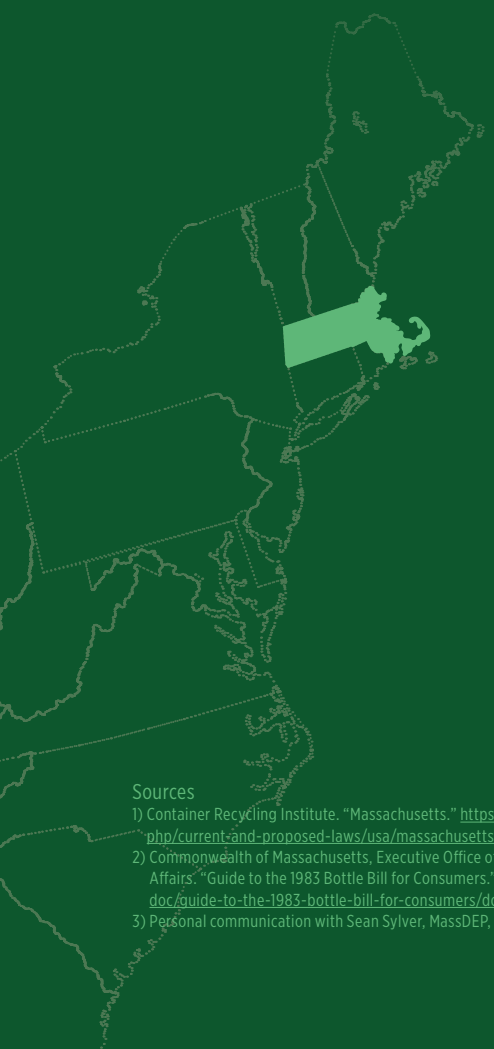


Massachusetts

Population: 7.0m

Population density: 348.0/km²

System operator's website:



Sources

- 1) Container Recycling Institute. "Massachusetts." <https://www.bottlebill.org/index.php/current-and-proposed-laws/usa/massachusetts>
- 2) Commonwealth of Massachusetts, Executive Office of Energy & Environmental Affairs. "Guide to the 1983 Bottle Bill for Consumers." <https://www.mass.gov/doc/guide-to-the-1983-bottle-bill-for-consumers/download>
- 3) Personal communication with Sean Sylver, MassDEP, 13 May 2022.

Legislative framework

Name of legislation

Massachusetts General Law, Chapter 94, Sections 321-327
"Beverage Container Recovery Law"

Legislation enacted

1981 (survived a repeal vote in 1982)

Appointment of system operator

Not applicable

System started

January 1983

Key updates

- › 1995 – escheat provision added
- › 2010 – handling fee increase

Regulatory authority

Massachusetts Department of Environmental Protection
(MassDEP)

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium, bimetal), glass

Beverage type

Sealed beer, malt, carbonated soft drinks, mineral water

Size

<7.6L (2 gal)

Excluded

Non-carbonated drinks other than mineral water (e.g. non-carbonated, non-alcohol water), wine, dairy products, liquor, natural fruit juices, non-carbonated alcohol drinks other than beer and malt

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value¹

› **Fixed rate:** USD\$0.05 (€0.05)

Handling fee (2022)

USD\$0.0225 (€0.021) for retailers (receive free pick-up of containers by deposit initiators)

USD\$0.0325 (€0.03) for redemption centres (must deliver redeemed containers to central processing facility)



System structure & administration

Clearing system

Decentralised

System operator

Producer/Distributor/Importer

System finance

Material revenues, processing fees (in cases where redemption centres deduct processing fees from refunded deposits¹)

Unredeemed deposits

Escheated to the State (General Fund)

Material owner

Producer/Distributor/Importer

Container return & refund points

Collection model

Hybrid: There are 40 redemption centres and an estimated 7,200+ beverage retailers where consumers can return empty containers. Retailers are obliged to take back deposit containers of the same brands, types, and sizes they sell. There are no exemptions or opt-out provisions.

Pop. per collection point

~965

Method of return

55% automated / 45% manual

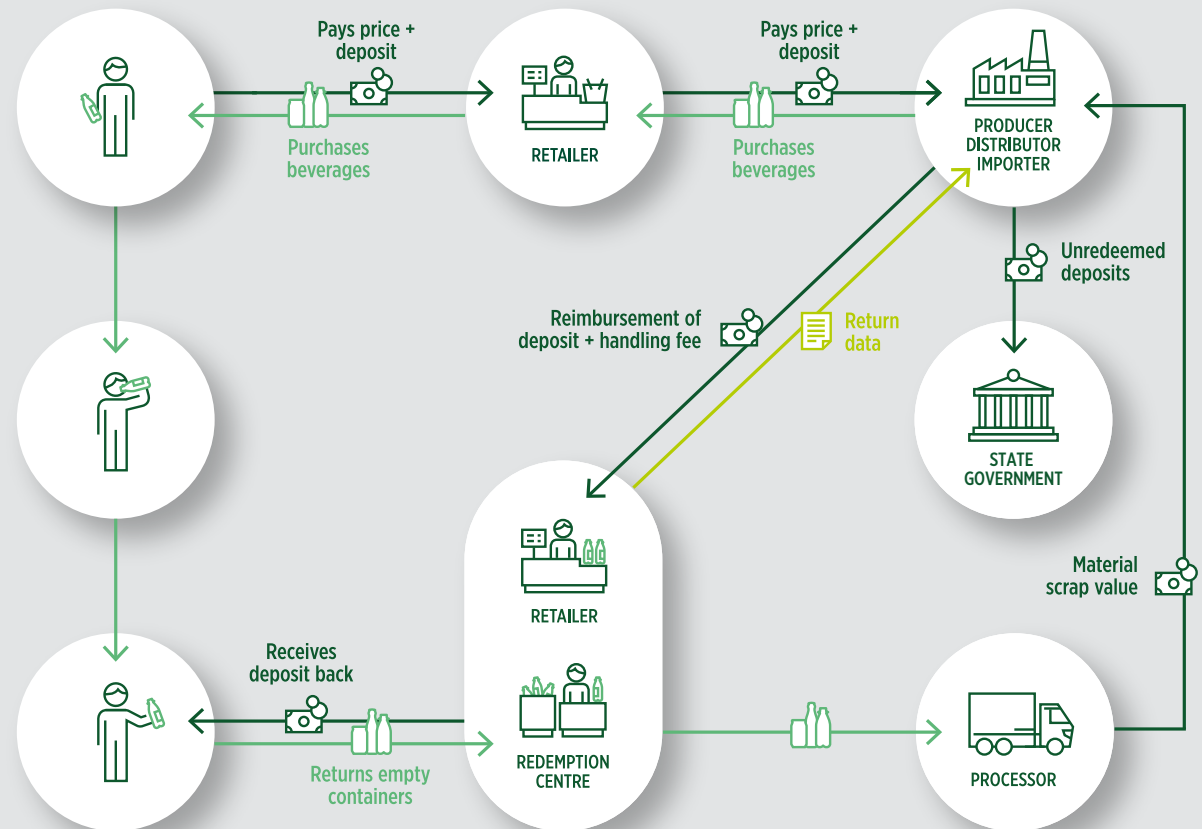
Barcode-based system?

Yes

Return rate (2021)

| Total |
|-------|
| 38% |

Money, material & data flow



¹By law, retailers are required to redeem containers at full deposit value, while redemption centres may deduct processing fees from refunds.



Michigan

Population: **10.1m**

Population density: **68.7/km²**

System operator's website:

Sources

- 1) "Michigan Bottle Deposit Law Frequently Asked Questions," 29 June 2020. https://www.michigan.gov/documents/eagle/MMD-SUSTAIN-Michigan_Bottle_Deposit_Law_FAQ_updated_June_2020_729172_7.pdf
- 2) Container Recycling Institute, "Michigan," <https://www.bottlebill.org/index.php/current-and-proposed-laws/usa/michigan>
- 3) State of Michigan Department of Treasury, "Noticed Regarding Treatment of Kombucha Products Under Michigan's Bottle Deposit Law," https://www.michigan.gov/documents/taxes/Notice_-_Kombuch_Products_Under_Bottle_Deposit_Law_673754_7.pdf
- 4) Personal communication with Howard Heideman, Michigan Department of Treasury, 13 May 2022.

Legislative framework

Name of legislation

Beverage Container Act, MCL 445.571

Legislation enacted

November 1976

Appointment of system operator

Not applicable

System started

December 1978

Key updates

- › 1989 – expansion to wine coolers canned cocktails; retailers entitled to 25% of unredeemed deposits
- › 2019 – expansion to Kombucha

Regulatory authority

Michigan Department of Treasury

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium/tinplate), glass, liquid paperboard, or combination of these materials

Beverage type

Sealed beer/ale, soft drinks, carbonated and mineral water, wine coolers, canned cocktails, malt drink of whatever alcohol content

Size

<3.78L (1 gal)

Excluded

Non-carbonated drinks other than mineral water (e.g. juice, coffee, tea, non-carbonated water), milk, sport drinks, wine, liquor, foil pouches

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value¹

› **Fixed rate:** USD\$0.10 (€0.09)

Handling fee (2022)

None, but large retailers receive 25% of unredeemed deposits (in proportion to the number of containers they redeem) to cover handling costs

System structure & administration

Clearing system

Decentralised (majority of clearing handled by Michigan Soft Drink Association and Michigan Beer & Wine Wholesalers Association)

System operator

Producer/Distributor/Importer

System finance

Material revenues

Unredeemed deposits

75% escheated to State (deposited into the Cleanup and Redevelopment Trust Fund) / 25% returned to retailers

Material owner

Producer/Distributor/Importer

Container return & refund points

Collection model

Return-to-Retail: All beverage retailers are required to take back empty containers of the same kind, size, and brand that they sell (there are no opt-out provisions). Deposit-bearing containers can be returned to an estimated 11,000+ beverage retailers across the state.

Pop. per collection point

~914

Method of return

Mostly automated

Barcode-based system?

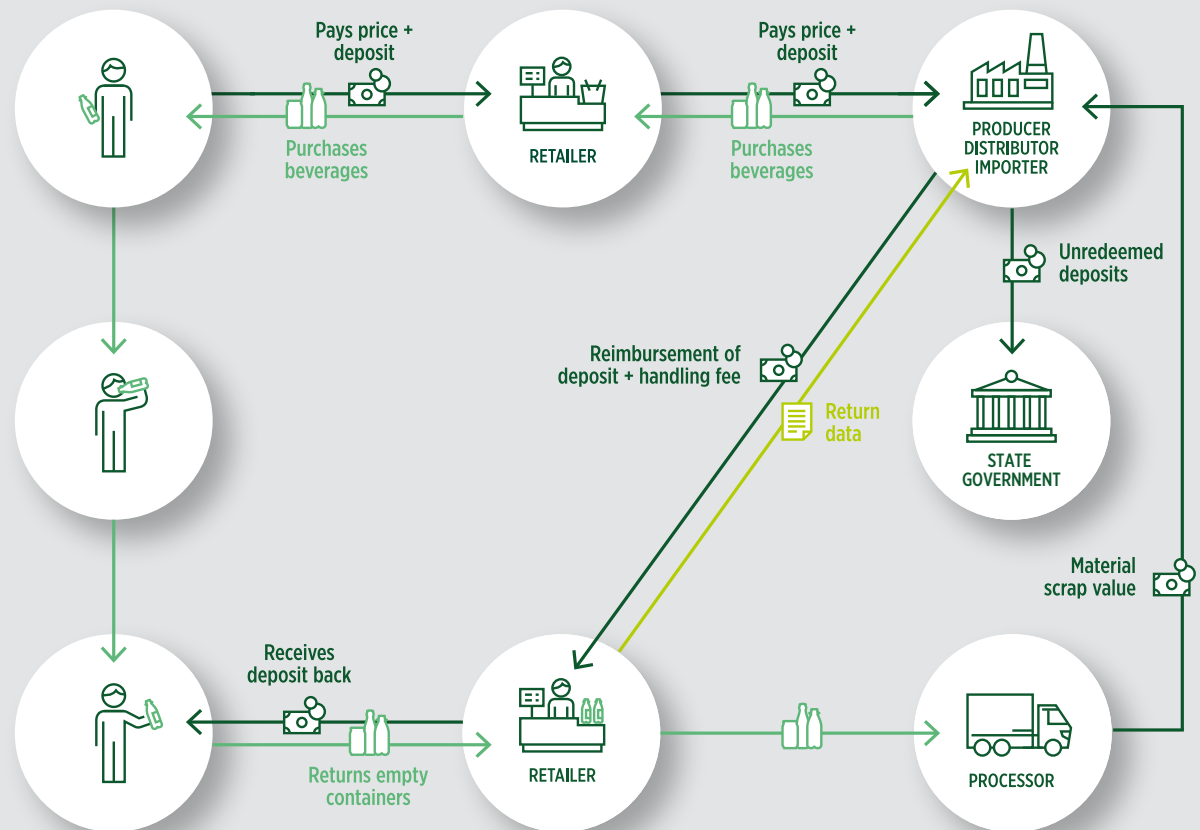
Yes

Return rate (2021)

| Total |
|--------|
| 75.4%* |

*Note: Redemption rates were unnaturally low during 2020 and 2021. Prior to COVID-19 in 2019, Michigan's redemption rate was at 89%, the highest of all US deposit return programmes. However, during the onset of the pandemic, the Governor mandated all redemption locations to cease redemption for multiple months, eventually authorising a transitional period of redemption though only at locations with RVMS. Whereas Michigan made it illegal to redeem containers during this time, all other US states simply allowed retailers to stop redeeming containers.

Money, material & data flow

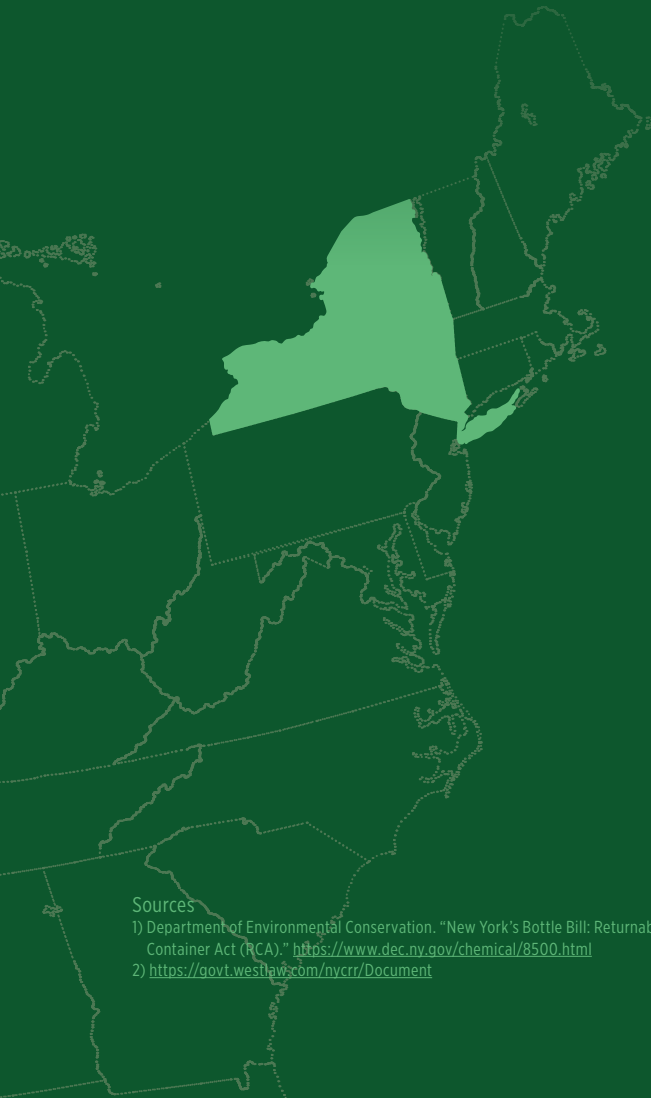


New York

Population: 19.8m

Population density: 165.5/km²

System operator's website:



Sources

- 1) Department of Environmental Conservation. "New York's Bottle Bill: Returnable Container Act (RCA)." <https://www.dec.ny.gov/chemical/8500.html>
- 2) <https://govt.westlaw.com/nycrr/Document>

Legislative framework

Name of legislation

New York State Returnable Container Act

Legislation enacted

June 1982

Appointment of system operator

Not applicable

System started

July 1983

Key updates

- › 1983 – handling fee increase
- › 1998 – handling fee increase
- › 2009 – expansion to bottled water, handling fee increase, change in ownership of unredeemed deposits

Regulatory authority

New York State Department of Environmental Conservation

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium, steel), glass

Beverage type

Sealed carbonated soft drinks, soda water, carbonated energy drinks, beer and other malt drinks, mineral water (carbonated and non-carbonated), wine products, water that does not contain sugar (including flavoured or nutritionally enhanced water)

Size

<3.78L (1 gal)

Excluded

Milk products, wine, liquor, tea, sports drinks, juice, drink boxes, water containing sugar

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› **Fixed rate:** USD\$0.05 (€0.05)

Handling fee (2022)¹

USD\$0.035 (€0.032)



System structure & administration

Clearing system

Decentralised

System operator

Producer/Distributor/Importer

System finance

Material revenues

Unredeemed deposits

80% escheated to the New York State Department of Taxation and Finance; 20% retained by deposit initiators

Material owner

Producer/Distributor/Importer

Container return & refund points

Collection model

Hybrid: Empty containers can be returned to approximately 700 redemption centres and 20,000 beverage retailers. By law, all retailers are required to take back empty deposit-bearing containers of the same brands that they sell. There are no retailer opt-out provisions.

Pop. per collection point

~958

Method of return

~57% automated / 43% manual

Barcode-based system?

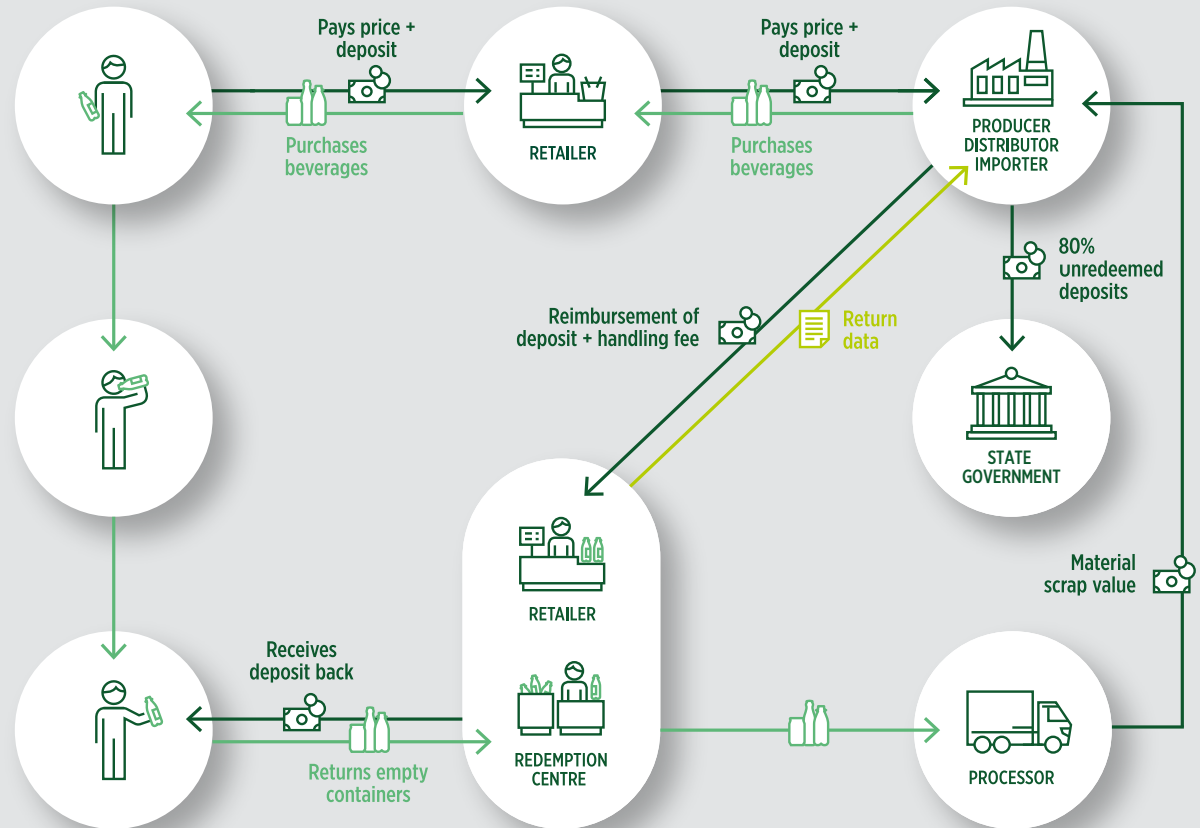
Yes

Return rate (2021)

| |
|--------------|
| Total |
| 70% |

*Note: Redemption rates were unnaturally low during 2020 and 2021. Prior to COVID-19 in 2019, Michigan's redemption rate was at 89%, the highest of all US deposit return programmes. However, during the onset of the pandemic, the Governor mandated all redemption locations to cease redemption for multiple months, eventually authorising a transitional period of redemption though only at locations with RVMs. Whereas Michigan made it illegal to redeem containers during this time, all other US states simply allowed retailers to stop redeeming containers.

Money, material & data flow



¹ By law, beverage distributors are required to pay each retailer or redemption centre a handling fee of not less than 20% of the refund value of each empty beverage container returned to each retailer or redemption centre.



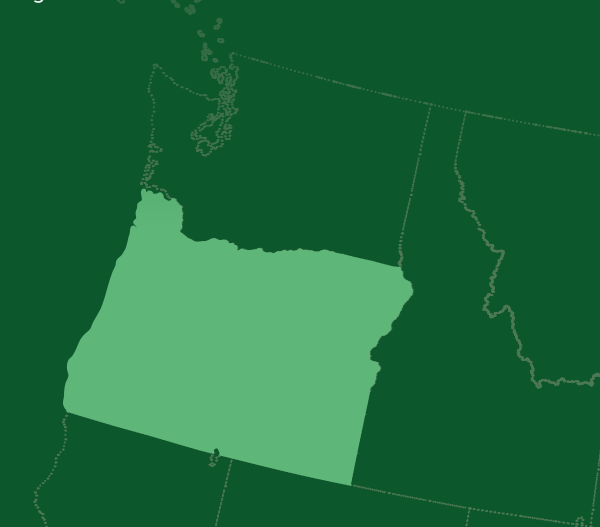
Oregon

Population: 4.2m

Population density: 17.0/km²

System operator's website:

Regulator's website:



Sources

- 1) "Oregon's Bottle Bill - Included Beverages." July 2020. https://www.oregon.gov/olcc/Docs/bottle_bill/Included_Beverages.pdf
- 2) Voelkel, B. 25 February 2021. "Beverage Container Redemption Centres 2018-2019." https://www.oregon.gov/olcc/Docs/bottle_bill/2021-Redemption-Centres-Legislative-Report.pdf
- 3) "Oregon's Bottle Bill - Frequently Asked Questions." July 2021. https://www.oregon.gov/olcc/Docs/bottle_bill/bottle_bill_faqs.pdf
- 4) <https://sos.oregon.gov/audits/Documents/2020-36.pdf>
- 5) Oregon Beverage Recycling Cooperative. "2021 Annual Report." <https://www.obrc.com/Content/Reports/OBRC%20Annual%20Report%202021.PDF>
- 6) Oregon Beverage Recycling Cooperative. "Q4 2021 Quarterly Report." <https://www.obrc.com/Content/Reports/OBRC%20Quarterly%20Report%20Q4%202021.pdf>
- 7) Personal communication with Jules Bailey, Oregon Beverage Recycling Cooperative, 25 April 2022.
- 8) Loew, T. 9 March 2022. "Environment bills address Oregon's bottle bill, earthquake safety, more." <https://www.statesmanjournal.com/story/news/2022/03/10/which-environmental-bills-passed-the-oregon-legislature/65063333007/>

Legislative framework

| | |
|----------------------------|----------------------------|
| Name of legislation | Legislation enacted |
| The Beverage Container Act | July 1971 |

| | |
|--|-----------------------|
| Appointment of system operator | System started |
| The state's first distributor organisation formed in 1987. The Oregon Beverage Recycling Cooperative was formed in 2009. | October 1972 |

Key updates

- › 2007 – expansion to non-carbonated water (incl. flavoured water)
- › 2011 – added provision to allow increase of deposit to USD\$0.10 if redemption rate was <80% for two years
- › 2017 – deposit increase
- › 2018 - expansion to juice, sports drinks, teas, kombucha, hard seltzer, etc.
- › 2022 – non-participating distributor fee
- › 2025 – expansion to wine in cans

| | |
|--|---------------------------------------|
| Regulatory authority | Legislated targets¹ |
| Oregon Liquor and Cannabis Commission (OLCC) | Redemption rate: 80% |

Scope

Material type
Plastic, metal (aluminium, steel), glass

Beverage type²
Containers 118ml to 1.5L (0.03 gal to 0.4 gal): coffee/tea (even if they contain milk), energy and sports drinks, fruit and vegetable juice (even if not 100%), juice smoothies, coconut water, non-alcohol wine, hard cider if alcohol content ≤8.5%, marijuana drinks, protein shakes (unless marketed as a meal replacement), Kombucha, cocktail mixers.

Containers ≤3L (0.79 gal): soda (carbonated/sparkling drinks), beer, water

Size
118ml to 3L
(0.03 gal to 0.79 gal)
(dependent on content)

Excluded²
Distilled liquor, wine, dairy or plant-based drinks where milk (or milk substitute) is the first ingredient, infant formula, meal-replacement drinks, concentrates

Deposits & fees

| | |
|-------------------------------|--|
| Deposit initiator | Deposit value |
| Producer/Distributor/Importer | › Fixed rate: USD\$0.10 (€0.09) |

Retailer/distributor fee

Distributors and retailers each pay 50% of redemption centre costs (retailers within 3.5 miles of a redemption centre can limit or refuse redemption if they participate in the funding of that redemption centre)

System structure & administration

Clearing system³
Decentralised

System operator³
Oregon Beverage Recycling Cooperative (a cooperative corporation owned by Oregon beverage distributors)

System finance
Unredeemed deposits, fees paid by OBRC members and participating retailers

Unredeemed deposits
Producer/Importer/Distributor or OBRC (if Producers/Importers/Distributors are members)

Material owner
Oregon Beverage Recycling Cooperative (OBRC) (all scrap material revenue is distributed back to members proportional to the volume and type of material they sell)



Container return & refund points

Collection model

Hybrid: There are over 2,700 return locations, including 25 full-service redemption centres, 83 bag drop locations, and 1,984 retail return sites (703 RVMs). Retailers $\geq 5,000\text{ft}^2$ are obliged to take back containers of all brands and sizes for each kind of beverage they sell (even if they don't sell those specific brands or sizes). Retailers $< 5,000\text{ft}^2$ may refuse to take back containers if they don't sell that brand or size. However, if a store sells a brand or size, they must accept the empty container even if the beverage was purchased at another store. Redemption centres are required to accept all deposit-bearing containers.

The law allows for up to two "convenience zones" surrounding a redemption centre:

- › Zone 1 – the sector within a radius of not more than 2 miles around the full-service redemption centre;
- › Zone 2 – begins at the border of Zone 1 and extends out to a radius of not more than 3.5 miles around the redemption centre.

The number of containers that stores must accept each day depends on the store's size and whether or not they are in a convenience zone:

- › If stores $\geq 5,000\text{ft}^2$ are in Zone 1 of a RC and participate in that RC, they may refuse to accept all container returns.
- › If stores $\geq 5,000\text{ft}^2$ are in Zone 2 of a RC and participate in that RC, they may refuse to accept more than 24 empty container returns per person per day.
- › Stores $< 5,000\text{ft}^2$ in either zone may refuse to accept > 24 containers/person/day.
- › Stores $\geq 5,000\text{ft}^2$ that are outside the zones cannot participate in a RC and must redeem 144 empty containers per person per day.
- › Stores $< 5,000\text{ft}^2$ can't participate in a RC but can limit returns to 24 containers/person/day if they are in a RC zone and may limit returns to 50 containers/person/day if they are not in a RC zone.

Pop. per collection point

~1,573

Method of return⁴

10% manual / 90% automated (~40% of automated collection is done through Green Bags and 50% through RVMs)

Barcode-based system?

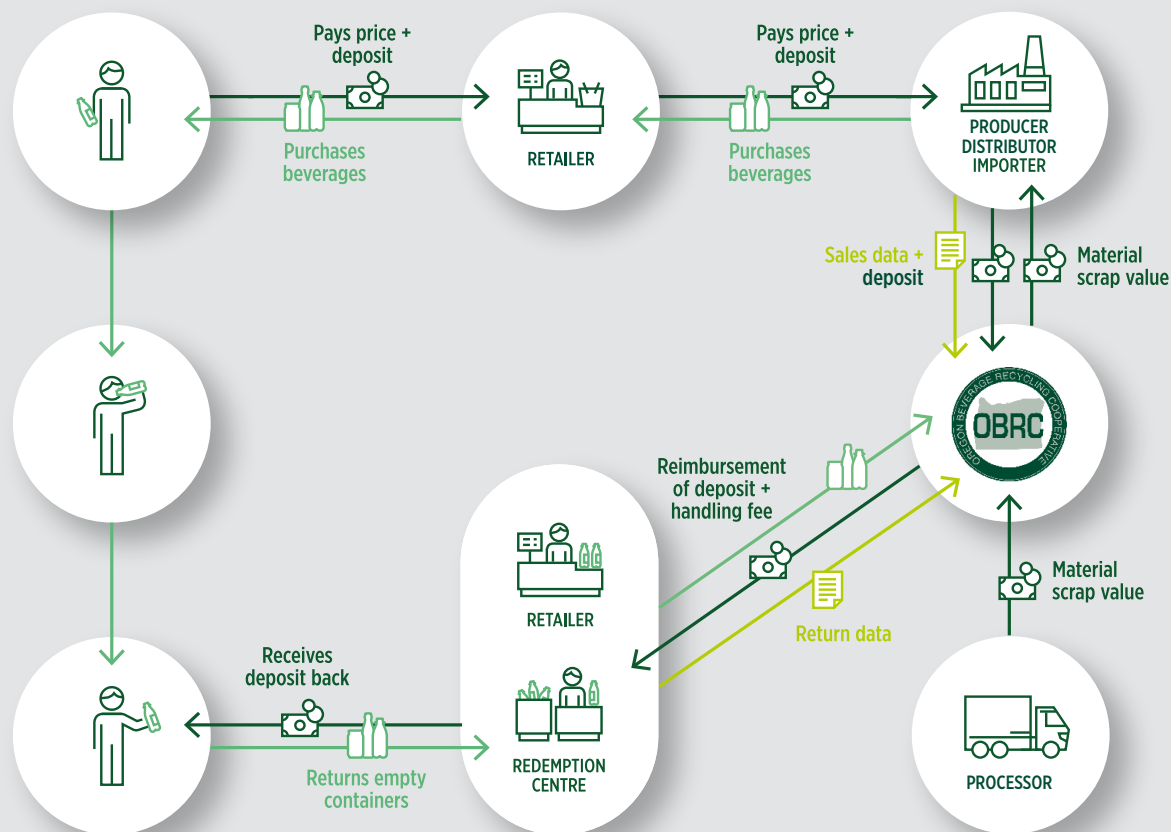
Yes

Return rate (2021)

| Plastic (PET) | Metal | Glass | Total |
|---------------|-------|-----------------------------------|-------|
| 78.4% | 83.3% | 73.6% (includes refillable glass) | 80.6% |



Money, material & data flow



¹ The law makes provisions for the deposit to be raised to USD\$0.10 if the redemption rate falls below 80% for two consecutive years (as determined any time after January 1, 2016). At the time of the law's passage, the redemption rate was 84%. The rate fell below 80% for two consecutive years, which triggered the increase to USD\$0.10 on 1 April 2017. Any year in which the redemption rate drops below the legislature's target of 80%, OBRC remits the value of unredeemed deposits beyond that point to the BottleDrop Fund to support non-profits across Oregon.

² Beginning July 1, 2025, wine in cans will carry a USD\$0.10 deposit and refund like other drinks.

³ The system operator is OBRC, with the exception of a few distributors (about 4%) that have decided not to join OBRC. These distributors manage their compliance individually.

⁴ Oregon's DRS allows people to drop off special green bags filled with deposit-bearing containers and drop them off at any BottleDrop bag drop location in Oregon, instead of redeeming them one container at a time. Customers place unique QR code bag tag stickers onto their bags, which associate the contents of those bags with the customer's BottleDrop account. Bags are sorted and counted using an industrial sorting system (which are different from consumer-facing RVMs) and refund amounts are credited to customer accounts within seven days.

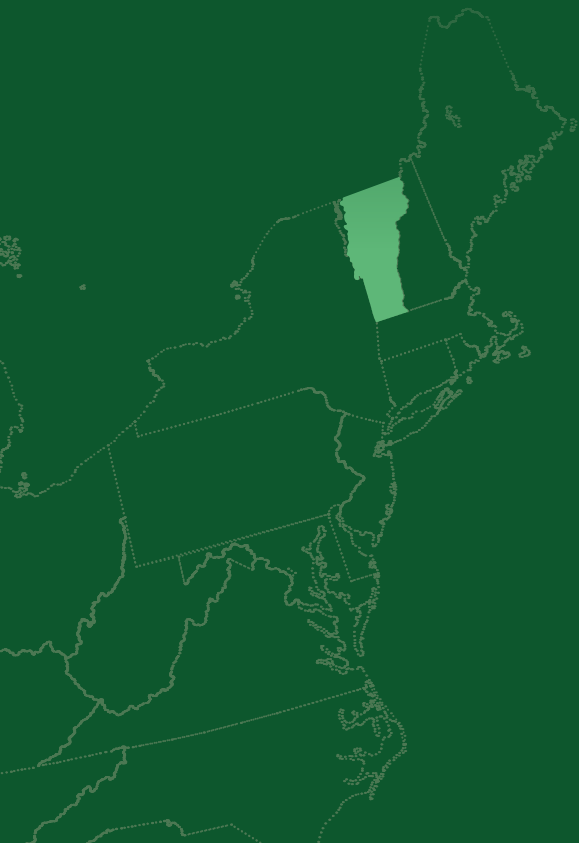


Vermont

Population: 0.6m

Population density: 27.0/km²

Regulator's website:



Sources

- 1) Container Recycling Institute. "Vermont." <https://www.bottlebill.org/index.php/current-and-proposed-laws/usa/vermont>
- 2) Personal communication with Rebecca Webber, Environmental Analyst, Vermont Agency of Natural Resources, 25 April 2022

Legislative framework

Name of legislation

Beverage Container and Redemption Law

Legislation enacted

April 1972

Appointment of system operator

Not applicable

System started

July 1973

Key updates

- › 1991 – expanded to liquor >50ml
- › 2008 – change in handling fees

Regulatory authority

Agency of Natural Resources

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium, steel), glass

Beverage type

Liquor and spirits >50ml, spirits, beer, wine coolers and other malt drinks, soft drinks and other carbonated drinks

Size

All (except for liquor, which must be >50ml (0.01 gal))

Excluded

Wine, hard cider, water, milk, juices, sports drinks, other non-carbonated drinks

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› Variable rate:

- › Liquor >50ml (0.01 gal): USD\$0.15 (€0.14)
- › Other drinks: USD\$0.05 (€0.05)

Handling fee (2022)

- › Brand-sorted containers: USD\$0.04 (€0.04)
- › Commingled containers: USD\$0.035 (€0.032)



System structure & administration

Clearing system

Decentralised

System operator

Producer/Importer/Distributor

System finance

Material revenues

Unredeemed deposits

In the case of liquor containers, unredeemed deposits are retained by the Department of Liquor Control. For all other containers, unredeemed deposits are escheated to the State (for use on clean water programmes).

Material owner

Producer/Distributor/Importer

Container return & refund points

Collection model

Hybrid: Retailers are obliged to take back empty containers of the brands they sell, but can apply for an exemption if they are located near a licenced redemption centre that serves the public's need to redeem. Certified redemption centres must accept all covered beverage containers. There are an estimated 1,000+ beverage retailers and 21 redemption centres.

Pop. per collection point

~632

Method of return

Mostly manual

Barcode-based system?

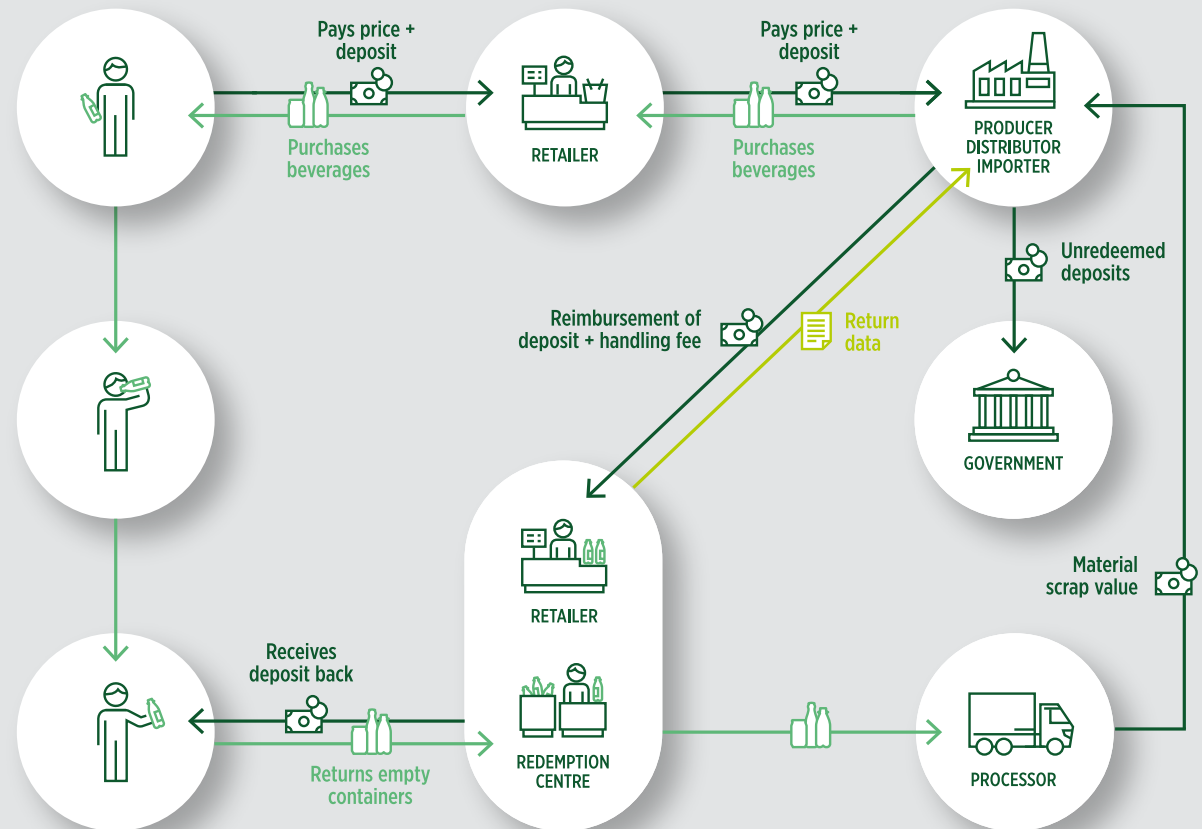
Yes

Return rate (2021)

| Non-liquor containers | Liquor containers | Total |
|-----------------------|-------------------|-------|
| 78.3% | 80.5% | 78.4% |

*Note: Prior to 2019, return rates for deposit-bearing non-liquor containers had not been measured or reported on annually.

