IMPROVING SOUTH AUSTRALIA'S RECYCLING MAKES CENTS

A discussion paper to review SA's container deposit scheme

September 2021

EPA
South Australia

A message from the Minister

The South Australian container deposit scheme is one of the longest running and successful product stewardship schemes in Australia. It is considered by some in the beverage industry as one of the most effective container deposit schemes in the world.

Each year, over 600 million eligible beverage containers (over 40,000 tonnes) are returned by South Australians for refund and recycling. In 2019-20, the return rate for all container deposit scheme beverage containers was 77%, which corresponds to over 605 million eligible beverage containers that were returned to the container deposit scheme for a refund, with $60 million refunded to the South Australian community.

In relation to glass, some 32,286 tonnes of alcohol- and soft-drink-based glass bottles were recovered during the year and sent for remanufacturing back into glass bottles locally here in South Australia. The return rate for container deposit scheme glass beverage containers sold in South Australia is around 88%, and 99% of this material is recovered as high-quality glass ready to be remanufactured.

South Australia's container deposit scheme has led the way for over 44 years, but now needs modernising given that much has changed since the commencement of the scheme. There is increasing recognition on a global scale of the need to continue moving towards a circular economy where materials are reused and recycled as a sustainable alternative to the linear economy that is based on 'take, make, use and dispose'.

As outlined in South Australia's Waste Strategy, we are committed to maintaining our national and international leadership position by implementing policies that further embed the principles of a circular economy. The container deposit scheme is already recognised as an effective tool in providing a high-value pathway to resource recovery and recycling, and is an important component of the circular economy in South Australia.

The container deposit scheme has a significant economic footprint in terms of infrastructure investment, employment and community support, including supporting the financial viability of the essential service of material recovery facilities and, therefore, the kerbside recovery of recyclable materials. The waste management and resource recovery industry is a vital part of the South Australian economy with an annual turnover of $1 billion and approximately 4,800 people employed. By 2030, further transition to a circular economy through solid waste resource recovery and recycling has the potential to create an additional 25,700 full-time jobs and reduce South Australia's greenhouse gas emissions by 27%.

The success of the container deposit scheme has been made possible through the commitment of state and local governments; small businesses involved in container recovery and recycling; beverage producers, suppliers and retailers; non-government organisations; community groups; and, importantly, the community at large. It is now time to reinvigorate the purpose and scope of the container deposit scheme to reflect circular economy objectives, incorporate modern technology, establish transparent reporting systems and, ultimately, make more high-value materials available for remanufacturing in domestic markets. This will result in better outcomes for the community, for the CDS industry and for remanufacturing jobs in SA. The South Australian Government invites you to participate by providing feedback on options for improving one of our state's cultural icons to make it even better.

David Speirs MP
Minister for Environment and Water

Beverage manufac
& distributors
collectors
Collection depots

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Executive summary

South Australia's container deposit scheme (CDS) is one of the longest running and successful product stewardship schemes in Australia, with container deposit legislation being first introduced in SA in 1977. In 2003, the scope of containers covered by the CDS was extended to include beverage containers used for flavoured milk and fruit/vegetable juice (less than 1 litre) and other beverage containers prevalent in the litter stream at the time. In 2008, the refund amount was increased from 5 cents to 10 cents.

The South Australian CDS is a product stewardship program whereby beverage producers and suppliers fund collection and recovery of empty beverage containers and support increased resource recovery and recycling in SA. These activities have resulted in empty CDS-eligible beverage containers making up less than 3% of litter items (or 0.8 containers per 1,000 m^2 - see related table in Appendix 3), which is well-below the national average and frequently the lowest of the states and territories. In the past 10 years alone (2010-2020), almost half a million tonnes of beverage container material has been recovered through the CDS. Recycling of this would achieve:

- 871,000 tonnes in avoided CO_2 equivalent emissions (equivalent to over 43,000 cars being removed from the road)
- over 12,000 terajoules of energy saved and over 4 million kilolitres of water saved (equivalent to the energy and water used by over 22 million households in one year).

The SA Government is committed to maintaining the state's national and international leadership status by implementing policies that further embed the principles of a circular economy. The CDS is recognised as an effective tool for supporting recovery of high-quality beverage container material for high-value recycling and remanufacturing markets.

It is now time to build on the success of SA's CDS as a product stewardship scheme[1] and modernise the CDS for moving towards a more circular economy.

In undertaking the review of the CDS, the SA Government has applied learnings from local experience, expertise and innovation, and has taken the best of new approaches and systems used in other schemes interstate and overseas to inform possibilities for a pathway for modernising South Australia's CDS. The review has also considered the relationship of the CDS with the kerbside system and proposes alternatives that seek to address material recycling deficiencies with the system and strengthening areas where the kerbside system is working effectively.

This discussion paper includes a description of scheme objectives, operation and governance, economic footprint, a comparison with other states in Australia as well as similar schemes overseas, community consultation carried out to date and an explanation of the review process. It also presents key issues previously raised by the community and options for modernising the CDS, as well as lists of questions relevant to the key issues to assist with providing feedback.

The key issues are:

- Objectives of the CDS
- Containers included in the CDS
- Scheme approvals and container markings
- Container return rates
- Governance arrangements

1 Australian Government Department of Agriculture, Water and the Environment 2021, Product Stewardship, viewed 25 August 2021, http://www.environment.gov.au/protection/waste/publications/national-waste-reports/2013/product-stewardship.