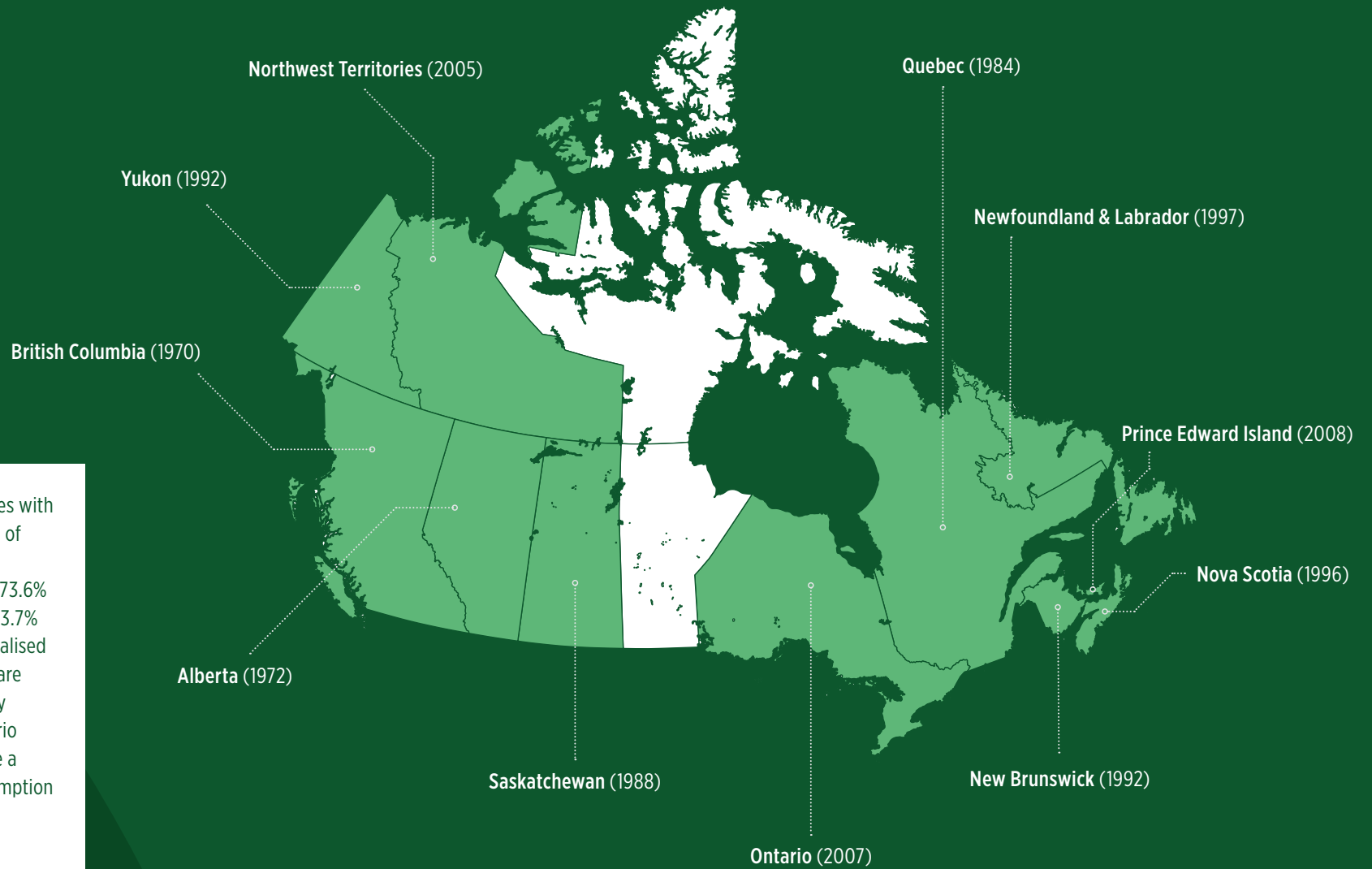
Money, material & data flow



Canada

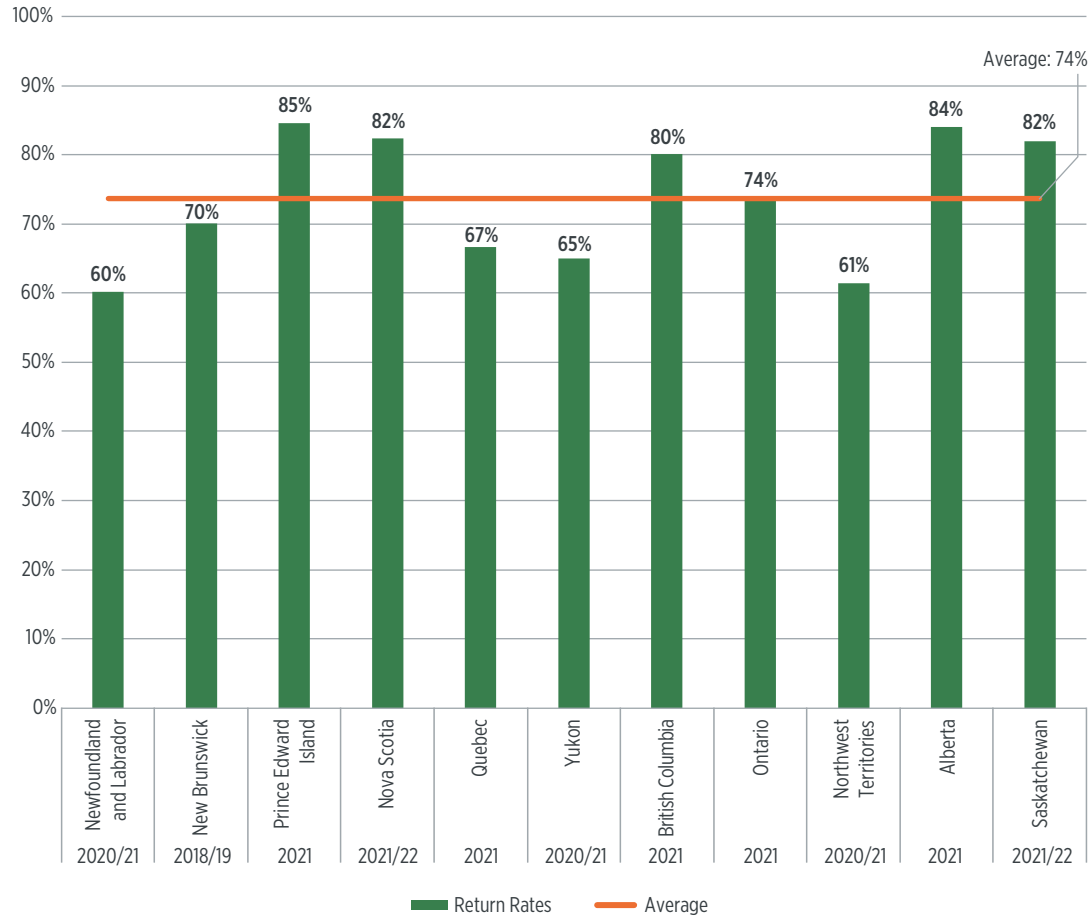
Country snapshot

- › 11 provinces/territories with DRS, covering a total of 35.6 million people
- › Average return rate: 73.6%
- › Median return rate: 73.7%
- › All systems are centralised
- › Most systems (9/11) are return-to-depot; only two provinces (Ontario and Quebec) operate a return-to-retail redemption model
- › Deposit ranges from CAD\$0.05 to \$0.10 (USD\$0.04-0.08, €0.04 to €0.07)



Canada

Latest Return Rates in Canadian Provinces/Territories with Deposit Return Systems for Single-use Drinks Containers



| Province/Territory | 2021 Population (million) | Legislation Enacted | System Started |
|-------------------------|---------------------------|---------------------|----------------|
| Canada | | | |
| Alberta | 4.3 | 1972 | 1972 |
| British Columbia | 5.0 | 1970 | 1970 |
| Newfoundland & Labrador | 0.5 | 1996 | 1997 |
| New Brunswick | 0.8 | 1991 | 1992 |
| Northwest Territories | 0.04 | 2003 | 2005 |
| Nova Scotia | 1.0 | 1995 | 1996 |
| Ontario | 14.2 | 2006 | 2007 |
| Prince Edward Island | 0.2 | 1988 | 2008 |
| Quebec | 8.5 | 1972 | 1984 |
| Saskatchewan | 1.1 | 1978 | 1988 |
| Yukon | 0.04 | 1991 | 1992 |

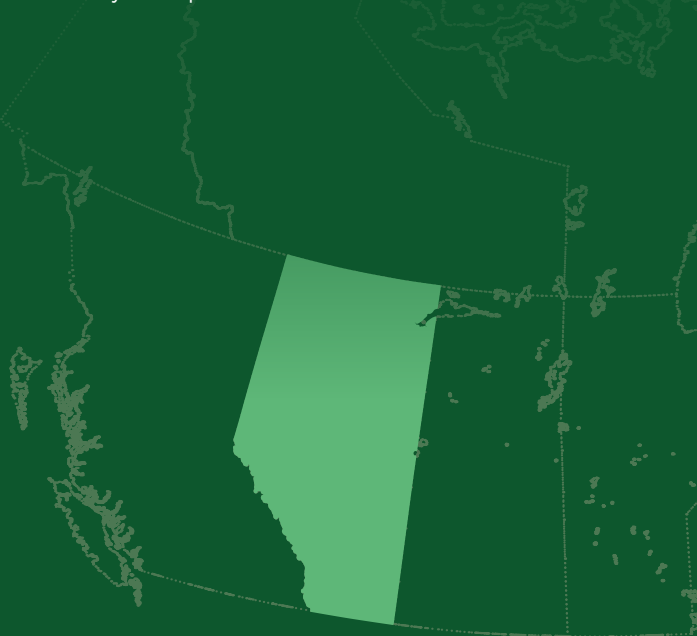


Alberta

Population: 4.3m

Population density: 6.7/km²

System operator's website:



Sources

- 1) Beverage Container Management Board. https://www.bcmb.ab.ca/uploads/source/Business_Plans/2015-2017_Business_Plan_Oct_29.14_FINAL.pdf
- 2) Beverage Container Management Board. 2022-2024 Business Plan. BCMB Board Approved November 24, 2021. https://www.bcmb.ab.ca/uploads/source/Business_Plans/2021.11.24_BCMB.Business.Plan.2022.2024.FINAL.pdf
- 3) Beverage Container Management Board. Handling Commission By-Law. Board Approved November 24, 2021. https://www.bcmb.ab.ca/uploads/source/By-laws_Current/Handling_Commission_By-law/2021.11.24.Handling.Commission.Bylaw.2022.Rates.BOARD.APPROVED.pdf
- 4) Alberta Beverage Container Recycling Corporation. "Container Recycling Fee." <https://www.abcrc.com/assets/CRF-Brochure-2022.pdf>
- 5) Alberta Beverage Container Recycling Corporation. "Small Changes. Big Impacts. Sustainability Report 2021." <https://www.abcrc.com/assets/Uploads/ABCRC-2021-Sustainability-Report.pdf>
- 6) Beverage Container Recycling Regulation. https://www.bcmb.ab.ca/uploads/source/Act_and_Regulation/2021.Beverage.Container.Recycling.Regulation.pdf
- 7) Beverage Container Management Board. <https://www.bcmb.ab.ca/uploads/source/Registrants/Requirements/2021.02.02.ABCRC.Registration.Package.pdf>

Legislative framework

Name of legislation

Beverage Container Recycling Regulation, under the Environmental Protection and Enhancement Act¹

Legislation enacted

1972

Appointment of system operator

Current operator appointed February 1995 (unknown when initial system operator was appointed)

System started

1972

Key updates

- › 1989 – expansion to carbonated and/or flavored waters, fruit and vegetable juices, and prepared teas
- › 1997 – expansion to aseptic and gable top cartons
- › 2001 – expansion to domestic beer containers
- › 2002 – container recycling fee added to in-scope drinks
- › 2008 – deposit increase
- › 2009 – expansion to milk containers (first jurisdiction in North America to do this)

Regulatory authority

Beverage Container Management Board (BCMB) (an arm's length, not-for-profit association that has delegated government authority under the Ministry of Environment and Parks)

Legislated targets

None, but the government encourages a recovery target of 85%

Scope

Material type

Plastic (PET, HDPE, other), metal (aluminium, bimetal), glass, gable top, aseptic, bag-in-box, pouches

Beverage type

All sealed alcohol and non-alcohol drinks

Size

≤ 50L (13.2 gal)

Excluded

None

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› Variable rate:

- › Containers ≤1L (0.26 gal): CAD\$0.10 (USD\$0.08)
- › Containers >1L (0.26 gal): CAD\$0.25 (USD\$0.20)

Handling fee (2022)

CAD\$0.03121 to \$31.49 (USD\$0.024 to \$24.66)
(vary by container and drinks type)

Container recycling fee (2022)

CAD\$0.01 to \$0.11 (USD\$0.01 to \$0.09)



System structure & administration

Clearing system

Centralised

System operator

Alberta Beverage Container Recycling Corporation (ABCRC)
(a provincial product stewardship corporation operating within not-for-profit provisions)

System finance

Container recycling fees, unredeemed deposits, material revenues

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Depot: There are 221 registered depots that accept empty drinks containers.

Pop. per collection point

~19,290

Method of return

Manual

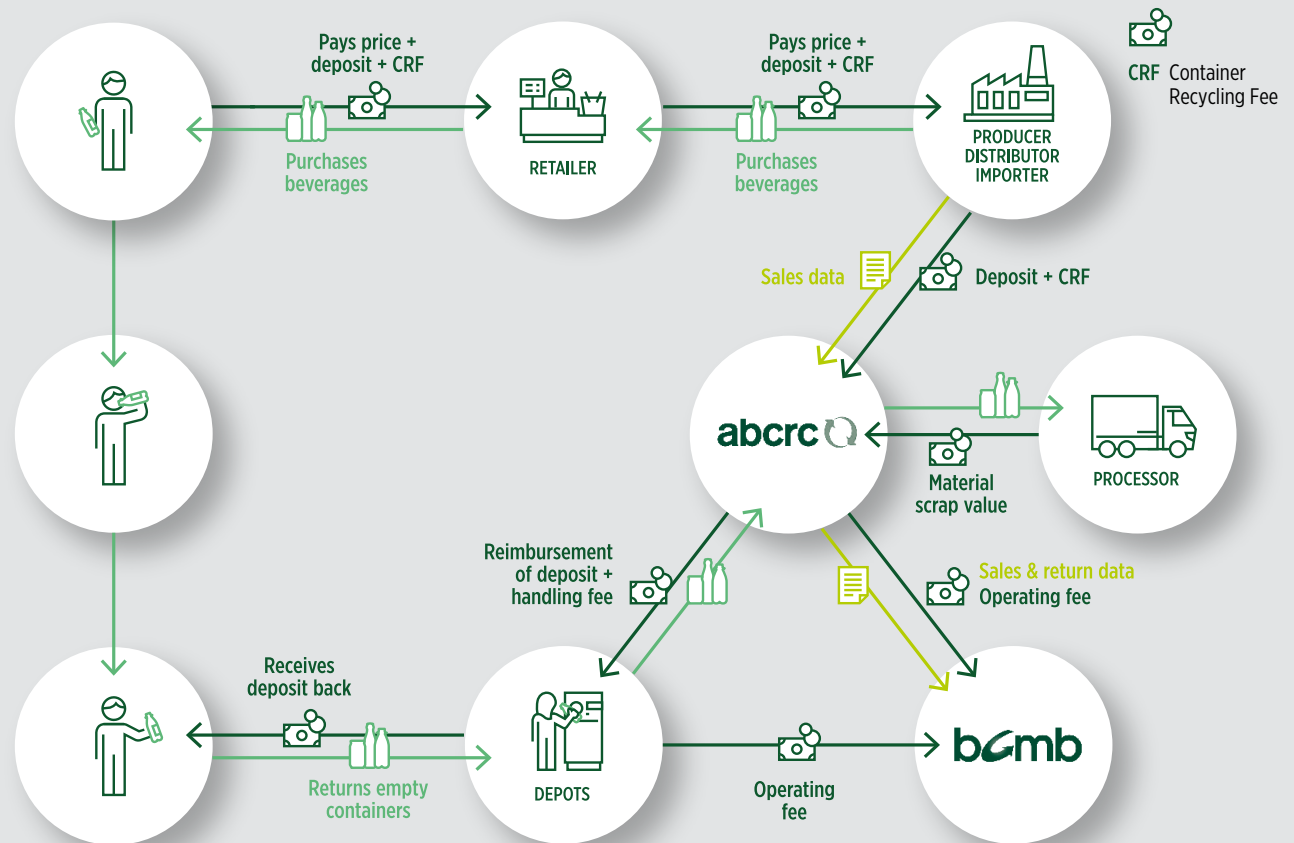
Barcode-based system?

No

Return rate (2021)

| Plastic | Aluminium | Bimetal | Glass | Tetra brik | Gable top | Pouches | Bag-in-box | Total |
|---------|-----------|---------|-------|------------|-----------|---------|------------|--------------|
| 81.3% | 88.1% | 80.9% | 88.1% | 70.5% | 74.2% | 78.3% | 49.2% | 84.0% |

Money, material & data flow



¹ Non-refillable beverage container stewardship began in 1972 under the Litter Act (Alberta). The Beverage Container Recycling Regulation was also created at that time. In 1993, the government consolidated a number of pieces of legislation into the Environmental Protection and Enhancement Act, which led to the evolution of the Beverage Container Recycling Regulation as it is currently in force today. The revised regulation required manufacturers using regulated single-use drinks containers to appoint a common collection system agent to operate the collection system; this, in turn, led to the formation of ABCRC, with its duty to recycle used drinks containers in Alberta.



British Columbia

Population: 5.0m

Population density: 5.4/km²

System operator's website:

Sources

- 1) Northwest Product Stewardship Council. July 2011. "British Columbia 2004 Recycling Regulation Amendment (BC Reg. 449/2004). <http://productstewardship.net/legislation/british-columbia/british-columbia-2004-recycling-regulation>
- 2) B.C. Reg. 449/2004. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/449_2004
- 3) Return-It. "Beverage Products: Deposits, Recycling Fees, & Container Types." <https://www.return-it.ca/beverage/products/>
- 4) Encorp Pacific Canada. August 30, 2021. "Beverage Container Stewardship Plan." https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/beverage-containers/sp/encorp_approval_letter_and_plan_2021_09_01.pdf
- 5) BC Brewers Recycled Container Collection Council. "2021 Annual Report to the Director." <https://envirobeerbc.ca/wp-content/uploads/2022/06/BRCCCs-2022-Annual-Report-to-Ministry-Covering-2021-Calendar-Year.pdf>
- 6) Brewers Recycled Container Collection Council. Container Stewardship Plan 2020-2024: Draft for Consultation Only. <https://envirobeerbc.com/wp-content/uploads/2019/07/BRCC-BC-2020-2024-Schedule-1-Stewardship-Plan-FINAL.pdf>
- 7) Encorp Pacific. 2022 Container Recycling Fees. <https://www.return-it.ca/beverage/industry/recyclingfee?Se=38&AA=Download&AT=909&AD=179,D1f>
- 8) Encorp Pacific (Canada). "2021 Annual Report." https://ar.return-it.ca/ar2021/pdf/Return-It_2021_Annual_Report.pdf

Legislative framework

| Name of legislation | Legislation enacted ¹ |
|--|----------------------------------|
| Recycling Regulation, under the Environmental Management Act | 1970 |

| Appointment of system operator | System started |
|--------------------------------|----------------|
| Unknown | 1970 |

Key updates

- › 1998 – expansion to all ready-to-drink containers except for milk and milk substitutes
- › 2019 – deposit increase on containers ≤ 1L
- › 2020 – deposit decrease on containers >1L
- › 2022 – expansion to milk and plant-based drinks

Regulatory authority

Ministry of Environment and Climate Change Strategy

Legislated targets

- › **Collection:** 75% for each sub-category of beverage containers listed in Schedule 1 of the Recycling Regulation

Scope

Material type

Plastic (including polystyrene cups), metal (aluminium, bimetal), glass, gable top, aseptic, pouches, bag-in-box

Beverage type

All sealed, ready-to-drink alcohol and non-alcohol drinks

Size

All

Excluded

Infant formula, meal replacements, dietary supplements, coffee cream and other coffee additives, whipping cream, buttermilk, drinkable yogurt and kefir

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value²

› **Fixed rate:** CAD\$0.10 (USD \$0.08)

Handling fee (2022)

Not available (confidential)

Container recycling fee (2022)³

› Milk

- › Aluminium: CAD\$0.01 + GST (USD\$0.01)
- › Plastic 0-1L: CAD\$0.05 + GST (USD\$0.04)
- › Plastic >1L: CAD\$0.09 + GST (USD\$0.07)
- › Glass: 0-1L: CAD\$0.10 + GST (USD\$0.08)
- › Glass: 0-1L: CAD\$0.16 + GST (USD\$0.13)
- › Bimetal 0-1L: CAD\$0.01 + GST (USD\$0.01)
- › Bimetal >1L: none
- › Drink box: CAD\$0.02 + GST (USD\$0.02)
- › Gable top 0-1L: CAD\$0.06 + GST (USD\$0.05)
- › Gable top >1L: CAD\$0.06 + GST (USD\$0.05)
- › Polystyrene cups: CAD\$0.05 + GST (USD\$0.04)

› Other Drinks

- › Aluminium: CAD\$0.01 + GST (USD\$0.01)
- › Plastic 0-1L: CAD\$0.02 + GST (USD\$0.02)
- › Plastic >1L: CAD\$0.04 + GST (USD\$0.03)
- › Glass: 0-1L: CAD\$0.10 + GST (USD\$0.08)
- › Glass: 0-1L: CAD\$0.16 + GST (USD\$0.13)
- › Bimetal 0-1L: CAD\$0.01 + GST (USD\$0.01)
- › Bimetal >1L: none
- › Drink box: none
- › Gable top 0-1L: none
- › Gable top >1L: CAD\$0.04 + GST (USD\$0.03)
- › Bag-in-box >1L: CAD\$0.12 + GST (USD\$0.10)



System structure & administration

Clearing system

Centralised

System operator

Encorp Pacific (represents brand owners of non-alcohol drinks, wine, spirits, some ciders, and coolers, as well as some import beer manufacturers) and Brewers Distributors Limited (BDL) (joint venture company owned by Labatt Breweries of Canada and Molson Coors Beverage Company, which represents brand owners of domestic coolers, beers, and ciders, and collects the containers of both these domestic distributors and of outside distributors who import)

System finance

Container recycling fees, unredeemed deposits, material revenues, other fees and income⁴

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Hybrid: Encorp's collection network (for non-alcohol, wine, spirits, cider, and imported beer) consists of 174 collection facilities, including 163 independently owned and operated depots, two Return-It "Express Plus" locations, and nine "Express & GO" unstaffed stations. In addition, there are approximately 455 return-to-retail locations serviced directly by Encorp across the province (collections from these locations comprise 5% of the volume of beverage containers collected through the system in 2019). Brewers Distributor Ltd.'s collection network (for domestic beer, coolers and cider) consists of 1,166 return locations, including 85 BRCCC (BC Brewers Recycled Container Collection Council) authorised depots, 662 licensee

retail stores, 198 government liquor stores, and 221 rural agency locations. BRCCC, through BDL, also provides on-site collection services through thousands of licenced establishments (i.e., restaurants and bars).

Pop. per collection point

› Non-alcohol, wine, spirits, cider, and imported beer containers: ~7,951

› Domestic beer, coolers, and cider containers: 4,289

Barcode-based system?

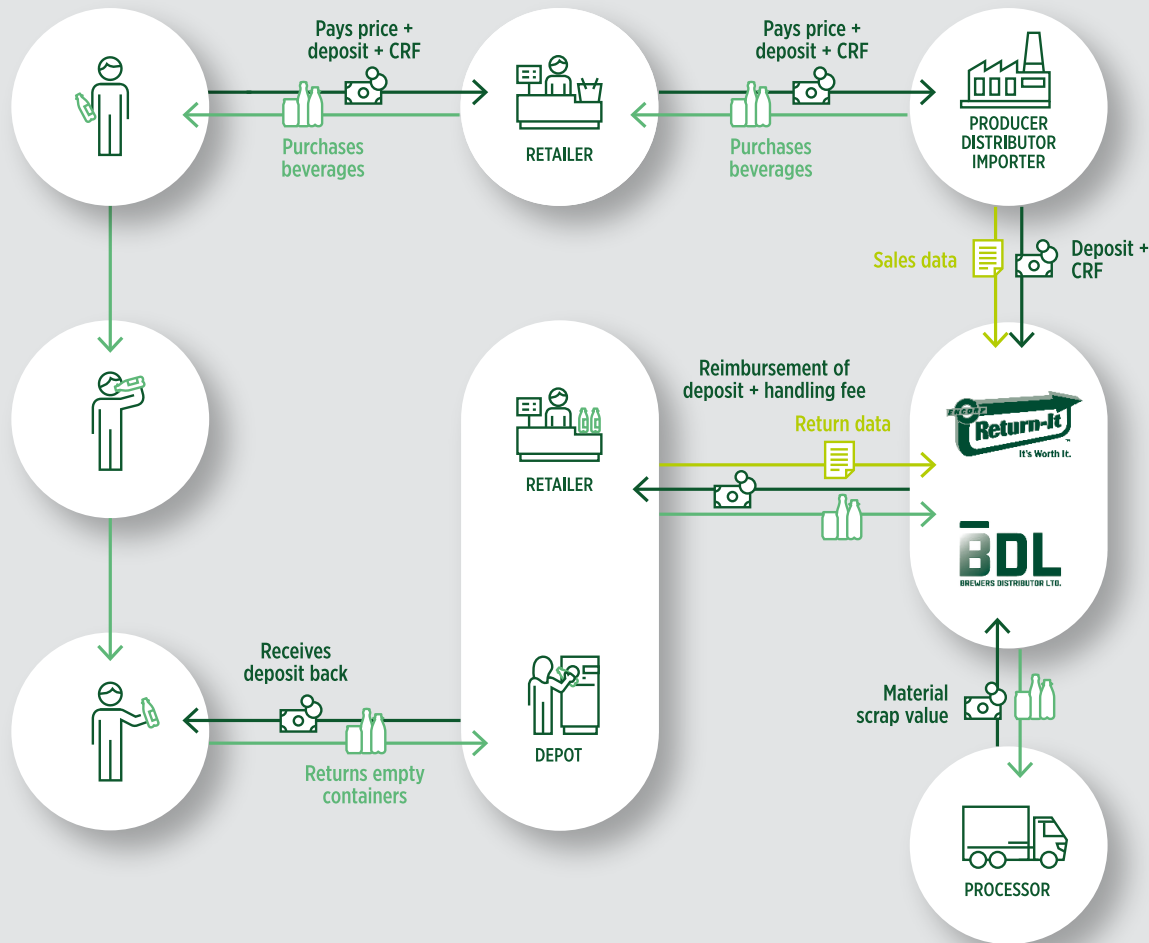
No, except for where collection is automated

Return rate (2021)

| Plastic | Metal | Glass | Drink box | Gable top | Bag-in-box | Pouches | Total |
|---------|-------|-------|-----------|-----------|------------|---------|-------|
| 72.7% | 84.9% | 86.9% | 54.0% | 59.6% | 47.8% | 23.5% | 80.3% |



Money, material & data flow



¹ The 2004 Recycling Regulation (B.C. Reg. 449/2004) replaced the 1997 Beverage Container Product Stewardship Program Regulation, which replaced the 1970 Litter Act, which required manufacturers and retailers to participate in a deposit system to encourage the return of many types of beverage containers.

² On 1 November 2019, Encorp increased the deposit from CAD\$0.05 to \$0.10 for all containers containing soft drinks, juice, water, energy and sport drinks \leq 1L in size. Then, on 1 October 2020, Encorp decreased the deposit on soft drinks, juice, water, energy and sports drinks containers greater than 1L in size from CAD\$0.20 to \$0.10. As a result of these changes, there is now one unified deposit level of CAD\$0.10, irrespective of container size, for all beverages included in the system.

³ Container recycling fees are calculated on an annual basis and based on the net cost of collecting and recycling specific containers.

⁴ 'Other fees and income' includes interest income as well as revenues from service provider contracts with other extended producer responsibility (EPR) programmes that Encorp administers.

⁵ Encorp has an agreement in place with Recycle BC, who manages residential packaging and paper, and its post-collection processor to ensure that drinks containers collected within the kerbside system are accounted for and included in the total units collected and used to calculate Encorp's recovery rate. Aluminium alcohol cans and refillable glass beer and cider bottles are managed by the Brewers Recycled Container Collection Council (BRCCC) and Brewers Distributor Limited (BDL). If there are any Encorp registered containers that have been collected by BRCCC outside of Encorp's collection network, Encorp has an arrangement to pick up all single-use beer, cooler and cider glass containers from the BRCCC warehouse for a full deposit refund. Those containers are collected, recycled, and included in the calculation of Encorp's recovery rate.



Newfoundland & Labrador

Population: 0.5m

Population density: 1.4/km²

System operator's website:

Sources

- 1) Multi-Materials Stewardship Board. 2020-21 Annual Report: Guiding our province to a greener future. <https://www.gov.nl.ca/ecc/files/MMSBAnnualReport2020-21.pdf>
- 2) Personal communication with Gordon Wall, Field Operations Office, Multi Materials Stewardship Board, 4 April 2022.
- 3) <https://greendepotnl.ca/>

Legislative framework

Name of legislation

Waste Management Regulations, under the Environmental Protection Act

Legislation enacted¹

November 1996

Appointment of system operator

1996

System started

January 1997

Key updates

None

Regulatory authority

Ministry of Environment and Climate Change

Legislated targets²

None

Scope

Material type

Plastic, metal (aluminium, bimetal), glass, gable top, aseptic, pouches, bag-in-box

Beverage type

All sealed, ready-to-drink non-alcohol and alcohol drinks

Size

≤5L (1.32 gal)

Excluded³

Milk and milk substitutes, infant formula, concentrates, medicinal/nutritional supplements

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit/refund value⁴

> Variable rate:

- > Non-alcohol: CAD\$0.08/\$0.05* (USD\$0.06/\$0.04)
- > Wine and spirits: CAD\$0.20/\$0.10* (USD\$0.16/\$0.08)
- > Beer cans and imported bottles ≤1L (0.26 gal): CAD\$0.08/\$0.05* (USD\$0.06/\$0.04)

Handling fee (2022)

CAD\$0.0445 (USD\$0.035)

System structure & administration

Clearing system

Centralised

System operator

Multi-Materials Stewardship Board (MMSB) (Crown agency of the Government of Newfoundland and Labrador; governed by a Board of Directors appointed by the Lieutenant Governor in Council)

System finance

Material revenues, unredeemed deposits, non-refundable portion of deposits (goes into Waste Management Trust Fund)

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Depot: There are 55 independently owned and operated depots.

Pop. per collection point

~9,487

Method of return

Manual

Barcode-based system?

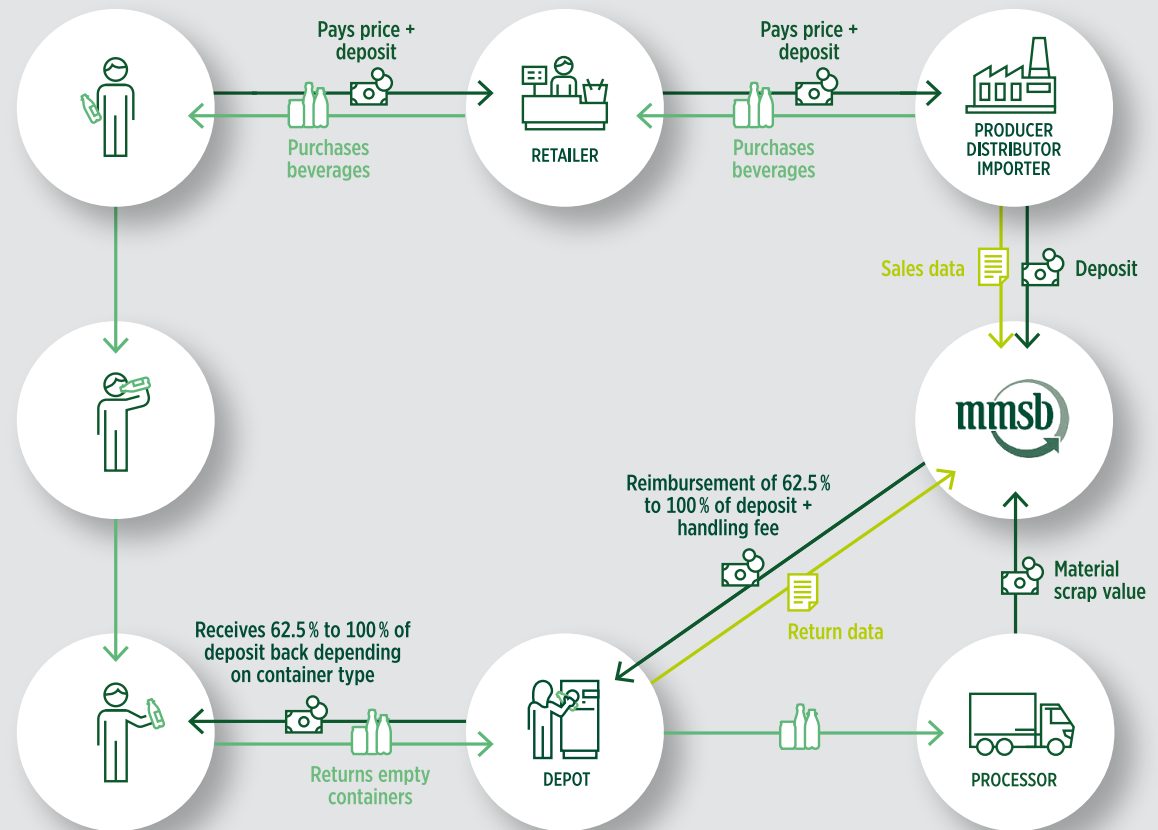
No

Return rate (2020-21)

| Plastic (PET) | Aluminium | Glass | Other | Total |
|---------------|-----------|-------|-------|--------|
| 64.3% | 60.8% | 63.5% | 37.4% | 60.2%* |

*Note: The overall recovery percentage was 61.4%, as there were additional units recovered from MRF operations that were not broken out by sort and are not shown above. Also, data on beer container return rates is not included in the above results as these were not available.

Money, material & data flow



¹ Newfoundland and Labrador's DRS was established in 1997 by the Beverage Container Control Regulations (1996), Legislation enacted under the Packaging Material Act (1996). These regulations established an Environmental Trust Fund and gave regulatory authority to the MMSB to operate the DRS. In 2003, in order to allow for the development of other stewardship programmes beyond drinks containers, the province repealed and replaced these regulations with the Waste Management Regulations (2003), made under the Environmental Protection Act (2002). Part 1 of the Regulations sets out the composition and duties of the MMSB, and also continues the Waste Management Trust Fund established under section 4 of the Beverage Container Regulations. Part 2 defines the DRS's scope, the minimum deposit/refund amounts to be applied, and the responsibilities of beverage distributors. It also prohibits the sale of any beverage container that is not refillable or recyclable.

² The province's Solid Waste Management Strategy (2002) establishes the goal to divert 50% of solid waste from disposal in landfills. The initial target date for meeting this goal was 2010, but this was extended to 2020 when the government announced financing for the Strategy in 2007. Although MMSB has stated that it will work towards this target, it has not set any specific goals for the DRS and there are no specific targets set out in the Act or regulations.

³ Only milk products that are labelled as "fortified plant-based beverages" and "not sources of protein" are covered by the DRS.

⁴ Part of the revenue generated from the non-refunded portion of the deposit (CAD\$0.03 (USD\$0.02) for non-alcohol containers, beer cans and imported bottles, and CAD\$0.10 (USD\$0.08) for wine and spirits containers) is used to cover for the costs of the system, including administration, handling, transportation, and processing.



New Brunswick

Population: 0.8m

Population density: 10.9/km²

Regulator's website:

System operator's website:



Sources

- 1) "Beverage Containers Program to get in step with modern waste management trends." 3 November 2021. https://www2.gnb.ca/content/gnb/en/departments/elg/news/news_release.2021.11.0785.html
- 2) Dosman, D., Adamowicz, W., Laplante, B., and M. Luckert. n.d. "Waste Management Legislation in Canada." Rural Economy – Staff Paper. <https://www.ualberta.ca/resource-economics-environmental-sociology/media-library/research/working-papers/documents/sp-96-12.pdf>
- 3) Encorp Atlantic. "Request for Expressions of Interest (REOI) for Dedicated Collection and Transportation Services." <https://encorpatl.ca/wp-content/uploads/2021/06/REOI-Collection-Transportation-Fact-Sheet-ENGL-1.pdf>
- 4) Personal communication with Colette Boucher, Encorp Atlantic Inc., June 2020.

Legislative framework

Name of legislation

General Regulation 99-66,
under the Beverage
Containers Act

Legislation enacted

May 1991

Appointment of system operator

Unknown

System started

June 1992

Key updates

- › 1993 – expansion to juice
- › 2020 – expansion to dairy drinks, fortified plant-based drinks, unfortified plant-based drinks, and sports drinks

Regulatory authority

Department of Environment and Local Government (DELG)

Legislated targets

None, however the DELG has established an unofficial recovery rate target of 80%

Scope

Material type

Plastic, metal (aluminium, other), glass, gable top, aseptic, bag-in-box, plastic cups with foil lids, pouches

Beverage type

All sealed, ready-to-drink alcohol and non-alcohol drinks including water and flavoured water, fruit and vegetable juices, soft drinks, drinks with dairy, unfortified plant-based drinks (e.g. almond, rice), fortified plant-based drinks labelled as "not a source of protein," sports drinks, nutritional supplements not labelled as "meal replacements" or "formulated liquid diets", beer, wine, spirits, low-alcohol drinks, cannabis drinks

Size

≤ 5L (1.32 gal)

Excluded

Apple cider that has not been treated, pasteurised or otherwise processed, products labelled as "milk" (including cow's milk, goat milk, and flavoured milk), plant-based milk alternative drinks not labelled as "fortified", nutritional supplements labelled as "meal replacements" or "formulated liquid diets", infant formula, concentrated drinks (e.g. frozen or powdered juices, cocktail mixers, syrups, condensed milk, creamers, coffee or tea concentrates)

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit/refund value¹

› Variable rate:

- › Non-alcohol ≤5L (1.32 gal): CAD\$0.10/\$0.05* (USD\$0.08/\$0.04)
- › Alcohol ≤500ml (0.13 gal): CAD\$0.10/\$0.05* (USD\$0.08/\$0.04)
- › Alcohol >500ml (0.13 gal): CAD\$0.20/\$0.10* (USD\$0.16/\$0.08)

Handling fee (2022)

CAD\$0.04883 (USD\$0.038)



System structure & administration

Clearing system

Centralised

System operator

Non-alcohol containers: Encorp Atlantic (privately-run company representing more than 90 non-alcohol beverage distributors)

Alcohol containers: New Brunswick Liquor Corporation (Alcool NB Liquor) (provincial Crown corporation responsible for the purchase, importation, distribution and retail activity for all beverage alcohol in the province)

System finance

Material revenues, unredeemed deposits, 50% of non-refundable portion of deposits (“half back revenue”)

Unredeemed deposits

Encorp Atlantic and NB Liquor (Alcool NB Liquor)

Material owner

System operator

Container return & refund points

Collection model

Return-to-Depot: There are 68 active depots, which are independently operated.

Pop. per collection point

~11,512

Method of return

Manual

Barcode-based system?

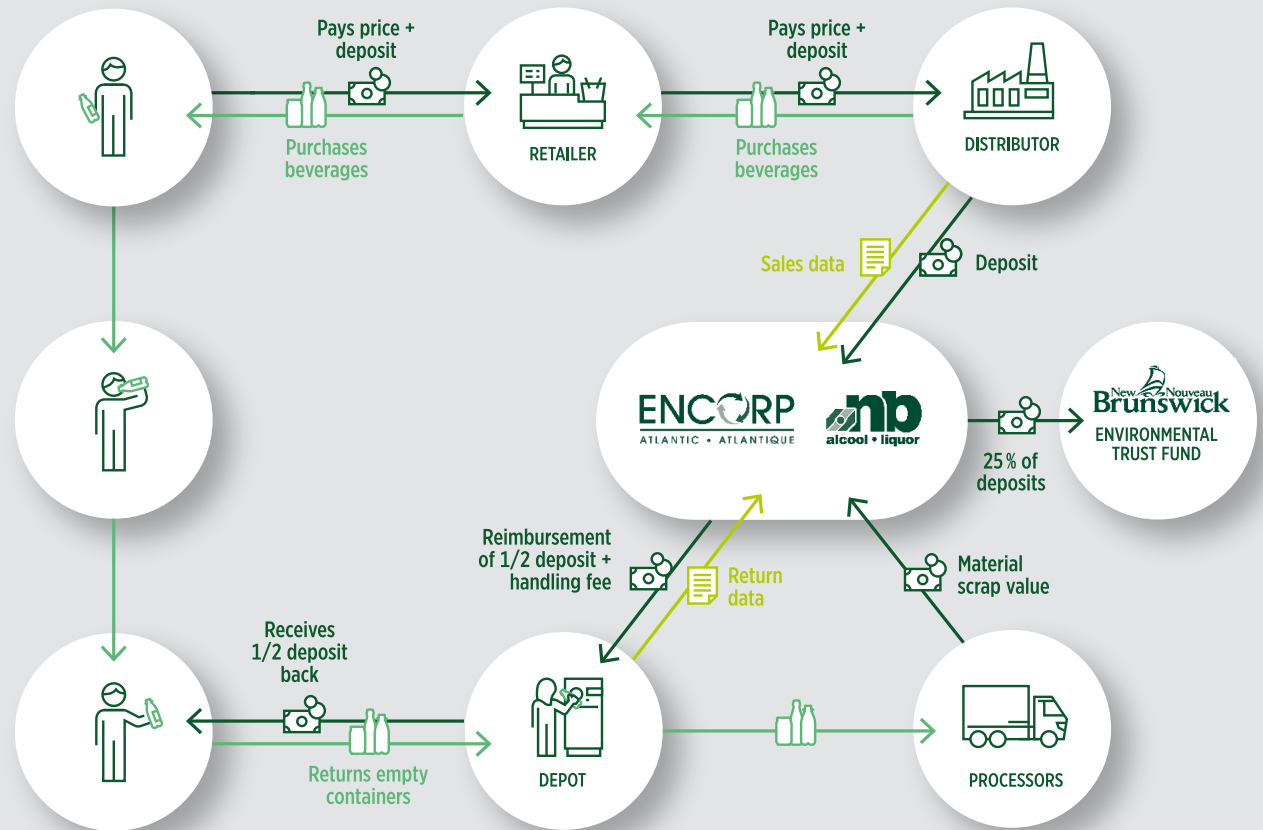
No

Return rate (2018-19)*

| Plastic | Aluminium | Glass | Steel | Cartons | Other | Total |
|---------|-----------|-------|-------|---------|-------|-------|
| 73.5% | 70.8% | 59.9% | 45.6% | 46.3% | 22.3% | 69.5% |

*Note: The data excludes all beer, wine, and spirits as return rates for these containers were not available. More recent data was not available.

Money, material & data flow



¹ Under New Brunswick’s half-back system, consumers receive only half of their deposit back when they return single-use containers. Fifty-percent of this “half-back” revenue (CAD\$0.025 or \$0.05 depending on size), plus revenues generated from unredeemed deposits and commodity sales, goes to finance the system. The remaining 50% goes into the province’s Environmental Trust Fund where it is used for environmental conservation, education, protection, and other provincial environmental initiatives aimed at reducing waste.



Northwest Territories

Population: 0.04m

Population density: 0.0/km²

System operator's website:

Sources

- 1) Government of Northwest Territories. "Waste Reduction and Recovery Program: 2020-2021 Annual Report." https://www.ntassembly.ca/sites/assembly/files/td_631-192.pdf
- 2) Government of Northwest Territories. "Waste Reduction and Recovery Program 2019-2020 Annual Report." https://www.enr.gov.nt.ca/sites/enr/files/resources/annual_report_2019-2020_web.pdf
- 3) "Plain Language Summary – NWT Beverage Container Regulations." https://www.enr.gov.nt.ca/sites/enr/files/summary_nwt_beverage_container_regulations.pdf
- 4) CM Consulting Inc. November 2020. "Who Pays What? An Analysis of Beverage Container Collection and Costs in Canada." <https://www.cmconsultinginc.com/wp-content/uploads/2021/02/WPW-2020-FINAL-JAN-30.pdf>

Legislative framework

Name of legislation

Beverage Container Regulations, under the Waste Reduction and Recovery Act

Legislation enacted

2003

Appointment of system operator

2005

System started

July 2005

Key updates

- › 2010 – expansion to include certain milk containers
- › 2016 – increase to container recycling fees and simplification of container categories

Regulatory authority

Government of Northwest Territories (Department of Environment and Natural Resources (ENR))

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium, bimetal), glass, aseptic, pouches, gable top, bag-in-box

Beverage type

All sealed, ready-to-serve drinks including non-alcohol (soft drinks, energy drinks, water, juices, and milk and liquid milk products) and alcohol (wine, spirits, beer) drinks

Size

- › Milk and liquid milk products: ≥30ml (0.01 gal)
- › Other drinks: any size

Excluded

Infant formula, milk and liquid milk products <30ml (0.01 gal)

Deposits & fees¹

Deposit initiator

Producer/Distributor/Importer

Deposit value

› Variable rate:

- › Containers ≤1L (0.26 gal): CAD\$0.10 (USD\$0.08)
- › Containers >1L (0.26 gal): CAD\$0.25 (USD\$0.20)

Container recycling fee²

CAD\$0.05-\$0.13 (USD\$0.04-\$0.10)

Handling fee (2022)³

CAD\$0.022 to \$0.045 (USD \$0.016 to USD\$0.033)

Processing fee (2022)

CAD\$0.02 to \$0.045 (USD \$0.015 to USD\$0.033)



System structure & administration

Clearing system

Centralised

System operator

Department of Environment and Natural Resources (ENR)
(government)

System finance

Material revenues, unredeemed deposits, container recycling fees

Unredeemed deposits

System operator

Material owner

Processors

Container return & refund points

Collection model

Return-to-Depot: There are 20 permanent recycling depots and 9 temporary satellite depots. Empty containers are also collected at collection events held throughout the year in communities without permanent depots.

Pop. per collection point

~1,569

Method of return

Manual

Barcode-based system?

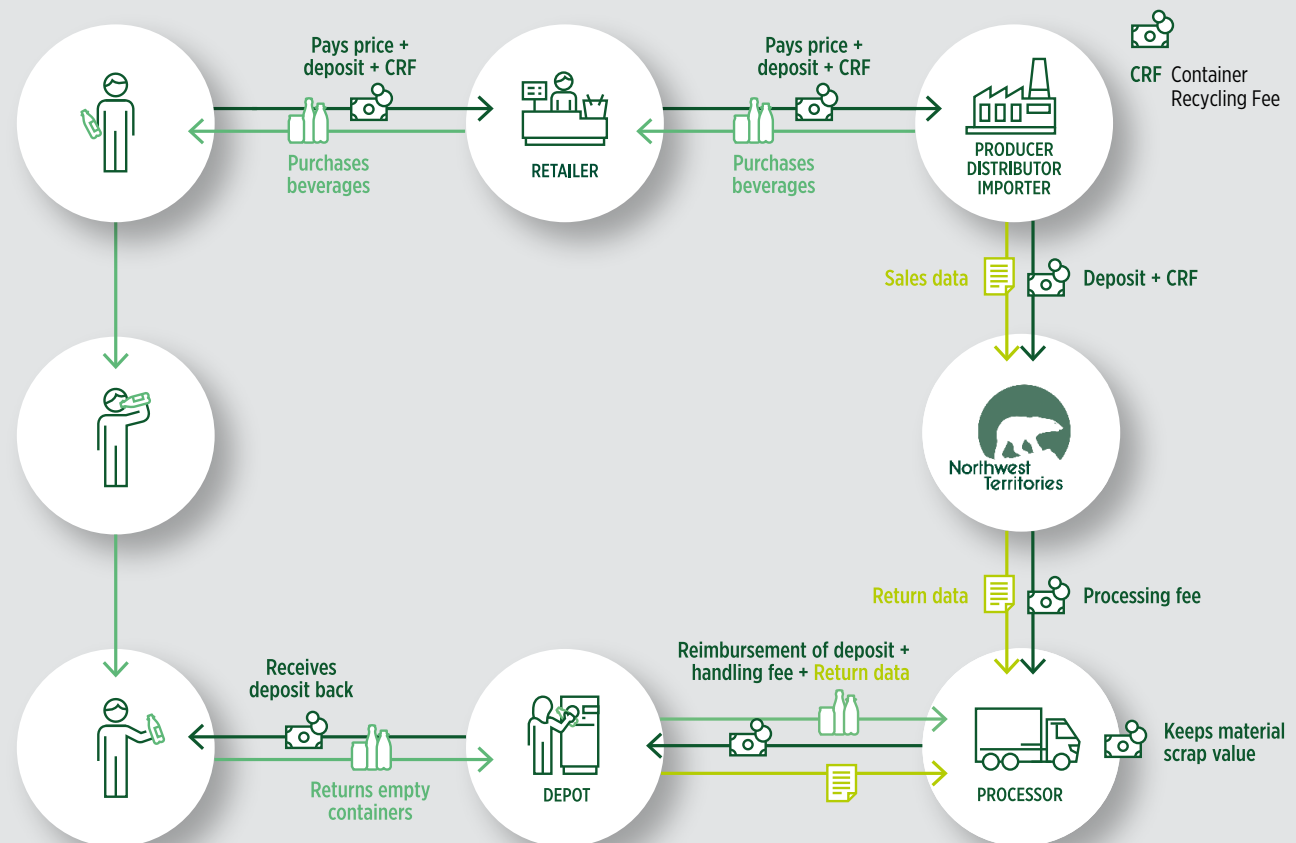
No

Return rate (2020-21)

| Plastic | Aluminium | Bimetal | Glass | Gable top/Aseptic | Pouches | Bag-in-box | Total |
|---------|-----------|---------|-------|-------------------|---------|------------|--------|
| 60.7% | 64.0% | 45.3% | 84.0% | 40.8% | 23.4% | 27.2% | 61.4%* |

*Note: The system operator suspects the high return rate for glass bottles may be the result of containers purchased outside the territory being returned to the programme. Also, data on beer container return rates is not included in the above results as these were not available.

Money, material & data flow



¹ At the point of purchase, the customer is charged a refundable deposit and a non-refundable container recycling fee. Unlike the deposit, the container recycling fee is not refunded to the consumer, and is instead placed into the Environment Fund where it is used to help cover system costs. Unredeemed deposits and material revenues also go into this fund. The Environment Fund is a special purpose fund set up under the Waste Reduction and Recovery Act that is separate from the general government account. All expenses incurred for the deposit system are paid out of this fund. Surplus funds (if any) are used by the government to implement new waste reduction and recovery initiatives.

² Container recycling fees vary by type of container and size, and are based on the estimated costs to collect, process, and transport drinks containers and to administer the DRS.

³ With the exception of a few, depots are eligible to receive monthly subsidies to help offset expenses related to operation. They are also eligible to apply for interest free loans to help offset start-up costs. Depot development grants are also offered to help with the costs of renovations or other improvements to depot facilities.



Nova Scotia

Population: 1.0m

Population density: 18.4/km²

System operator's website:



Sources

1) Divert NS. "Pulling Together: 2021-22 Annual Report."

<https://annualreport.divertns.ca/#pulling-together>

2) Personal communication with Gilles Doucette, Director of Operations, DivertNS, 28 June 2022.

Legislative framework

Name of legislation

Solid Waste–Resource Management Regulations, under Section 102 of the Environment Act

Legislation enacted

1995

Appointment of system operator

February 1996

System started

April 1996

Key updates

None

Regulatory authority

Government of Nova Scotia
(Department of Environment and Climate Change)

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium, bimetal), glass, gable top, aseptic, pouches

Beverage type

All sealed, ready-to-serve non-alcohol (juice; health, energy and diet drinks; soft drinks; water) and alcohol (wine, spirits, beer) drinks

Size

<5L (1.32 gal)

Excluded

Liquid milk and milk products, soya and rice beverage products, meal replacements, formulated liquid diets, foods for low energy diets, baby formulas, concentrates, wine-making kits

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit/refund value¹

> Variable rate:

> Non-alcohol <5L (1.32 gal): CAD\$0.10/\$0.05 (USD\$0.08/\$0.04)

> Alcohol ≤500ml (0.13 gal): CAD\$0.10/\$0.05 (USD\$0.08/\$0.04)

> Alcohol >500ml (0.13 gal): CAD\$0.20/\$0.10 (USD\$0.16/\$0.08)

Handling fee (2022)

CAD\$0.0472 (USD\$0.037)

Processing fee

Not available



System structure & administration

Clearing system

Centralised

System operator²

Divert NS (registered business name of the Resource Recovery Fund Board; not-for-profit organisation, operating at “arms-length” from government)

System finance

Material revenues, non-refundable portion of deposits (“half back revenue”), unredeemed deposits fees

Unredeemed deposits

System operator

Material owner

Processors

Container return & refund points

Collection model

Return-to-Depot³: The network consists of 78 independently owned and operated depots and mobile service locations

Pop. per collection point

~12,806

Method of return

Manual

Barcode-based system?

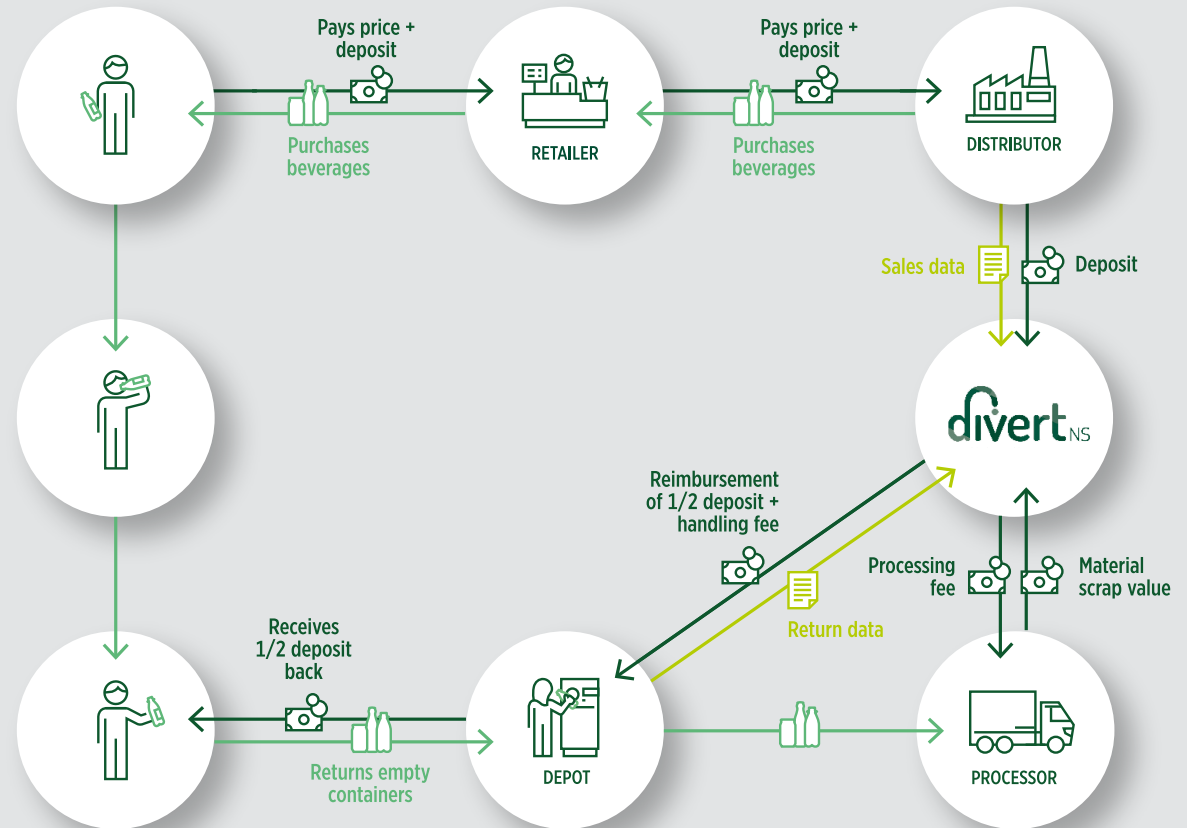
No

Return rate (2021-22)

| Plastic (PET/HDPE) | Aluminium | Glass | Steel | Gable top | Tetra | Total |
|--------------------|-----------|-------|-------|-----------|-------|--------|
| 80.5% | 88.2% | 81.0% | 54.9% | 50.0% | 43.5% | 82.3%* |

*Note: Data on beer container return rates is not included in the above results as these were not available.

Money, material & data flow



¹ Similar to the other Atlantic provinces in Canada, Nova Scotia’s DRS is based on a “halfback” model, where consumers who purchase single-use drinks containers and take them back for recycling are refunded only half (50%) of the initial deposit paid.

² Divert NS is a registered business name of the Resource Recovery Fund Board, Inc.

³ People also have the option of placing empty deposit-bearing containers in their kerbside collection bags, although in doing so they forgo the refund. In these cases, the containers are recovered by non-public buy backs (waste management facilities operated either directly by municipalities or for municipalities under private contract), which are compensated for those containers by Divert NS.



Ontario

Population: 14.2m

Population density: 15.9/km²

System operator's website:

Sources

- 1) The Beer Store. "The Beer Store Responsible Stewardship 2021." https://www.thebeerstore.ca/wp-content/uploads/2022/04/StewardshipReport2021_ENG_Final-1.pdf
- 2) O. Reg. 391/21: Blue Box. <https://www.ontario.ca/laws/regulation/r21391>
- 3) Brewers Retail Inc. Spring 2021. "Empty Return Guide: Sorting and handling TBS and ODRP deposit containers." <https://www.thebeerstore.ca/wp-content/uploads/2022/03/Empty-Return-Guide-Spring-2021.V2.pdf>
- 4) The Beer Store. "Open Ownership." <https://www.thebeerstore.ca/ownership-governance/open-ownership/>

Legislative framework

Name of legislation

Ontario Regulation 13/07: Ontario Deposit Return Program, made under the Liquor Control Act (as amended by Ontario Regulation 293/15)

Legislation enacted

2006

Appointment of system operator

Unknown

System started

5 February 2007

Key updates

None

Regulatory authority

Liquor Control Board Ontario (LCBO) (crown corporation)

Legislated targets

There are no legislated targets specific to the deposit return system. However, Ontario Regulation 391/21 (Blue Box) under the Resource Recovery and Circular Economy Act (2016) includes a collection target of 75% for non-alcohol beverage containers supplied in the province by 2026 (increasing to 80% by 2030).

Scope

Material type

Plastic, metal (aluminium, bimetal), glass, gable top, aseptic, bag-in-box

Beverage type

Alcohol drinks including wine, spirit, and cooler containers sold through LCBO stores and Ontario winery retail stores, and imported beer containers sold outside The Beer Store system

Size

>100ml (0.03 gal)

Excluded

Non-alcohol drinks

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

> Variable rate:

- > Wine and spirits ≤ 630ml (0.17 gal): CAD\$0.10 (USD\$0.08)
- > Wine and spirits > 630ml (0.17 gal): CAD\$0.20 (USD\$0.16)
- > Beer ≤ 1L (0.26 gal): CAD\$0.10 (USD\$0.08)
- > Beer > 1L (0.26 gal): CAD\$0.20 (USD\$0.16)

Handling fee

Proprietary (paid by brewers to The Beer Store)

Note: The LCBO is obliged to reimburse The Beer Store (TBS) for all deposit refunds that TBS pays out to consumers who return wine, spirit, and imported beer containers that are not sold at TBS; it is also required to pay TBS a per unit service fee for these containers (the level of this fee is determined in contract and is unavailable).



System structure & administration

Clearing system

Centralised

System operator¹

Brewers Retail Inc. (operating as “The Beer Store”) (from its inception in 1927 until 2015, it was owned by a consortium of Ontario-based brewers; it currently operates as a unique open retail and wholesale system primarily owned by three brewing companies: Molson, Labatt, and Sleeman, which are owned by multinational corporations. It is also partially owned by 30 Ontario-based brewers)

System finance²

Material revenues, unredeemed deposits, government revenue

Unredeemed deposits

Beer distributors/bottlers and the Liquor Control Board of Ontario (LCBO)

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: Empty containers can be returned to 1,247 locations, including 419 TBS stores, 353 on-site brewery stores (accept beer containers only), 395 retail partner stores and LCBO Convenience Outlets, one LCBO store, and 79 TBS-contracted empty bottle dealers

Pop. per collection point

~11,400

Method of return

Mostly manual

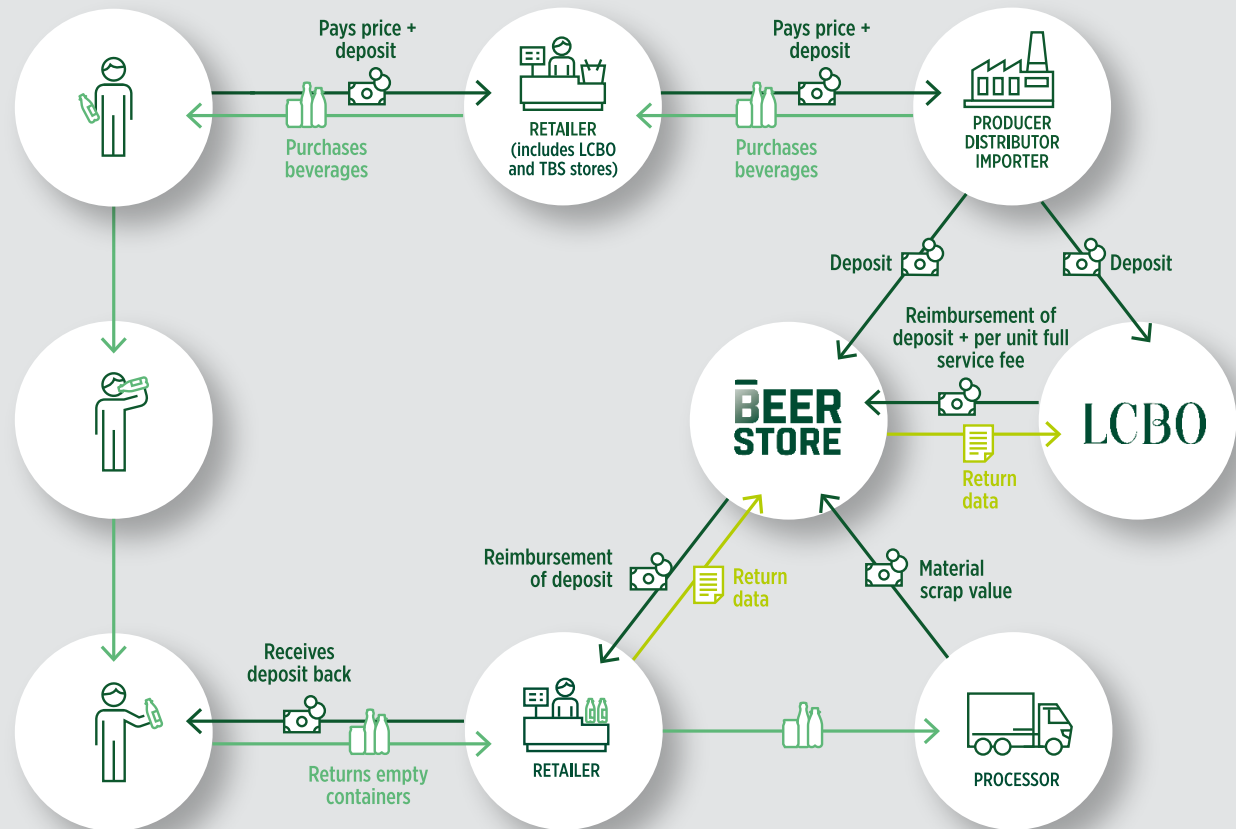
Barcode-based system?

No, except for where collection is automated

Return rate (2021)

| Plastic (PET) | Metal | Glass | Tetra/Bag-in-Box | Total |
|---------------|-------|-------|------------------|-------|
| 46.1% | 74.9% | 73.1% | 24.9% | 73.7% |

Money, material & data flow



¹ In 2015, TBS announced that it would be opening its ownership to all Ontario-based brewers, large and small. Under the current ownership model, Ontario brewers who satisfy certain qualification criteria have the opportunity to become Beer Store shareholders.

² The LCBO is a crown corporation that has assumed the producer responsibility burden on behalf of all alcohol producers for all of the products they sell.



Prince Edward Island

Population: 0.2m

Population density: 27.2/km²

System operator's website:



Sources

- 1) Government of Prince Edward Island. "Beverage Container Program." <https://www.princeedwardisland.ca/en/information/environment-water-and-climate-change/beverage-container-program>
- 2) Personal communication with Mike Cheverie, Program Coordinator, Beverage Containers Program, April 2022

Legislative framework

Name of legislation

General Regulations and the Recyclable Beverage Container Deposit Regulations, under the Beverage Containers Act

Legislation enacted

2007

Appointment of system operator

2008

System started

May 2008

Key updates

None

Regulatory authority

PEI Department of Environment, Energy, and Climate Action

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium, bimetal), glass, gable top, aseptic, bag-in-box, pouches

Beverage type

All sealed, ready-to-drink non-alcohol (juices; sport, energy and diet drinks; soft drinks; water) and alcohol (wine, spirits, beer) drinks

Size

≤ 5L (1.32 gal)

Excluded

Milk and milk substitutes, concentrates, nutritional supplements

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit/refund value¹

> Variable rate:

- > Non-alcohol: CAD\$0.10/\$0.05 (USD\$0.08/\$0.04)
- > Alcohol ≤500ml (0.13 gal): CAD\$0.10/\$0.05 (USD\$0.08/\$0.04)
- > Alcohol >500ml (0.13 gal): CAD\$0.20/\$0.10 (USD\$0.16/\$0.08)

Handling fee (2021)

CAD\$0.04339 (USD\$0.034)

Processing fee (includes freight)

CAD\$0.01601 (USD\$0.013) (paid by provincial government to processors)



System structure & administration

Clearing system

Centralised

System operator

Department of Environment, Energy, and Climate Action

System finance

Non-refundable portion of deposits (“half-back” revenue), unredeemed deposits, material revenues

Unredeemed deposits

Provincial government (treasury)

Material owner

Processors

Container return & refund points

Collection model

Return-to-Depot: There are 10 independently owned depots.

Pop. per collection point

16,594

Method of return

Manual

Barcode-based system?

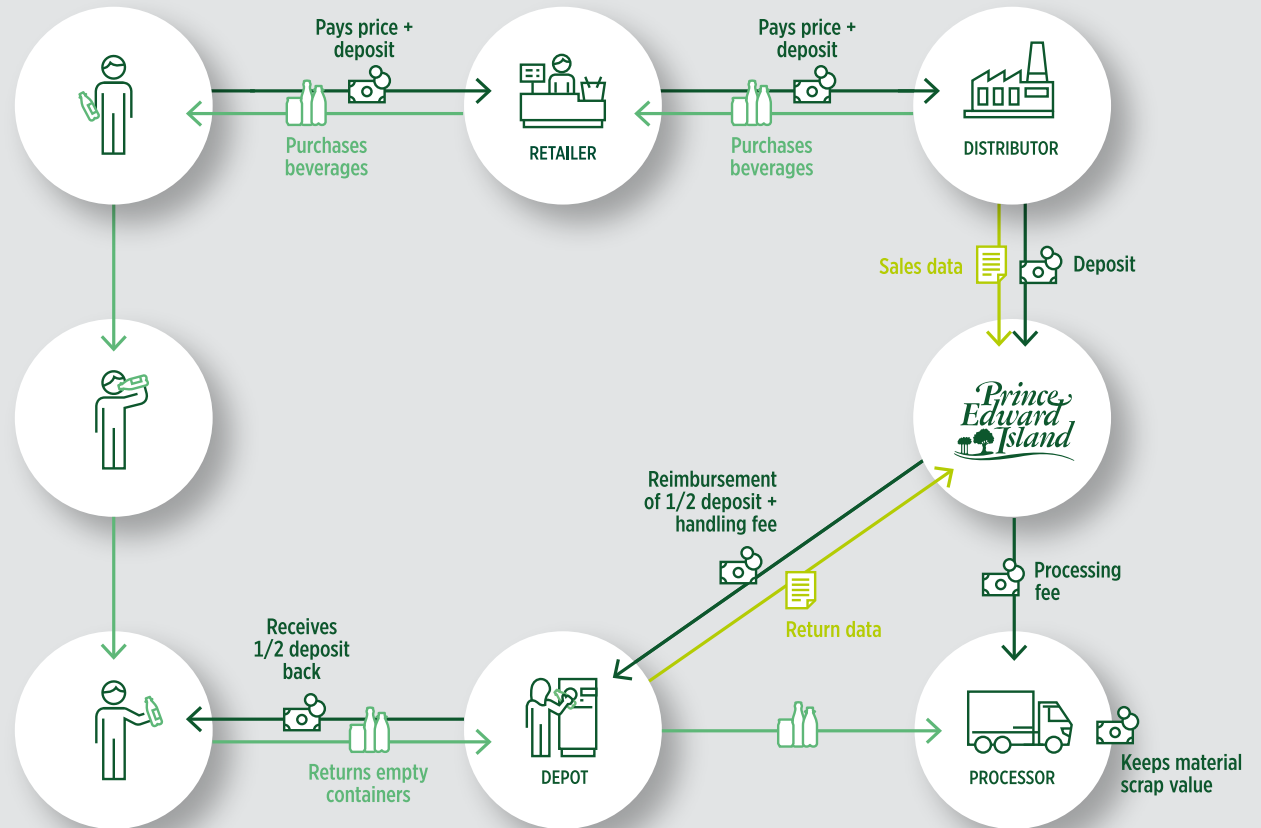
No

Return rate (2021)

| Aluminium | Glass | Plastic (PET) | Steel | Carton | Other Plastic | Pouches & Aseptic | Total |
|-----------|-------|---------------|--------|--------|---------------|-------------------|--------|
| 86.1% | 82.4% | 87.7% | 105.4% | 42.1% | 37.6% | 62.2% | 84.6%* |

*Note: Data on beer container return rates is not included in the above results as these were not available.

Money, material & data flow



¹ Like the other Atlantic provinces, Prince Edward Island’s DRS is based on a “halfback” model, where the deposit paid on single-use drinks containers is only partially (50%) refunded to the consumer (deposits on refillable containers are 100% refundable).



Quebec

Population: 8.5m

Population density: 6.5/km²

System operator's website:



Sources

- 1) Vermette, 24 November 2021. "Modernization of curbside collection and deposit-return." Presentation – IDDPNQL. https://iddpnql.ca/wp-content/uploads/2021/12/24-nov_RECYC-OC_Modernisation_EN.pdf
- 2) Quebec Ministère de l'Environnement et de la Lutte contre les changements climatiques. "Modernization of Quebec's deposit and selective collection systems." <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/index-en.htm>
- 3) Quebec Government. "Modernization of Quebec's Deposit-Return and Curbside Collection Systems." <https://www.environnement.gouv.qc.ca/matieres/valorisation/consigne-collecte-selective-en.pdf>
- 4) Boissons Gazeuses Environnement. "Statistiques de Récupération." <https://www.bge-quebec.com/la-consigne/#statistiques>
- 5) Recyc-Quebec. "Fonctionnement de la consigne." <https://www.recyc-quebec.gouv.qc.ca/entreprises-organismes/mieux-gerer/consigne/fonctionnement>
- 6) Carpenter, P. 17 August 2021. "Quebec to step up recycling capacity with 7 pilot projects." Global News. <https://globalnews.ca/news/8120326/quebec-to-step-up-recycling-capacity-with-7-pilot-projects/>
- 7) "Entente portant sur la consignation, la récupération et le recyclage des contenants à remplissage unique de bière." 1 janvier 2022. <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/consigne-entente-biere.pdf>
- 8) Recyc-Quebec. "Tableau des ventes et de la récupération des contenants consignés (Bière et Boissons gazeuses)." <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/statistiques-ventes-ruperation-cru.pdf>
- 9) Regulation respecting the development, implementation and financial support of a deposit-refund system for certain containers. <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/reglement-consigne-version-administrative-en.pdf>

Legislative framework

Name of legislation

Act respecting the sale and distribution of beer and soft drinks in non-returnable containers, under the Environment Quality Act (1972), and the Act to amend mainly the Environment Quality Act with respect to deposits and selective collection

Legislation enacted

1984

Appointment of system operator

1990 (RECYC-QUÉBEC) and 1996 (Boisson Gazeuses Environnement)

System started

1984

Key updates

- › 1996 – expansion to soft drinks
- › 2023 – expansion to all drinks and container types in plastic, metal, and glass (except for bag-in-a-box), change in deposit level

Regulatory authority

RECYC-QUÉBEC

Legislated targets

› **Collection:** 75% (soft drinks + beer)

Scope

Material type¹

Plastic, metal (aluminium, bimetal), glass

Beverage type¹

Beer, soft drinks

Size¹

≤ 8L (2.11 gal)

Excluded¹

Water, juice, wine, spirits, cider, milk

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value²

› Variable rate:

- › Soft drinks (regardless of container type or size): CAD\$0.05 (USD \$0.04)
- › Beer cans ≤ 450ml (0.12 gal): CAD\$0.05 (USD\$0.04)
- › Beer cans > 450ml (0.12 gal): CAD\$0.20 (USD\$0.16)
- › Beer glass ≤ 450ml (0.12 gal): CAD\$0.10 (USD \$0.08)
- › Beer glass > 450ml (0.12 gal): CAD\$0.20 (USD \$0.15)

Handling fee (2022)

CAD\$0.02 (USD\$0.02)

Producer fee (2022)³

Small producers (representing ~10% of the market) must pay a non-refundable fee to BGE (for soft drinks) and RECYC-QUÉBEC (for beer) for each container sold or delivered to compensate larger producers that perform collection on their behalf. These fees are set out in negotiated agreements every 1-2 years between brewers and/or bottlers and the system operator and are as follows:

Small soft drinks producers:

- › Aluminium: CAD\$0.01 (USD \$0.01)
- › Plastic: CAD\$0.03 (USD \$0.02)
- › Glass: CAD\$0.05 (USD \$0.04)

Small beer producers:

- › Aluminium: CAD\$0.01 (USD \$0.01)
- › Bimetal, Glass, Plastic: CAD\$0.05 (USD \$0.04)

Note: Regulations (Regulation respecting the development, implementation, and financial support of a deposit-refund system for certain containers) laying out the details of how the new, modernised deposit system will work were adopted on 14 June 2022 (published on 7 July 2022) and will come into force on 1 November 2023 (within 16 months of the regulations being enacted). The information below is therefore accurate as of the time of writing (17 June 2022). <https://www.environnement.gouv.qc.ca/infuseur/communiquer.asp?no=4766>



System structure & administration

Clearing system

Centralised

System operator

Soft drinks: Boissons Gazeuses Environnement (BGE) (non-profit organisation established by the Québec soft drinks industry; in 1999, it took over RECYC-QUÉBEC's responsibility to manage the system for single-use soft drinks containers)

Beer: RECYC-QUÉBEC (Société Québécoise de récupération et de recyclage) in collaboration with the Québec Brewers Association (QBA, l'association des Brasseurs du Québec) – RECYC-QUÉBEC is a government corporation created in 1990 to oversee and promote the development of reduction, reuse, recovery and recycling programmes for packaging in Quebec

System finance

Material revenues, unredeemed deposits, producer fees (see note above)

Unredeemed deposits

Soft drinks: BGE gives 50% of unredeemed deposits (or a minimum of \$700,000/year fee) to RECYC-QUÉBEC to cover their operational costs and public campaigns (2021 Agreement). The rest stays with BGE.

Beer: RECYC-QUÉBEC keeps 33% of unredeemed deposits on beer cans and gives the rest (66%) back to members of the collection agreement for brewers.

Material owner

Producer/Distributor/Importer

Container return & refund points

Collection model⁴

Return-to-Retail: Retailers that sell deposit-bearing drinks must take back the empty containers (no exemptions). There are approximately 8,000 return locations.

Pop. per collection point

~1,025

Method of return

82% automated / 18% manual

Barcode-based system?

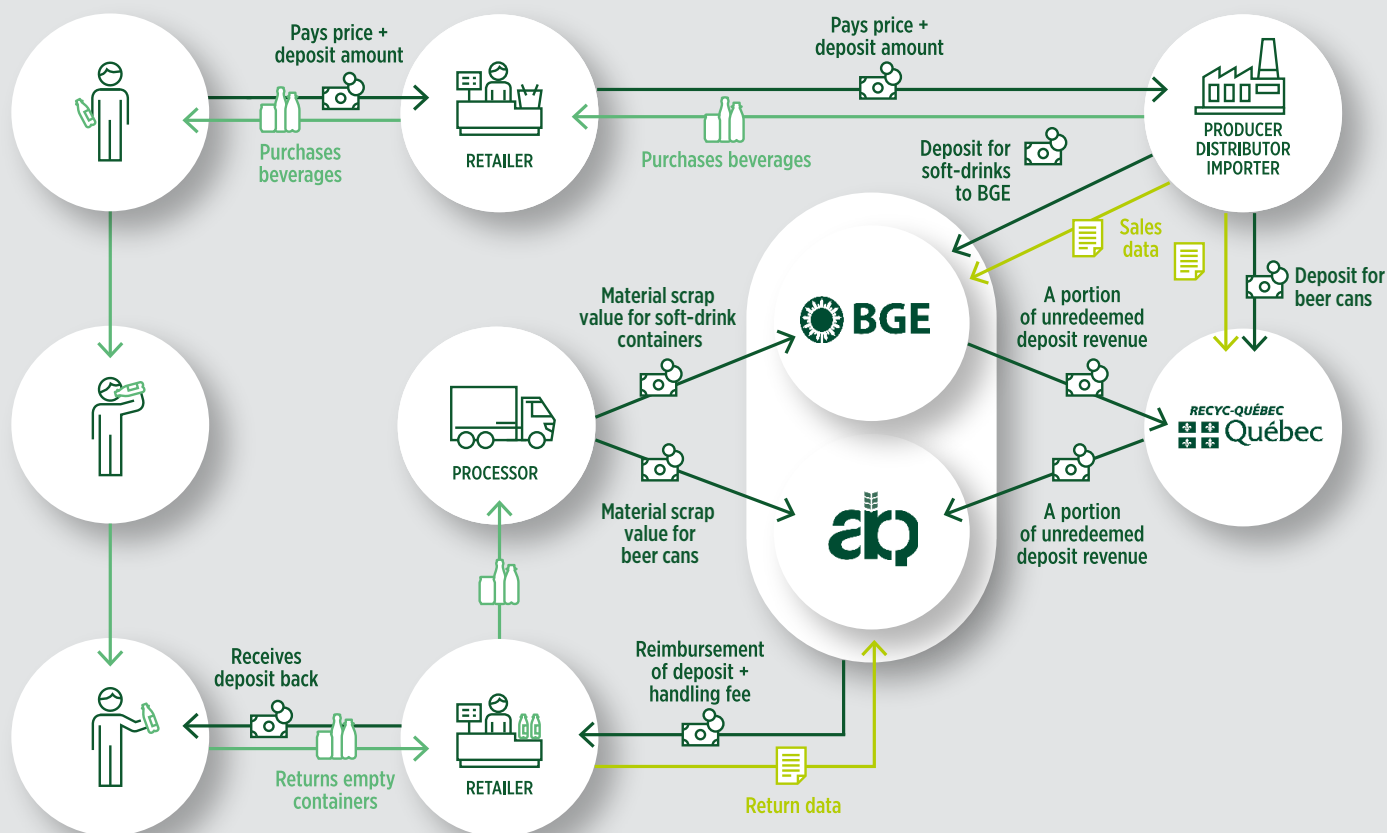
Yes

Return rate (2021)

| Plastic | Metal | Glass | Total |
|---------|-------|-------|-------|
| 56.5% | 68.8% | 54.9% | 66.6% |



Money, material & data flow



¹ Under the new regulations (set to come into force on 1 November 2023), all drinks in metal, plastic, and glass containers – from 100ml to 2L (0.026 gal - 0.53 gal) in size (including water bottles, wine, and non-carbonated drinks, etc.) will be subject to deposit. Multi-layered containers containing drinks such as milk and juice will be subject to the deposit on 1 November 2025, two years after the new system is implemented.

² Under the new regulations, it will no longer be the content that determines if a deposit is required or not, but the container. There deposit will be a flat rate of CAD\$0.10 (USD \$0.07), with the exception of glass bottles 500ml to 2L (0.13 gal to 0.53 gal) in volume which will have a deposit of CAD\$0.25 (USD \$0.18).

³ The fees paid by producers that do not perform collection (referred to as 'non-recoverers' by RECYC-QUÉBEC and BGE) are set out in agreements between producers/bottlers and the relevant system operator that are renegotiated every one to two years. The current agreements can be found here:

> L'Entente portant sur la consignation, la récupération et le recyclage des contenants à remplissage unique de boissons gazeuses: <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/consigne-entente-boissons-gazeuses.pdf> (English translation here: https://bge-quebec.com/wp-content/uploads/2021/01/entente-2021_english_vf.pdf)

> L'Entente portant sur la consignation, la récupération et le recyclage des contenants à remplissage unique de bière (available in French only): <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/consigne-entente-biere.pdf> <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/consigne-entente-biere.pdf>

⁴ The new deposit system will be a hybrid redemption model consisting of return-to-retail locations and drop-off points. The regulations specify that each administrative region must have a minimum number of return points depending on population size. For example, in the city of Montréal, there must be one return point for every 15,000 inhabitants. The regulations also require that all return sites be situated within a radius of not more than 1 km from a retailer, except in the case where retailers group together to establish a single return site. In this case, the regulations specify that the return site must be situated within a maximum radius of 1 km from one of the associated establishments and, according to the municipality's population (e.g. within a maximum radius of 5 km from the other associated establishments for a municipality with fewer than 3,000 people).

⁵ As part of the government's plan to expand and improve the DRS, from July 2021 to March 2022, the producers and retailers ran seven pilot projects (financed by RECYC-QUÉBEC) in six cities to test out various container return options (e.g., manual vs. automated, retail centres vs. depots) to assess which model worked best for consumers. The data gathered during the pilot project will be used to help determine the most effective types of systems for recovering containers that are already included in the DRS, as well as those that will be included under the new system as of 1 November 2023. To learn more about this pilot project related to the modernisation of Quebec's DRS, visit: <https://onconsigne.ca/foire-aux-questions> (in French only).



Saskatchewan

Population: 1.1m

Population density: 2.0/km²

System operator's website:

Sources

- 1) SARC. "Annual Report 2021-2022." https://issuu.com/sarcsarcan/docs/sarc_annual_report_2021
- 2) Gale, R., & S. Barg. 2014. "Green Budget Reform: An International Casebook of Leading Practices." https://books.google.ca/books?id=WeIRAwAAQBAJ&pg=PA309&lpg=PA309&dq=SARCAn+Recycling+contract+ministry+of+environment&source=bl&ots=vNW9iqCnhl&sig=ACfU3U3p7RcAEAS-JrEqZrmvi3EBwB5eMQ&hl=en&sa=X&ved=2ahUKewiFpu-8t4n2AhVykokEHf6qD_04FBDoAXoECBEQAw#v=onepage&q=SARCAn%20Recycling%20contract%20ministry%20of%20environment&f=false

Legislative framework

| | |
|---|------------------------------------|
| Name of legislation¹ Environmental Management and Protection Act | Legislation enacted 1973 |
|---|------------------------------------|

| | |
|---|------------------------------------|
| Appointment of system operator May 1988 | System started June 1988 |
|---|------------------------------------|

Key updates

- › 1990 – expansion to plastic bottles used for soft drinks, juice, and alcohol
- › 1992 – expansion to glass bottles used for soft drinks, juice, and alcohol, and steel/bimetal ready-to-serve drinks containers; deposit increase
- › 1998 – expansion to aseptic and gable-top cartons
- › 2017 – expansion to milk and other drinkable dairy
- › 2018 – deposit increase for certain containers

| | |
|--|-----------------------------------|
| Regulatory authority Ministry of Environment | Legislated targets None |
|--|-----------------------------------|

Scope

Material type

Plastic, metal (aluminium, bimetal, tin), glass, gable top, aseptic

Beverage type

All sealed, ready-to-serve alcohol and non-alcohol drinks including water, soft drinks, juice, milk and drinkable dairy products, beer, wine, and spirits

Size

All

Excluded

Foil pouches, bag-in-box containers, industrial milk bladders (>5L), meal replacements, products labelled as fortified liquid diet, baby juices, concentrates

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› Variable rate:

- › Plastic, metal, gable top/aseptic < 1L (0.26 gal): CAD\$0.10 (USD\$0.08)
- › Plastic, metal, gable top/aseptic ≥1L (0.26 gal): CAD\$0.25 (USD\$0.20)
- › Glass ≤300ml (0.08 gal): CAD\$0.10 (USD\$0.08)
- › Glass 301-999ml (0.08-0.26 gal): CAD\$0.20 (USD\$0.16)
- › Glass ≥1L (0.26 gal): CAD\$0.40 (USD\$0.31)

Handling fee

None

Environmental Handling Charge²

- › Metal: CAD\$0.07 (USD\$0.06)
- › Plastic: CAD\$0.08 (USD\$0.06)
- › Aseptic/gable top: CAD\$0.05 (USD\$0.04)
- › Glass: CAD\$0.09 (USD\$0.07)



System structure & administration

Clearing system

Centralised

System operator

SARCAN Recycling (the recycling division of SARC [Saskatchewan Association of Rehabilitation Centre], a province-wide association that provides services to community-based organisations that serve people with disabilities)

System finance

Material revenues, unredeemed deposits, provincial grants, Environmental Handling Charges

Unredeemed deposits

Provincial government (general revenue fund)

Material owner

System operator

Container return & refund points

Collection model

Return-to-Depot: There are 73 depots in 65 communities across the province.

Pop. per collection point

~16,176

Method of return

Manual

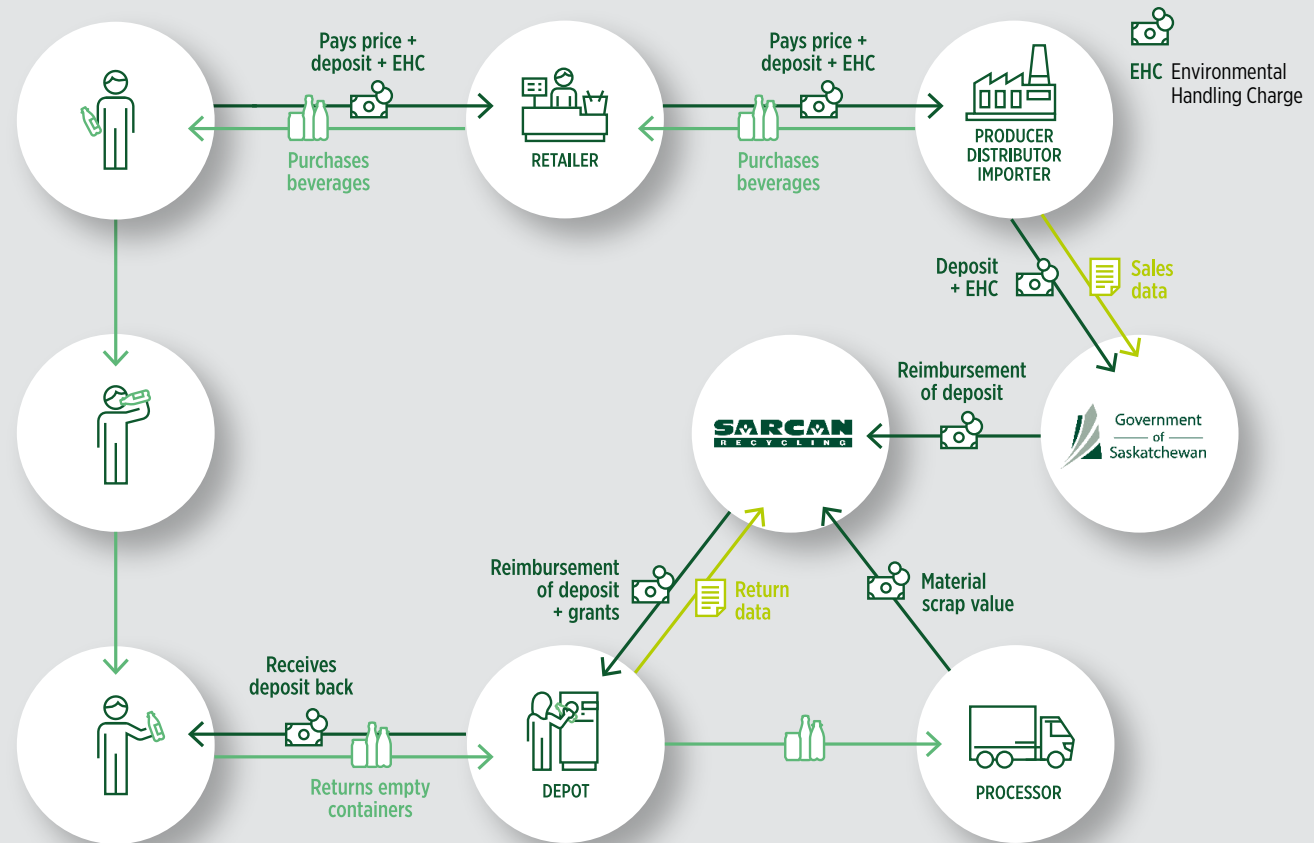
Barcode-based system?