The review has identified a number of options to modernise the CDS that will:

- clarify the current purpose of the CDS and strengthen the promotion of the circulation of materials through resource recovery and support a strong market for recovered resources within a circular economy,
- improve the efficiency of the scheme and reducing scheme costs,
- divert beverage containers away from the current co-mingled kerbside waste system, reducing the waste management costs of local government and increasing the recovery of high value materials in line with a circular economy, in particular the recovery of glass cullet for bottle manufacturing in SA, and
- centralise scheme governance and establish an independent body to provide oversight of the scheme and increase transparency and accountability, in accordance with interests of the broader community.

A modernised CDS, that includes a change in the way that it is governed, improved accessibility for the SA community, integration of IT-based systems and a nationally aligned amended scope has the potential to provide an estimated:

- $76 million of net benefit to SA each year
- 120 additional full time equivalent jobs within the CDS sector
- 679 million equating to 73,440 tonnes of beverage containers returned to the CDS for recycling each year
- $68 million worth of refunds to the SA community each year
- $34 million in savings to rate payers each year from the diversion of beverage containers from the kerbside bin system.

Creating a more efficient, streamlined, fairer and cost effective CDS will result in efficiencies for both existing and new entrants to the CDS. A second stage of modernisation, if supported by other states and territories to enable national alignment, could involve amending the CDS scope to incorporate a wider range of beverage containers. Consideration of increasing deposit amount will occur at a national level after conclusion of a national study on factors that motivate people to return containers to the CDS.

Acknowledgment

The Environment Protection Authority is grateful to the following groups for their valuable input to this discussion paper through the provision of data: Beverage producers and suppliers, super collectors and CDS depots, material recovery facilities, waste and resource recovery sector, local government sector, not-for-profit sector and the South Australian community.

How the CDS works in South Australia

Beverage container product stewardship

Discarded beverage containers adversely affect amenity and enjoyment of our environment, resulting in significant clean-up costs for local governments and other land managers, and create risks to wildlife. The concept of product stewardship acknowledges that those involved in producing, selling and using products have a shared responsibility to ensure that those products are managed in a way that reduces their impact, throughout the life cycle of the products, on the environment and on human health and safety.

Extended producer responsibility is a foundational component of product stewardship and focuses on the producer's responsibility for the waste that results from their products. This responsibility can require them to take over end-of-life management of their products or provide financial assistance to establish or fund waste management schemes related to management and recovery of those products. South Australia's container deposit legislation[2] requires beverage producers and suppliers to be responsible for both end-of-life management of the beverage products sold in SA and the funding of the collection of the containers for recycling. This legislation is considered by some beverage manufacturers to give rise to one of the three most effective container deposit schemes in the world.[3]

Container collection and recovery

Consolidation of the CDS container collection and recovery process has been established by companies called 'super collectors', who are authorised by the EPA and are responsible for the operation of the scheme. This role includes entering into waste management arrangements with both collection depots and relevant beverage producers and suppliers to collect their containers and find markets for recovered containers.

There are currently four approved super collectors in South Australia, of which three are currently operating. The waste management arrangements ensure that eligible beverage producers take responsibility for the recovery of their products and pay funds to the super collectors to coordinate the CDS system. These funds are used to pay the required container refunds and handling fees to the EPA approved depots who receive empty CDS beverage containers and refund the deposit. In turn, consumers collect the deposit on returning eligible containers.

CDS regulatory oversight and coordination

The EPA is the regulator of the scheme, and requires that:

- the container deposit refund is made available to a person returning an empty container to the collection depot and that the empty containers are collected for recycling or reuse
- beverage containers to which container deposit legislation applies are prohibited from sale in SA unless they are approved by the EPA and a label displays the correct refund marking
- beverage producers and suppliers certify that they have a current and effective waste management arrangement (supported by a nominated super collector) that enables financial and system underpinning to ensure recovery, sorting and recycling of their eligible containers sold in SA.

2 Part 8 Division 2 of the *Environment Protection Act 1993*.
3 Pers. comm. with McGuire at EPA Board CDS Summit held on 21 May 2019.