No

Return rate (2021-22)*

| |
|-------|
| Total |
| 82% |

Money, material & data flow



¹ Saskatchewan's DRS was originally legislated under the Litter Control Act (1973) (and later, the Designated Container Regulations (1990)). When it was first passed, the Litter Control Act required refillable bottles for beer and soft drinks. In 1988, it was amended to allow the use of single-use aluminium cans and PET bottles. At the same time, in anticipation of the need for a DRS to deal with the increased waste from single-use containers, the Act was also amended to provide for a refundable deposit and handling fee.

² Unlike the deposit, the Environmental Handling Charge is a non-refundable fee.

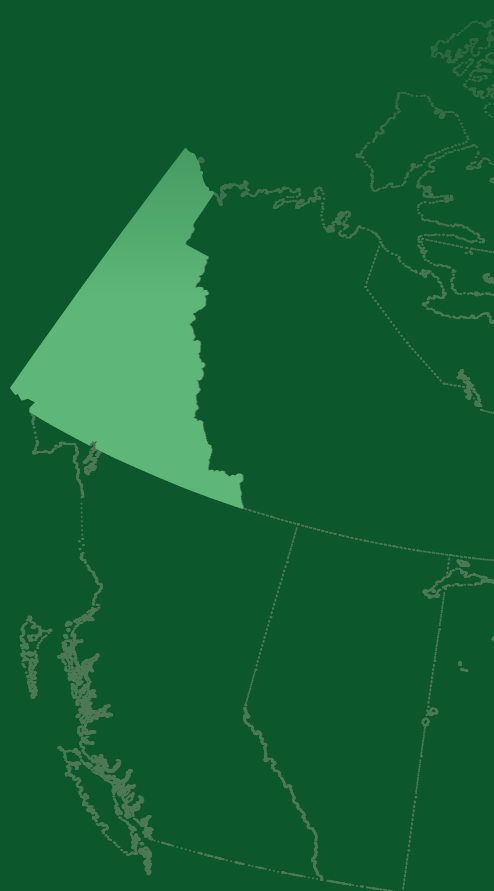


Yukon

Population: 0.04m

Population density: 0.1/km²

System operator's website:



Sources

- 1) Yukon Government. 2021. "Part I: Current programs and infrastructure. Extended Producer Responsibility in the Yukon: exploration and implementation considerations." <https://yukon.ca/sites/yukon.ca/files/env/env-epr-yukon-part-1.pdf>
- 2) Personal communication with Natalia Baranova, Environmental Protection Analyst, Yukon Government, 6 April 2022

Legislative framework

Name of legislation

Recycling Fund Regulation and Beverage Container Regulation, made under the Environment Act

Legislation enacted

October 1992

Appointment of system operator

Not applicable

System started

1992

Key updates

- › 1996 – expansion to glass and plastic bottles
- › 1998 – expansion to tin and aseptic containers
- › 2017 – expansion to milk and milk substitutes

Regulatory authority

Environment Yukon

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium, bimetal), glass, gable top, aseptic

Beverage type

All sealed, ready-to-serve alcohol and non-alcohol drinks including wine, spirits, beer, milk and milk substitutes, drinkable dairy products, juice, soft drinks, coffee drinks and liquid coffee flavouring, fruit smoothie drinks

Size

≥30ml (0.01 gal)

Excluded

Canned coconut milk, canned condensed or evaporated milk, canned whipping cream, powdered drink crystals, juice concentrate, liquid meal replacement, infant formula

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit/refund value¹

› Variable rate:

- › Milk and milk substitutes (any size): CAD\$0.10/\$0.05 (USD\$0.08/\$0.04)
- › Drinks other than milk <750ml (0.2 gal): CAD\$0.10/\$0.05 (USD\$0.08/\$0.04)
- › Drinks other than milk ≥750ml (0.2 gal): CAD\$0.35/\$0.25 (USD\$0.27/\$0.20)

Handling fee (2022)

CAD\$0.025 to CAD\$0.075 (USD\$0.020 to USD\$0.059)

Processing fee (2022)

CAD\$0.01 to CAD\$0.048 (USD\$0.008 to USD\$0.037)
(paid to processing facilities for each container received)



System structure & administration

Clearing system

Centralised

System operator

Yukon Government Department of Community Services

System finance

Recycling fund fees, unredeemed deposits, provincial government grants

Unredeemed deposits

Recycling Fund (a dedicated government fund set up under regulation to be used solely to support recycling activities)

Material owner

Processors

Container return & refund points

Collection model

Return-to-Depot: There are 14 depots operated by not-for-profit community groups and for-profit businesses.

Pop. per collection point

~2,874

Method of return

Manual

Barcode-based system?

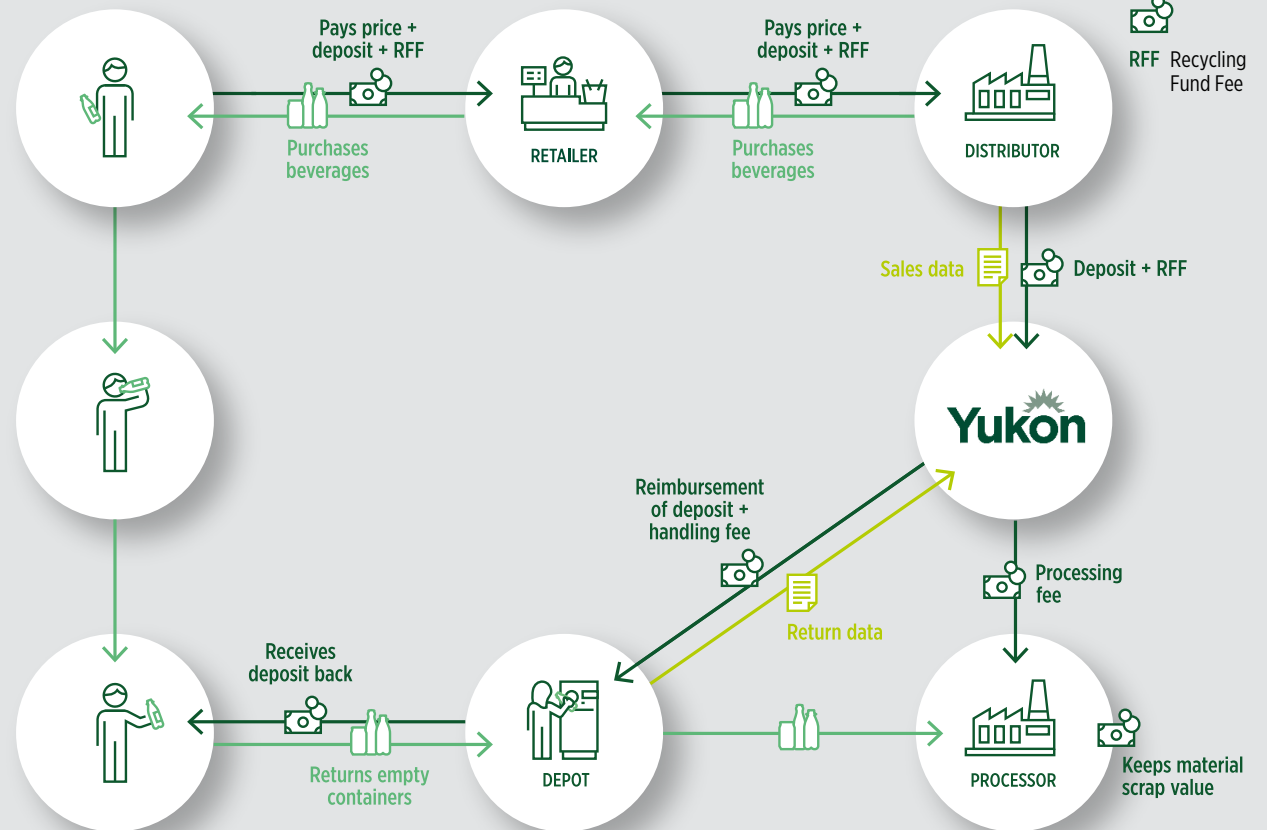
No

Return rate (2020-21)

Total

65%

Money, material & data flow



¹ The deposit that consumers pay when purchasing a beverage includes both a refundable portion and a non-refundable surcharge, called a 'recycling fund fee' (RFF). The non-refundable RFF (CAD\$0.05 for milk (any size) and for drinks other than milk <750ml; and CAD\$0.10 for drinks other than milk ≥750ml) is collected by the retailer and goes into a recycling fund that is administered by the government. Unredeemed deposits also go into this fund.



Central America & the Caribbean



Region snapshot

› 2 countries with DRS, covering a total of 0.69 million people

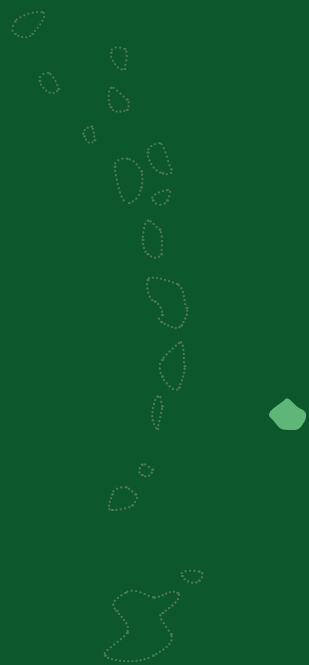
| Country | 2021 Population (million) | Legislation Enacted | System Started |
|----------|---------------------------|---------------------|----------------|
| Barbados | 0.3m | 1986 | 1986 |
| Belize | 0.4m | 2009 | Unknown |



Barbados

Population: 0.3m

Population density: 668/km²



Legislative framework

Name of legislation

Returnable Containers Act and Returnable Containers (Amendment) Act

Legislation enacted

June 1986

Appointment of system operator

Unknown

System started

1986

Key updates

- › 2019 – changes to deposit level (by material type and size), expansion to all Material types

Regulatory authority

Ministry of the Environment and Drainage

Legislated targets

None

Scope

Material type

Plastic (PET, HDPE, LDPE), metal (aluminium, steel), glass, carton

Beverage type

Carbonated and non-carbonated soft drinks, mineral water, soda water, beer and malt drinks

Size

≤ 3.8L (1 gal)

Excluded

Milk, some types of water, wine and spirits

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› Variable rate:

- › Glass: USD\$0.15 (€0.14)
- › PET: USD\$0.10 (€0.09)
- › HDPE, LDPE <1L: USD\$0.05 (€0.05)
- › HDPE, LDPE >1L: USD\$0.10 (€0.09)
- › Aluminium: USD\$0.05 (€0.05)
- › Other: USD\$0.05 (€0.05)

Handling fee (2021)

20% of the redemption value is paid to retailers or redemption centres

Sources

- 1) "Examining the Barbados deposit refund system." 3 March 2020. https://trinidadexpress.com/business/local/examining-the-barbados-deposit-refund-system/article_20aacb4a-5db2-11ea-922d-dfcc19e052ba.html



System structure & administration

Clearing system

Unknown

System operator

Unknown

System finance

Unknown

Unredeemed deposits

Retained by participants within the private sector and used to reduce the cost of operating MRFs

Material owner

Unknown

Container return & refund points

Collection model

Hybrid: There are ~8 redemption centres on the island. Retailers are required to accept any empty beverage container of the design, shape, size, colour, composition, and brand sold by the retailer.

Pop. per collection point

Unknown

Method of return

Manual

Barcode-based system?

Unknown

Return rate

According to one source, “on average, 75% of empty containers are redeemed in Barbados each year.”

Money, material & data flow

Not available

¹ Like the other Atlantic provinces, Prince Edward Island's DRS is based on a “halfback” model, where the deposit paid on single-use drinks containers is only partially (50%) refunded to the consumer (deposits on refillable containers are 100% refundable).



Belize

Population: 0.4m

Population density: 17/km²

Legislative framework

Name of legislation

Returnable Containers Act (Revised)

Legislation enacted

2009

Appointment of system operator

Unknown

System started

Unknown

Key updates

› 2011 – expanded to plastic containers

Regulatory authority

Ministry of Forestry, Fisheries, and Sustainable Development

Legislated targets

None

Scope

Material type

Plastic, metal (aluminium, steel), glass

Beverage type

Carbonates soft drinks, beer and other malt drinks

Size

≤ 3.79L (1 gal)

Excluded

Water, milk, juice, wine and spirits, any beverage not explicitly listed as included

Deposits & fees

Deposit initiator

Distributor

Deposit value

› Variable rate:

› Plastic ≤500ml: USD\$0.05

› Plastic >500ml: USD\$0.10

› Glass, metal: USD\$0.15

Handling fee

Unknown

Producer fee

Unknown

Sources

1) Centre for Environment Fisheries & Aquaculture Science, Asia Pacific Waste Consultants, Petterd, A., Wander, A., and H. Cooney, September 20, 2019. "Belize-Waste Data report: analysis of waste generation and disposal data collected in Belize."

2) "Situation Analysis of the Returnable Containers Act and the Belize Recycling Sector (Summary Paper)."



System structure & administration

Information not available

Container return & refund points

Collection model

Return-to-Retail: Retailers are required to take back any empty beverage containers of the design, shape, size, colour, composition and brand that they sell. There is only one company (Bowen & Bowen Pty Ltd.) currently refunding customers for return of their containers.

Pop. per collection point

Unknown

Method of return

Unknown

Barcode-based system?

Unknown

Return rate

Data not available

Money, material & data flow

Not available

¹ Like the other Atlantic provinces, Prince Edward Island's DRS is based on a "halfback" model, where the deposit paid on single-use drinks containers is only partially (50%) refunded to the consumer (deposits on refillable containers are 100% refundable).



Africa

Region snapshot

› One country with DRS, covering a total of 0.09 million people



Republic of Seychelles

| Country | 2021 Population (million) | Legislation Enacted | System Started |
|------------------------|---------------------------|---------------------|----------------|
| Republic of Seychelles | 0.09 | Unknown | 2007 |



Republic of Seychelles

Population: 0.1m

Population density: 214/km²

Sources

- 1) Rapold, N.S. June 2019. "A Pathway Towards the Implementation of an Electronic Waste Management System in Seychelles – Status Quo Analysis and Assessment of Future Strategies." <https://ethz.ch/content/dam/ethz/special-interest/usys/tdlab/docs/education/theses/msc-nina-rapold.pdf>
- 2) Krutli, P., Nef, D., Zumwäld, M., Haupt, M., Harlay, J. & M. Stauffacher. 2019. "Waste Management in the Seychelles – Pathways for Systemic Change." USYS TdLab Transdisciplinary Case Study 2018.
- 3) Laurence, D. 15 January 2021. "Deposit on bottles of alcohol to go into effect in Seychelles on January 18." <http://www.seychellesnewsagency.com/articles/14154/Deposit-on-bottles-of-alcohol-to-go-into-effect-in-Seychelles-on-January-18>
- 4) Joubert-Lawen, R. 3 March 2022. "Recycling success: 8.5 million glass bottles collected in Seychelles since programme launch last year." <http://www.seychellesnewsagency.com/articles/16400/>
- 5) "New levy to be imposed on glass bottles from July 1." 21 May 2018. <https://www.nation.sc/archive/258947/new-levy-to-be-imposed-on-glass-bottles-from-july-1>
- 6) Lai, A., Hensley, J., Krutli, P., and M. Stauffacher. 2017. "Solid Waste Management in the Seychelles: USYS TdLab Transdisciplinary Case Study 2016." https://ethz.ch/content/dam/ethz/special-interest/usys/tdlab/docs/csproducts/cs_2016_report.pdf
- 7) Environment Protection (Environmental Levies on PET, Plastic and Glass Bottles and Cans) Regulations, 2020. <https://www.nationalassembly.sc/sites/default/files/2020-10/SI-81-2020-Environment-Levies-on-PET-Plastic-Glass-Bottles-Cans.pdf>
- 8) Environment Protection (Environmental Levies) (Amendment) Regulations, 2020. <https://seylit.org/sc/legislation/si/2020/8/SI%208%202020%20-%20Environment%20Protection%20%28Environmental%20Levies%29%20%28Amendment%29.pdf>
- 9) Malbrook, J., and B. Bonnelame. 26 October 2015. "Seychelles company exports millions of shredded PET bottles to reduce the islands' solid waste." <http://www.seychellesnewsagency.com/articles/3913/>

Legislative framework

Name of legislation

Trade Tax Act and the Environment Protection (Environmental Levies on PET, Plastic and Glass Bottles and Cans) Regulations (2020) made under the Environment Protection Act 2016

Agreement signed between the Seychelle's Ministry of Environment and Seychelles Breweries and the Seychelles Marketing Board (SMB)

Legislation enacted

Unknown

Appointment of system operator

Unknown

System started

October 2007

Key updates

› January 2021 – expansion to glass alcohol bottles

Regulatory authority

Ministry of Environment, Energy, and Climate Change

Legislated targets

None

Scope

Material type

Plastic (PET), metal (aluminium), glass

Beverage type

› Plastic and metal: All beverages
› Glass: Imported beer, wine, and spirits

Size

All

Excluded

Baby products in glass bottles

Deposits & fees

Deposit initiator

Government (customs)

Deposit/refund value

› Plastic: 0.7 SCR/0.5 SCR (€0.05/€0.03, USD\$0.05/\$0.04)
› Metal: 1 SCR/0.5 SCR (€0.07/€0.03, USD\$0.08/\$0.04)
› Glass: 2 SCR/1 SCR (€0.14/€0.07, USD\$0.15/\$0.08)

Handling fee (2021)¹

› Plastic: 0.15 SCR (€0.01, USD\$0.01)
› Metal: 0.20 SCR (€0.01, USD\$0.01)
› Glass: unknown



System structure & administration

Clearing system

Centralised

System operator

Government

System finance

Non-refundable portion of the deposit, unredeemed deposits

Unredeemed deposits

Waste Management Fund (special fund of the Ministry of Finance)

Material owner

Recyclers

Container return & refund points

Collection model

Return-to-Redemption Centre: Six redemption centres have been allocated on the three most populated islands.

Pop. per collection point

16,500

Method of return

Manual

Barcode-based system?

No

Return rate

Data not available

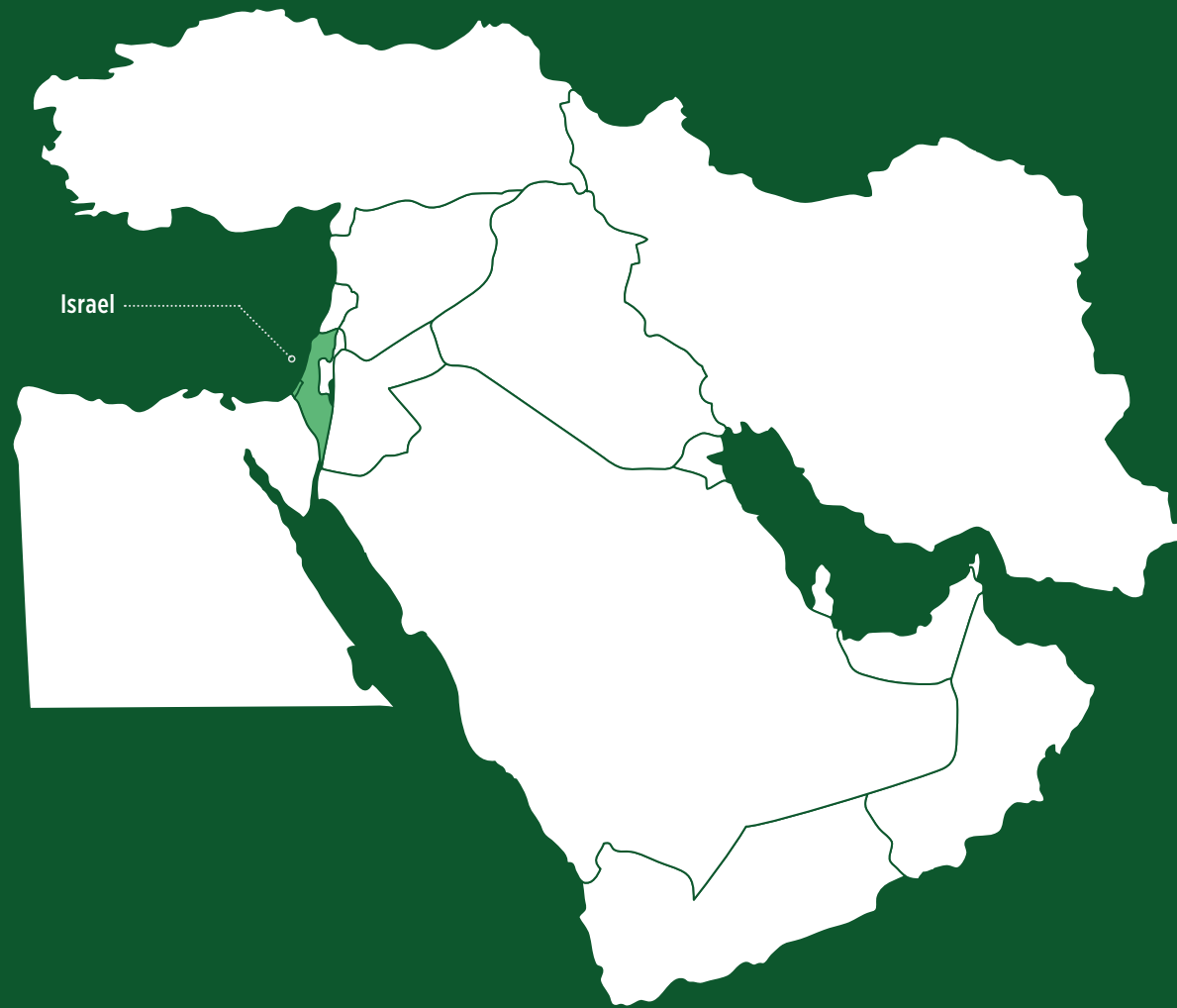
Money, material & data flow

Not available

¹ Handling fees cover operational costs and the refund that redemption centres pay to consumers. Redemption centres also get to keep the non-refundable portion of the deposit to cover operational costs



Middle East



Region snapshot

› One country with DRS, covering a total of 9.2 million people

| Country | 2021 Population (million) | Legislation Enacted | System Started |
|---------|---------------------------|---------------------|----------------|
| Israel | 9.2 | 1999 | 2001 |



Israel

Population: 9.2m

Population density: 425.9/km²

System operator's website:

Sources

- 1) Ministry of Environmental Protection. 1 December 2021. "Recycling Big! Starting today the Deposit Law has been extended to large bottles, the Ministry of Environmental Protection calls on the public to return the empty drink bottles to the businesses, and receive their deposit fee." https://www.gov.il/en/departments/news/dedeposit_2021
- 2) Hennessey, Z. 6 December 2021. "Bottled up: Israel's Deposit Law will not also include big bottles." <https://www.ipost.com/israel-news/bottled-up-israels-deposit-law-will-now-also-include-big-bottles-687987>
- 3) Surkes, S. 25 November 2021. "Supermarkets ill-prepared for expanded bottle deposit law." <https://www.timesofisrael.com/supermarkets-ill-prepared-for-expanded-bottle-deposit-law/>
- 4) Ministry of Environmental Protection. "Frequently asked questions on the Deposit Law expansion." https://www.gov.il/en/Departments/faq/bottle_deposit_expansion_faq
- 5) Personal communication with Carmit Bardugo, ASOFTA Recycling Corporation, 15 March 2022

Legislative framework

Name of legislation

Deposit on Beverage Containers Law

Legislation enacted

1999

Appointment of system operator

Unknown

System started

October 2001

Key updates

› December 2021 – expansion to large drink containers

Regulatory authority

Ministry of Environmental Protection

Legislated targets¹

› **Annual collection:** 65% (2022-2023), 71% (2024-2025), and 73% (2026-2027)

› **Biennial average collection:** 68% (2022-2023), 73% (2024-2025), and 77% (2026-2027)

› **Recycling:** 90%

Scope

Material type

Plastic (PET), metal, glass

Beverage type

All drinks

Size²

>100ml (0.026 gal) to 5L (0.4 gal)

Excluded

Milk and dairy products

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Deposit value

› **Fixed rate:** 0.3 ILS (€0.07, USD\$0.09)

Handling fee (2022)

0.05 ILS (€0.013, USD\$0.014) (paid by ELA Recycling Corporation to retailers only)



System structure & administration

Clearing system

Centralised

System operator

ELA Recycling Corporation (private non-profit organisation owned by Israel's beverage manufacturers) and Asofta Recycling Corporation (private company representing >150 Israeli beverage importers and producers)

System finance

Material revenues, unredeemed deposits

Unredeemed deposits

System operators

Material owner

System operators

Container return & refund points

Collection model

Hybrid: Supermarkets and grocery retailers >300ft² are required to take back empty containers (limited to 50/day) of the same type and brand they sell. Containers can also be returned to around 80 recycling stations (depots).

Pop. per collection point

Unknown

Method of return

Mostly manual (As of November 2021, there are approximately 180 RVMs)

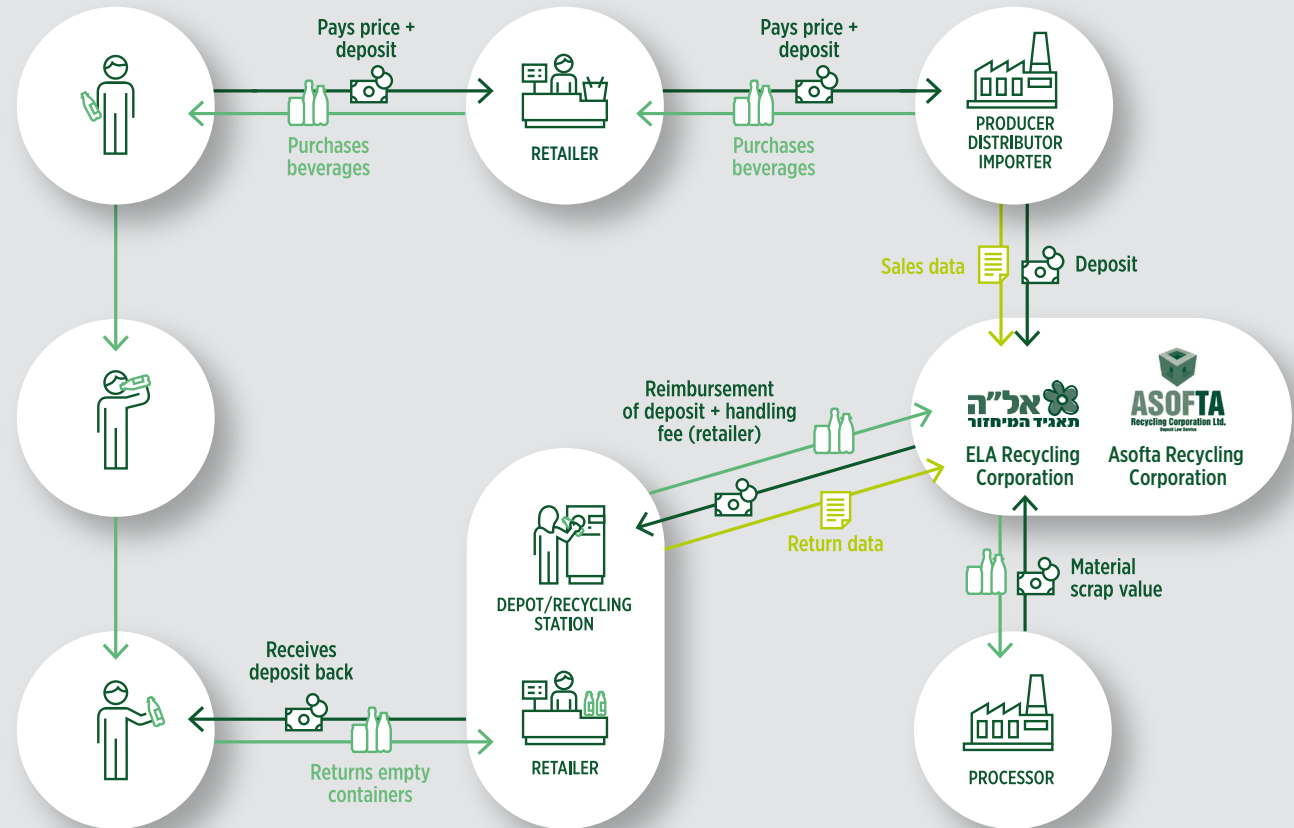
Barcode-based system?

No

Return rate (2021)

| Plastic (PET) | Glass | Total |
|---------------|-------|-------|
| 77% | 77% | 77% |

Money, material & data flow



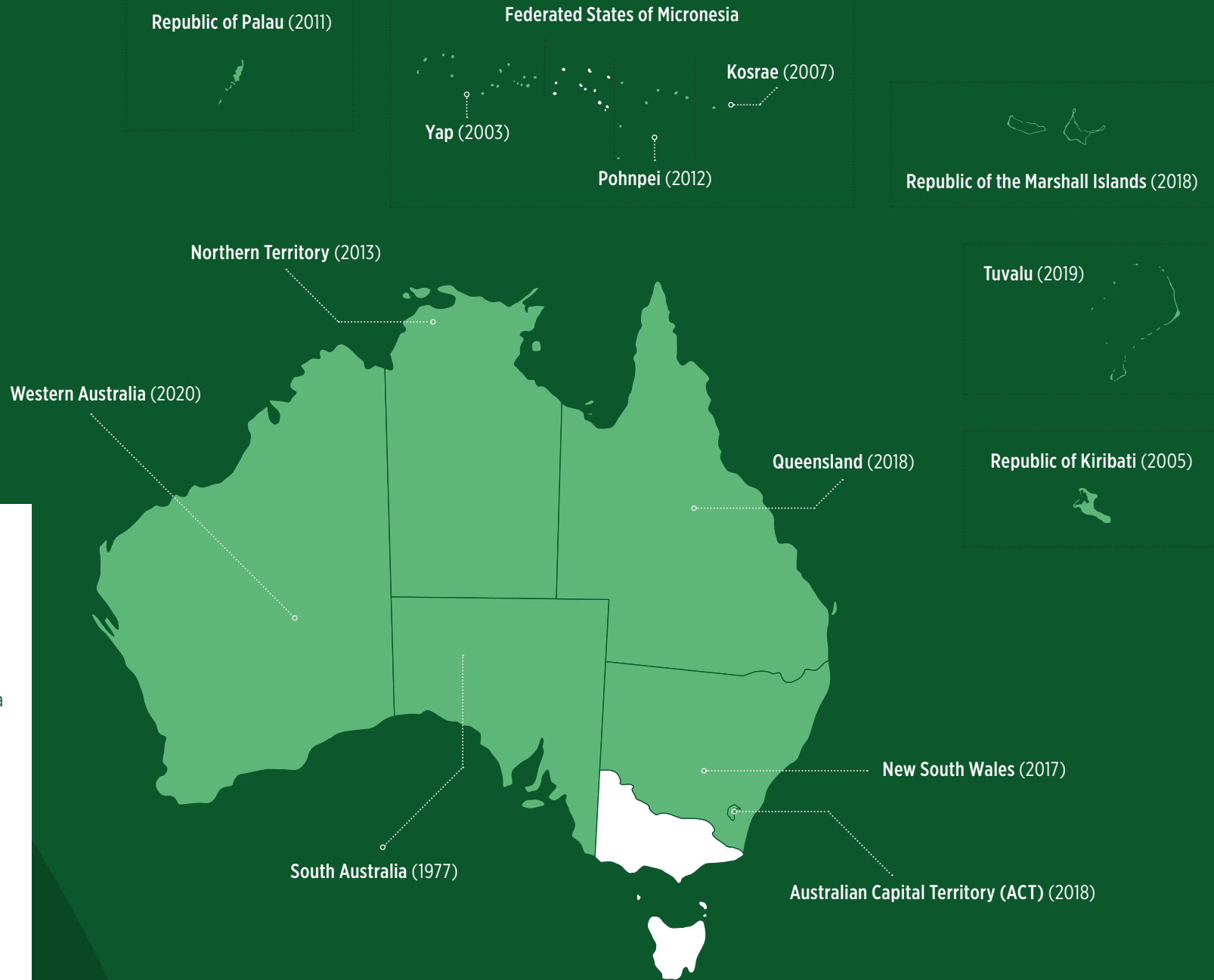
¹ Up until the end of 2021, the collection target was 77%.

² Initially, Israel's DRS legislation only applied to drinks containers between 100ml and 1.5L in volume. The decision to extend the law to also cover large drinks containers was made after manufacturers and importers failed to meet the targets of the Deposit Law, which required them to collect 55% of all large plastic bottles sold annually. Following the failure of beverage manufacturers and importers to meet this objective, in October 2020, the Minister of Environmental Protection decided to apply a deposit to large drinks bottles (up to 5L), effective 1 December 2021.

³ Israel's legislation imposes the responsibility for collecting and recycling directly on the beverage manufacturers/importers. To fulfill their legal obligations for reporting, collecting, and recycling their products, companies can choose to sign up and receive services from either ELA Recycling Corporation or ASOFTA Recycling Corporation.



Oceania



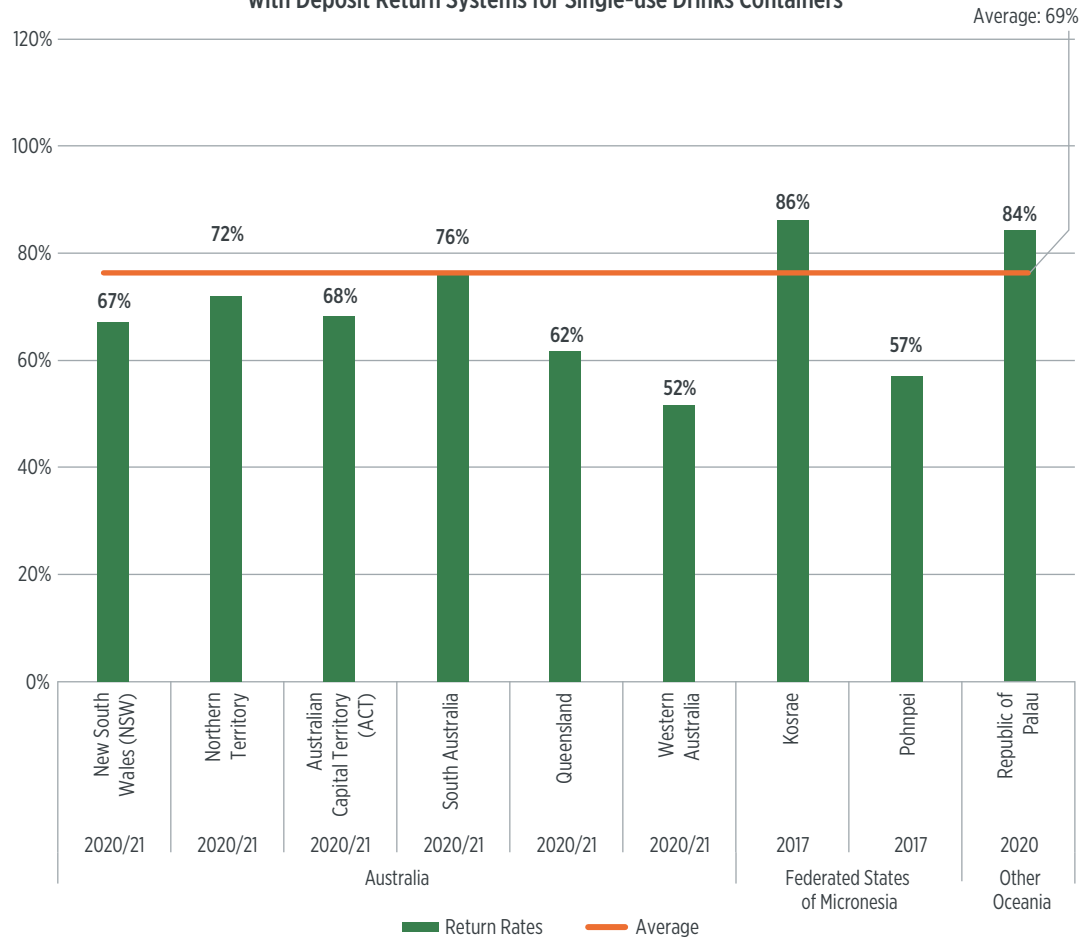
- › 13 jurisdictions with DRS, covering a total of 18.8 million people
- › Average return rate: 69%
- › Median return rate: 68%
- › Most systems are centralised (South Australia and Northern Territory are the exceptions)
- › All but one system operate return-to-depot models (the exception is New South Wales, which operates a hybrid redemption model)
- › Refund value ranges from €0.04 to €0.07 (USD\$0.04 to \$0.07)

Country snapshot



Oceania

Latest Return Rates in Oceania States
with Deposit Return Systems for Single-use Drinks Containers



| Country, State, or Province | 2021 Population (million) | Legislation Enacted | System started |
|---------------------------------------|-------------------------------|---------------------|----------------|
| Australia | | | |
| Australian Capital Territory (ACT) | 0.4 | 2017 | 2018 |
| New South Wales (NSW) | 8.2 | 2016 | 2017 |
| Northern Territory | 0.2 | 2011 | 2012 |
| South Australia | 1.8 | 1975 | 1977 |
| Queensland | 5.2 | 2017 | 2018 |
| Western Australia | 2.7 | 2019 | 2020 |
| Federated States of Micronesia | | | |
| Kosrae | 6,600 | 2006 | 2007 |
| Pohnpei | 36,200 (national census 2010) | 2011 | 2012 |
| Yap | 11,400 | 1995 | 2003 |
| Republic of Kiribati | 117,600 | 2004 | 2005 |
| Republic of Palau | 18,000 | 2006 | 2011 |
| Republic of the Marshall Islands | 58,790 | 2016 | 2018 |
| Tuvalu | 11,650 | 2019 | 2019 |

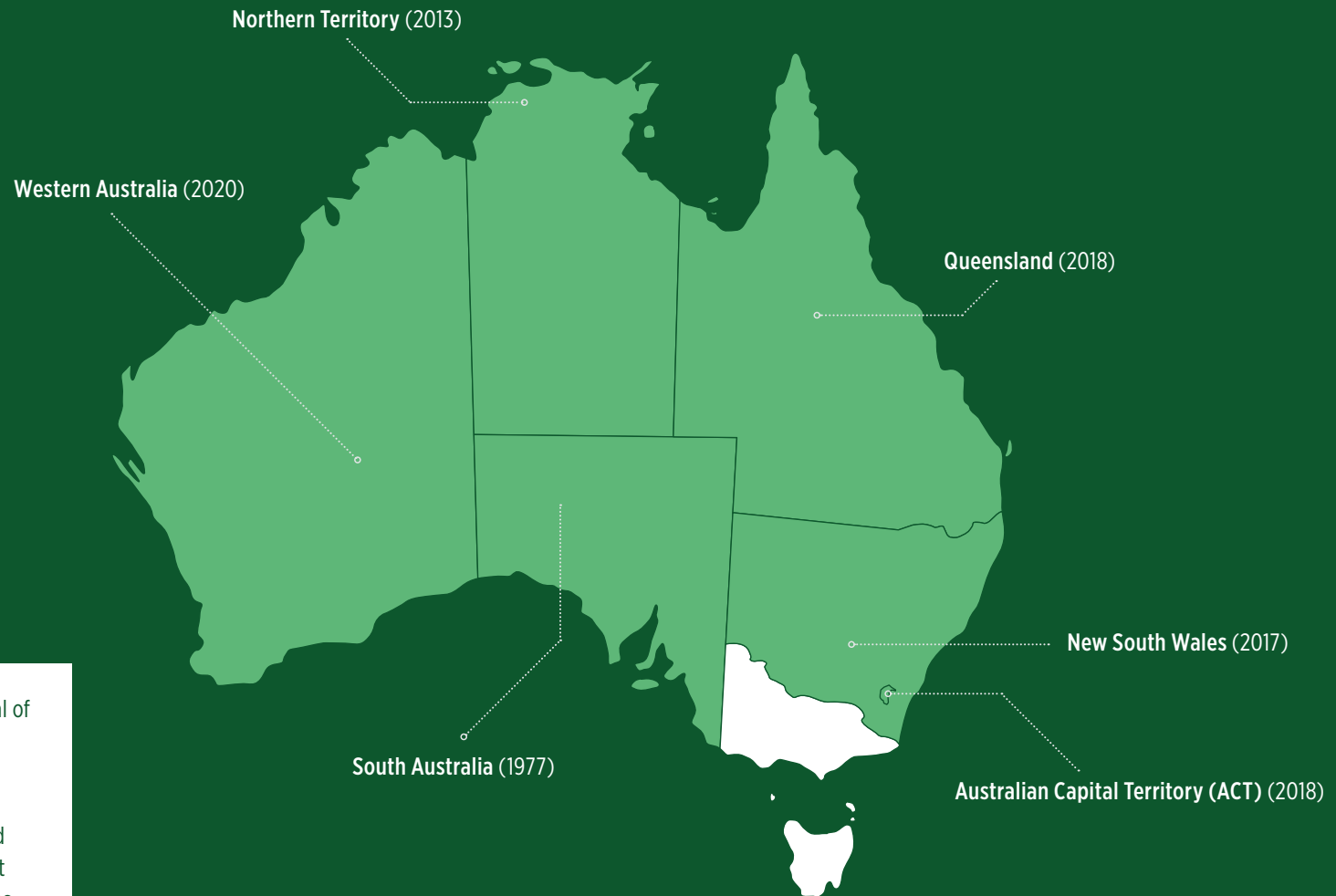
Note: The reported return rates for Yap and Republic of the Marshall Islands are excluded from this graph as they exceed 100%.



Australia

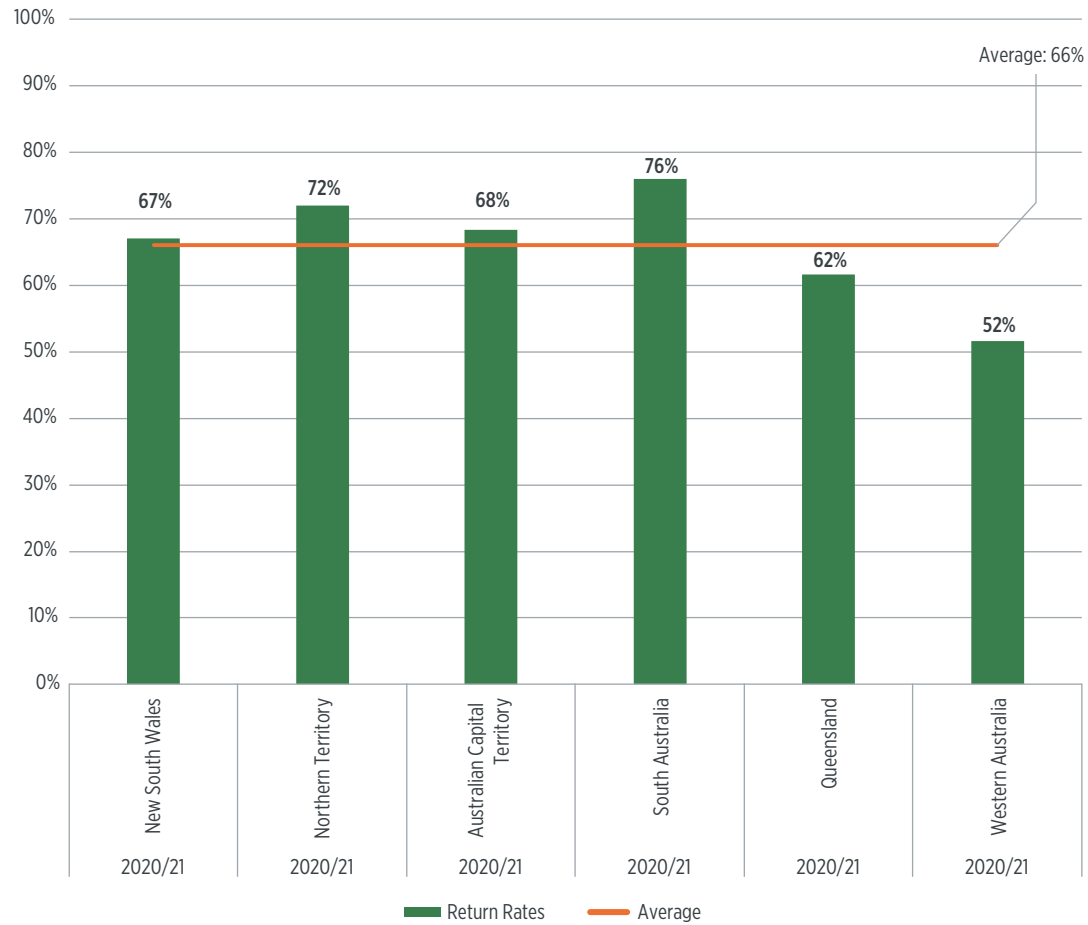
Country snapshot

- › 6 states with DRS, covering a total of 18.5 million people
- › Average return rate: 66%
- › Median return rate: 68%
- › 4/6 of the systems are centralised
- › Most systems are return-to-depot (the exception is New South Wales, which operates a hybrid redemption model)
- › All systems apply the same deposit value of AUD\$0.10 (€0.07, USD\$0.07)



Australia

Latest Return Rates in Australian
with Deposit Return Systems for Single-use Drinks Containers



| State or Territory | 2021 Population (million) | Legislation Enacted | System started |
|------------------------------------|---------------------------|---------------------|----------------|
| Australia | | | |
| Australian Capital Territory (ACT) | 0.4 | 2017 | 2018 |
| New South Wales (NSW) | 8.2 | 2016 | 2017 |
| Northern Territory | 0.2 | 2011 | 2012 |
| South Australia | 1.8 | 1975 | 1977 |
| Queensland | 5.2 | 2017 | 2018 |
| Western Australia | 2.7 | 2019 | 2020 |

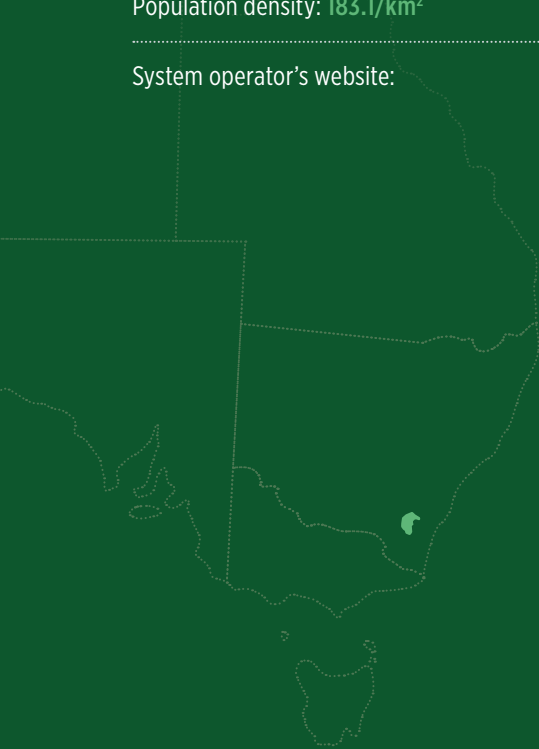


Australian Capital Territory (ACT)

Population: 0.4m

Population density: 183.1/km²

System operator's website:



Sources

- 1) Exchange for Change. 2020-21 ACT CDS Annual Statutory Report. <https://www.exchangeforchange.com.au/who-we-are/publications-and-reports.html>
- 2) ACT Government. "ACT Container Deposit Scheme." <https://actcds.com.au>
- 3) Exchange for Change. "Suppliers - Pricing." <https://www.exchangeforchange.com.au/suppliers/pricing.html>
- 4) Young, A. 9 April 2018. "Exchange for Change appointed for ACT CDS." <https://theshout.com.au/australian-hotelier/exchange-for-change-appointed-for-act-cds/>

Legislative framework

Name of legislation

Waste Management and Resource Recovery Amendment Act and the Waste Management and Resource Recovery (Container Deposit Scheme) Amendment Regulation (No 1)

Legislation enacted

November 2017

Appointment of system operator

April 2018 (scheme coordinator)

System started

June 2018

Key updates

None

Regulatory authority

ACT NoWaste (ACT Government, Transport Canberra and City Services)

Legislated targets

None

Scope

Material type

Plastic (HDPE, PET), metal (aluminium, steel), glass, liquid paperboard

Beverage type

Most sealed, ready-to-drink alcohol and non-alcohol drinks including flavoured milk, juice, water, soft drinks, and beer

Size

150ml to 3L (0.04 gal to 0.79 gal)

Excluded

Wine, spirits, cordial and plain milk (or milk substitute) containers, flavored milk containers of $\geq 1\text{L}$ (0.26 gal), pure fruit or vegetable juice containers of $\geq 1\text{L}$ (0.26 gal), glass containers for wine and spirits, casks for wine or water $\geq 1\text{L}$ (0.26 gal), sachets for wine of $\geq 250\text{ml}$ (0.07 gal), containers for cordials and concentrated fruit/vegetable juices registered health tonics

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Refund value

› **Fixed rate:** AUD\$0.10 (€0.07, USD\$0.07)

Handling fee (2022)¹

AUD\$0.08-\$0.09 (estimate, as this is confidential)

Producer fee (August 2022-January 2023)²

- › Glass: AUD\$0.1372 (€0.091, USD\$0.10)
- › PET: AUD\$0.1076 (€0.071, USD\$0.078)
- › HDPE: AUD\$0.0610 (€0.040, USD\$0.044)
- › Aluminium: AUD\$0.1423 (€0.094, USD\$0.10)
- › Liquid paperboard: AUD\$0.0455 (€0.030, USD\$0.033)
- › Steel: AUD\$0.0369 (€0.024, USD\$0.027)
- › Other plastics: AUD\$0.0169 (€0.011, USD\$0.012)
- › Other material: AUD\$0.0163 (€0.011, USD\$0.012)
- › Weighted average: AUD\$0.1223 (€0.084, USD\$0.091)

*Producer fees listed above exclude GST.

Processing refund³

AUD\$0.10 (€0.07, USD\$0.07) (including GST) (paid to MRF operators for each container collected through kerbside recycling)



System structure & administration

Clearing system

Centralised

Scheme coordinator⁴

Exchange for Change (joint venture established by five of Australia's largest beverage companies: Asahi, Carlton & United Breweries, Coca-Cola Amatil, Coopers Brewery, and Lion); responsible for financial management, scheme auditing and fraud identification, verification, community education and marketing services, managing suppliers, and ensuring that the scheme meets its statewide performance targets.

Network operator⁴

Return-It (recycler owned by Re.Group, appointed by competitive open market process) (contracted to set up and manage the network of return points, as well as manage the logistics and sale of commodities to ensure collected containers are recycled)

System finance

Producer fees,
material revenues

Unredeemed deposits⁵

Not applicable

Material owner

Network operator

Container return & refund points

Collection model

Return-to-Depot: There are 22 return points, including 12 “drop & go” (bag drop) points (self-service and staffed, open during business hours and on weekends), 6 “drop & go PODs” (self-service and open 7 days/week), and 4 staffed “cash-back” depots (open during business hours and weekends).

Pop. per collection point

~19,650

Method of return

Mostly manual, but automated counting systems are in place at all cash-back depots

Barcode-based system?

No

Return rate (2020-21)

| Plastic (PET) | Plastic (HDPE) | Aluminium | Steel | Glass | Liquid paperboard | Total |
|---------------|----------------|-----------|-------|-------|-------------------|--------|
| 74% | 40% | 77% | 4% | 67% | 15% | 68.3%* |

*Note: Includes containers collected via DRS network operator as well as containers recovered via kerbside programmes (MRF). This is an approximate 50/50 split between the two streams with a large growth in MRF recovery of eligible containers in the past 12 months.

Breakdown by collection channel

Containers collected via DRS network operator

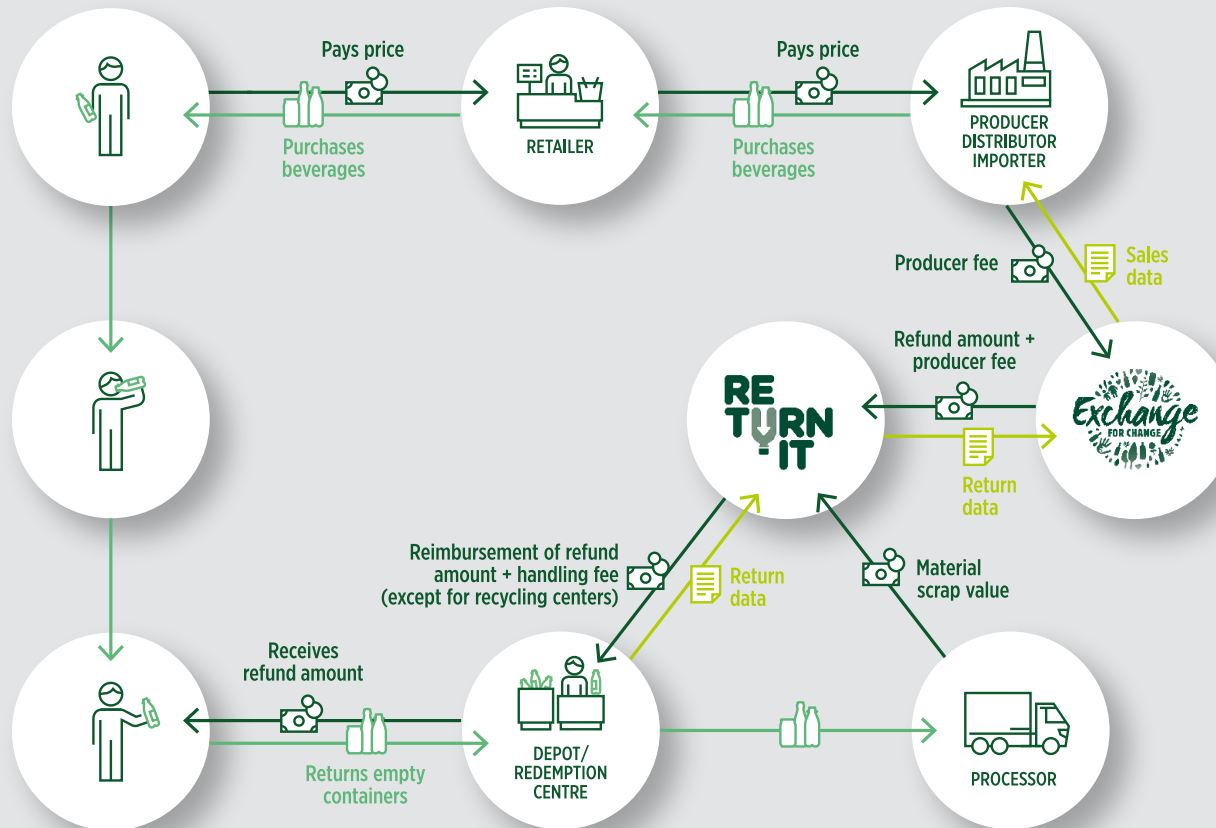
| Plastic (PET) | Plastic (HDPE) | Aluminium | Steel | Glass | Liquid paperboard | Total |
|---------------|----------------|-----------|-------|-------|-------------------|-------|
| 28.0% | 14.3% | 46.2% | 4.4% | 36.0% | 15.0% | 35.5% |

Containers collected via kerbside programmes (MRF)

| Plastic (PET) | Plastic (HDPE) | Aluminium | Steel | Glass | Liquid paperboard | Total |
|---------------|----------------|-----------|-------|-------|-------------------|-------|
| 46.0% | 25.2% | 31.1% | 0.0% | 30.7% | 0.0% | 32.8% |



Money, material & data flow



¹ The 'handling fee' covers the total cost of collection, transportation and processing of materials.

² Producer fees (called 'supplier contributions' in ACT) cover the core scheme costs which comprise: refunds (AUD\$0.10 (including GST) per container, network fees (fixed fee per container collected that is paid to the network operator), MRF refunds (AUD\$0.10 (including GST), paid to the MRF operator for each container collected through commercial and kerbside recycling), export rebates (to refund suppliers for drinks containers exported out of the ACT), scheme coordinator fee (a fixed fee for administration carried out by the scheme coordinator), scheme compliance fees (fixed fee paid to ACT No Waste to cover compliance costs). Exchange for Change (EFC) has announced fixed pricing per material type for ACT supplier contributions for a period of 6 months from August 2022 to January 2023. EFC will announce pricing for the next period on 1 October 2022. This pricing will take effect from the February 2023 invoice.

³ Qualified MRF operators are entitled to claim a processing refund of AUD\$0.10/unit (including GST) for eligible containers collected through kerbside recycling bins that are sent for reuse and/or recycling. The claimed amount is based on the eligible container factor for facilities that report in weight, or by unit count where claims are already in this format. Eligible container factors provide a standardised count per tonne of material delivered for recycling, allowing the weights shipped by MRF operators to be converted into a count to determine the refund due. These factors, published quarterly by the EPA, are calculated by an independent third-party using sampling data collected from MRFs.

⁴ ACT's split-responsibility model sees a system coordinator and network operator(s) jointly operate the deposit system.

⁵ In Australia, there is no legislation saying a 'deposit' must be paid, just that a refund must be given to all consumers that recycle at a refund point. As a result, there is no pool of unredeemed deposits. Instead, the system operator invoices producers a 'producer fee'. This fee is based on the number of containers that are returned and also depends on the revenues earned from the sale of material).

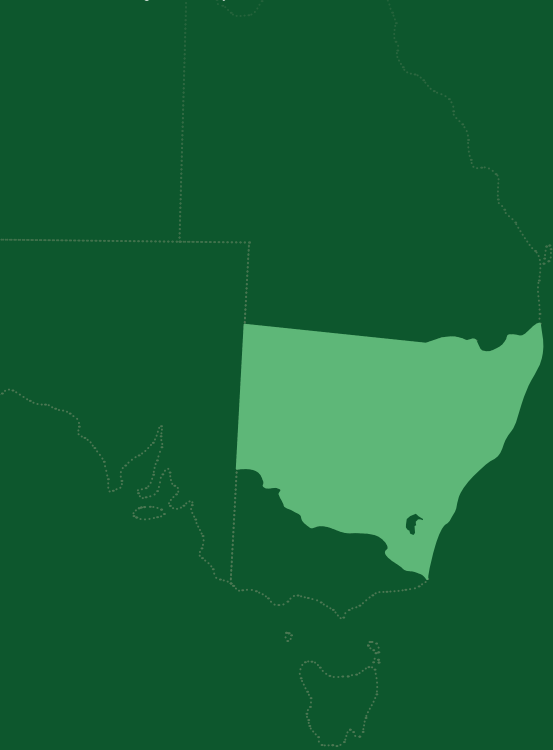


New South Wales (NSW)

Population: 8.2m

Population density: 10.2/km²

System operator's website:



Sources

- 1) Exchange for Change. "Return and Earn Annual Statutory Report 2020-21." <https://www.exchangeforchange.com.au/who-we-are/publications-and-reports.html>
- 2) Exchange for Change. "Suppliers – Pricing." <https://www.exchangeforchange.com.au/suppliers/pricing.html>
- 3) Exchange for Change. "Scheme Performance Dashboard." <https://www.exchangeforchange.com.au/#nsw-cds-performance-dashboard>
- 4) Personal communication with Evonne McCabe, Senior Communications Manager, Exchange for Change, 9 May 2022

Legislative framework

Name of legislation

Waste Avoidance and Resource Recovery (Container Deposit Scheme) Regulation, under the Waste Avoidance and Resource Recovery (WARR) Act 2001

Legislation enacted

Amendments to the WARR Act 2001 were passed in October 2016 and the Waste Avoidance and Resource Recovery (Container Deposit Scheme) Regulation 2017 was published in March 2017

Appointment of system operator

July 2017

System started

1 December 2017

Key updates

None

Regulatory authority

NSW Environment Protection Authority

Legislated targets

None

Scope

Material type

Plastic (HDPE, PET), metal (aluminium, steel), glass, liquid paperboard

Beverage type

Most sealed, ready-to-drink alcohol and non-alcohol drinks including flavoured milk, juice, water, soft drinks, and beer

Size

150ml to 3L (0.04 gal to 0.79 gal)

Excluded

Plain milk, cordials, concentrated fruit or vegetable juice (or a mixture of concentrated fruit and vegetable juices) intended to be diluted before consumption, registered health tonics,

glass wine and spirits bottles, containers designed to contain \geq 1L of flavoured milk or a beverage comprising \geq 90% fruit or vegetable juice (or a mixture of fruit and vegetable juices), containers made of cardboard and plastic, containers made of and foil or cardboard, plastic and foil (i.e. aseptic packs) designed to contain \geq 1L of wine, wine-based beverage or water, containers made of plastic or foil (or both) (i.e. sachets) designed to contain \geq 250ml of wine

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Refund value

› **Fixed rate:** AUD\$0.10 (€0.07, USD\$0.07) (including GST)

Handling fee (2022)¹

AUD\$0.08-\$0.09 (estimate, as this is confidential) (paid to depots only)

Producer fee (August 2022-January 2023)²

- › Glass: AUD\$0.1252 (€0.086, USD\$0.094)
- › PET: AUD\$0.1065 (€0.073, USD\$0.080)
- › HDPE: AUD\$0.0726 (€0.050, USD\$0.054)
- › Aluminium: AUD\$0.1312 (€0.090, USD\$0.098)
- › Liquid paperboard: AUD\$0.0503 (€0.034, USD\$0.038)
- › Steel: AUD\$0.0722 (€0.049, USD\$0.054)
- › Other plastics: AUD\$0.0345 (€0.024, USD\$0.026)
- › Other material: AUD\$0.0776 (€0.053, USD\$0.058)
- › Weighted average: AUD\$0.1171 (€0.080, USD\$0.088)

*Producer fees listed above exclude GST.

Processing refund³

AUD\$0.10 (€0.07, USD\$0.07) (including GST) (paid to MRF operators for each container collected through kerbside recycling)



System structure & administration

Clearing system

Centralised

Scheme coordinator⁴

Exchange for Change (joint venture established by five of Australia's largest beverage companies [Asahi, Carlton & United Breweries, Coca-Cola Amatil, Coopers Brewery, and Lion]; responsible for financial management, scheme auditing and fraud identification, verification, community education and marketing services, managing suppliers, and ensuring that the scheme meets its statewide performance targets)

Network operator⁴

TOMRA Cleanaway (joint venture partnership of two companies [TOMRA and Cleanaway] appointed by competitive open market process; responsible for setting up and managing the network of collection points, managing the logistics and sale of commodities, and ensuring that the collected containers are recycled)

System finance

Producer fees, material revenues

Unredeemed deposits⁵

Not applicable

Material owner

Network operator

Container return & refund points

Collection model

Hybrid: The network of approximately 628 return points includes 336 self-service RVMs, 28 staffed automated depots, 234 staffed over-the-counter locations, and 8 reverse vending centres (indoor self-service locations with multiple machines). Containers can also be returned to 22 self-service "donation stations," which are machines that will only donate the refund to a charity (they do not issue a refund). These machines only accept plastics, cartons, and cans.

Pop. per collection point

13,040

Method of return

~80% automated / 20% manual

Barcode-based system?

No, but eligible containers are required to have a barcode after a transition period

Return rate (2020-21)*

| Plastic (PET) | Plastic (HDPE) | Other plastics | Aluminium | Steel | Glass | Liquid paperboard | Other material | Total |
|---------------|----------------|----------------|-----------|-------|-------|-------------------|----------------|-------|
| 64% | 45% | 6% | 71% | 35% | 76% | 19% | 16% | 67% |

*Note: Rates include containers collected via DRS network operator (i.e., through return points) as well as through kerbside programmes (i.e., MRF).

Breakdown by collection channel

Containers collected through DRS return points

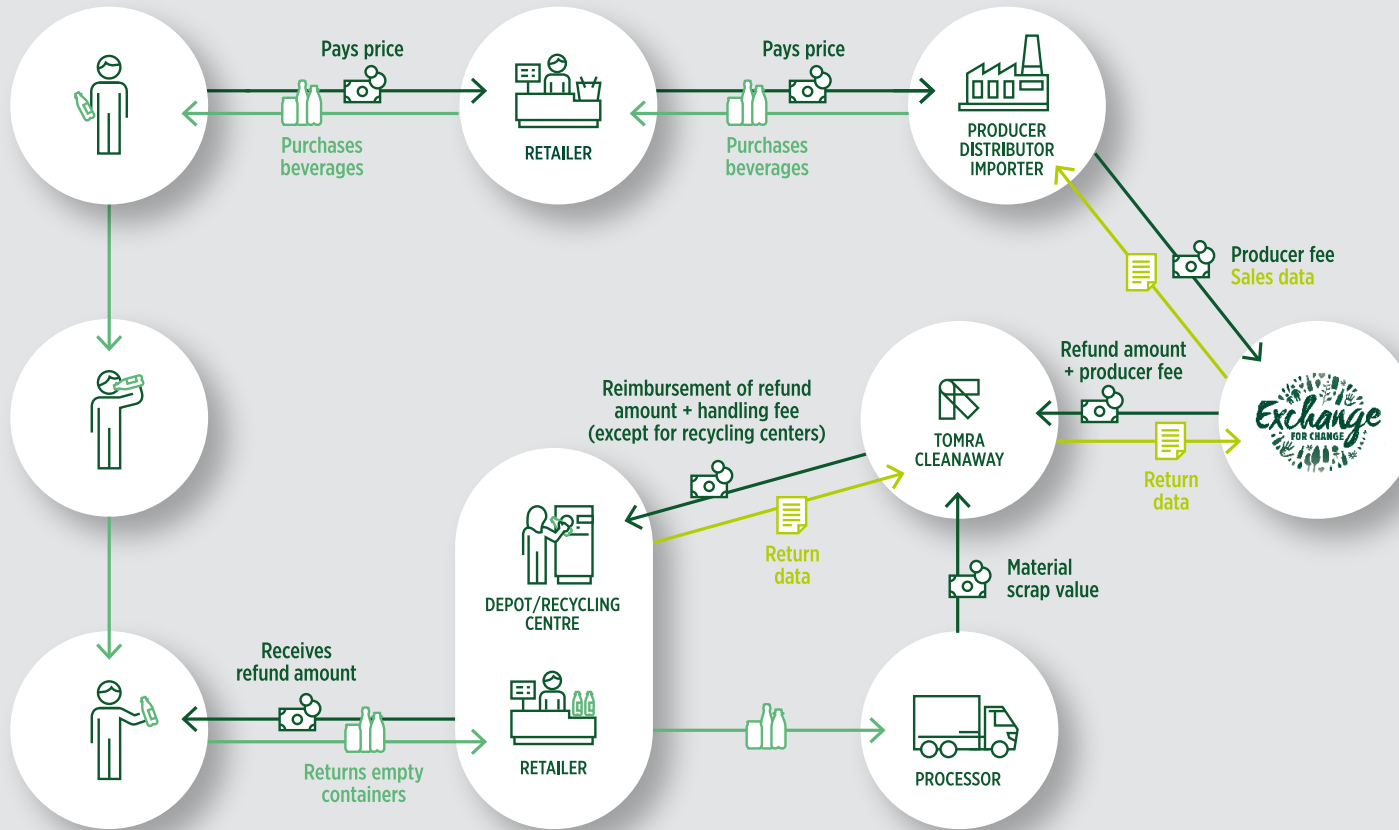
| Plastic (PET) | Plastic (HDPE) | Other plastics | Aluminium | Steel | Glass | Liquid paperboard | Other material | Total |
|---------------|----------------|----------------|-----------|-------|-------|-------------------|----------------|-------|
| 50% | 32% | 6% | 61% | 35% | 59% | 19% | 16% | 54% |

Containers collected through kerbside programmes (MRF)

| Plastic (PET) | Plastic (HDPE) | Other plastics | Aluminium | Steel | Glass | Liquid paperboard | Other material | Total |
|---------------|----------------|----------------|-----------|-------|-------|-------------------|----------------|-------|
| 14% | 13% | 0% | 10% | 0% | 18% | 0% | 0% | 13% |



Money, material & data flow



¹ The 'handling fee' covers the total cost of collection, transportation and processing of materials.

² Producer fees (called 'supplier contributions' in NSW) cover the core scheme costs which comprise: refunds (AUD\$0.10 (including GST) per container, network fees (fixed fee per container collected that is paid to the network operator), MRF refunds (AUD\$0.10 [including GST], paid to the MRF operator for each container collected through commercial and kerbside recycling), export rebates (to refund suppliers for beverage containers exported out of the ACT), scheme coordinator fee (a fixed fee for administration carried out by the scheme coordinator), scheme compliance fees (fixed fee paid to ACT No Waste to cover compliance costs). Exchange for Change (EFC) has announced fixed pricing per material type for NSW supplier contributions for a period of 6 months from August 2022 to January 2023. EFC will announce pricing for the next period on 1 October 2022. This pricing would take effect from the February 2023 invoice.

³ Qualified MRF operators are entitled to claim a processing refund of AUD\$0.10/unit (including GST) for eligible containers collected through kerbside recycling bins that are sent for reuse and/or recycling. The claimed amount is based on the eligible container factor for facilities that report in weight, or by unit count where claims are already in this format. Eligible container factors provide a standardised count per tonne of material delivered for recycling, allowing the weights shipped by MRF operators to be converted into a count to determine the refund due. These factors, published quarterly by the EPA, are calculated by an independent third-party using sampling data collected from MRFs.

⁴ NSW's split-responsibility model sees a system coordinator and network operator(s) jointly operate the deposit system.

⁵ In Australia, there is no legislation saying a 'deposit' must be paid, just that a refund must be given to all consumers that recycle at a refund point. As a result, there is no pool of unredeemed deposits. Instead, the system operator invoices producers a 'producer fee'. This fee is based on the number of containers that are returned and also depends on the revenues earned from the sale of material.



Northern Territory

Population: 0.2m

Population density: 0.18/km²

Regulator's website:

Sources

- 1) Northern Territory Environment Protection Authority. "Environment Protection (Beverage Containers and Plastic Bags) Act 2011: Annual Report 2020-21." https://ntepa.nt.gov.au/_data/assets/pdf_file/0010/1075096/cds-2020-21-annual-report.pdf
- 2) Northern Territory Government. 9 March 2021. "Regulated containers – Fact sheet." https://ntepa.nt.gov.au/_data/assets/pdf_file/0005/285008/factsheet_regulated_containers.pdf
- 3) Northern Territory Environment Protection Authority. 11 October 2021. "Container deposit scheme industry information." <https://ntepa.nt.gov.au/your-business/container-deposit-scheme-industry-information>

Legislative framework

Name of legislation

Environment Protection (Beverage Containers and Plastic Bags) Regulations under the Environment Protection (Beverage Containers and Plastic Bags) Act

Legislation enacted

March 2011

Appointment of system operator

N/A

System started

January 2012

Key updates

None

Regulatory authority

Northern Territory Environment Protection Authority (NT EPA)

Legislated targets

None

Scope

Material type

Plastic (HDPE, PET), aluminium, glass, liquid paperboard

Beverage type

- › Containers < 1L (0.26 gal): flavoured milk, pure juice, water in aseptic packs/casks, some wine-based drinks
- › Containers ≤ 3L (0.79 gal): carbonated soft drinks, non-carbonated soft drinks (including but not limited to: fruit/juice based drinks containing < 90% juice, sports drinks, vitamin drinks, energy drinks, ready-to-drink cordials), water that is not in an aseptic pack/cask, beer/ales/stouts/cider, spirit-based drinks, some wine-based drinks

Size

Dependent on content (see above)

Excluded

Concentrated fruit or vegetable juice or a mixture of concentrated fruit and vegetable juices intended to be diluted before consumption, health tonics, cordials, glass containers used for containing wine or spirits, containers used for containing milk (other than flavoured milk), containers used for containing 1L or more of flavoured milk, containers used for containing 1L or more of pure juice, containers >3L, containers made of cardboard and plastic, cardboard and foil or cardboard, plastic and foil (i.e. aseptic packs) used for containing 1L or more of wine, wine-based beverage or water, containers made of plastic or foil or plastic and foil (i.e. sachets) used for containing 250ml or more of wine

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Refund value

› **Fixed rate:** AUD\$0.10 (€0.07, USD\$0.07)

Handling fee (2022)¹

AUD\$0.08-\$0.09 (estimate, as this is confidential)

Producer fee (2022)²

Unknown (not publicised)

System structure & administration

Clearing system

Decentralised

Scheme coordinator

Drinks industry and private recyclers (there are currently four CDS coordinators approved to operate under the DRS: Envirobank [recycler], Marine Stores [owned by drinks producers Coopers and Lion], Statewide [owned by drinks producer Coca-Cola Amatil], and NT Coordinators [recycler])

System finance

Producer fees, material revenues

Unredeemed deposits²

Not applicable

Material owner

System operator

Container return & refund points

Collection model

Return-to-Depot: There are 18 permanent collection depots and three mobile depots. There is no legal obligation for retailers to take back empty containers or pay the refund amount. However, if a retailer elects to do so or wishes to operate a RVM, they must obtain a collection depot approval from the NT EPA.

Pop. per collection point

~11,729

Method of return

Unknown

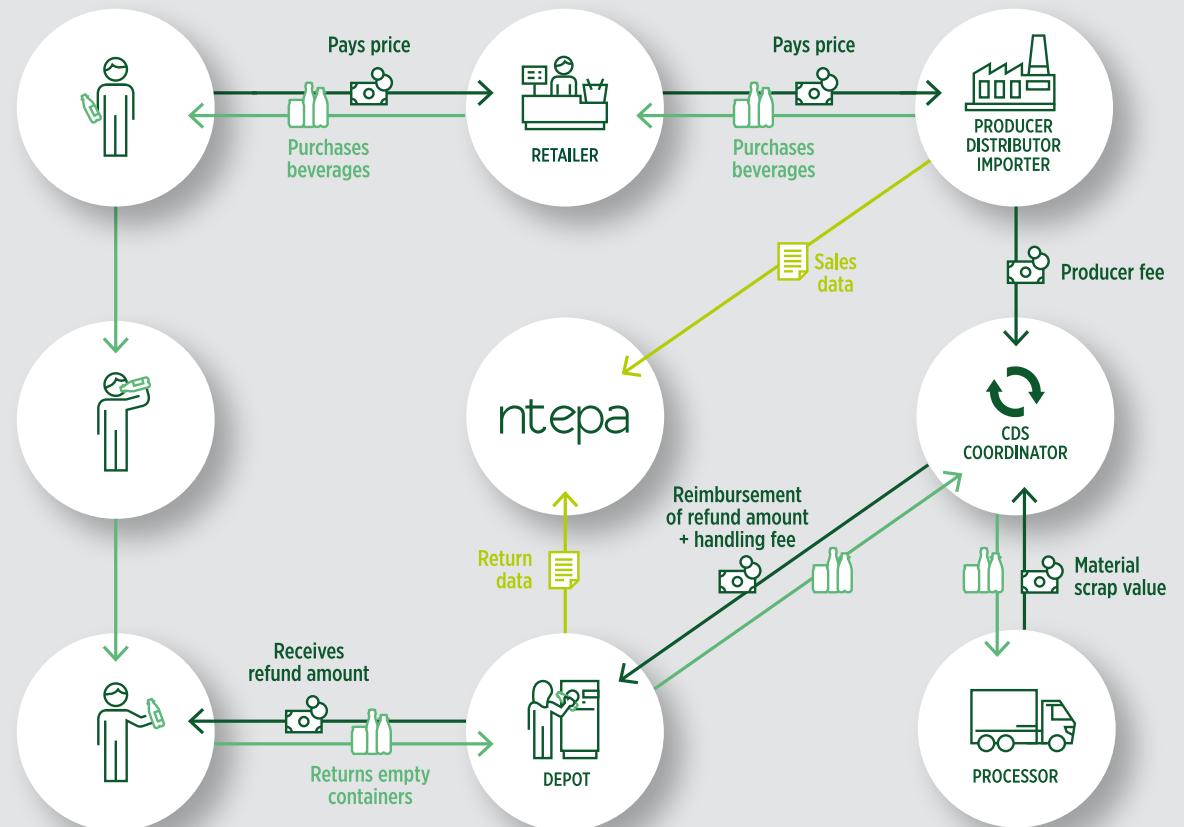
Barcode-based system?

No

Return rate (2020-21)

| Plastic (PET) | Plastic (HDPE) | Aluminium | Liquid paperboard | Glass | Steel/Other | Total |
|---------------|----------------|-----------|-------------------|-------|-------------|-------|
| 64% | 25% | 76% | 44% | 85% | 130% | 72% |

Money, material & data flow



¹ The 'handling fee' covers the total cost of collection, transportation and processing of materials.

² In Australia, there is no legislation stating a 'deposit' must be paid, just that a refund must be given to all consumers that recycle at a refund point. As a result, there is no pool of unredeemed deposits. Instead, the system operator invoices producers a 'producer fee'. This fee, which includes the refund value, is based on the number of containers that are returned and also depends on the revenues earned from the sale of material.



South Australia

Population: **1.8m**

Population density: **1.80/km²**

Regulator's website:

Sources

- 1) South Australia EPA, September 2021. "Improving South Australia's Recycling Makes Cents: A discussion paper to review SA's container deposit scheme." https://www.epa.sa.gov.au/files/15078_cds_discussion_paper_sep2021.pdf
- 2) South Australia EPA. "Container deposits." https://www.epa.sa.gov.au/environmental_info/waste_recycling/container_deposit

Legislative framework

Name of legislation

Part 8, Division 2 ('Beverage Containers') of the Environment Protection Act, and Part 4 of the Environment Protection Regulations

Legislation enacted

1975 (Deposit return legislation enacted in 1975 as the Beverage Container Act; integrated with the Environment Protection Act in 1993)

Appointment of system operator

Unknown

System started

1977

Key updates¹

- › 2003 – expanded to include flavoured milk and fruit/vegetable juice (<1L)
- › September 2008 – increase to refund amount

Regulatory authority

South Australia Environment Protection Authority (SA EPA)
Environment Protection Authority (NT EPA)

Legislated targets

None

Scope

Material type

Plastic (HDPE, PET), aluminium, glass, liquid paperboard

Beverage type

- › Containers <250ml 0.07 gal): Wine in aluminium cans or plastic bottles

- › Containers <1L (0.26 gal): Pure fruit/vegetable juice (containing ≥ 90% fruit juice and/or vegetable juice), flavoured milk

- › Containers ≤3L (0.79 gal): Carbonated and non-carbonated soft drinks, fruit drinks, water, cider and non-grape wines, spirits in non-glass containers, beer (<3L)

Size

Dependent on content (see above)

Excluded

Plain milk in any container; wine in glass bottles, plastic containers, and sachets (250ml or more), or aseptic packs/casks (1L or more); spirits in glass bottles; pure fruit/vegetable juice (90% or more juice content) in containers of 1L or more; flavoured milk in containers of 1L or more; concentrated fruit and/or vegetable juice; health tonics; cordial syrup

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Refund value

- › **Fixed rate:** AUD\$0.10 (€0.07, USD\$0.07)

Handling fee (2022)

Unknown (not publicised)

Producer fee (2022)

Unknown (not publicised)



System structure & administration

Clearing system

Decentralised

Scheme coordinator

Drinks industry (there are currently four approved “super collectors” [that act as agents for the drinks industry], three of which are operating in the system; only two [Statewide, owned by Coca Cola Amatil, and Marine Stores, owned by Coopers and Lion] operate facilities to physically handle and process returned containers. Super collectors are responsible for entering into waste management arrangements with both collection depots and relevant producers and suppliers to collect their containers and find markets for the material)

System finance

Producer fees, material revenues

Unredeemed deposits²

Not applicable

Material owner

System operator

Container return & refund points

Collection model

Return-to-Depot: There are 132 licenced depots

Pop. per collection point

13,433

Method of return

Manual

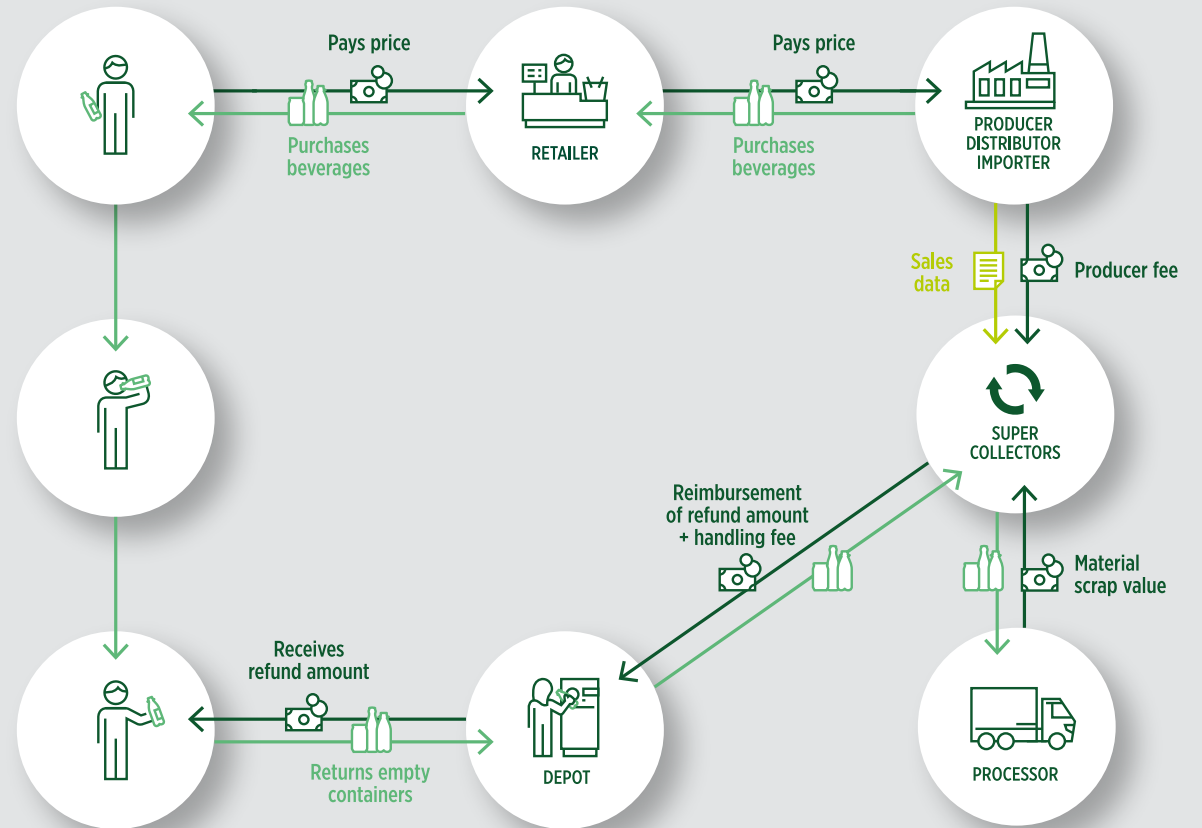
Barcode-based system?

No

Return rate (2020-21)

| Plastic (PET) | Plastic (HDPE) | Aluminium | Liquid paperboard | Glass | Total |
|---------------|----------------|-----------|-------------------|-------|-------|
| 67.4% | 64.7% | 81.8% | 53.7% | 80.9% | 76.0% |

Money, material & data flow



¹ A review of the DRS began in January, with the release of a scoping paper for public consultation. During the 6-week consultation period, the SA EPA received over 1,170 responses from members of the public, industry stakeholders, environment and community groups, etc. A summary report of responses was released in August 2019. This feedback, together with investigations on beverage container material flows and economic analysis, has helped inform the ‘Improving South Australia’s Recycling Makes Cents Discussion Paper.’ A second consultation period was open from September to November 2021. Feedback will be considered by the SA EPA in determining changes that should be made to the DRS, including changes in governance, scope, consumer access, and refund value.

² In Australia, there is no legislation saying a ‘deposit’ must be paid, just that a refund must be given to all consumers that recycle at a refund point. As a result, there is no pool of unredeemed deposits. Instead, the system operator invoices producers a ‘producer fee’. This fee, which includes the refund value, is based on the number of containers that are returned and also depends on the revenues earned from the sale of material.



Queensland

Population: 5.2m

Population density: 3.0/km²

System operator's website:

Sources

- 1) Container Exchange (COEX). "Beverage manufacturers." <https://containerexchange.com.au/partners/beverage-manufacturers/>
- 2) Container Exchange (COEX). "Annual Report 2020-2021." https://containerexchange.com.au/wp-content/uploads/2021/09/COEX_Annual_Report_FY21.pdf
- 3) State of Victoria Department of Environment, Land, Water and Planning. Victorian Container Deposit Scheme: Discussion Paper. Version 1.0, October 2020. https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage_files/1016/0392/1729/Container_Deposit_Scheme_Discussion_Paper_-_Accessible_version.docx

Legislative framework

Name of legislation

Waste Reduction and Recycling (Container Refund Scheme) Amendment Regulation, under the Waste Reduction and Recycling Act (2011)

Legislation enacted

September 2017

Appointment of system operator

October 2018

System started

November 2018

Key updates¹

None

Regulatory authority

Queensland Government Department of Environment and Science (DES)

Legislated targets

85% return rate by fiscal year 2021-22 307 refund points

Scope

Material type

Plastic (PET, HDPE, other), metal (aluminium, steel), glass, liquid paperboard

Beverage type

Most sealed, ready-to-drink alcohol and non-alcohol drinks

Size

150ml to 3L (0.04 gal to 0.79 gal)

Excluded

Plain milk containers of all sizes including plant-based milk substitutes, glass containers that contained wine or pure spirits, containers ≥ 1L (0.26 gal) that contained flavoured milk/pure juice/cask wine/cask water, concentrated/undiluted cordial or syrup containers, sachets > 250ml (0.07 gal) that contained wine, registered health tonics

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Refund value

› **Fixed rate:** AUD\$0.10 (€0.07, USD\$0.07)

Handling fee (2022)¹

AUD\$0.08-\$0.09 (€0.05-€0.06, USD\$0.056-USD\$0.063)
(estimate, as this is confidential)

Producer fee² (August 2021-July 2022):

- › Aluminium: AUD\$0.114 (excluding GST)
- › Glass: AUD\$0.126 (excluding GST)
- › HDPE: AUD\$0.122 (excluding GST)
- › PET: AUD\$0.122 (excluding GST)
- › Liquid paperboard/steel/other: AUD\$0.125 (excluding GST)
- › Weighted average: AUD\$0.12 (excluding GST)



System structure & administration

Clearing system

Centralised

Scheme coordinator

Container Exchange (COEX) (not-for-profit organisation overseen by a Board of Directors that includes representatives from the drinks, manufacturing and logistics industries; established by Coca Cola Amatil and Lion, and appointed by government without a market process; takes on the dual roles of scheme coordinator and network operator)

System finance

Producer fees, material revenues

Unredeemed deposits²

Not applicable

Material owner

System operator

Container return & refund points

Collection model

Return-to-Depot: There are 309 refund points (282 of which are operational), including staffed over-the-counter depots (41%), RVM depots (3%), bag drops (32%), pop-ups (23%), and stand-alone RVMs (<0%). Community organisations can also provide donation points where refunds are not paid to consumers but to those organisations as a donation. These points are not included in the number of refunds points above.