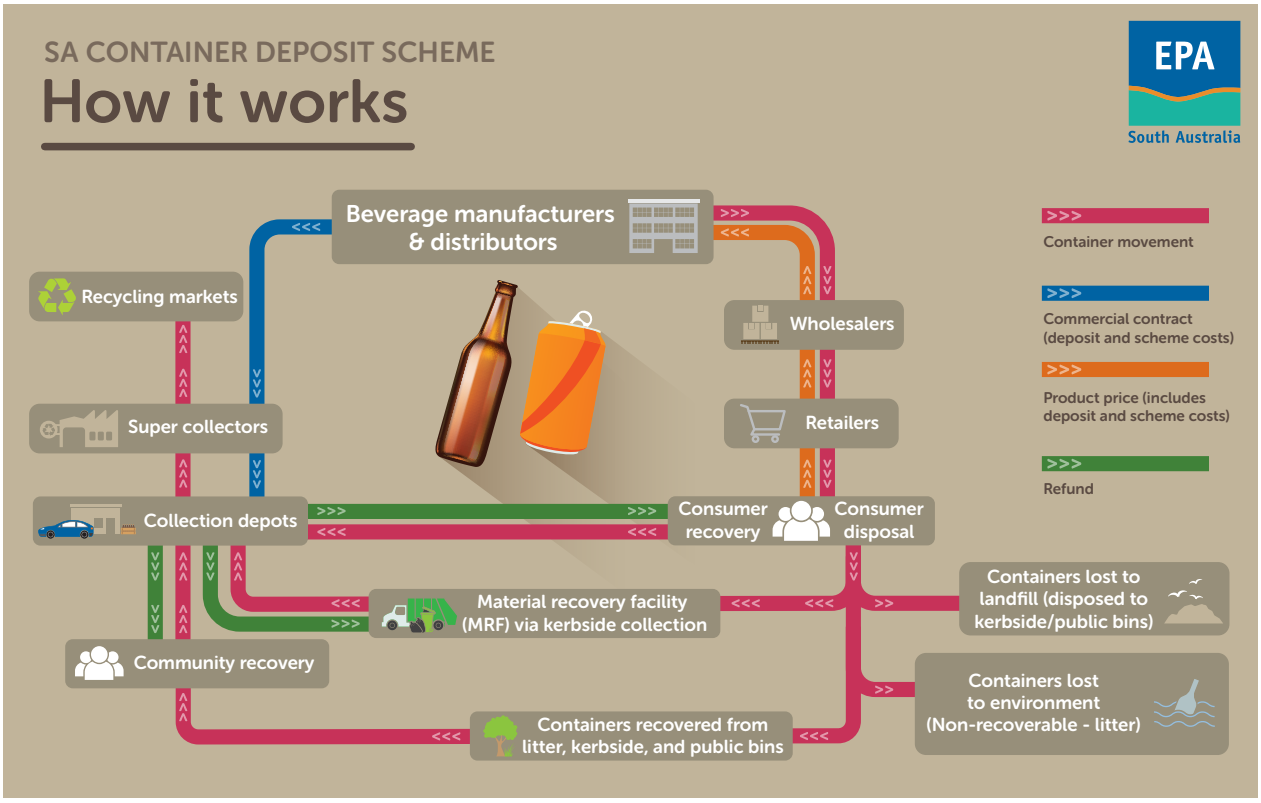
Operation of the scheme

The South Australian container deposit scheme (also shown in Figure 1) operates as follows:

- 'In scope' beverage suppliers establish an individual contract with a super collector and pay a fee to cover the 10-cent refund and 'handling' of containers to the super collector, which establishes a funded collection system to recover eligible beverage containers sold in SA.
- The beverage producers and suppliers normally incorporate some or all of these costs in the price of the product when selling to the retailer, and the retailer passes these costs on to the consumer as part of the total price of the product.
- The consumer or third party takes the empty container to a depot and collects the 10-cent refund. Alternatively, containers that are placed into kerbside or commercial collection systems are sent to a material recovery facility (MRF) where some CDS containers are recovered and presented to the depots for an agreed amount (including the 10-cent refund). This provides a significant revenue stream for the MRFs.
- Depots have waste management arrangements with at least one super collector, requiring
  - the super collector to reimburse the refund/deposit amount and pay a 'handling fee' to fund container collection, sorting activities and transport costs incurred by the collection depot
  - the depot to sort beverage containers by material type and according to colour for glass.
- Colour-sorted glass container materials from the collection depots are sent for further cleansing and processing at a 'glass beneficiation' facility and then onsold to recycling markets for remanufacture to produce new glass bottles and containers.

Sorted aluminium, liquid paperboard (LPB) and plastic container materials are sold through recycling markets by the super collector for remanufacture to produce new containers, packaging and other recycled products.

Figure 1—How the SA container deposit scheme works



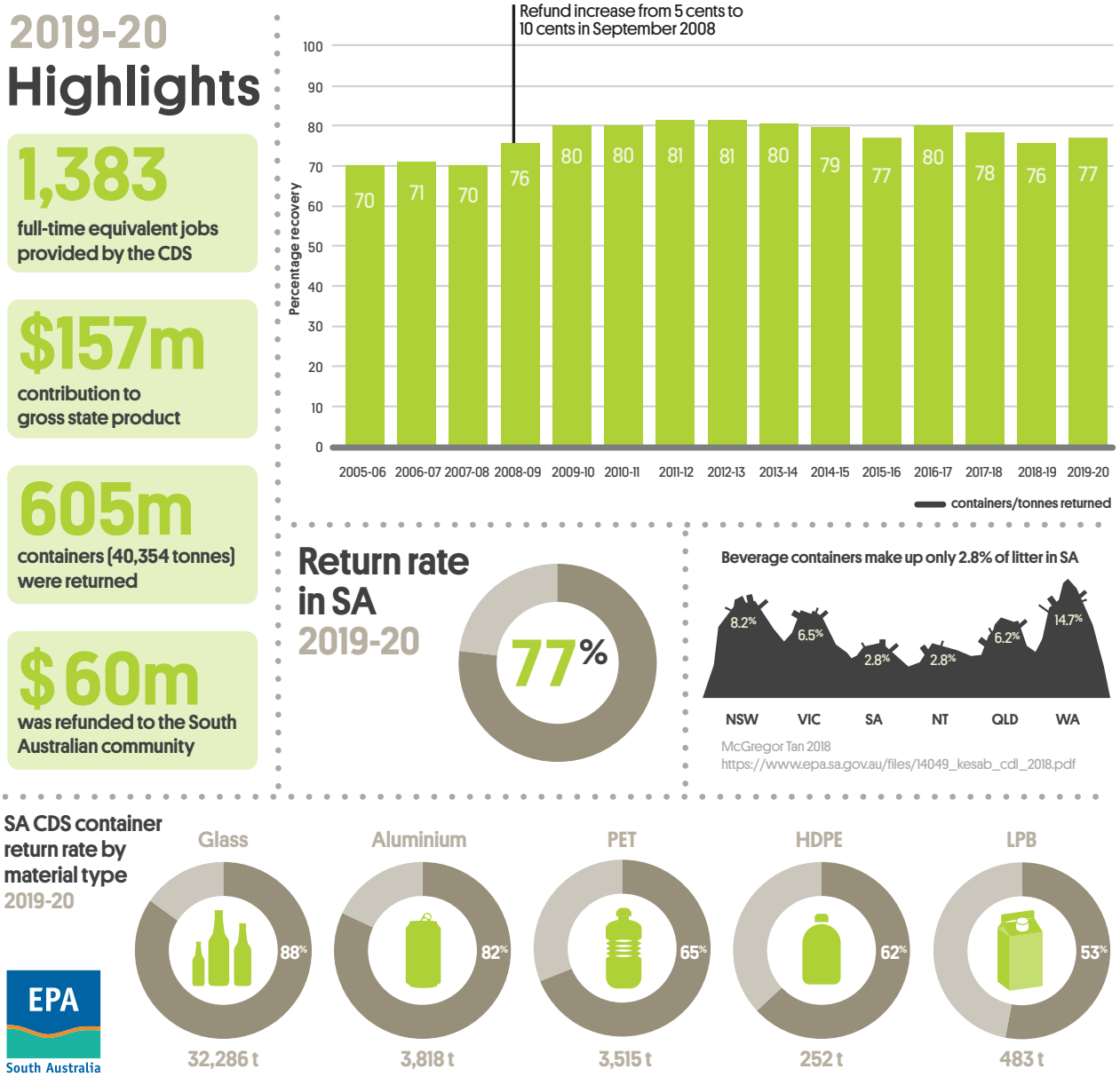
Return rate for eligible beverage containers

The 'return rate' is used to determine how the CDS is performing in recovering containers sold in South Australia. It is calculated based on the number of eligible beverage containers sold and the number of those containers returned for a refund.

Each year, over 600 million eligible beverage containers (over 40,000 tonnes) are returned by South Australians for refund and recycling. Since 2008-09 when the deposit was increased from 5 cents to 10 cents, the overall return rate has ranged from 76% to 81%. In 2019-20, over 605 million eligible beverage containers were returned for a refund, representing a return rate of 77% and ensuring approximately 40,354 tonnes of beverage container materials did not end up in the environment as litter or in landfill (see Figure 2).

The CDS is a highly effective recovery system, in that nearly 100% of material returned through the system is ultimately recycled, at highest market value, to the remanufacturing sector. The overall recycling rate of containers that are returned varies according to the material, pathway of collection and demand for recovered materials by recycling markets.

Figure 2—CDS highlights for 2019-20



Economic footprint

Economic modelling undertaken to inform the CDS review estimates that, in 2020, the total employment figure for the CDS was 1,383 full-time equivalent jobs, which generated about $157 million of added value to South Australia. Direct employment as a result of the CDS is estimated to be 469 full time equivalent jobs with around 132 collection depots across South Australia and an estimated impact of $47 million. Indirect employment through the supply of goods and services to the CDS system and the jobs generated via the expenditure of profits and wages of those directly employed in the CDS results in an additional 914 full-time equivalent jobs and an estimated impact of $110 million[4]. Many of the depots also provide other recycling services to the community, making this network one of a number of significant state assets that support and drive South Australia's nation leading status in recycling and resource recovery outcomes.

The benefits of investment in beverage container recovery and recycling, including collection depots, extends beyond the current scope of the CDS. An estimated further $345 million in non-CDS beverage container and other recyclable materials has been collected and processed for recycling through SA's network of CDS collection depots over the past 10 years. Producers and suppliers of non-CDS beverages have benefited from the container recovery and processing systems established by the producers and suppliers of CDS-eligible beverages.

Unlike the modern CDSs in QLD, NSW, the ACT and WA, the SA CDS was in place prior to the establishment of South Australia's current 3-bin kerbside system, in other words, putrescible domestic waste, co-mingled recyclables and green waste bins. As a result, SA MRFs have incorporated maximising the sorting of CDS containers and collecting the deposit value of CDS materials present in the co-mingled recyclables bin. Other jurisdictions don't invest in such extensive sorting, resulting in increased volumes of kerbside waste being disposed of to landfill or used for lower value purposes (e.g. within road base or as fill). The economic analysis estimated that 57 (FTE) jobs located at SA MRFs are directly linked to the recovery and sorting of CDS containers. A survey of councils reported that approximately 15[5] local government employees (FTE) are employed at material recovery facilities to process and recover CDS beverage containers[6]. The current value of the CDS to local government is estimated to be around $5 million per annum[7].

The CDS creates benefits through segregation of beverage container materials from other recyclable materials at the earliest stage of resource recovery. It also provides the additional benefits of reducing the load and costs associated with the local- government-led kerbside service. Reducing cross-contamination and the amount of recyclable material within the kerbside co-mingled recyclables bin has resulted in a reduction in sorting effort at MRFs, increased levels of resource recovery through collection depots and, ultimately, a decrease in the disposal of resources to landfill or recovered product that can only be used for low-value outcomes such as 'mixed glass fines' for road base projects.

An example of the reduction in value of recoverable product is where glass containers (beverage and non-beverage) are present in co-mingled kerbside bins. This results in a significant quantity of broken glass from the collection, compaction and transport of bin contents to an MRF, as well as through processing at the MRF. The broken glass can then impact on other collected recyclables, for example, by becoming embedded in paper, cardboard and plastic materials. This increases the likelihood of recyclable material being disposed of to landfill or destined for low-value resource recovery pathways. This inefficiency not only presents additional costs to local governments and rate payers, but is also an opportunity cost for resource recovery to high-value pathways (that is, remanufacturing back into beverage containers and other packaging).