Pop. per collection point

~18,515 (based on number of operational sites)

Method of return

Mostly manual (there are 10 RVM depots and 1 stand-alone RVM, while the remaining return points employ manual collection)

Barcode-based system?

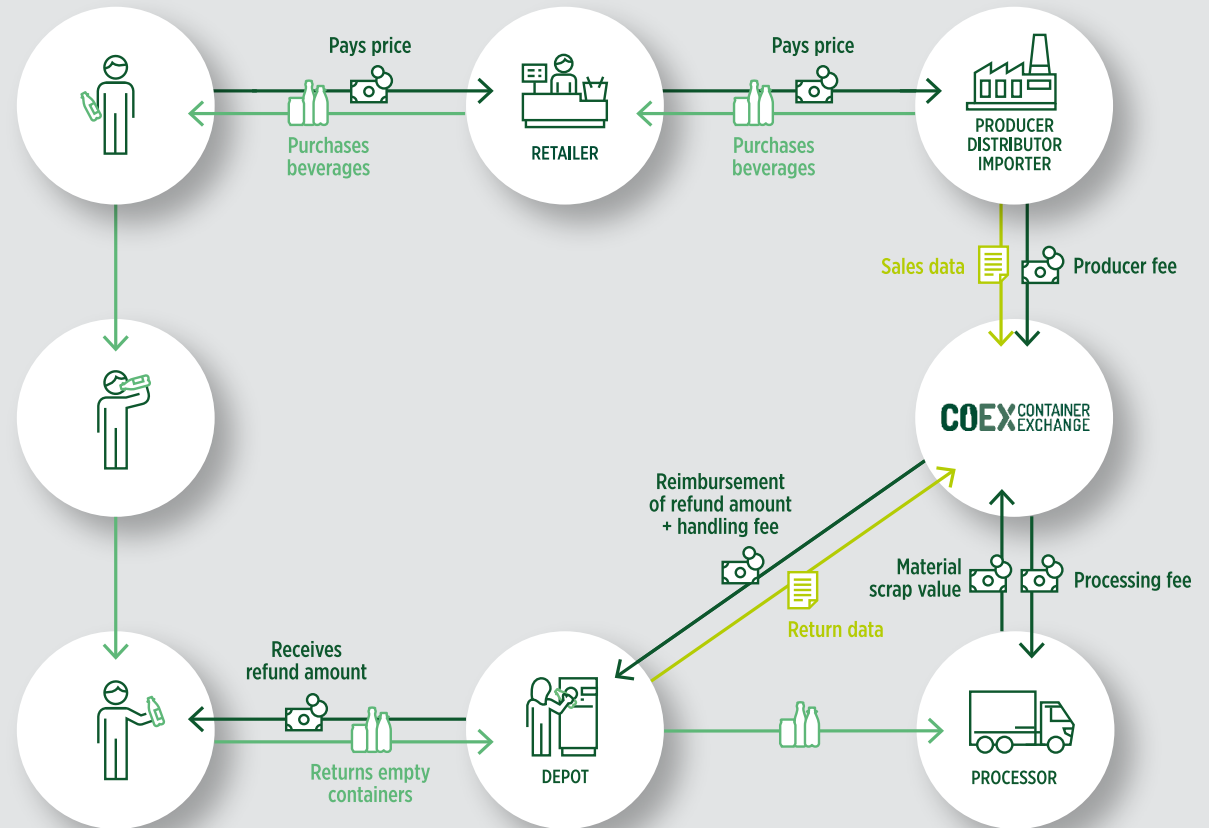
No, but eligible containers are required to have a barcode after a transition period

Return rate (2020-2021)*

| Plastic (PET) | Plastic (HDPE) | Aluminium | Liquid paperboard | Glass | Other | Total |
|---------------|----------------|-----------|-------------------|-------|-------|-------|
| 55% | 32% | 64% | 24% | 76% | 30% | 62% |

*Note: Includes returns through DRS network as well as kerbside bins.

Money, material & data flow



¹ The handling fee paid to depots is around AUD\$0.06. The scheme coordinator then pays additional fees to logistics companies, which, when combined amounts to around AUD\$0.08-\$0.09.

² In Australia, there is no legislation stating a 'deposit' must be paid, just that a refund must be given to all consumers that recycle at a refund point. As a result, there is no pool of unredeemed deposits. Instead, the system operator invoices producers a 'producer fee'. This fee, which includes the refund value, is based on the number of containers that are returned and also depends on the revenues earned from the sale of material.



Western Australia

Population: 2.7m

Population density: 1.1/km²

System operator's website:



Sources

- 1) WA Return Recycle Renew Limited. "Annual Report 2019-2020." <https://warrri.com.au/wp-content/uploads/2020/12/WARRRI-Annual-Report-FY-2019-2020.pdf>
- 2) WA Return Recycle Renew Limited. "Annual Report 2020-2021." <https://warrri.com.au/wp-content/uploads/2022/02/WARRRI-2021-WARRRI-Annual-Report.pdf>
- 3) Government of Western Australia. "Annual report 2020-2021." <https://www.wa.gov.au/system/files/2021-10/DWER-annual-report-2020-21.pdf>
- 4) WA Return Recycle Renew Limited. "First Responsible Suppliers." <https://warrri.com.au/industry-partners/>
- 5) WA Return Recycle Renew Limited. "Strategic Plan 2021-2024." <https://warrri.com.au/wp-content/uploads/2022/02/WARRRI-Strategic-Plan-2021-2024-Jun21.pdf>

Legislative framework

Name of legislation

Waste Avoidance and Resource Recovery (Container Deposit Scheme) Regulations, under Part 5A of the Waste Avoidance and Resource Recovery Act 2007

Legislation enacted

March 2019

Appointment of system operator

July 2020

System started

October 2020 (originally scheduled for June 2020)

Key updates

None

Regulatory authority

Western Australia Department of Water and Environmental Regulation (DWER)

Legislated targets

› **Collection:** 85% by fiscal year 2023/2024

Scope

Material type

Plastic, metal (steel, aluminium), glass, liquid paperboard

Beverage type

Most sealed, ready-to-drink alcoholic and non-alcohol drinks including pure fruit or vegetable juice ($\geq 90\%$ pure juice), flavoured milk, fermented milk product, carbonated and non-carbonated soft drinks and flavoured water (including energy drinks, fruit drinks, sport drinks, kombucha, vitamin drinks), plain water, cider, beer/ale/stout, spirits, wine and wine-based drinks

Size

150ml to 3L (0.04 gal to 0.79 gal)

Excluded

Pure fruit or vegetable juice containers of $\geq 1\text{L}$ (0.26 gal); glass containers for wine and spirits; plain milk (or milk substitutes) containers; flavoured milk containers of $\geq 1\text{L}$ (0.26 gal); casks (plastic bladders in boxes) for wine and casks for water $\geq 1\text{L}$ (0.26 gal); sachets for wine of $\geq 250\text{ml}$ (0.07 gal); containers for cordials, concentrated fruit/vegetable juices; registered health tonics

Deposits & fees

Deposit initiator

Producer/Importer

Refund value

› **Fixed rate:** AUD\$0.10 (€0.07, USD\$0.07)

Handling fee (2022)¹

AUD\$0.08-\$0.09 (estimate, as this is confidential)

Producer fee (2022)²

- › Aluminium: AUD\$0.1253
- › Glass: AUD\$0.1302
- › HDPE: AUD\$0.1304
- › PET: AUD\$0.1294
- › Liquid paperboard: AUD\$0.1339
- › Other: AUD\$0.1339
- › Weighted average: AUD\$0.1282



System structure & administration

Clearing system

Centralised

Scheme coordinator

WA Return Recycle Renew Ltd. (WARRRL) (not-for-profit organisation established by Coca Cola Amatil and Lion, appointed via competitive open market process)

System finance

Producer fees, material revenues

Unredeemed deposits²

Not applicable

Material owner

System operator

Container return & refund points

Collection model

Return-to-Redemption Centre: There are 213 return locations, which include depots, bag drops, RVMs, and pop-up (mobile) refund points.

Pop. per collection point

~12,590 (the Minimum network standards set minimum requirements for the location and distribution of refund points and their hours of operation)

Method of return

Mostly manual (small number of automated depots)

Barcode-based system?

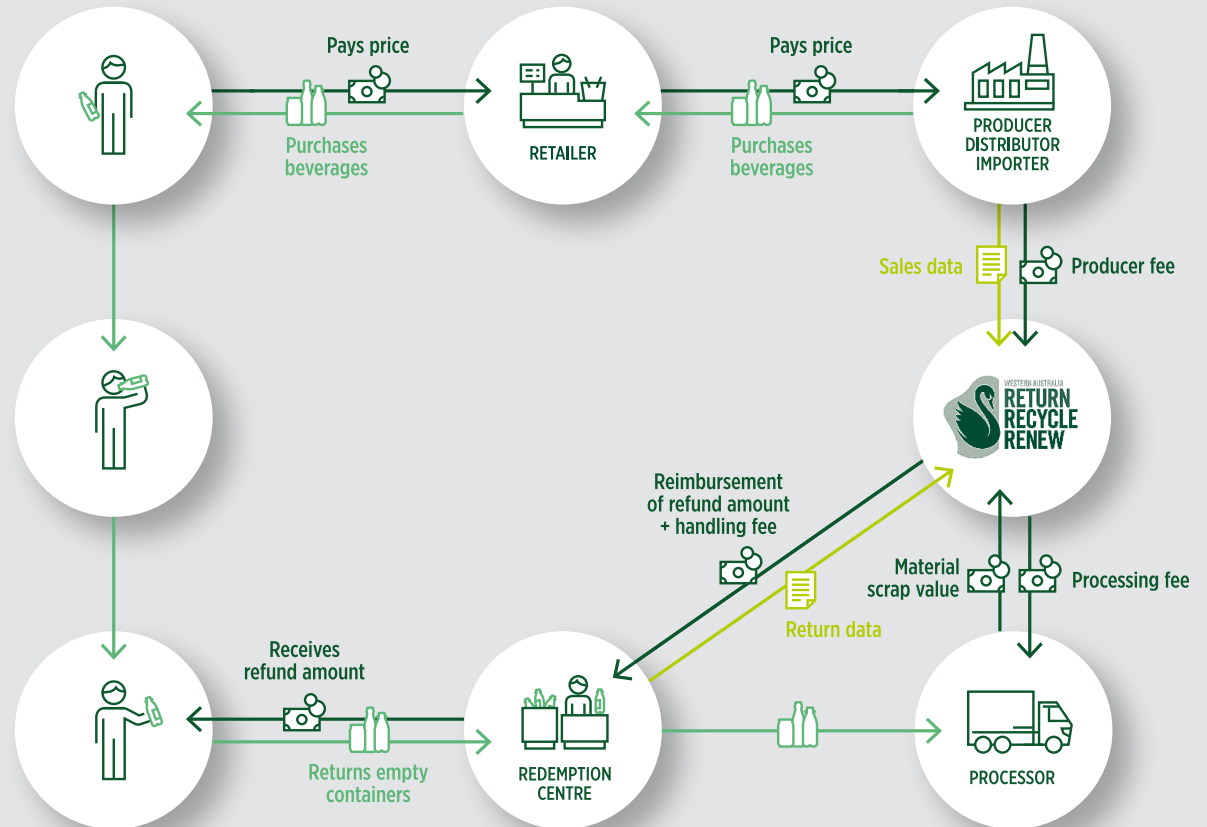
No, but eligible containers are required to have a barcode after a transition period

Return rate (2020-21)*

| Plastic | Metal | Glass | Liquid paperboard | Other | Total |
|---------|-------|-------|-------------------|-------|-------|
| 66.7% | 80.7% | 62.5% | 13.2% | 19.1% | 51.6% |

*Note: Includes containers collected via DRS network operator as well as container recovered via kerbside programmes (MRF)

Money, material & data flow



¹ In Western Australia, the 'handling fee' covers the total cost of collection, transportation and processing of materials

² In Australia, there is no legislation stating a 'deposit' must be paid, just that a refund must be given to all consumers that recycle at a refund point. As a result, there is no pool of unredeemed deposits. Instead, the system operator invoices producers a 'producer fee'. This fee, which includes the refund value, is based on the number of containers that are returned and also depends on the revenues earned from the sale of material.



Federated States of Micronesia

(Population covered by DRS: 0.05m)

Country snapshot

Yap (2003)



Pohnpei (2012)



Kosrae (2007)



- › 3 states with DRS, covering a total of 0.05 million people
- › Average return rate: 86%
- › Median return rate: 86%
- › All of the systems are centralised and utilise a return-to-redemption centre model



Kosrae

Population: 6,600

Population density: 60.2/km²

Regulator's website:



Sources

- 1) "Draft Kosrae State Solid Waste Management Strategy 2018-2027. (Action Plan: 2018-2022)." <https://www.fsmstatistics.fm/wp-content/uploads/2020/04/Kosrae-State-SWM-New-Strategy.pdf>
- 2) Personal communication with Alice Loney and Fuji Katsuo, February 2022
- 3) Personal communication with Fuji Katsuo, Consultant, Solid Waste Management Office, Koror State Government, Republic of Palau, 21 February 2022.
- 4) PacWastePlus. November 2020. "Assessment of Legislative Frameworks Governing Waste Management in the Federated States of Micronesia." <https://pacwasteplus.org/wp-content/uploads/2021/05/waste-legislation-FSM.pdf>
- 5) Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries, Phase II (J-PRISM II), Japan International Cooperation Agency (JICA), March 2022. "Container Deposit Schemes in the Pacific Islands: A Guide for Policy Makers." <https://www.sprep.org/sites/default/files/documents/publications/%E5%88%A5%E6%B7%BB%EF%BC%91%E3%80%80Final%20Copy%20CDS%20Guide.pdf>

Legislative framework

Name of legislation

Recycling Program Regulations, under the Kosrae Recycling Program Act

Legislation enacted

August 2006

Appointment of system operator

November 2007

System started¹

October 2007 (operated initially as a UNDP project) (initially started in 1991, but collapsed in late 1990s)

Key updates¹

- › 2007 – expanded to glass and plastic bottles
- › 2019 – handling fee increase

Regulatory authority

Kosrae Island Resource Management Authority (KIRMA)

Legislated targets

None

Scope

Material type

Plastic (PET), metal (aluminium), glass

Beverage type

All

Size

All

Excluded

None

Deposits & fees

Deposit initiator

Producer/Importer

Deposit/refund value²

› **Fixed rate:** USD\$0.07/\$0.05 (€0.06/€0.05)

Handling fee (2022)

USD\$0.02 (€0.02) (the non-refundable portion of the deposit)



System structure & administration

Clearing system

Centralised

System operator

Micronesian Eco-Corp (operates the system under contract to KIRMA; its responsibilities are specified in the contract and include operating the MRF (which also acts as the single collection point), making refund payments to consumers, handling and processing containers, and exporting materials overseas for recycling)

System finance

Material revenues, unredeemed deposits, non-refundable portion of the deposit

Unredeemed deposits

Recycling Collection Program Account (special fund operated by the Kosrae State Department of Administration)

Material owner

System operator

Container return & refund points

Collection model

Return-to-Redemption Centre: There is one collection point (located at the MRF), which is open one day every two weeks. (The original design for the system included a mobile collection unit, which involved a small flat-bed truck that would visit each of the four villages on the island every two weeks to collect bottles and cans. However, once this truck failed, donated by the UNDP as part of the original project, the mobile collection point ceased)

Pop. per collection point

~6,600

Method of return

Manual

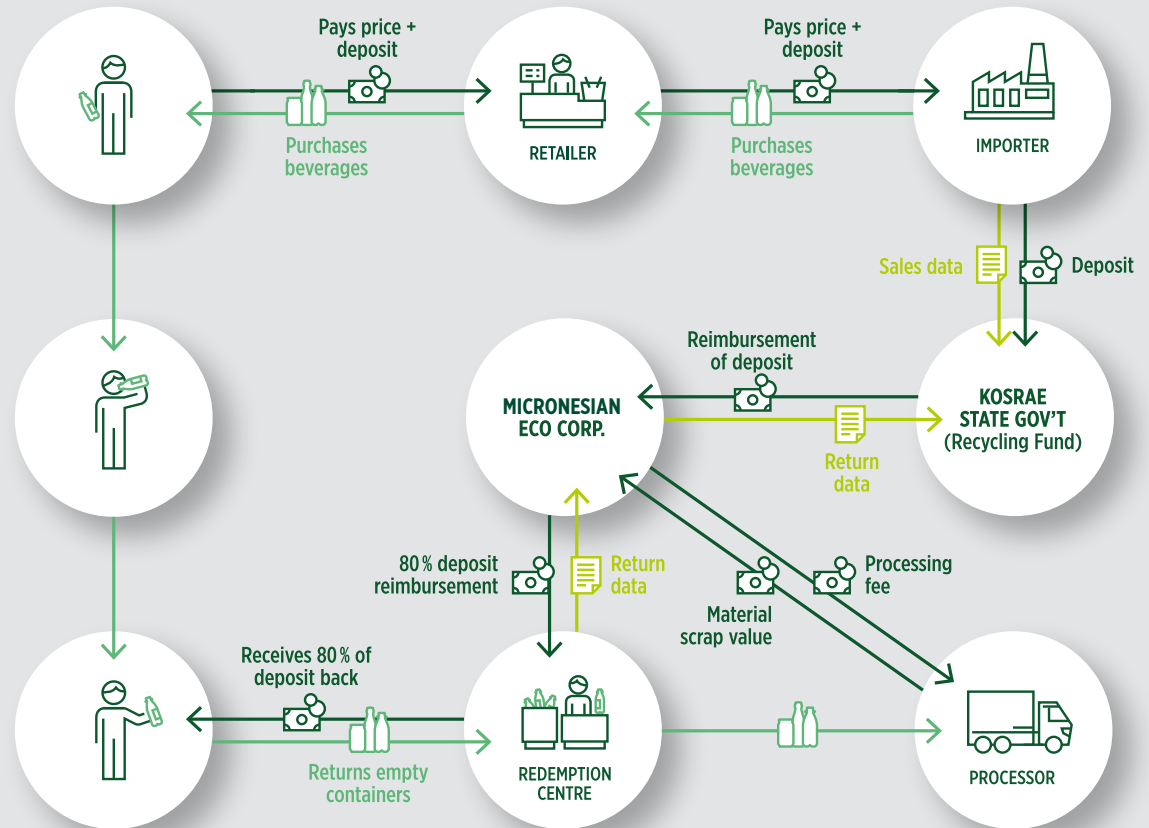
Barcode-based system?

No

Return rate (2017)

| Plastic | Metal | Glass | Total |
|---------|-------|-------|-------|
| 79% | 104% | 37% | 86% |

Money, material & data flow



¹ Kosrae had a DRS covering aluminium cans starting in 1991, which was operated by the Kosrae Community Action Program, a government supported NGO. However, the system collapsed later in the 1990s. In 2006, the United Nations Development Programme funded a study to examine the feasibility of re-launching and expanding the DRS, and in 2007, the new system started after the old legislation (State Law 5 – 15, Chapter 22, Section 9.2201: “Beverage Container Recycling Deposit”) was repealed and a new version was put in place.

² A minimum quantity of five drinks containers is specified in the Regulation so that the minimum refund payout is USD\$0.25.



Pohnpei

Population: 36,200

Population density: 105.8/km²

Regulator/System operator's website:



Sources

- 1) Pohnpei State Solid Waste Management Action Plan 2014-2018. <https://fsm-data.sprep.org/system/files/Pohnpei%20State%20%20SWMP.pdf>
- 2) Pohnpei State Solid Waste Management Strategy 2020-2029 (Action Plan: 2020-2024). https://www.sprep.org/sites/default/files/documents/publications/Pohnpei_SolidWasteMgmt_Strategy.pdf
- 3) Personal communication with Alice Leney, February 2022.
- 4) Personal communication with Fujii Katsuo, Consultant, Solid Waste Management Office, Koror State Government, Republic of Palau, 21 February 2022.
- 5) Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries, Phase II (J-PRISM II), Japan International Cooperation Agency (JICA), March 2022. "Container Deposit Schemes in the Pacific Islands: A Guide for Policy Makers." <https://www.sprep.org/sites/default/files/documents/publications/%E5%88%A5%E6%B7%BB%EF%BC%91%E3%80%80Final%20Copy%20CDS%20Guide.pdf>

Legislative framework

Name of legislation

Recycling Program Regulation, under Chapter 3, Title 27 of the Pohnpei Code

Legislation enacted

August 2011

Appointment of system operator

2012

System started

August 2012

Key updates

2016

Regulatory authority

Pohnpei State Environmental Protection Agency

Legislated targets

None

Scope

Material type

Metal (aluminium)

Beverage type

All

Size

All

Excluded

None

Deposits & fees

Deposit initiator

Importer

Deposit/refund value

› **Fixed rate:** USD\$0.06/\$0.05 (€0.06/€0.05)

Handling fee (2022)

USD\$0.01 (€0.01) (the non-refundable portion of the deposit)



System structure & administration

Clearing system

Centralised

System operator

Pohnpei State Environmental Protection Agency

System finance

Material revenues, unredeemed deposits, non-refundable portion of deposits

Unredeemed deposits

Recycling Fund (a Fund of the Treasury with the Pohnpei State Government)

Material owner

System operator, but the Kolonia Town Government (KTG) and Madolenihmw Municipal Government (MMG) receive 35% of revenues from the sale of cans, split pro rata based on what was received at each collection point. KTG crushes cans for shipping and receives an additional 15% of the value of the cans for doing this.

Container return & refund points

Collection model

Return-to-Redemption Centre: Two collection points (one in Kolonia Town operated by the Kolonia Town Government (KTG) and one in Madolenihmw operated by Madolenihmw Municipal Government (MMG))

Pop. per collection point

~18,000

Method of return

Manual

Barcode-based system?

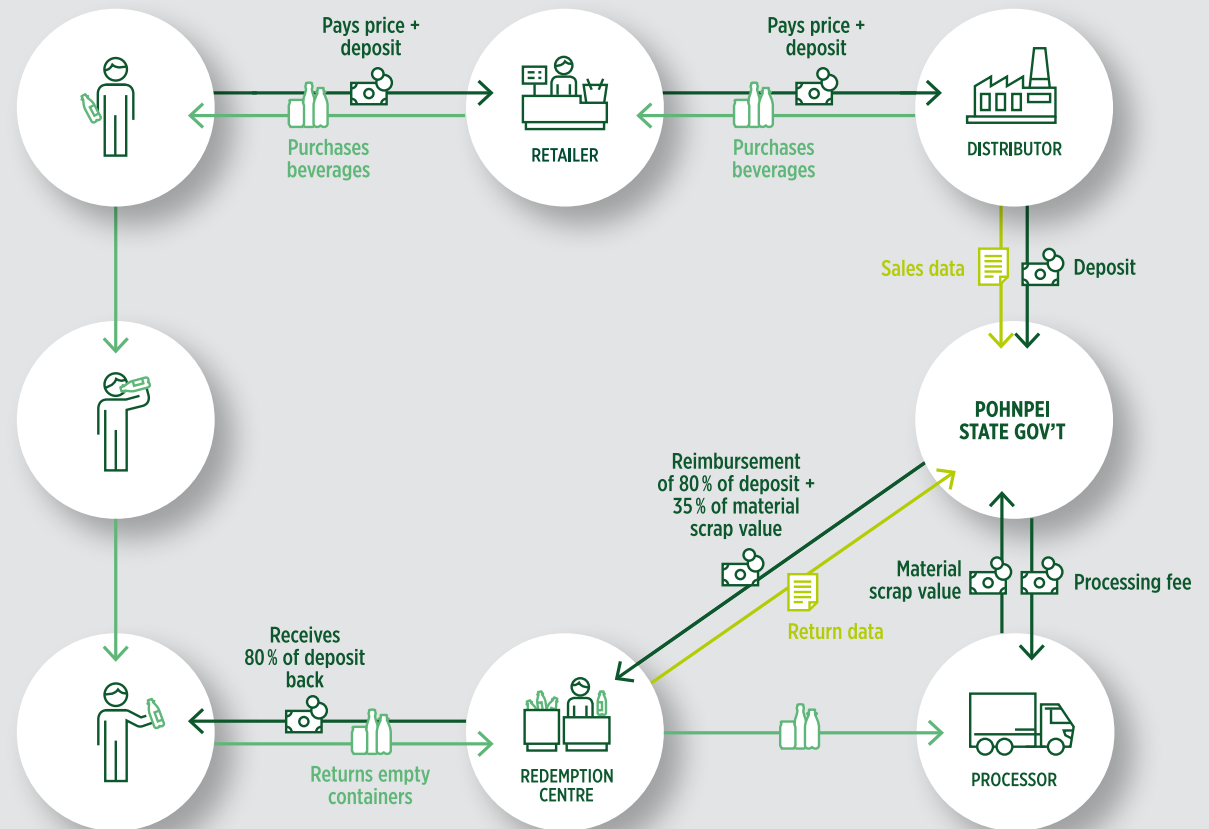
No

Return rate (2017)

Total

57%

Money, material & data flow



Population: 11,400

Population density: 95.4/km²



Sources

- 1) "Yap State Solid Waste Management Strategy 2018-2027 (Action Plan: 2018-2022)." <http://extwprlegs1.fao.org/docs/pdf/mic186160.pdf>
- 2) Personal communication with Alice Leney, February 2022
- 3) Personal communication with Fuji Katsuo, Consultant, Solid Waste Management Office, Koror State Government, Republic of Palau, 21 February 2022.
- 4) Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries, Phase II (J-PRISM II), Japan International Cooperation Agency (JICA), March 2022. "Container Deposit Schemes in the Pacific Islands: A Guide for Policy Makers." <https://www.sprep.org/sites/default/files/documents/publications/%E5%88%A5%E6%B7%BB%EF%BC%91%E3%80%80Final%20Copy%20CDS%20Guide.pdf>

Legislative framework

Name of legislation

Recycling Program Regulations, under the Yap State Recycling Act (Yap State Law 7–18)

Legislation enacted

2007

Appointment of system operator

2007

System started¹

November 2008 (initially started in 2003, but collapsed in 2004 after Cyclone Sudal)

Key updates

- › 2008 – expanded to glass and plastic bottles
- › 2008 – increase to refund value

Regulatory authority

Yap State Environmental Protection Agency (EPA)

Legislated targets

None

Scope

Material type

Plastic (PET), metal (aluminium), glass

Beverage type

All

Size

All

Excluded

None

Deposits & fees

Deposit initiator

Producer/Importer

Deposit/refund value²

› **Fixed rate:** USD\$0.06/\$0.05 (€0.06/€0.05)

Handling fee (2022)

USD\$0.01 (the non-refundable portion of the deposit)



System structure & administration

Clearing system

Centralised

System operator

Island Paradise Metals Company (IPMC) (operates the system under a service contract with Yap State Government)

System finance

Material revenues, unredeemed deposits, non-refundable portion of deposits

Unredeemed deposits

The Enterprise Fund (a special fund of the Treasury with the Yap State Government)

Material owner

System operator

Container return & refund points

Collection model

Return-to-Redemption Centre: There is one collection point, the MRF, which is open three days per week.

Pop. per collection point

~11,400

Method of return

Manual

Barcode-based system?

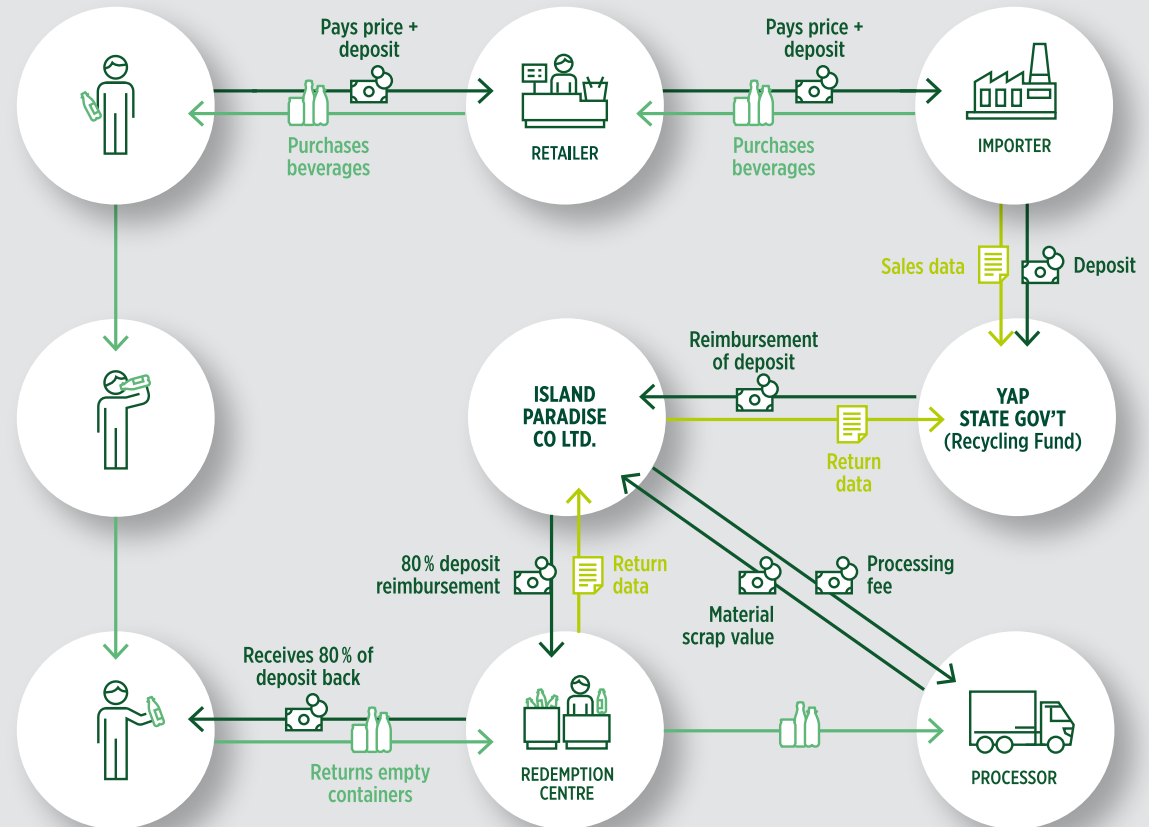
No

Return rate (2021)

| Plastic | Metal | Glass | Total |
|---------|---------|-------|--------|
| 55.99%* | 138.75% | 6.45% | 113.9% |

*Note: The data includes 300 PET cooking oil bottles, which are also covered by the DRS.

Money, material & data flow



¹ Yap had a legislated DRS for aluminium beverage cans operating from late 1995, but it collapsed in 2004 after Cyclone Sudal damaged the island. In 2006, UNDP carried out a study to examine the feasibility of introducing DRS into each of the four states of the Federated States of Micronesia (FSM), and in 2007 it supported Technical Assistance to Yap State to help relaunch the programme. This entailed repealing the existing legislation and replacing it with a new law.

² A minimum quantity of five beverage containers is specified in the Regulation so that the minimum refund payout is USD\$0.25.



Republic of Kiribati

Population: 117,600

Population density: 147/km²



Sources

- 1) Secretariat of the Pacific Regional Environment Programme (SPREP). "Assessment of Legislative Frameworks Governing Waste Management in Kiribati." November 2020. <https://library.sprep.org/sites/default/files/2021-03/waste-legislation-Kiribati.pdf>
- 2) Pacific Region Infrastructure Facility. 2018. "Kiribati." <https://www.theprif.org/sites/default/files/documents/kiribati.pdf>
- 3) "Good Coastal Management practices in the Pacific: Experiences from the field." 2011. https://www.icriforum.org/wp-content/uploads/2019/12/ICRI%20Best%20Practice%20in%20Coastal%20Management%20-%20Govan%202011_0_0.pdf
- 4) "Improved Waste Management in Kiribati: A Case Study." https://www.sprep.org/solid_waste/documents/Kiribati-Case-Study.pdf
- 5) "Kaoki Mangle! Project Annual Report 2004." <https://www.sprep.org/att/IRC/eCOPIES/Countries/Kiribati/31.pdf>
- 6) SPREP. 19 November 2021. "Kiribati leads in waste management with Kaoki Maange System." <https://pasifika.news/2021/11/kiribati-leads-in-waste-management-with-kaoki-maange-system/>
- 7) Personal communication with Alice Leney, February 2022
- 8) Personal communication with Fuji Katsuo, Consultant, Solid Waste Management Office, Koror State Government, Republic of Palau, 21 February 2022.
- 9) Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries, Phase II (J-PRISM II), Japan International Cooperation Agency (JICA), March 2022. "Container Deposit Schemes in the Pacific Islands: A Guide for Policy Makers." <https://www.sprep.org/sites/default/files/documents/publications/%E5%88%A5%E6%B7%BB%EF%BC%91%E3%80%80Final%20Copy%20CDS%20Guide.pdf>

Legislative framework

Name of legislation

Special Fund (Waste Material Recovery) Regulations, Special Fund (Waste Materials Recovery) Act, Special Fund (Waste Materials Recovery) Act Deposits Order

Legislation enacted

December 2004

Appointment of system operator

May 2005

System started

February 2005 (operated initially as a UNDP project)

Key updates

None

Regulatory authority

Ministry of Environment, Lands and Agricultural Development (MELAD)

Legislated targets

None

Scope

Material type

Plastic (PET), metal (aluminium)

Beverage type

Beer, soft drinks, water

Size

All

Excluded

None

Deposits & fees

Deposit initiator

Producer/Importer

Deposit/refund value¹

› **Fixed rate:** USD\$0.05/\$0.04 (€0.05/€0.04)

Handling fee (2022)

USD\$0.01 (€0.01) (the non-refundable portion of the deposit)



System structure & administration

Clearing system

Centralised

System operator

Kiribati Recycling Ltd. (part of a business called One Stop, which is a wholesaler and retailer of groceries and beers, wines, and spirits; one of the largest importers of beer into Kiribati; operates the system under contact with the regulatory agency)

System finance

Material revenues, unredeemed deposits, non-refundable portion of deposits

Unredeemed deposits

Waste Material Recovery Fund (special fund administered by the Minister of Finance)

Material owner

System operator

Container return & refund points

Collection model

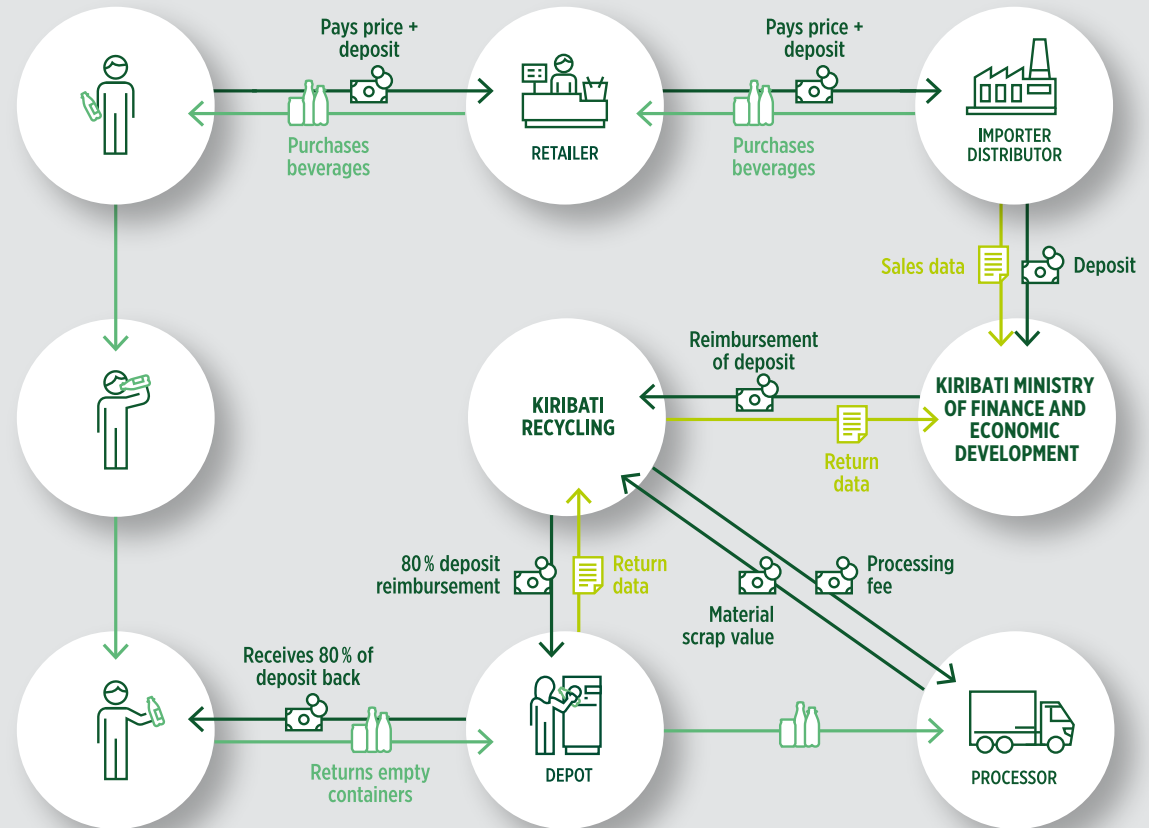
Return-to-Depot: There are 5 collection points spread across South Tarawa (home to half of the state's population), the southern half of Tarawa atoll and the capital of the nation. The main collection point, open 5 days/week, is located at the MRF at the Port of Betio. The other four collection points (open one day/week for a few hours) use old shipping containers placed at public locations along the 40km road that connects the islands of South Tarawa.

| Pop. per collection point | Method of return | Barcode-based system? |
|---------------------------|------------------|-----------------------|
| ~23,522 | Manual | No |

Return rate (2021)

Data not available

Money, material & data flow



¹ Minimum number required for redemption is 5 units (20-cent refund).



Republic of Palau

Population: 18,000

Population density: 39/km²

Local government operator's website:



Sources

- 1) "Factsheet: Advanced Recovery Fee & Deposit Systems." June 2020. <https://www.sprep.org/sites/default/files/documents/publications/advanced-recovery-fee-deposit-factsheet.pdf>
- 2) National Solid Waste Management Strategy: The Roadmap towards a Clean and Safe Palau 2017 to 2026. <https://www.sprep.org/attachments/VirLib/Palau/palau-national-solid-waste-management-strategy.pdf>
- 3) Personal communication with Alice Leney, February 2022
- 4) Personal communication with Fujii Katsuo, Consultant, Solid Waste Management Office, Koror State Government, Republic of Palau, 21 February 2022.
- 5) Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries, Phase II (J-PRISM II), Japan International Cooperation Agency (JICA), March 2022. "Container Deposit Schemes in the Pacific Islands: A Guide for Policy Makers." <https://www.sprep.org/sites/default/files/documents/publications/%E5%88%A5%E6%B7%BB%EF%BC%91%E3%80%80Final%20Copy%20CDS%20Guide.pdf>

Legislative framework

Name of legislation

Beverage Container Recycling Regulations, made under the Republic of Palau Public Law No. 7-24

Legislation enacted

October 2006

Appointment of system operator

October 2011

System started¹

April 2011

Key updates

› 2019 – lifting of limitation on size of containers

Regulatory authority

Ministry of Public Infrastructure, Industries and Commerce & Ministry of Finance

Legislated targets

None

Scope

Material type

Plastic (all types), metal (aluminium, steel), glass, aseptic containers

Beverage type

All

Size²

All

Excluded

Products ingested for medical purposes

Deposits & fees

Deposit initiator

Producer/Importer

Deposit/refund value³

› **Fixed rate:** USD\$0.10/\$0.05 (€0.09/€0.05)

Handling fee (2022)

USD\$0.025 (€0.023)



System structure & administration

Clearing system

Centralised

System operator

Belau Garbage & Scrap Co. (BGSC) (private system operator) and Koror State Government (KSG) (local government operator)

System finance

Material revenues, unredeemed deposits, non-refundable portion of deposits

Unredeemed deposits

Recycling Fund (special fund maintained by the Ministry of Finance, separate and apart from other funds of the National Treasury)

Material owner

National government

Container return & refund points

Collection model

Return-to-Redemption Centre: There are two redemption centres, both located in Koror State (home to 2/3 of the population). About 70-80% of redemption takes place at the BGSC redemption centre, which accepts all materials except for glass (glass bottles can only be returned to the KSG redemption centre).

Pop. per collection point

~9,001

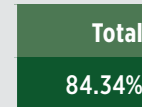
Method of return

- > BGSC redemption centre: manual
- > KSG redemption centre: automated

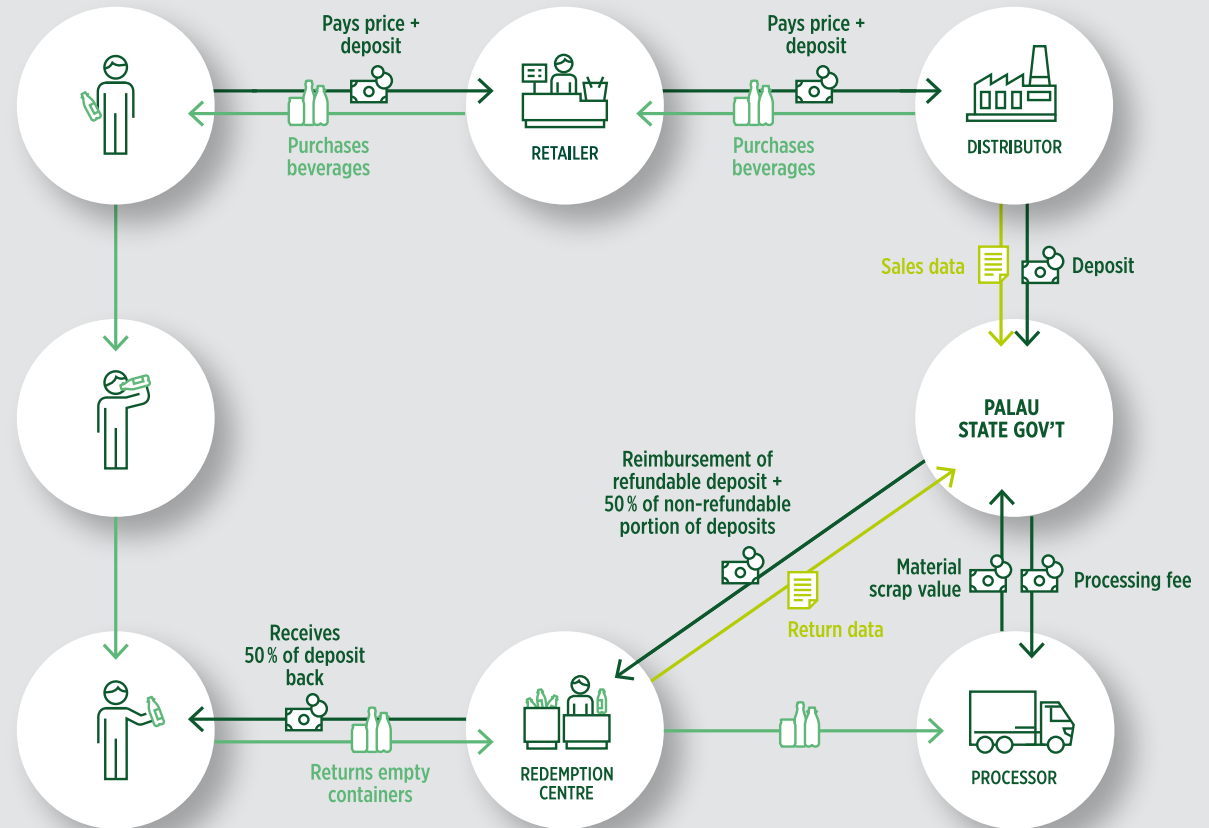
Barcode-based system?