4 Hudson Howell 2020, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review December 2020, https://www.epa.sa.gov.au/files/15056_cds_econanalysis_review_report_dec2020.pdf.
5 1.3 FTE for every 10,000 tonnes of co-mingled recyclables processed at SA MRFs (Rawtec, 2020).
6 SA EPA - CDS Review Council Survey Report July 2020, Rawtec 2020, https://www.epa.sa.gov.au/files/15060_cds_councilsurvey_report_jul2020.pdf.
7 Hudson Howell 2020, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review December 2020, https://www.epa.sa.gov.au/files/15056_cds_econanalysis_review_report_dec2020.pdf.

Purpose of the review

Why review the CDS?

The environment under which South Australia's container deposit scheme now operates is very different to when it was first established in 1977. The SA economy has undergone significant change including to consumption patterns, available waste and recycling markets, together with the community's desire to reduce waste generation and ensure the circulation of resources within a circular economy. The CDS framework has adapted well to these changes and now drives resource recovery and recycling outcomes in addition to litter recovery. This has resulted in the CDS having recyclability requirements for the present-day types and combinations of materials used as containers, providing high-quality material for high value recycling and remanufacturing markets, and growing and reinforcing strong community culture and expectations for participation in recycling schemes.

There is increasing global recognition and actions associated with the need to continue moving towards a circular economy in which materials are reused and recycled as an alternative to the linear economy that is based on 'take, make, use and dispose'. A circular economy is, by comparison, a largely self-sustaining system with an imperative to keep material resources in use for as long as possible, extracting the maximum value from these resources by recovering and reusing or recycling materials for new products. Although the South Australian CDS has been a leader for over 44 years, it needs modernising at both policy and operational levels in response to a transition to a circular economy in South Australia.

As discussed in South Australia's Waste Strategy[8], the SA Government is committed to maintaining the state's national and international leadership status by implementing policies that further embed the principles of a circular economy. A major pathway to achieve this is via the CDS. Changes to governance arrangements and approvals will increase efficiencies in the SA CDS, and national harmonisation will increase efficiencies in all Australia schemes.

The CDS is already recognised as an effective tool for supporting resource recovery and recycling, and is an important component of the circular economy in SA. This includes product stewardship, and its key component, extended producer responsibility[9] (EPR), whereby producers take responsibility for management of post-consumer products.

Another reason for the review is to address the confusion over what's in and what's out of the scheme. One objective of this review is to make changes that will reduce the levels of confusion about scope, as well as identify beverage containers where a benefit would be gained from their inclusion in the CDS, including ensuring stronger extended producer responsibility and achieving the circular economy objectives for the CDS.

Through earlier stages of the review process, the SA Government has applied learnings from local experience, expertise and innovation, and has taken the best of new approaches and systems used in other schemes interstate and overseas to inform options for modernising South Australia's CDS. For instance, new schemes interstate are using IT-based systems that provide a broader range of container return options.

The proposed changes are tailored to South Australia and build upon the success of the current scheme. They aim to grow the already existing investment in infrastructure, business systems and employment and continue to support the positive community participation and practices that have contributed to the success of the CDS over the last 44 years.

8 Green Industries SA 2020, *A Vision for a circular economy: Waste strategy 2020-2025* https://www.greenindustries.sa.gov.au/resources/sa-waste-strategy-2020-2025.

9 Australian Government Department of Agriculture, Water and the Environment 2021, Product Stewardship, viewed 25 August 2021, http://www.environment.gov.au/protection/waste/publications/national-waste-reports/2013/product-stewardship.

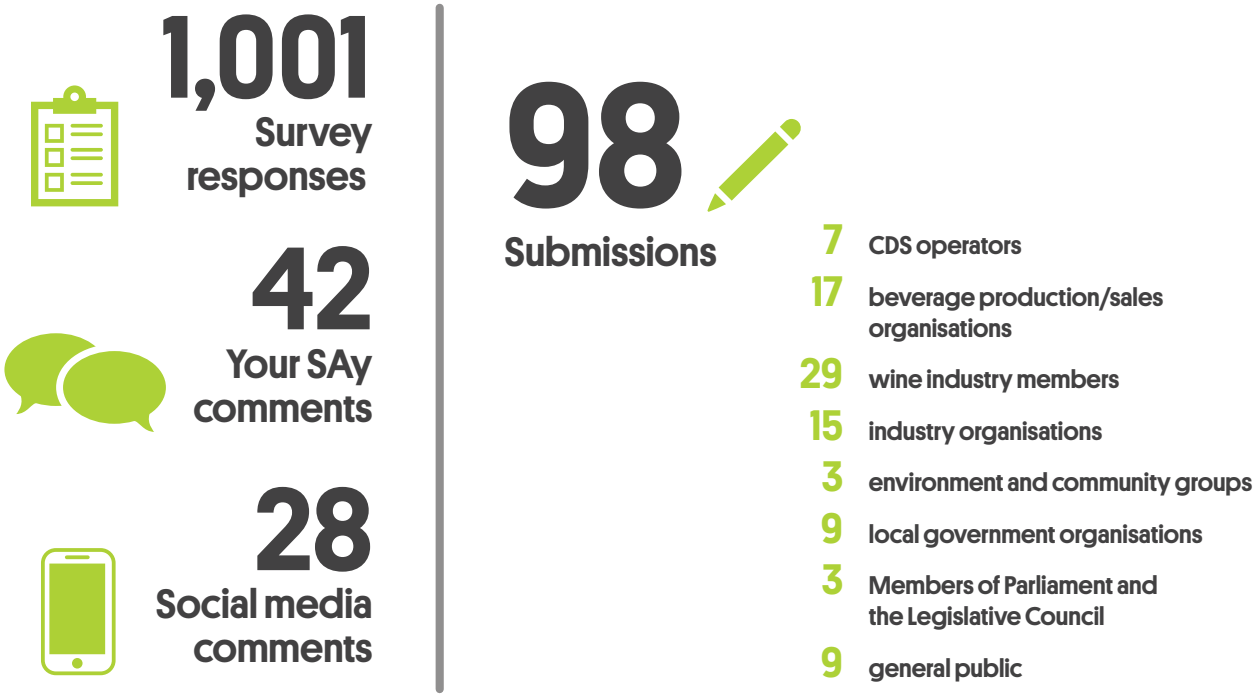
What consultation has happened to date?

Scoping Paper consultation

In January 2019, the CDS review commenced with the release of a CDS review scoping paper: *Improving South Australia's recycling makes cents: A scoping paper to review SA's container deposit scheme*[10]. The purpose of the Scoping Paper was to seek feedback from the community on the scope of the issues to be considered by the review. The EPA received over 1,170 responses from members of the public, CDS stakeholders, environment and community groups, the beverage manufacturing and supply sector, the resource recovery and recycling sector and the government sector.

The *Scoping paper consultation summary report*[11] provides a detailed independent summary of the feedback from the community and stakeholders. In addition to being informed by the community and stakeholder response to the Scoping Paper (see Figure 3), the EPA has engaged and communicated further with numerous key stakeholders and industry experts involved in the manufacture, retail, collection, recovery, processing and recycling of beverage container products and materials. This includes seeking the views of small, medium and large beverage producers and suppliers to understand the implications of the CDS within their sectors. The CDS Review Reference Group was established with representation from all of these sectors. The Reference Group has provided data and information to inform decision making, and assisted in developing options in this discussion paper.

Figure 3—Feedback on the CDS review Scoping Paper



10 EPA SA 2019, *Improving South Australia's recycling makes cents: A scoping paper to review SA's container deposit scheme*, https://www.epa.sa.gov.au/files/14100_epa_cds_review.pdf.

11 EPA SA 2019, *Improving South Australia's recycling makes cents: Scoping Paper consultation summary report*, https://s3-ap-southeast-2.amazonaws.com/assets.yoursay.sa.gov.au/production/2019/12/12/00/04/12/9b4d0781-1480-4653-9755-f34e4237a136/EPA%20Consultation%20Summary%20Report%20Final.pdf.

The EPA Board hosted a CDS Summit on 21 May 2019 where key issues relating to the governance of the CDS were explored with local government, NGOs, collection depots, super collectors, retailers and producers. During the discussions with stakeholders, the EPA also sought to identify opportunities where the benefits of the CDS and the value of beverage container materials can be maximised, and efficiencies of administration and reduction of costs can be made.

Independent expertise and analysis informing the discussion paper

To inform the development of options for improving the CDS, the EPA commissioned consultants to investigate and provide reports on three key areas:

1. an audit of the current disposal, recovery pathways and fates of CDS vs non-CDS beverage containers
2. a survey of local councils, CDS collection depots and licensed establishments
3. an economic analysis of the current CDS and the impacts of potential changes to the CDS on current stakeholders and value to the state economy.

The EPA also sought the views of industry specialists working within the CDS (local and interstate) and within the local waste and resource recovery and local government sectors to obtain industry knowledge and expertise to inform the discussion paper.

There are a number of common principles that underpin CDS objectives within each Australian state and territory that currently have a CDS. These include:

- establish a litter control system for empty beverage containers
- reduce the loss of beverage container materials to landfill and the environment as litter
- uphold the extended producer responsibilities of beverage producers and suppliers to fund the recovery of eligible beverage containers
- promote the empty beverage container recovery systems that produce high-quality resources that realise higher value reuse and recycling opportunities leading to greater economic returns and outcomes for SA and other Australian states and territories
- incentivise the return of empty beverage containers
- provide funding opportunities for community groups, sports clubs, charities and social enterprises and employment.

Alignment with other states and territories

The EPA is leading the collaboration of all Australian states and territories in investigating opportunities to better align jurisdictional CDSs through the Environment Ministers Meeting in order to gain efficiencies in the schemes for both industry participants and government regulation. Specific areas under consideration are continued alignment of: deposit amount, scope of containers included in the CDSs, and approval processes and container markings. Environment ministers across the nation have agreed on the need to harmonise aspects of the CDSs available in each state and territory. Supported by the Heads of EPAs, the SA EPA, together with the NSW EPA in collaboration with all other Australian states and territories, is leading the investigation of opportunities to:

- maintain consistency in container deposit amount in all jurisdictions
- best align the scope of containers included in each jurisdiction's scheme
- align CDS container approval processes and refund markings as much as possible across all jurisdictions.

Invitation to comment

Discussion paper options

This discussion paper presents a number of options and opportunities for modernising the CDS to progress resource recovery and recycling towards a circular economy whilst continuing to support litter reduction outcomes. The options will provide pathways for the CDS to:

- make the most of the extended producer responsibility of beverage producers, suppliers and retailers to improve the process of container collection, recovery and recycling whilst maintaining a high level of beverage container litter reduction
- boost the reuse, recovery and recycling of beverage containers within a circular economy where the clean, sorted, high-value materials recovered by the CDS remain in circulation for as long as possible
- modernise the administration, auditing and reporting methods of the CDS to deliver an effective, efficient and transparent scheme
- incentivise the SA community to further participate in the scheme, return eligible containers and access the refund.