No

Return rate (2020)



Money, material & data flow



¹ The legislation establishing a recycling programme and creating a recycling fund (RPPL: The Republic of Palau Public Law No. 7-24) was passed in October 2006. This law enabled Palau to operate a DRS for drinks containers. However, at that time, the regulatory agency had limited capacity to operate the programme as they were only in their second year of operation. In addition, a project for establishing recycling facilities was in progress by Koror State Government, which then became the initial Redemption Centre for the recycling programme. In this context, it was decided to postpone the implementation of the recycling programme until the responsible personnel were well trained, which happened through a three-year JICA project which ended in 2008. In 2009, Beverage Container Recycling Regulations were passed, and Implementation of the DRS started in April 2011.

² Initially, the size of containers was restricted to less than or equal to 32 fl. oz. This size restriction was eliminated through an amendment to the law made in 2018 (RPPL No. 10-31) and an amendment to the regulation in 2019.

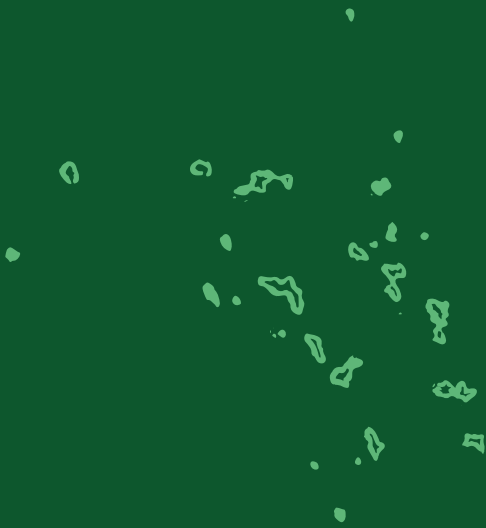
³ Of the USD\$0.05 that is not returned to the consumer, \$0.025/container is paid to redemption centres as a handling fee (called 'compensation cost' in Palau), and \$0.025/container goes into the national government's 'Recycling Fund' to cover administrative costs.



Republic of the Marshall Islands

Population: 58,790

Population density: 329/km²



Sources

- 1) "PacWastePlus Project Snapshot – Republic of the Marshall Islands." <https://pacwasteplus.org/resources/pacwasteplus-project-snapshot-republic-of-marshall-islands/>
- 2) Majuro Atoll Waste Company. "Solid Waste Management Plan for Majuro 2019-2028 (Action Plan: 2019-2023)." <https://www.sprep.org/sites/default/files/documents/publications/RMI-Solid-Waste-Management-Majuro-2019-2023.pdf>
- 3) "Waste Audit Report: Republic of the Marshall Islands." September 2021. https://pacwasteplus.org/wp-content/uploads/2022/02/RMI-Waste-Audit-Report_FINAL.pdf
- 4) Johnson, G. 27 February 2020. "Recycling success in Majuro." <https://marshallislandsjournal.com/recycling-success-in-majuro/>
- 5) Personal communication with Alice Loney, February 2022
- 6) Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries, Phase II (J-PRISM II), Japan International Cooperation Agency (JICA), March 2022. "Container Deposit Schemes in the Pacific Islands: A Guide for Policy Makers." <https://www.sprep.org/sites/default/files/documents/publications/%E5%88%A5%E6%B7%BB%EF%BC%91%E3%80%80Final%20Copy%20CDS%20Guide.pdf>

Legislative framework

Name of legislation

Recycling Program Regulations under the Styrofoam Cups, and Plates and Plastic Products Prohibition, and Container Deposit (Amendment) Act

Legislation enacted¹

January 2018

Appointment of system operator

July 2018

System started

August 2018

Key updates

None

Regulatory authority

Republic of the Marshall Islands Environmental Protection Authority (EPA)

Legislated targets

None

Scope

Material type

Plastic (PET), metal (aluminium), glass

Beverage type

All

Size

≤ 946 ml (0.24 gal, 909 ml)

Excluded

Milk and other dairy-derived products (except coffee and tea drinks), syrups, concentrates, nutritional supplements

Deposits & fees

Deposit initiator

Importer/Distributor

Deposit/refund value

› **Fixed rate:** USD\$0.06/\$0.05 (€0.06/€0.05)

Handling fee (2022)

USD\$0.01 (€0.01) (the non-refundable portion of the deposit)



System structure & administration

Clearing system

Centralised

System operator

Majuro Atoll Waste Company (MAWC) (government-owned enterprise, under contract with the EPA) in Majuro Atoll, and Kwajalein Atoll Local Government (KALGOV) (under contract with the EPA) on Ebeye Island)

System finance

Material revenues, unredeemed deposits, non-refundable portion of deposits

Unredeemed deposits

Recycling Fund (special revenue account with the National Treasury and under control of the Ministry of Finance)

Material owner

System operator

Container return & refund points

Collection model

Return-to-Redemption Centre: There are two refund points.

Pop. per collection point

~29,395

Method of return

Manual

Barcode-based system?

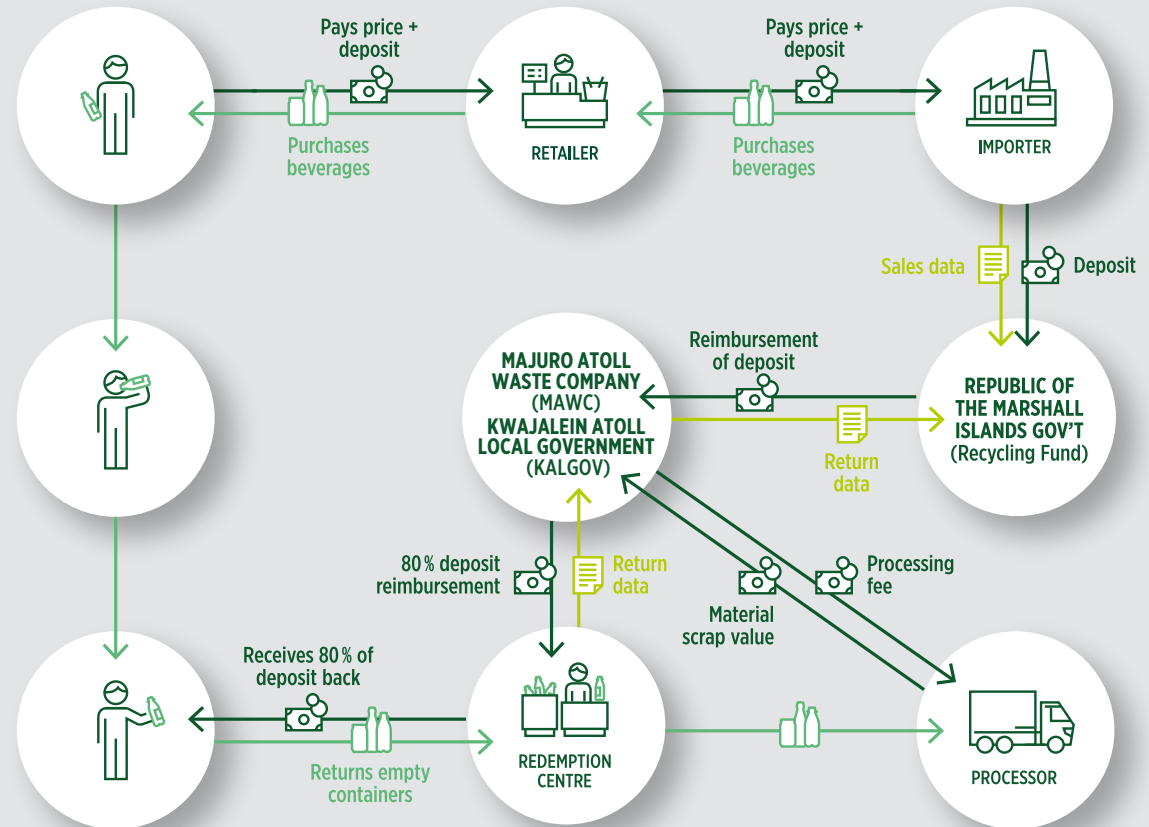
No

Return rate (2019)

The reported return rate of 109% is likely explained by the inclusion of 'legacy waste' in the numerator of the return rate calculation. 'Legacy waste' is waste from drinks that have already been consumed before the start of the DRS, and that might be collected after the system starts, even though a deposit was never paid on these containers.

| |
|-------|
| Total |
| 109% |

Money, material & data flow



¹ The Act was passed in 2016 but amended in early 2018 to make implementation more practical. The Amended Act pushed many of the system details into a Recycling Program Regulation, which came into force in July 2018, and which specified what types of material used in drinks containers were covered.



Tuvalu

Population: 11,650

Population density: 393/km²



Sources

- 1) "Tuvalu: Ban on Single-Use Plastics Commences." 19 August 2019. <https://www.loc.gov/item/global-legal-monitor/2019-08-19/tuvalu-ban-on-single-use-plastics-commences/>
- 2) Waste Management (Levy Deposit) Regulation 2019. <https://perma.cc/QVF7-KYZ4>
- 3) Personal communication with Fuji Katsuo, Consultant, Solid Waste Management Office, Koror State Government, Republic of Palau, 21 February 2022.
- 4) Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries, Phase II (J-PRISM II), Japan International Cooperation Agency (JICA), March 2022. "Container Deposit Schemes in the Pacific Islands: A Guide for Policy Makers." <https://www.sprep.org/sites/default/files/documents/publications/%E5%88%A5%E6%B7%BB%EF%BC%91%E3%80%80Final%20Copy%20CDS%20Guide.pdf>

Legislative framework

Name of legislation

Waste Management (Levy Deposit) Regulation, under the Waste Management Act

Legislation enacted

August 2019

Appointment of system operator

Not applicable

System started

August 2019

Key updates

None

Regulatory authority

Department of Waste Management of the Ministry of Home Affairs and Rural Development and the Treasury Department of the Ministry of Finance

Legislated targets

None

Scope

Material type

Plastic (PET), metal (aluminium), glass

Beverage type

Mineral water (in PET bottles), sweetened drinks (in PET bottles and cans), alcohol drinks (in cans)

Size

All

Excluded

None

Deposits & fees

Deposit initiator

Producer/Importer

Deposit/refund value

› **Fixed rate:** USD\$0.10/\$0.05 (€0.09/€0.05)

Handling fee (2022)

USD\$0.05 (€0.05) (the non-refundable portion of the deposit)



System structure & administration

Clearing system

Centralised

System operator

Department of Waste Management (As of 2021, there is no private operator; government is assuming this role until a private operator can be secured)

System finance

Material revenues, unredeemed deposits, non-refundable portion of deposits

Unredeemed deposits

Consolidated Public Fund (general government revenue account)

Material owner

System operator

Container return & refund points

Collection model

Return-to-Redemption Centre: There are 13 official collection points, however, the only one that is currently fully operational is the Waste Materials Transfer Station in Funafuti. This facility is open during the last week of every month.

Pop. per collection point

~11,000

Method of return

Manual

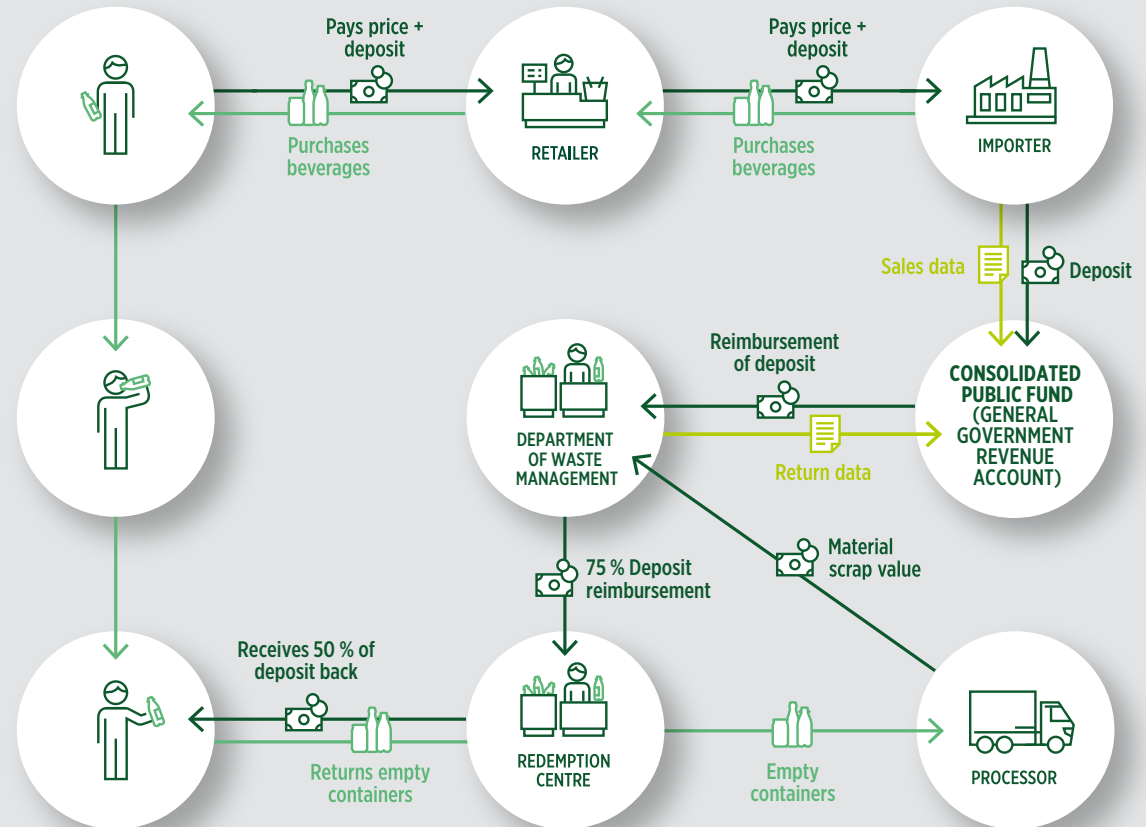
Barcode-based system?

No

Return rate (2021)

| Plastic | Metal | Glass | Total |
|---------|-------|-------|-------|
| 4.7% | 147% | N/A | 66.9% |

Money, material & data flow



¹ Minimum number required for redemption is 5 units (20-cent refund).



Upcoming programmes



Upcoming programmes

At the time of writing, more than 50 jurisdictions across the world have implemented a DRS for the recycling of single-use drinks containers. Several other jurisdictions have passed DRS legislation, but their systems are not yet in place, either due to operational delays or because specific legislative details are still being finalised. This section presents information that is currently available about those systems, including their expected launch dates.

| Jurisdiction | 2021 Population (million) | Legislation Enacted | Expected System Start |
|----------------------|---------------------------|------------------------|---|
| Romania | 19.2 | July 2018/October 2021 | November 2023 |
| Republic of Korea | 51.8 | June 2020 | December 2022 in the two regions of Sejong and Jeju (it is expected that the scheme will be expanded to additional regions at a later date) |
| Turkey | 83.6 | June 2021 | January 2023 |
| Tasmania (Australia) | 0.5 | March 2022 | Q1/Q2 2023 |
| Scotland | 5.5 | May 2020 | August 2023 |
| Victoria (Australia) | 6.6 | December 2021 | 2023 |
| Portugal | 10.3 | December 2018 | Originally scheduled for January 2022, delayed to Q1/Q2 2024 |



Portugal

Population: 10.3m

Population density: 113.0/km²

Regulator's website:



Note: In December 2018, the government announced that from 1 January 2022, a DRS for single-use drinks containers made of plastic, glass, and metal would become mandatory. A DRS ordinance "portaria" was expected to be issued by the Ministry of Environment in agreement with the Ministry of Commerce, no later than 180 days after the adoption of the primary law. As of the time of writing (May 2022), the DRS ordinance is still pending. The system is expected to start no sooner than Q1/Q2 2024, subject to the adoption of the DRS ordinance. All information presented below is simply indicative of what the scheme could look like, and as such, should not be taken as the actual law.

Legislative framework

Name of legislation

Act n.º 69/2018 introducing a DRS for one-way beverage packaging (plastic, glass, and metal)

Legislation enacted

December 2018

Appointment of system operator

N/A

System started

TBD, originally scheduled for January 2022, but potential delay to Q1/Q2 2024

Regulatory authority

Ministry of Environment (in agreement with the Ministry of Commerce), Agência Portuguesa do Ambiente (APA, Portuguese EPA monitoring body)

Legislated targets

TBD in the DRS ordinance (no targets in the primary law)

Scope

Material type

TBD in the DRS ordinance, but as per the primary law, will include plastic, metal (aluminium, ferrous metal), and glass. It is expected that glass may be initially excluded from the system and then later added as of 2026.

Beverage type

TBD, but likely to include mineral water, carbonated soft drinks, energy drinks, beer, cider and other fermented drinks, juices, nectars

Size

TBD, but likely ≤3L (0.79 gal)

Excluded

TBD

Deposits & fees

Deposit initiator

Producer/Distributor/Importer

Refund value

TBD in the DRS ordinance, but will likely be a variable rate as follows:

- › Containers <1L (0.26 gal): €0.05-€0.10 (USD\$0.06-\$0.11)
- › Containers ≥1L (0.26 gal): €0.10-€0.15 (USD\$0.11-\$0.16)

Handling fee

TBD

Producer fee

TBD



System structure & administration

Clearing system

TBD, but expected to be centralised

System operator

TBD, but likely to be a private, non-profit organisation appointed via competitive public tender process

System finance

Unredeemed deposits, material revenues, producer fees

Unredeemed deposits

TBD, but likely to be kept by the system operator

Material owner

TBD, but likely the system operator

Container return & refund points

Collection model

TBD, but is expected to be a return-to-retail system. Return point exemptions are TBD in the DRS ordinance.

Pop. per collection point

N/A

Method of return

TBD, but likely to be a mix of automated and manual collection points

Barcode-based system?

Yes

Return rate

Data not available

Money, material & data flow

TBD



Republic of Korea

Population: 51.8m

Population density: 527.0/km²

System operator's website:



Sources

- (1) Mun, Ng Wai. 11 January 2022. "Plastic to go? All eyes on world's first compulsory deposit return scheme for takeaway cups in South Korea." <https://www.eco-business.com/news/plastic-to-go-all-eyes-on-worlds-first-compulsory-deposit-return-scheme-for-takeaway-cups-in-south-korea/>
- (2) Parkinson, L. 28 February 2022. "South Korea implementing deposit scheme for disposable cups." <https://www.foodpackagingforum.org/news/south-korea-implementing-deposit-scheme-for-disposable-cups>
- (3) Ministry of Environment. 26 January 2022. "Government to charge KRW 300 deposit per disposable cup starting from June 10 of this year."
- (4) "Korea postpones disposable cup deposit system for six months." https://www.koreatimes.co.kr/www/nation/2022/05/371_329570.html
- (5) Park, R. 18 January 2022. "Govt to Implement Deposit System for Disposable Cups from June." http://tbs.seoul.kr/eFm/newsView.do?vp_800=J&idx_800=3460392&seq_800=20453019
- (6) <https://www.law.go.kr/LSW/LSInfoP.do?efYd=20220308&lsSeq=241301#0000>
- (7) Yonhap News Agency. "Disposable cup deposit-refund scheme to go into effect December in Jeju, Sejong." 23 September 2022. Available at <https://en.yna.co.kr/view/AEN20220923004900315>

Legislative framework

Name of legislation

Amendment to the Act on the Promotion of Saving and Recycling of Resources (Resource Recycling Act), including introduction of DRS for Single-Use Cups

Legislation enacted

June 2020

Appointment of system operator

June 2020

System started

Originally scheduled to take effect nation-wide on 10 June 2022, but then delayed to 1 December 2022. On 23 September 2022, the environment ministry announced the DRS will go into effect on 2 December, but only in the two regions of Sejong and Jeju. After assessing the results in the two regions, the ministry plans to determine how to gradually roll-out the scheme to other areas.

Regulatory authority

Ministry of Environment

Legislated targets

TBD

Scope

Material type¹

Single-use plastic and paper cups (all single-use cups used for take-away)

Beverage type

All hot and cold drinks served in single-use cups

Size

All

Excluded

Reusable plastic cups or mugs

Deposits & fees

Deposit initiator

Producer/Distributor

Deposit value¹

› **Fixed rate:** 300 KRW (€0.22, USD\$0.25)

Handling fee

None

Producer fee²

Paid by retailers to collectors (i.e. logistic operators)

› Standard cups*: 4 KRW/unit (€0.003, USD\$0.003)

› Non-standard cups: 10 KRW/unit (€0.008, USD\$0.008)

*The government has prepared a set of production standards for single-use plastic and paper cups to ensure high-quality recycling ability. A "standard" cup is defined as follows:

› Plastic cups: bottom diameter of at least 48mm, top diameter of at least 90mm, height of at least 102mm

› Paper cups: bottom diameter of at least 52mm, top diameter of at least 80mm, height of at least 95mm

According to the Ministry, the main material for plastic cups should be PET (or PET-A), colourless and transparent. It is prohibited to print on the surface. The inner coating for paper cups is permitted at a level that does not cause any issue to paper companies, and surface printing should be minimised.



System structure & administration

Clearing system

Centralised

System operator

Container Deposit System Management Organisation (COSMO)

System finance

Producer fees, unredeemed deposits

Unredeemed deposits

System operator

Material owner

Recyclers

Container return & refund points

Collection model

Hybrid: Cups can be returned to any franchise included in the system, which means stores with more than 100 branches nationwide (38,000 stores in total). This includes cafes (e.g., Ediya, Starbucks, Twosome Place), confectionery and bakeries (e.g., Dunkin'), fast-food restaurants (e.g., Lotteria, Mom's Touch, McDonald's), ice cream and shaved ice stores (e.g., Baskin Robbins), and other beverage stores (e.g., Smoothie King, Gongcha). In addition to take-back at stores, the system operator will also install RVMs in public areas, and municipalities may establish collection points if deemed necessary.

| Pop. per collection point | Method of return | Barcode-based system? |
|---------------------------|----------------------|-----------------------|
| ~1,364 | Manual and automated | Yes |

Return rate

Data not available

Money, material & data flow

Not available

¹ The 300 KRW deposit applies to disposable cups sold at chain cafes and restaurants that have more than 100 branches (38,000 stores in total). This means that approximately 32% of disposable cups sold in the Republic of South Korea will be covered by the DRS.

² This is a fee that franchises (i.e., stores) give to collectors (logistic operators) for each cup.



Romania

Population: 19.2m

Population density: 82.7/km²

Regulator's website:



Sources

- (1) Text of the Government Decision (available in Romanian only). <http://mmediu.ro/app/webroot/uploads/files/hotararea-nr-1074-2021-privind-stabilirea-sistemului-de-garantie-returnare-pentru-ambalaje-primare-nereutilizabile%281%29.pdf>
- (2) Cristea, M-A. 3 December 2021. "Julia Leferman (Beverages Producers Alliance & Brewers of Romania Association): The Deposit Return System in Romania will lead to more responsible recycling habits." <https://business-review.eu/greenrestart/julia-leferman-beverages-producers-alliance-brewers-of-romania-association-the-deposit-return-system-in-romania-will-lead-to-more-responsible-recycling-habits-225471>
- (3) Personal communication with Julia Leferman, Director of the Brewers of Romania Association.

Legislative framework

Name of legislation

Government Emergency Ordinance No. 1074/2018 introducing DRS for plastic, metal, and glass beverage containers, and Government Decision No. 1074/2021 on the establishment of a deposit-return system on single-use packaging

Legislation enacted

July 2018/October 2021

Appointment of system operator

May 2022

System started¹

Originally scheduled for October 2022, delayed until 30 November 2023

Regulatory authority

Ministry of the Environment, Waters and Forests

Legislated targets

> Collection:

- > Year 1: 65% plastic, metal, glass
- > Year 2: 65% plastic, metal, glass
- > Year 3: 80% plastic and metal, 75% glass
- > Year 4 and onwards: 90% plastic and metal, 85% glass

Scope

Material type

Plastic, metal, glass

Beverage type

Beer, beer mixes, alcohol beverage mixes, cider, other fermented drinks, juices, nectars, soft drinks, water (all types), wines and spirits

Size

100ml to 3L (0.02 gal to 0.79 gal)

Excluded

Milk and other milk-based drinks

Deposits & fees

Deposit initiator

Producers

Deposit value

RON 0.50 (€0.10, USD\$0.11) (In Year 1, the deposit will be a fixed rate. As of 30 November 2024, but no sooner than one year following the initial decision on the deposit value (1 October 2022), the system operator will be entitled to ask the Ministry to amend the value of this deposit, also allowing for varying deposit values for different types of packaging)

Handling fee

TBD, will be set by the system operator (the calculation methodology will be determined by means of an order issued by the Ministry and will be differentiated by method of container return [manual or automated])

Producer fee

TBD, producers will be charged fees in proportion to the amount of packaging they place on the market; the amount of these fees (which will vary by material type) and frequency of payment will be established by the system operator, through a decision issued by the Supervisory Board



System structure & administration

Clearing system

Centralised

System operator

RetuRO Sistem Garantie Returnare S.A. (Private company that is 20% state-owned [represented by the Romanian environmental protection authority] + 80% privately owned [30% Association of Brewers of Romania for Environment; 30% Association of Soft Drinks Association for Sustainability; 20% Association of Retailers for Environment])

System finance

Unredeemed deposits, material revenues, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Return-to-Retail: All retailers selling deposit-bearing drinks will have to establish return points. Retailers whose sales area are <200 m² may partner with other small retailers in order to establish joint return points and/or may enter into agreements with local municipalities in which they operate or with inter-community development associations. In any case, return points may not be located further than 150 m² from the actual retail space. Retailers that sell deposit-bearing drinks on the national market exclusively via online platforms or exclusively via vending machines are not required to organise return points. HORECA establishments are not obliged to organise return points but are required to take back the deposit-bearing containers sold on their premises.

Pop. per collection point

TBD

Method of return

Automated and manual

Barcode-based system?

Yes

Return rate

Data not available

Money, material & data flow

Not available

¹ Based on the Gov. Decision 1074/2021



Scotland

Population: 5.5m

Population density: 70.0/km²

System operator's website:



Sources

- 1) Circularity Scotland. "FAQs – The Scheme." <https://circularityscotland.com/deposit-return-scheme/faqs/>
- 2) Scottish Government. 14 December 2021. "Scotland's deposit return scheme." <https://www.gov.scot/news/scotlands-deposit-return-scheme/>
- 3) Zero Waste Scotland. "Scheme Design: How the deposit return scheme will operate across Scotland." <https://depositreturnscheme.zerowastescotland.org.uk/scheme-design>
- 4) Humphrey, M. 12 May 2022. "Exclusive: Scottish DRS handling fees for stores revealed [UPDATED]." <https://www.betterretailing.com/sustainability/exclusive-scottish-drs-handling-fees-for-stores-revealed/>

Legislative framework

Name of legislation

The Deposit and Return Scheme for Scotland Regulations

Legislation enacted

May 2020

Appointment of system operator

March 2021

System started

Originally scheduled for April 2021, then July 2022, and now postponed to 16 August 2023

Regulatory authority

Scottish Environment Protection Agency (SEPA)

Legislated targets

› **Collection:** 70% in 2023, 80% in 2024, and 90% in 2025.
The 90% target is for the overall number of containers collected by the system. The collection rate for each material type must not be lower than 85%.

Scope

Material type

Plastic (PET), metal (aluminium, steel), glass

Beverage type

All sealed, ready-to-serve alcohol and non-alcohol drinks

Size

50ml to 3L (0.01 gal to 0.8 gal)

Excluded¹

Mixed material pouches, cartons, HDPE containers, and cups

Deposits & fees

Deposit initiator

Producer/Importer

Deposit value

› **Fixed rate:** £0.20 (€0.24, USD\$0.26) (the Scottish government is clear that the deposit should not be subject to VAT; discussions are ongoing with the UK Government to reach a final agreement on this matter)

Handling fee²

› Manual: £0.0269 (€0.031, USD\$0.034)
› RVM: £0.0355 (€0.041, USD\$0.045) for the first 8,000 units returned each week, and an additional £0.015 (€0.018, USD\$0.019) for each additional container
› HORECA: £0.0013 (€0.0015, USD\$0.0016)

Producer fee

TBD

*Note: In addition to producer fees, drinks producers will pay an annual registration fee to SEPA; this fee will be £360/year. Producers with an annual turnover of £85,000 or less are exempt from having to pay this fee.



System structure & administration

Clearing system

Centralised

System operator

Circularity Scotland (not-for-profit organisation representing drinks producers, trade associations and retailers)

System finance

Unredeemed deposits, material revenues, producer fees

Unredeemed deposits

System operator

Material owner

System operator

Container return & refund points

Collection model

Hybrid: All retailers and hospitality businesses that sell drinks in eligible containers to take away are required to operate a return point. This also includes online retailers of drinks, which will have to offer a free takeback service. Retailers can apply for an exemption from having to operate their own return point if there is an alternative return point of equal convenience available nearby that has agreed to accept scheme containers on their behalf. In addition to retailers, anyone that would like to operate a return point from somewhere other than retail premises can apply to be registered as a 'voluntary return point operator.' Zero Waste Scotland's website states there will be over 17,000 return points nationwide, while Circularity Scotland's website states there will be over 30,000.

Pop. per collection point

TBD

Method of return

Containers will be collected manually, or through a RVM. It will be up to individual retailers to decide whether they wish to install a RVM or accept returns manually.

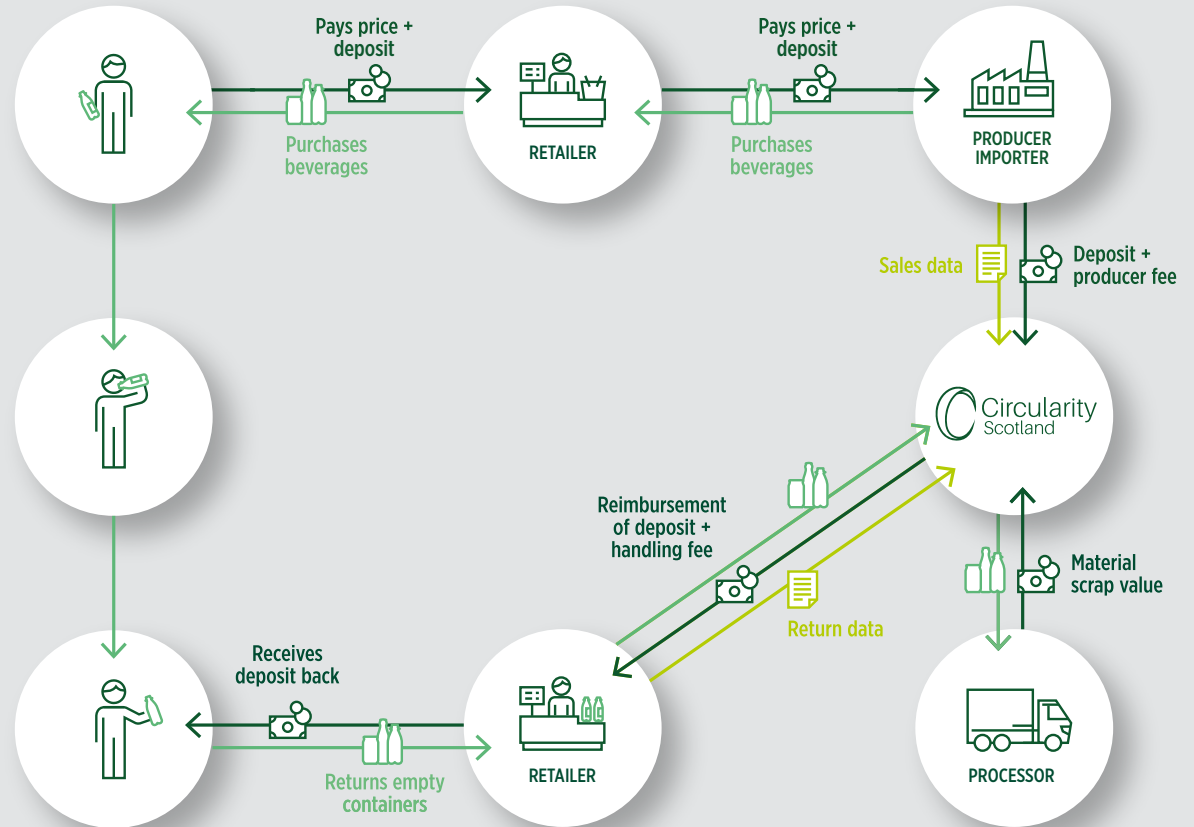
Barcode-based system?

Yes

Return rate

Data not available

Money, material & data flow



¹ Although all types of drinks will be included in the system, the exclusion of HDPE containers means that very few dairy items will be included in the system. However, milk or milk-based products contained in PET and glass bottles or cans will be eligible.
² These fees are for the first year of operation.



Tasmania (Australia)

Population: 0.5m

Population density: 8.0/km²

Regulator's website:



Sources

- (1) Tasmanian Government. May 2021. "Container Refund Scheme Bill 2021 – Explanatory Paper." <https://nre.tas.gov.au/Documents/Container%20Refund%20Scheme%20Explanatory%20Paper.PDF>
- (2) Tasmanian Government. "Fact Sheet: Container Refund Scheme Bill 2021." https://www.parliament.tas.gov.au/Bills/Bills2021/pdf/notes/54_of_2021-Fact%20Sheet.pdf
- (3) Maloney, M. 11 March 2022. "Tasmanian Parliament approves adopted of container refund scheme." <https://www.theadvocate.com.au/story/7655277/wine-spirits-bottles-banned-from-states-container-refund-scheme/>

Legislative framework

Name of legislation

Container Refund Scheme Bill 2021

Legislation enacted

10 March 2022

Appointment of system operator

TBD – expressions of interest from entities interested in providing Scheme Coordinator and Network Operator services closed on 11 May 2022

System started

Originally scheduled for 2022, delayed to Q1/Q2 2023

Regulatory authority

Department of Natural Resources and Environment Tasmania

Legislated targets

None

Scope

Material type

Plastic, glass, aluminium, liquid paperboard

Beverage type

TBD, but expected to include sealed, ready-to-serve drinks including soft drinks, juice, bottled waters, small flavoured milk drinks, beer and cider, sports drinks, and spirit-based mixed drinks

Size

150ml to 3L (0.04 gal to 0.79 gal)

Excluded

Plain milk (or milk substitutes), flavoured milk containers of 1L or more, pure fruit or vegetable juice containers of ≥1L, glass wine and spirit bottles, bag-in-box containers for wine and water ≥1L, sachets for wine of ≥250L, cordials, concentrated fruit/vegetable juices, registered health tonics

Deposits & fees

Deposit initiator

Producer/Importer

Refund value

› **Fixed rate:** AUD\$0.10 (€0.07, USD\$0.07)

Handling fee

TBD

Producer fee

TBD



System structure & administration

Clearing system

Centralised

System operator

TBD – The government has selected a split-responsibility governance model (like that in NSW and ACT) which involves a Scheme Coordinator, responsible for running the administration and finance for the scheme, and a separate Network Operator(s) that is responsible for running the network of return points. The Scheme Coordinator and Network Operator will be appointed through a competitive public tender process.

System finance

Producer fees, material revenues

Unredeemed deposits¹

Not applicable

Material owner

System operator

Container return & refund points

Collection model

TBD, but a range of different refund point types is expected, including RVMs, depots, and over-the-counter services in existing shops. It is expected that the network will consist of at least 40 return points, including in every city, and on King and Flinders Islands.

Pop. per collection point

Unknown, but the government will implement a minimum ‘Community Access Standard’ for the scheme, setting out a minimum number of return points together with stipulations around distance between return points and population size.

Method of return

TBD

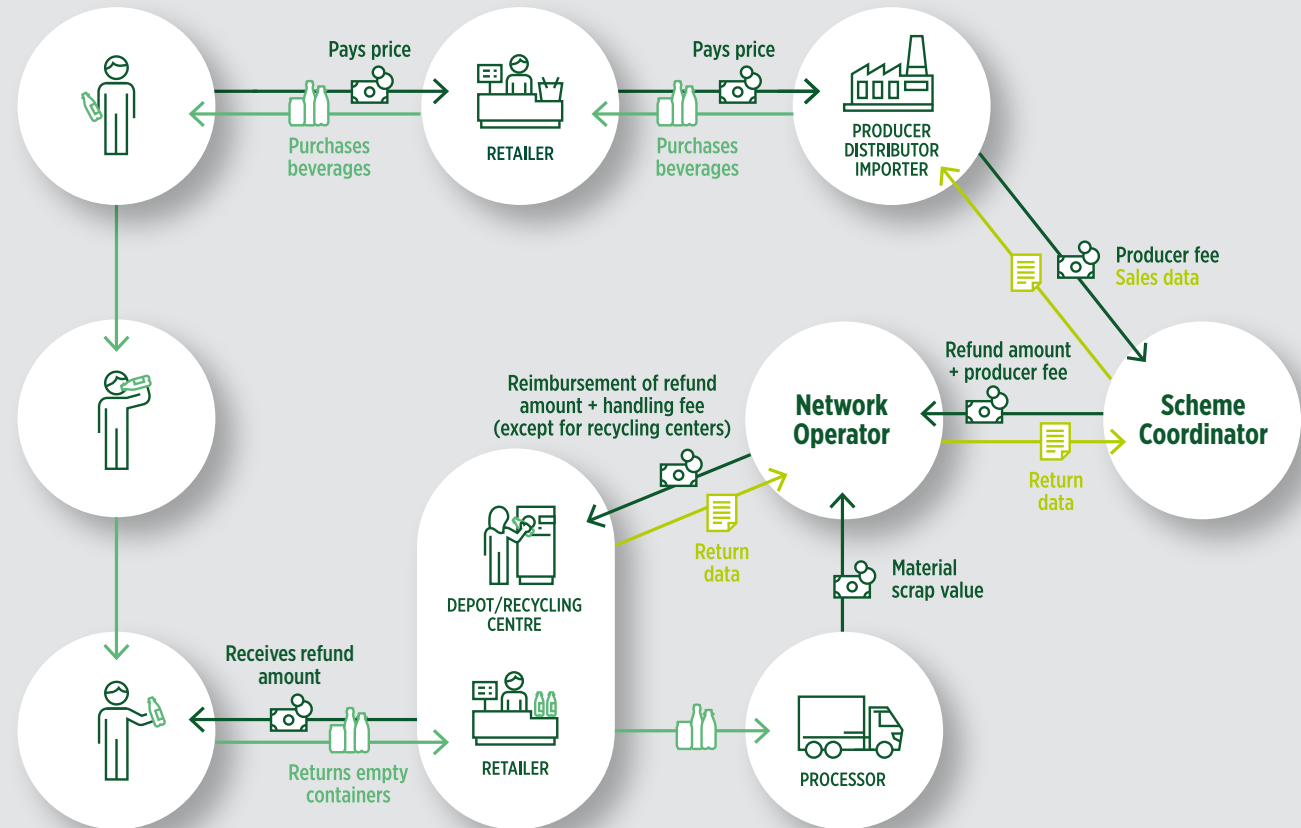
Barcode-based system?

No, but eligible containers are required to have a barcode after a transition period

Return rate

Data not available

Money, material & data flow



¹ In Australia, there is no legislation stating a ‘deposit’ must be paid, just that a refund must be given to all consumers that recycle at a refund point. As a result, there is no pool of unredeemed deposits. Instead, the system operator invoices producers a ‘producer fee’. This fee is based on the number of containers that are returned and also depends on the revenues earned from the sale of material.



Turkey

Population: 83.6m

Population density: 110.0/km²



Sources

- (1) Yilmaz, I., Zoer, C., Elver, E., and B. Oztoprak. 13 July 2021. "Turkey: Turkey Publishes New Packaging Waste Control Regulation." <https://www.mondag.com/turkey/waste-management/1090708/turkey-publishes-new-packaging-waste-control-regulation>
- (2) CMS-Law Now. 17 September 2021. "Turkey introduces new Packaging Waste Management Regulation." <https://www.cms-lawnow.com/ealerts/2021/09/turkey-introduces-new-packaging-waste-management-regulation>
- (3) "Turkey preparing to launch deposit return scheme for packaging in 2022." 31 December 2021. <https://www.duvarenglish.com/turkey-preparing-to-launch-deposit-return-scheme-for-packaging-in-2022-news-60032>
- (4) Simsek, B. 21 November 2021. "Deposit return scheme set to join Turkey's zero waste project." <https://www.dailysabah.com/turkey/deposit-return-scheme-set-to-join-turkeys-zero-waste-project/news>

Legislative framework

Name of legislation

Regulation on The Control of Packaging Wastes

Legislation enacted

June 2021

Appointment of system operator

Regional operators are expected to be appointed in 2022

System started

Originally scheduled for 2021, then January 2022, now delayed to 1 January 2023

Regulatory authority

Turkish Environment Agency

Legislated targets

› Recycling:

- › 2021-2025: glass (70%), plastic (55%), metal (60%), paper (75%), and wood (25%)
- › 2026-2030: glass (75%), plastic (55%), metal (70%), paper (85%), and wood (30%)
- › 2031-onwards: glass (75%), plastic (55%), metal (70%), paper (85%), and wood (30%)

Scope

Material type

Plastic (PET, HDPE), metal (aluminium), glass

Beverage type

Soft drinks, drinking and spring waters, natural mineral waters, alcohol drinks (e.g. wine, beer, malt drinks), non-alcohol beer, energy drinks, sports drinks, juices/nectars with a fruit content of 50% or less

Size

100ml to 3.01L (0.026 gal to 0.79 gal)

Excluded

Milk and drinkable dairy products, juices/nectar with a fruit content above 50%

Deposits & fees

Deposit initiator

TBD

Deposit value

TBD, but likely a fixed rate of 0.50 TRY (€0.03, USD\$0.03)

Handling fee

TBD

Producer fee

TBD



System structure & administration

Clearing system

TBD, but likely centralised

System operator

Türkiye Çevre Ajansı (TÜÇA) (government agency)

Network operator

19 regional operators (TBD)

System finance

Unredeemed deposits, producer fees, material revenues

Unredeemed deposits

TBD, but will likely remain with system operator

Material owner

TBD

Container return & refund points

Collection model

Return-to-Retail: All retailers that sell eligible drinks containers must accept empty containers back for recycling. In Year 1, all stores with sales area >1000m² are obligated to invest in RVMs. Retailers >500m² are obligated to invest in RVMs until beginning of Year 5 that DRS is in place.