Have your say

The SA Government is seeking your feedback on preferred options to modernise the state's container deposit scheme and increase community participation. Your feedback will help the government to determine changes that should be made to the CDS.

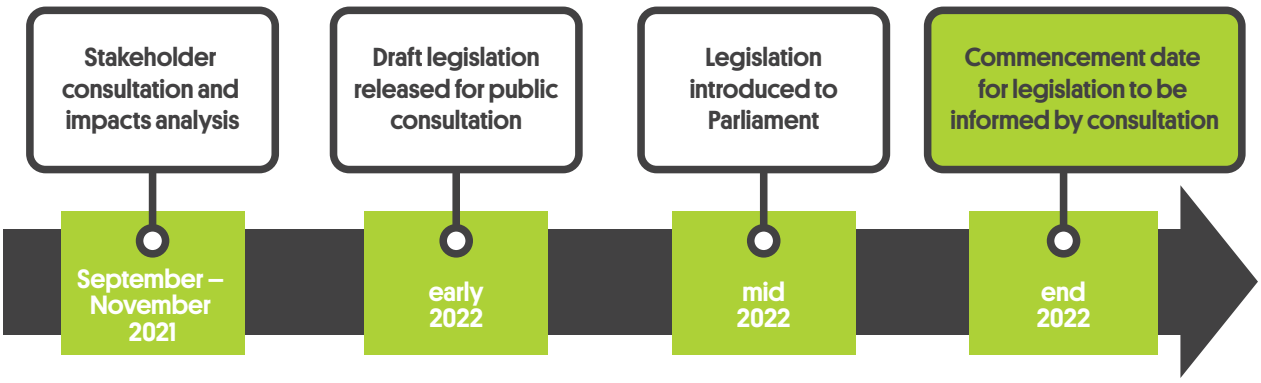
The deadline for comments and submissions is Friday 19 November 2021. To provide feedback:

- Email to epainfo@sa.gov.au
- Post to GPO Box 2607 Adelaide SA 5001
- Visit YourSAy (www.yoursay.sa.gov.au).

Important information about your submission

Submissions will be treated as public documents, unless received in confidence subject to the requirements of the *Freedom of Information Act 1991*, and may be quoted in full or part in subsequent EPA reports. If you do not want the public to read your submission, please write 'confidential' on your submission. Please comment on the general issues under discussion. Providing reasons and evidence for your comments will assist in the consideration of your feedback. Please include your name, position, organisation and contact details (telephone number, email and postal address) with your submission.

Next steps



Key issues

This discussion paper has been structured around the following key issues raised by community and CDS sector feedback on the Scoping Paper:

1. objectives of the CDS including resource recovery and recycling of container materials within a circular economy
2. scope of containers included in the CDS
3. scheme approvals (including container application fees) and container markings
4. CDS container return rates, including deposit value, container return and payment of the refund
5. governance of the CDS and its relationship to schemes in other jurisdictions.

The alignment of state and territory schemes was raised as a key issue that is incorporated into the other key issues in this paper.

It is proposed that changes to the CDS be made in a staged manner. The first stage would see improvements to governance which will create a more efficient, streamlined, fairer and cost effective CDS. The second, if determined necessary, would involve amending the scope to incorporate a wider range of beverage containers, but remove containers less than 150 millilitres in support of national alignment. The consideration of increasing the deposit amount would also be reviewed with other jurisdictions. An efficient modernised CDS achieved in stage 1 would maximise the benefit of any stage 2 changes.

Note that economic modelling for each key issue has been undertaken on potential individual improvements that can be made to the CDS. It is likely that a suite of improvements will be made across all key issues such that the total economic benefit resulting from improvements will be at least the sum of the total of all improvements applied, or greater if synergistic effects occur.

Key Issue 1: Objectives of the CDS

The objects of the *Environment Protection Act 1993* (EP Act) focus on promoting the principles of ecologically sustainable development, preventing environmental harm, application of the waste management hierarchy and promoting the circulation of materials through waste management processes to support a strong market for recovered resources. Furthermore, the CDS objectives seek to minimise litter, protect the environment and facilitate beverage container recovery for recycling. It does this by setting up an extended producer responsibility process involving beverage producers and suppliers and facilitates the product stewardship responsibilities of beverage consumers and the South Australian community. The delivery of the CDS objectives provides a number of additional community benefits, including generating revenue for community groups, sporting clubs and schools and complementing the recyclable material recovery services offered within communities (see Figure 4).

Scoping Paper feedback: The objectives of the CDS

The Scoping Paper asked questions to generate discussion around the need to modernise the objectives of the CDS.

The SA community and sector stakeholders wished to retain the following current CDS objectives:

- reduction of litter
- reduction of waste to landfill
- growth of beverage container recycling through accessibility of the return points (currently CDS depots).

The sector stakeholders also identified that a modern CDS should seek to:

- further support resource recovery and recycling within a circular economy
- revitalise community education on waste avoidance, resource recovery and recycling, and participation in the CDS
- support local employment and jobs.

Objectives and Benefits of the South Australian Container Deposit Scheme

Product stewardship

The SA Container Deposit Scheme commenced in 1977 and is one of the longest running and successful product stewardship schemes in Australia. It acknowledges that those involved in producing, selling, using and disposing of products have a shared responsibility to ensure that those products or materials are managed to reduce environmental impacts throughout their life cycle. The CDS requires beverage suppliers to ensure that a system is in place for the recovery and recycling of eligible beverage containers.