Pop. per collection point

TBD

Method of return

Unknown

Barcode-based system?

TBD

Return rate

Data not available

Money, material & data flow

Not available



Victoria (Australia)

Population: 6.6m

Population density: 29.2/km²

Regulator's website:



Sources

- 1) Victoria State Government. "Victoria's Container Deposit Scheme." <https://www.vic.gov.au/sites/default/files/2021-08/Victorias%20Container%20Deposit%20Scheme%20Factsheet.pdf>
- 2) Ridley, R. 24 November 2021. "Expressions of interest open for the management of Victoria's Container Deposit Scheme." <https://businessrecycling.com.au/news/display/expressions-of-interest-open-for-the-management-of-victorias-container>
- 3) Engage Victoria. "Victoria's Container Deposit Scheme." <https://engage.vic.gov.au/container-deposit-scheme>
- 4) Circular Economy (Waste Reduction and Recycling) (Container Deposit Scheme) Regulations - Exposure Draft.
- 5) Victoria State Government. May 2022. "Container Deposit Scheme - Frequently Asked Questions." <https://engage.vic.gov.au/container-deposit-scheme>
- 6) Victoria State Government. May 2022. "Container Deposit Scheme (CDS) - Draft regulations and regulatory impact statement summary paper." <https://engage.vic.gov.au/container-deposit-scheme>

Note: The draft Circular Economy (Waste Reduction and Recycling) (Container Deposit Scheme) Regulations 2022 (draft regulations) outlining the operational and administrative aspects of the DRS have been developed and were released for public consultation from 28 May to 26 June 2022. Alongside the draft regulations, the government has also released a draft regulatory impact statement that examines a number of different options for improving the scheme. Feedback from the consultation stage will be used to inform the final regulations, which are expected to be finalised in late 2022. As such, the information below should not be taken as actual law, but rather an indication of what the system is likely to look like (based on the draft regulations).

Legislative framework

Name of legislation

Circular Economy (Waste Reduction and Recycling) Bill

Legislation enacted

December 2021

Appointment of system operator

N/A (applications from qualified organisations to run the system were open from 18 November to 23 December 2021)

System started

Scheduled for 2023

Regulatory authority

Victoria State Government, Department of Environment, Land, Water and Planning

Legislated targets

TBD

Scope

Material type

TBD, but it is likely that the scope of eligible containers will be similar to NSW, Western Australia, and Queensland, which include containers made of plastic, glass, aluminium, and liquid paperboard

Beverage type

TBD, but likely to include sealed, ready-to-serve drinks including soft drinks, bottled waters, small flavoured milk drinks, beer and cider, sports drinks, and spirit-based mixed drinks

Size

TBD, but likely 150ml to 3L

Excluded

TBD, but likely plain milk (or milk substitutes), flavoured milk containers of 1L or more, pure fruit or vegetable juice containers of 1L or more, glass wine and spirit bottles, bag-in-box containers for wine and water of 1L or more, sachets for wine of 250L or more, cordials, concentrated fruit/vegetable juices, registered health tonics

Deposits & fees

Deposit initiator

Producer/Importer

Refund value

TBD, but it is expected to be a fixed rate of AUD\$0.10 (€0.07, USD\$0.07) (consistent with other Australian systems)

Handling fee

TBD

Producer fee

TBD



System structure & administration

Clearing system

TBD, but likely centralised

System operator

TBD, will be appointed via competitive open market process. The system will likely be a split-responsibility model (like NSW and ACT), which involves a Scheme Coordinator who is responsible for running the administration and finance for the scheme, and a separate Network Operator(s) that is responsible for running the network of return points.

System finance

Producer fees, material revenues

Unredeemed deposits¹

Not applicable

Material owner

System operator

Container return & refund points

Collection model

TBD, but it is expected that there will be a mix of different return options including retail stores, RVMs, depots, pop-ups, and drop-off points

Pop. per collection point

TBD, but it is expected to have a minimum of one collection point per 14,500 people in metropolitan areas, at least one per town of 750 people in regional areas and at least one per town of 350 people in remote areas

Method of return

TBD

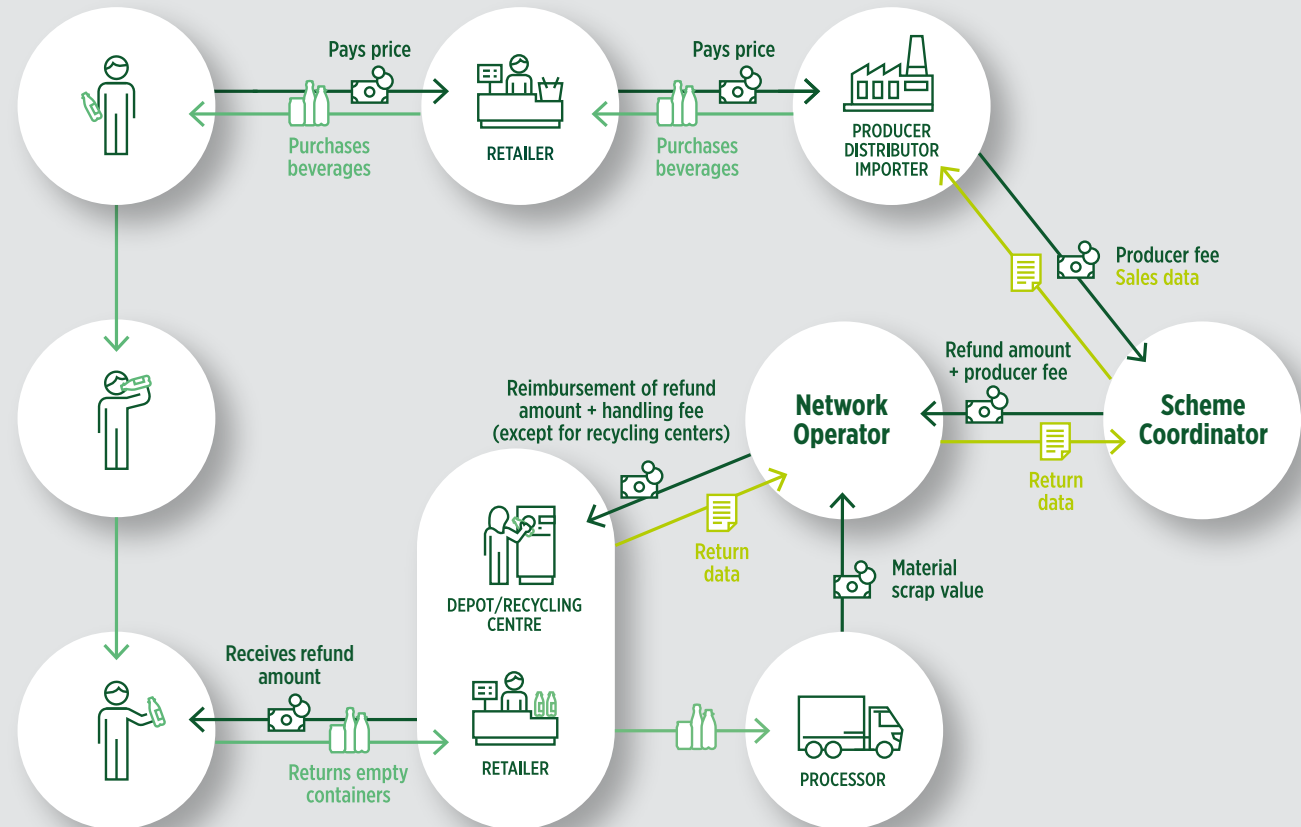
Barcode-based system?

No, but eligible containers are required to have a barcode after a transition period

Return rate

Data not available

Money, material & data flow



¹ In Australia, there is no legislation stating a 'deposit' must be paid, just that a refund must be given to all consumers that recycle at a refund point. As a result, there is no pool of unredeemed deposits. Instead, the system operator invoices producers a 'producer fee'. This fee is based on the number of containers that are returned and also depends on the revenues earned from the sale of material).



Proposed programmes



Proposed programmes

This section provides a summary of jurisdictions that have either formally committed to implement a DRS or that have plans to do so, as of the time of writing (where information is available). If all these jurisdictions implement DRS, it is reasonable to expect that by 2026, over 746 million people worldwide will be able to recycle their single-use drinks containers through DRSs.

Europe

Austria

On 10 December 2021, the Austrian government published the Amendment to the Waste Management Law (Abfallwirtschaftsgesetz – AWG), introducing a DRS on single-use plastic and metal drinks containers. A DRS ordinance, to be issued by the Ministry of Climate and Environment in agreement with the Ministry of Digitalisation and Economy, is expected before the end of 2022. The proposed system, set to start on 1 January 2025, will apply to single-use plastic bottles and metal cans up to 3L in capacity. While the exact amount of the deposit will be determined in the DRS ordinance, discussions are focusing on €0.25 to €0.30. Specific beverage types to be included in the system will be determined by the DRS ordinance but are likely to include mineral water, carbonated soft drinks, energy drinks, beer, cider, other fermented drinks, juices, and nectars.

The DRS, which is expected to be run by the private sector (beverage producers/importers/retailers), is expected to be a return-to-retail system: three out of four of the main retailers (Rewe group, Aldi and Lidl) have already committed to participate. Return point exemptions will be determined in the ordinance. Also to be determined in the ordinance are details surrounding system setup, but it is expected that one centralised, not-for-profit entity will be responsible for administering the scheme.

Collection targets have yet to be decided, however, it is expected that the DRS ordinance will include a target to reach 90% separate collection for recycling for plastic beverage bottles with a capacity of up to 3L by 2029.

In addition to introducing a DRS, the draft law also includes legally binding quotas for refillable containers from 2024.

The draft legislation can be seen here:

Cyprus

As of February 2022, the Packaging and Waste Packaging Regulation, aimed at introducing a DRS in Cyprus, went through public consultation and is being reviewed by the competent Ministry. As per the draft regulation, the DRS system administrator should be set-up within 9 months from the law's ratification. Moreover, the DRS is expected to start no later than 24 months after the system administrator's appointment. The regulatory authority will be the Department of Environment of the Ministry of Agriculture, Rural Development and Environment.

The proposed system would apply to all material fractions (plastic, metals, and glass) up to 3L in capacity and reusable glass bottles of up to 1.5L in capacity. The exact amount of the deposit is not yet decided, and decision on the value will be made by the ministry. It is likely that the deposit value for containers up to 3L (excluding PET water bottles up to 0.5L) will be €0.10, and €0.05 for PET water bottles up to 0.5L.¹⁸ The deposit will be fully refundable and separate from the product's price (without VAT). Unredeemed deposits will stay with the system administrator and be used to finance the system.

Specific beverage types to be included in the system are defined in the Combined Nomenclature of the Harmonised Commodity Description and Coding Systems of the Customs Cooperation Council¹⁹ and include water bottles, soft drinks, malt beer and other fermentation-based drinks, as well as spirits liqueur and other alcohol drinks with alcohol volume less than or equal to 9%.^{20,21}

As for the redemption infrastructure, it is expected to be a return-to-retail system, with stores above 200m² using RVMs. Return point exemptions are not mentioned in the draft law.

Performance targets have yet to be decided, however, the following recycling and reuse targets are being discussed:

- › Preparation for reuse and recycling target: up to 80% of the total weight of the deposit packaging waste placed on the market by system participants
- › Separate collection for recycling target: up to 90% of the weight of the plastic beverage bottles up to 3L placed on the market by system participants

A copy of the draft regulation is available here (in Greek only):

England, Wales and Northern Ireland (UK)

The Department for Environment, Food and Rural Affairs announced the scope of deposit return in March 2022, as part of their extended producer responsibility (EPR) consultation response.

England, Wales, and Northern Ireland will implement a DRS for single-use drinks containers between 50ml and 3L in volume. This will include containers sold both individually and as part of a multipack. The materials in scope for England and Northern Ireland will include all drinks sold in PET plastic and steel and aluminium cans, while the Welsh scope will also include drinks sold in glass bottles.

Glass drinks bottles will be in scope of EPR for England and Northern Ireland, which will place targets on producers in relation to glass recycling and require them to pay for the costs of managing glass packaging generated by households. Northern Ireland will keep under review the inclusion of glass once the DRS is fully operational to ensure glass drinks bottles are meeting the required recycling targets.

The above information can be accessed on page 9 of this document:

The system is expected to begin in 2024. No information is available on deposit levels. The primary legislation required for deposit return was passed as part of the Environment Bill 2020:

- › <https://www.gov.uk/government/publications/environment-bill-2020>
- › <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

More information is available here:

¹⁸ Kiliaris, K. 17 July 2021. "Cyprus cash incentives for recycling" <https://www.financialmirror.com/2021/07/17/cyprus-cash-incentives-for-recycling/>

¹⁹ "Reward for recycled separate waste packaging." 15 July 2021. <https://in-cyprus.philenews.com/financial-reward-for-recycling-separate-collection-packaging/>

²⁰ "Reward for recycled separate waste packaging." 15 July 2021. <https://in-cyprus.philenews.com/financial-reward-for-recycling-separate-collection-packaging/>

²¹ The following beverage types are excluded: all coffee drinks; milk and cream that are not concentrated and do not contain sugar or other sweeteners; milk and cream (condensed milk), concentrated or with addition sugar or other sweeteners; buttermilk, curd and curd, yogurt, kefir and more fermented or acidified milks and creams, whether or not concentrated or containing added sugar or other sweetening matter, or flavoured or with added fruit or cocoa; whey, whether concentrated or containing added sugar or otherwise sweeteners; fruit juices (including grape must) or fermented vegetables, without the addition of alcohol, with or without added sugar or other sweeteners; wines from fresh grapes, including alcohol-enriched wines; vermouth and other wines from fresh grapes, made with the help of herbs or fragrances; and spirits, liqueurs and other alcohol drinks by volume of alcohol drinks title more than 9% volume.



France

On 10 February 2020, the Anti-Waste Law for a Circular Economy (Loi n° 2020-105 relative à la lutte contre le gaspillage et à l'économie circulaire) was passed into law. The law sets a series of concrete goals, including 100% recycling of plastics by 2025, the end of single-use plastic packaging by 2040, a 20% reduction of single-use plastic packaging by 2025 (half of which must be achieved through reuse), and a 50% reduction in the use of single-use plastic bottles by 2030.

To achieve these goals, the law includes specific measures, including the option to “set up a mixed deposit system for recycling and reuse, following a progress report on the simplification of sorting rules and enlargement to all food packaging in plastic, to be prepared in 2023 on the results of 2022.”²² In other words, a DRS will only be introduced after discussions in mid-2023, when the selective collection schemes and voluntary systems can be shown to have failed in reaching the EU’s 90% collection for recycling target for plastic bottles. Implementation of one or more DRS(s) in France is subject to a further study from ADEME (French Environment and Energy Management Agency), which will investigate whether EU targets can be reached in any other way, such as through waste sorting and kerbside collection systems.²³ Until that time, trials of DRS may take place in voluntary regions (particularly in the overseas territories).²⁴

The draft law is available here (in French only):

More information is available here:

Greece

In October 2020, Law 4736/2020 concerning the reduction of the impact of certain plastic products on the environment was published in the Official Gazette. The law transposes the EU’s Single-Use Plastics Directive (SUPD) into Greek national law and introduced a DRS for single-use PET drinks bottles. Less than a year later, in July 2021, Law 4819/2021 entered into force, effectively adding aluminium cans and single-use glass beverage bottles to the scope of the DRS. According to the DRS ordinance published in July 2022, the system is expected to start in July 2023.

Although much of the details have yet to be confirmed, the proposed mandatory DRS is expected to be run by the private sector via one or more system operators and is expected to be a return-to-retail system. With regards to drink types included, the system will likely include mineral water, carbonated soft drinks, energy drinks, beer, cider and other fermented drinks, juices, and nectars in single-use plastic, glass and metal containers up to 3L. The value of the deposit is still under discussion and will be determined in the DRS ordinance.

The relevant legislation can be seen here (in Greek only):

› Law 4736/2020 concerning the reduction of the impact of certain plastic products on the environment:

› Law 4819/2021 transposing Directive (EU) 2018/852 on packaging and packaging waste:

²² Ministère de la transition écologique et solidaire. January 2020. “The Anti-Waste Law in the Daily Lives of the French People, What Does That Mean in Practice?” https://circulareconomy.europa.eu/platform/sites/default/files/anti-waste_law_in_the_daily_lives_of_french_people.pdf

²³ Changing Markets Foundation. September 2020. “Talking Trash.” https://talking-trash.com/wp-content/uploads/2020/09/TalkingTrash_4_France.pdf

²⁴ Ministère de la transition écologique et solidaire. 7 March 2022. “The anti-waste law for a circular economy.” <https://www.ecologie.gouv.fr/loi-anti-gaspillage-economie-circulaire>



Hungary

According to Hungary's Act on Waste as amended in February 2021, a DRS for single-use and reusable drinks packaging, including plastic, glass, and metal containers is expected to start in a regional test phase on 1 July 2023, and then rolled out across the entire country on 1 January 2024. Detailed regulations laying out further details are expected in 2022. The DRS for drinks packaging, as well as EPR for other products and packaging, is the responsibility of the Hungarian State, which will appoint a system operator (concessionaire) to fulfil its obligations.

Italy

In July 2021, the “Simplification Act – bis” (Law 108/2021), introduced in Italy a specific amendment stipulating that the Ministry of Ecological Transition, along with the Ministry of Economic Development, must draw up the Implementing Act for the introduction of a DRS on PET, metal, and glass drinks containers. The competent ministries should have issued the Implementing Act no later than 120 days after the adoption of the primary law. The Implementing Act is expected to define relevant aspects such as the collection targets, the deposit value, and the collection method.

The relevant legislation can be found here:

In order to raise awareness about the benefits of DRS and about having a nation-wide system, on 4 March 2022 a coalition of NGOs launched a campaign named “A Buon Rendere – molto più di un vuoto”; the coalition, which is led by Associazione Comuni Virtuosi, is supported by major environmental NGOs and other organisations, and aims to speed up the approval process by informing and influencing policy-makers to adopt a national DRS that is based on the most successful systems operating in Europe. The coalition uses a number of tools, such as petitions, surveys, public events and public information materials including reports on the most littered items found during clean-ups, designed to support the campaign.²⁵

²⁵ Laird, K. 21 March 2022. “Italy campaigns for national Deposit Return System.” <https://www.sustainableplastics.com/news/italy-campaigns-national-deposit-return-system>



Poland

In January 2022, the Polish government launched a consultation process on the third draft law laying down the framework for Poland's DRS.²⁶ As explained by the Deputy Minister of Climate and Environment at a press conference in February 2022, it is assumed that “the proposed regulations will enter into force on 1 January 2023,” however, “the draft act assumes that operators will be obliged to create the system no later than 24 months after the entry of the act into force – thus, by the end of 2024 at the latest.”²⁷ As per the law, fillers will not be obligated to participate in the system; rather, they will be allowed to choose between creating/joining a DRS, or paying product fees to the government.²⁸

Producers selling deposit-bearing drinks are expected to meet the following collection targets, defined in the draft law: 77% in 2025, 81% in 2026, 84% in 2027, 87% in 2028, and 90% in 2029 and onwards. The draft law requires stores with more than 100m² of retail space to collect empty containers of the brands which they sell (for smaller retailers, the DRS will remain voluntary, meaning that such stores will be required to charge a deposit, but will not be obliged to collect empty containers from consumers²⁹). The draft law does not specify the number of system operators, however, under the proposed regulatory framework, it is possible to have two or more system operators conducting their activity simultaneously, therefore it is expected the system will be decentralised. The exact amount of the deposit and the rules for its settlement will not be set out by law, but will be left to the decision of the system operator(s).³⁰ Unredeemed deposits will go to the producers, who can use these funds to finance the system.³¹ With regards to collection method, the draft law does not specify the manner in which empty containers must be collected. However, as explained by the Deputy Minister of Climate and Environment, the choice of whether to collect containers manually or via RVMs will be dictated by the assessment of its effectiveness in the context of achieving the required levels of collection.³²

At a press conference organised by the Ministry of Climate and Environment on 2 June 2022, the vice minister announced that the future DRS would include single-use plastic, metal and glass packaging, as well as refillable glass. This announcement enlarges the scope addressed in the draft law presented in January 2022.

The draft law, prior to the consultation, is available here (in Polish only):

The Republic of Ireland

Ireland's Department of the Environment, Climate and Communications published regulations for a DRS in November 2021. As per the Separate Collection (Deposit Return Scheme) Regulations, the system will be a return-to-retail scheme and will include plastic bottles of up to 3L in volume and aluminium cans. The start date is expected to be confirmed soon. No information is available on deposit levels.

The legislation is available here:

More information can be found at:

²⁶ “All the trouble with packaging – the Polish deposit refund scheme.” 1 March 2022. <https://www.osborneclarke.com/insights/all-trouble-packaging-polish-deposit-refund-scheme>

²⁷ Ministry of Climate and Environment. 1 February 2022. “Deputy Minister Ozdoba: We are starting public consultations on the universal and “no-receipt” deposit system.” <https://www.gov.pl/web/climate/deputy-minister-ozdoba-we-are-starting-public-consultations-on-the-universal-and-no-receipt-deposit-system>

²⁸ Ibid.

²⁹ “Deposit for glass and plastic bottles. The Ministry of Climate and Environment explains – when will the deposit system start in Poland?” 2 November 2021. <https://polishnews.co.uk/deposit-for-glass-and-plastic-bottles-the-ministry-of-climate-and-environment-explains-when-will-the-deposit-system-start-in-poland/>

³⁰ “Deposit for glass and plastic bottles. The Ministry of Climate and Environment explains – when will the deposit system start in Poland?” 2 November 2021. <https://polishnews.co.uk/deposit-for-glass-and-plastic-bottles-the-ministry-of-climate-and-environment-explains-when-will-the-deposit-system-start-in-poland/>

³¹ Wnukowski, M. & P. Pacholczak. 13 October 2021. “Amendments to the Act on Packaging and Packaging Waste Management.” <https://www.ceelegalblog.com/2021/10/amendments-to-the-act-on-packaging-and-packaging-waste-management/>

³² Ministry of Climate and Environment. 1 February 2022. “Deputy Minister Ozdoba: We are starting public consultations on the universal and “no-receipt” deposit system.” <https://www.gov.pl/web/climate/deputy-minister-ozdoba-we-are-starting-public-consultations-on-the-universal-and-no-receipt-deposit-system>



Slovenia

The Environmental Protection Act represents the general legislative framework for waste management in Slovenia. On 16 March 2022, the Slovenian Parliament adopted amendments to the Environmental Protection Act to introduce a DRS for drinks containers. Although many of the details on how the system will work are still forthcoming and will be determined by the regulations (expected to be issued within 10 months from the date the Act is adopted), the Environmental Protection Act stipulates that producers and retailers will found the system operator. The law also sets out how the system will be financed (through unredeemed deposits and material revenues).

The relevant legislation is available here:

Relevant articles include: Article 35, paragraph (7); Article 39, paragraph (11); Article 40, paragraph (3) line 2; Article 164, paragraph (5).

Spain

In Spain, a new waste law (Waste and contaminated soil law for a circular economy; passed 31 March 2022) and Project Royal Decree on Packaging and Packaging Waste has opened the door to launch a Spanish DRS. Among other measures, the Waste law transposes the separate collection targets for plastic drinks bottles stipulated by the EU's Single-Use Plastics Directive.³³ The law states that should producers fail to achieve a rate of at least 70% in 2023 or 85% in 2027, a mandatory DRS for single-use plastic bottles up to 3L will be launched within two years. As per the Royal Decree sent to the European Commission on 6 May 2022 (and expected to enter into force in Q4 2022), the system would include plastic bottles, metal cans, and cartons containing the following drinks: mineral and spring waters, juices, nectars, mixtures of freshly squeezed fruits and vegetables, concentrates, soft drinks, energy drinks, isotonic drinks, and alcohol drinks (wine, beer, cider, spirits, etc.). With regards to the deposit amount, the value will be determined by the producer responsibility organisation(s) (PRO) but will be a minimum of €0.10 (USD\$0.11), regardless of container size or material type. The Waste law states that Spain's DRS will be a return-to-retail model. It is expected that most (~80%) containers will be collected via RVMs, with the rest being recovered via an extensive network (~20,000 stores) of manual return points. The Project Royal Decree also specifies that handling fees must be paid to retailers as compensation for accepting, storing, and handling empty containers. As with producer fees, these fees will be set at a later date by the PRO(s). In addition to single-use plastic bottles, cans, and cartons, the Project Royal Decree requires that reusable packaging be managed through individual or collective DRS (currently, there are several individual, producer-run DRS in place for water, soft drinks, and beer in the HORECA sector).³⁴

The new Waste Law (Article 59 and Disposición adicional decimoséptima) is available here (in Spanish only):

The Project Royal Decree on Packaging and Packaging Waste is available here (in Spanish only):

Article 47 relates to the single-use DRS and Article 46 relates to the DRS for reusable drinks containers.

³³ USO. 24 November 2021. "85% of people in Spain want to return glass and plastic bottles, cans, and cartons to the store as soon as possible." https://www.retorna-org.translate.goog/news/es_ES/2021/11/24/0001/el-85-de-las-personas-en-espana-quiere-devolver-botellas-de-vidrio-y-de-plastico-latas-y-briks-a-la-tienda-lo-antes-posible?x_tr_sl=es&x_tr_tl=en&x_tr_hl=ca&x_tr_pto=nui

³⁴ Compliance & Risks. 8 October 2021. "Long Anticipated Draft Aims to Regulate All Packaging in Spain." https://www.complianceandrisk.com/market-insights/long-anticipated-draft-aims-to-comprehensively-regulate-all-packaging/?hs_amp=true%2Fblog



Asia

Hong Kong

In early 2021, the Hong Kong Environmental Protection Department launched a 3-month public consultation on introducing a rebate programme to encourage the public to return plastic drinks bottles for recycling. According to the consultation paper, the government is proposing that the proposed system include ready-to-serve drinks in containers between 100ml and 2L in size, including alcohol drinks, water (carbonated or non-carbonated) or water-based flavoured drinks (carbonated or non-carbonated), milk or dairy-based drinks, soybean-based drinks, fruit or vegetable juice or nectar, coffee/coffee substitute/tea/herbal infusion, and cereal grain drinks. Drinks in refillable plastic containers would be excluded from the proposed system, as would single-use plastic cups and pouches. The proposed programme would adopt a flat rebate rate of HK\$0.10 (approximately €0.012, USD\$0.013) regardless of the size of the container. With regards to how containers would be recovered, the government is proposing a return-to-retail model, where retailers selling drinks in plastic bottles would be required to provide take-back services.

Details of the consultation can be found here:

As of the time of writing, no official summary of the consultation responses has been provided by the government. The proposal has yet to come before the parliament for debate.

Singapore

In March 2020, Singapore's National Environment Agency (NEA) announced that they will be implementing a DRS for drinks containers by 2022 as part of the first phase of its extended producer responsibility (EPR) framework for managing packaging waste. The implementation of DRS has been recognised as a critical step to help achieve Singapore's zero-waste vision by improving the recovery rates of used drinks containers in the country.

There will be transition period between the start of the scheme (likely Q1 2024) and the introduction of the legislative framework (expected Q4 2022), which will give industry the time to establish return points and the necessary recycling infrastructure. Although most details of the DRS have yet to be confirmed, the scope is expected to include metal cans, PET plastic, and glass bottles, and potentially aseptic (Tetra Pak) containers between 250ml and 2L in volume. The types of drinks to be included is still being determined, but dairy and dairy substitutes, as well as wine and spirits are likely to be excluded. The deposit value is likely to be between SGD\$0.10 (€0.07, USD\$0.07) and SGD\$0.20 (€0.13, USD\$0.15), and unredeemed deposits will likely stay with the system operator. Details surrounding system set-up (e.g., method of container return, collection model, clearing system, etc.) are still under discussion.



New Zealand

As part of suite of proposals to transform recycling in New Zealand, in March 2022 the government announced a commitment to implement a DRS for the recycling of single-use drinks containers with the release of its Container Return Scheme Consultation Paper.³⁵

The system being proposed is a hybrid return-to-retail model, which would include over-the-counter returns, larger depots (manual or automated), and retail sites that could use RVMs. The proposed system would include all single-use metal, glass, plastic, and liquid paperboard containers up to 3L and would apply to all single-use drinks, including cordials and concentrates, but not fresh milk. A deposit level of NZD\$0.20 is being proposed.

Public consultation on the proposed design for New Zealand's DRS was open from 13 March to 22 May 2022. Following public consultation, the Ministry will analyse the feedback received and present a summary to Ministers and Cabinet. Should the government decide to proceed with a DRS, further consultation is expected to take place at the legislation/regulation development phase. The new waste legislation bill is slated to be introduced to the House (Parliament) in early 2023, with expected passing into law in early 2024.³⁶ This means that pending consultation outcomes and the legislative development process, New Zealand's DRS could be up and running by mid-2025.³⁷

More information is available here:

³⁵ New Zealand Ministry for the Environment. Container Return Scheme: An option for Aotearoa New Zealand. <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/container-return-scheme-reducing-waste-landfill/#what-happens-next>

³⁶ New Zealand Ministry for the Environment. "Container Return Scheme: An option for Aotearoa New Zealand." <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/container-return-scheme-reducing-waste-landfill/#what-happens-next>

³⁷ New Zealand Ministry for the Environment. Container Return Scheme: An option for Aotearoa New Zealand. <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/container-return-scheme-reducing-waste-landfill/#what-happens-next>



Appendix – links to legislation

Existing programmes

| Jurisdiction | Links to relevant legislation and regulations |
|--------------|---|
| Europe | |
| Croatia | <p>Croatian version</p> <ul style="list-style-type: none"> › https://mingor.gov.hr/UserDocImages/NASLOVNE%20FOTOGRAFIJE%20I%20KORIŠTENI%20LOGOTIPOVI/doc/20032013_-_informacija_o_zah_tjevu_za_provedbu_postupka_utvrdivanja_objedinjenih_uvjeta_zastite_okolisa.pdf › https://narodne-novine.nn.hr/clanci/sluzbeni/2020_01_7_93.html › https://narodne-novine.nn.hr/clanci/sluzbeni/2015_09_97_1872.html › https://narodne-novine.nn.hr/clanci/sluzbeni/2020_12_140_2703.html › extwprlegs1.fao.org/docs/pdf/cro166577.pdf |
| Denmark | <p>English version</p> <ul style="list-style-type: none"> › https://mst.dk/media/133287/statutory-order-on-deposits-on-and-the-collection-etc-of-packaging-for-certain-beverages.pdf |
| Estonia | <p>Estonian version</p> <ul style="list-style-type: none"> › https://www.riigiteataja.ee/akt/117052014005 › https://www.riigiteataja.ee/akt/129062014050 <p>English version</p> <ul style="list-style-type: none"> › https://www.riigiteataja.ee/en/eli/ee/Riigikogu/act/527052014002/consolide https://www.riigiteataja.ee/en/eli/ee/Riigikogu/act/524102014004/consolide |
| Finland | <p>English version</p> <ul style="list-style-type: none"> › https://www.finlex.fi/en/laki/kaannokset/2011/en20110646.pdf › https://www.finlex.fi/en/laki/kaannokset/2013/en20130526.pdf |
| Germany | <p>German version</p> <ul style="list-style-type: none"> › https://www.gesetze-im-internet.de/verpackg/ |
| Iceland | <p>Icelandic version</p> <ul style="list-style-type: none"> › https://www.althingi.is/lagas/nuna/1989052.html |

| Jurisdiction | Links to relevant legislation and regulations |
|-----------------|---|
| Latvia | <p>Latvian version</p> <p>› https://likumi.lv/ta/id/316731-depozita-sistemas-darbibas-noteikumi</p> <p>English version:</p> <p>› https://likumi.lv/ta/en/en/id/316731</p> |
| Lithuania | <p>Lithuanian version</p> <p>› https://www.e-tar.lt/portal/lt/legalAct/TAR.9D1ADB9E1518/asr</p> |
| Malta | <p>English version</p> <p>› https://cemalta.gov.mt/wp-content/uploads/2021/10/BCRS-Regulations.pdf</p> |
| The Netherlands | <p>Dutch version:</p> <p>› https://wetten.overheid.nl/BWBR0014230/2008-11-01</p> <p>› https://wetten.overheid.nl/BWBR0035711/2022-01-01</p> <p>English version</p> <p>› https://www.interseroh.eu/check-the-pack/wp-content/uploads/2017/12/Netherlands_law_packaging-ENG.pdf</p> |
| Norway | <p>Norwegian version</p> <p>› https://lovdata.no/dokument/SFO/forskrift/1993-12-10-1182</p> <p>English version</p> <p>› https://www.environmentagency.no/legislation/waste-regulations/chapter6-take-back-systems-for-beverage-packaging/</p> <p>› https://www.regjeringen.no/en/dokumenter/product-control-act/id172150/</p> |
| Slovakia | <p>Slovakian version</p> <p>› https://www.slov-lex.sk/static/pdf/2019/302/ZZ_2019_302_20220101.pdf</p> <p>English version</p> <p>› https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahXRVt8KHc08BdMQFnoECAUQAQ&url=https%3A%2F%2Fec.europa.eu%2Fgrowth%2Ftools-databases%2Ftris%2Findex.cfm%2Fen%2Fsearch%2F%3Ftrisaction%3Dsearch_detail%26year%3D2019%26num%3D115%26fLang%3DEN%26dNum%3D1&usq=AOvVaw2ZCVFVfaBCL4tP8BibQ669</p> |
| Sweden | <p>Swedish version</p> <p>› http://klevringsjuridik.se/law/lag-1982-349/</p> |



| Jurisdiction | Links to relevant legislation and regulations |
|---------------------------------------|---|
| North America | |
| United States of America (USA) | |
| California | › https://www2.calrecycle.ca.gov/Publications/Details/1478 |
| Connecticut | › https://www.cga.ct.gov/2021/SUM/PDF/2021SUM00058-R02SB-01037-SUM.PDF |
| Hawaii | › https://www.capitol.hawaii.gov/session2002/bills/HB1256_cd1_.htm |
| Iowa | › https://www.legis.iowa.gov/DOCS/ACO/IC/LINC/Chapter.455c.pdf › https://www.legis.iowa.gov/docs/ico/chapter/123.pdf › https://www.legis.iowa.gov/legislation/BillBook?ga=89&ba=SF%202378 |
| Maine | › https://legislature.maine.gov/legis/statutes/38/title38ch33.pdf |
| Massachusetts | › https://www.mass.gov/doc/301-cmr-400-provisions-for-recycling-beverage-containers-bottle-bill/download |
| Michigan | › http://www.legislature.mi.gov/(S(qtbq0epq3wqug22mqd1nf42w))/mileg.aspx?page=getObject&objectName=mcl-Initiated-Law-1-of-1976 |
| New York | › https://www.dec.ny.gov/docs/materials_minerals_pdf/rca2017.pdf |
| Oregon | › https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3872 |
| Vermont | › https://legislature.vermont.gov/statutes/chapter/10/053 |



| Jurisdiction | Links to relevant legislation and regulations |
|---------------------------|--|
| North America | |
| Canada | |
| Alberta | › https://www.canlii.org/en/ab/laws/regu/alta-reg-101-1997/latest/alta-reg-101-1997.html |
| British Columbia | › https://www.bclaws.gov.bc.ca/civix/document/id/crbc/crbc/449_2004 |
| Newfoundland and Labrador | › https://www.assembly.nl.ca/legislation/sr/regulations/rc030059.htm |
| New Brunswick | › https://www.canlii.org/en/nb/laws/regu/nb-reg-99-66/latest/nb-reg-99-66.html |
| Northwest Territories | › https://www.justice.gov.nt.ca/en/files/legislation/waste-reduction-recovery/waste-reduction-recovery.r1.pdf |
| Nova Scotia | › https://novascotia.ca/just/regulations/regs/envsolid.htm |
| Ontario | › https://www.ontario.ca/laws/regulation/070013 |
| Prince Edward Island | › https://www.princeedwardisland.ca/sites/default/files/legislation/B&02-1G-Beverage%20Containers%20Act%20General%20Regulations.pdf |
| Quebec | › http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2021C5A.PDF › https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/consultation-publique-janvier-mars-2022/index.htm |
| Saskatchewan | › https://publications.saskatchewan.ca/#/products/31893 › https://publications.saskatchewan.ca/#/products/84999 › https://publications.saskatchewan.ca/#/products/1493 |
| Yukon | › https://laws.yukon.ca/cms/images/LEGISLATION/SUBORDINATE/1992/1992-0136/1992-0136.pdf?zoom_highlight=beverage+container+regulations#search=%22beverage%20container%20regulations%22 |



| Jurisdiction | Links to relevant legislation and regulations |
|--|--|
| Central America & the Caribbean | |
| Barbados | <ul style="list-style-type: none"> › https://www.bottlebill.org/assets/pdfs/legis/world/Barbados1986-RCA.pdf › https://www.barbadosparliament.com/uploads/bill_resolution/3d13b5bff70170a303ba1a28b375550e.pdf |
| Belize | <ul style="list-style-type: none"> › https://elaw.org/system/files/attachments/publicresource/Cap%20328.01%20Returnable%20Containers%20Act.pdf |
| Africa | |
| Republic of Seychelles | <p>Environment Protection (Environmental Levies on PET, Plastic and Glass Bottles and Cans) Regulations, 2020.</p> <ul style="list-style-type: none"> › https://www.nationalassembly.sc/sites/default/files/2020-10/SI-81-2020-Environment-Levies-on-PET-Plastic-Glass-Bottles-Cans.pdf › https://seylia.org/sc/legislation/si/2020/8/SI%208%202020%20-%20Environment%20Protection%20%28Environmental%20Levies%29%20%28Amendment%29.pdf |
| Middle East | |
| Israel | <ul style="list-style-type: none"> › https://www.gov.il/BlobFolder/legalinfo/beverage_container_deposit_law_1999/he/waste_beverage_container_deposit_law_amendment4_2010.pdf |
| Oceania | |
| Australia | |
| Australian Capital Territory (ACT) | <ul style="list-style-type: none"> › https://www.legislation.act.gov.au/si/2018-9/20180630-68997/pdf/2018-9.pdf |
| New South Wales (NSW) | <ul style="list-style-type: none"> › https://legislation.nsw.gov.au/view/whole/html/inforce/current/act-2016-057 › https://legislation.nsw.gov.au/view/html/inforce/current/si-2017-0066 |
| Northern Territory | <ul style="list-style-type: none"> › https://legislation.nt.gov.au/Legislation/ENVIRONMENT-PROTECTION-BEVERAGE-CONTAINERS-AND-PLASTIC-BAGS-ACT-2011 › https://legislation.nt.gov.au/Legislation/ENVIRONMENT-PROTECTION-BEVERAGE-CONTAINERS-AND-PLASTIC-BAGS-REGULATIONS-2011 |
| Queensland | <ul style="list-style-type: none"> › https://www.legislation.qld.gov.au/view/pdf/asmade/si-2018-0167 |
| South Australia | <ul style="list-style-type: none"> › http://extwprlegs1.fao.org/docs/pdf/sa83008.pdf |
| Western Australia | <ul style="list-style-type: none"> › https://www.legislation.wa.gov.au/legislation/prod/filestore.nsf/FileURL/mrdoc_41821.pdf/\$FILE/Waste%20Avoidance%20and%20Resource%20Recovery%20Amendment%20(Container%20Deposit)%20Act%202019%20-%20%5B00-00-01%5D.pdf?OpenElement › https://www.legislation.wa.gov.au/legislation/prod/filestore.nsf/FileURL/mrdoc_43335.pdf/\$FILE/Waste%20Avoidance%20and%20Resource%20Recovery%20(Container%20Deposit%20Scheme)%20Regulations%202019%20-%20%5B00-c0-00%5D.pdf?OpenElement |



| Jurisdiction | Links to relevant legislation and regulations |
|--|---|
| Federated States of Micronesia | |
| Kosrae | <ul style="list-style-type: none">› https://www.bottlebill.org/assets/pdfs/legis/world/micronesia/kosraeCDLRegulations.pdf› https://www.bottlebill.org/assets/pdfs/legis/world/micronesia/kosraeCDL.pdf |
| Pohnpei | Not available |
| Yap | Not available |
| Republic of Kiribati | › https://fsm-data.sprep.org/system/files/Kiribati-CDL-Act-2004.pdf |
| Republic of Palau | › https://countrysafeguardsystems.net/sites/default/files/Palau Beverage Container Recycling Regs 2009.pdf |
| Republic of the Marshall Islands (RMI) | <ul style="list-style-type: none">› https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/109300/135546/F778059209/MHL109300.pdf› https://rmiparliament.org/cms/images/LEGISLATION/BILLS/2018/2018-0103/StyrofoamCupsandPlatesandPlasticProductsProhibitionContainerDepositAmendmentAct2018.pdf |
| Tuvalu | › https://perma.cc/QVF7-KYZ4 |



Upcoming programmes

| Jurisdiction | Links to relevant legislation and regulations |
|-------------------|--|
| Romania | Romanian version › http://mmediu.ro/app/webroot/uploads/files/hotararea-nr-1074-2021-privind-stabilirea-sistemului-de-garantie-returnare-pentru-ambalaje-primare-nereutilizabile%281%29.pdf |
| Republic of Korea | South Korean version › https://www.law.go.kr/LSW/lsInfoP.do?efYd=20220308&lsiSeq=241301#0000 |
| Turkey | Turkish version › https://www.resmigazete.gov.tr/eskiler/2021/06/20210626-18.htm |
| Tasmania | › https://www.parliament.tas.gov.au/Bills/Bills2021/pdf/54_of_2021.pdf |
| Scotland | › https://www.legislation.gov.uk/ssi/2020/154/contents/made |
| Victoria | › https://content.legislation.vic.gov.au/sites/default/files/2021-12/591274bs1_0.pdf › https://engage.vic.gov.au/download/document/27085 |
| Portugal | Portuguese version: › https://files.dre.pt/1s/2018/12/24800/0593705938.pdf |

ⁱ https://www.epa.sa.gov.au/files/14628_kesab_cdl_2019.pdf

ⁱⁱ KESAB Environmental Solutions. December 2019. "CDL Containers and Plastic Shopping Bags in the Litter Stream 2018-19." Accessed August 6, 2020 from https://www.epa.sa.gov.au/files/14628_kesab_cdl_2019.pdf





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