Resource recovery & recycling

SA depots are designed for the return of large amounts of beverage containers from the community.

Many of the depots accept a wide range of other recyclable materials. Each year around 600 million drink containers (over 40,000 tonnes) are returned for refund and recycling, representing a 77% return rate, preventing those containers from being littered or landfilled.

The retention and recirculation of high-value CDS container materials continues to enable a strong domestic market for recycling and processing these recovered resources into new products.

Reducing litter

Discarded beverage containers adversely affect amenity and enjoyment of the outdoor environment, result in significant clean-up costs for local governments and other land managers and create environmental risks to wildlife.

Container deposit refunds create a financial incentive to collect containers for recycling. As a result, eligible beverage containers only contribute to 3% of total litter.

Protecting the environment

The objects of the *Environment Protection Act 1993* (EP Act) promote the principles of ecologically sustainable development, preventing environmental harm and ensuring the circulation of materials through the waste management process to support a strong market for recovered resources.

Specific beverage container provisions in the EP Act prohibit the supply or sale of beverage containers unless there is a litter control and waste management arrangement in place to collect and recover those containers for recycling.

Community participation

The container deposit scheme also provides a financial benefit, through fundraising to community groups, sporting clubs and charities that operate a depot, partner with an established depot or collect empty containers for refund.

The benefits to community groups and schools from CDS container deposit refunds are significant and flow on to the broader community via the wide variety of activities funded.

Acknowledging the broader benefits of the CDS objectives

The environment under which South Australia's container deposit scheme now operates is very different to when it was first established in 1977. The SA economy has undergone significant change including to consumption patterns, available waste and recycling markets, together with the community desire to reduce waste generation and ensure the circulation of resources within a circular economy. The CDS framework has adapted well to these changes, but must continue to adapt in this dynamic environment in order to further the realisation of the CDS objectives. The review of the CDS objectives has taken into consideration the national and state's transition to more circular economies and the role of the CDS as a pathway to achieve some of the targets and priority areas (see Table 1).

Table 1—State and national targets directly relevant to CDS schemes

National Waste Action Plan 2019	South Australia's Waste Strategy 2020-2025
• Ban the export of waste plastic, paper, glass and tyres, commencing in the second half of 2020. • Reduce total waste generated in Australia by 10% per person by 2030. • 80% average resource recovery rate from all waste streams following the waste hierarchy by 2030. • Significantly increase the use of recycled content by governments and industry. • Phase out problematic and unnecessary plastics by 2025.	• Target of zero avoidable waste to landfill by 2030. • Diversion of 75% metropolitan municipal solid waste from landfill by 2025. *Priority actions* • Transitioning to a circular economy. • Maximise the effectiveness of the CDS by identifying new items to be included in the CDS and ensuring all containers are recycled locally or nationally. • Identify and implement initiatives that seek to optimise the recovery and remanufacture of glass containers and reduce contamination of other recyclables. • Reduce the amount of recyclables in kerbside waste bins. • Reduce litter and improve waste management in regional areas, Aboriginal land holdings and outback areas, including the recovery of beverage containers.
Australian Packaging Covenant Strategic Plan 2017-2022	
• 100% of packaging in Australia to be reusable, recyclable or compostable. • 70% of plastic packaging recycled or composted. • 50% average recycled content across all packaging. It is noteworthy that the European Union has a target of up to 70% recycled content by weight[12]. Therefore, producers exporting to the EU may need to meet this target in the future.	

The circular economy

The *National waste policy: Less waste, more resources 2018*[13] provides a framework for collective action by businesses, governments, communities and individuals until 2030. The policy identifies five overarching principles underpinning waste management in a circular economy. These include:

- avoid waste
- improve resource recovery
- increase use of recycled material and build demand and markets for recycled products
- better manage material flows to benefit human health, the environment and the economy
- improve information to support innovation, guide investment and enable informed consumer decisions.

12 European Commission, Implementation of the Waste Framework Directive, https://ec.europa.eu/commission/presscorner/detail/sv/MEMO_18_6.
13 Australian Government 2018, *National Waste Policy*, https://www.environment.gov.au/system/files/resources/d523f4e9-d958-466b-9fd1-3b7d6283f006/files/national-waste-policy-2018.pdf.

The *National Waste Policy Action Plan 2019*[14] creates targets and actions to implement the 2018 National Waste Policy and guide national efforts to 2030 and beyond. Targets directly relevant to the CDS are listed in Table 1. The *Creating value: The potential benefits of a circular economy in SA*[15] report that was commissioned by Green Industries SA (GISA) in 2017 sought to understand what a more circular economy could mean for South Australia and evaluate the opportunities it might create. The report identified that, by 2030, compared with a 'business as usual' scenario, a more circular economy could deliver significant job creation and greenhouse gas reduction benefits. Transition to a circular economy has the potential to create an additional 25,700 (FTE) jobs and reduce SA's greenhouse gas emissions by 27% or 8 million tonnes of CO_2 equivalent[16].

In 2017, the *Environment Protection Act 1993* was amended to modernise and strengthen its powers to better support a strong resource recovery sector to contribute to a circular economy. Applying the waste management hierarchy to keep materials in circulation for as long as possible to maximise the value of these materials over time is a key principle of a circular economy. The *Environment Protection (Waste to Resources) Policy 2010* also drives resource recovery and recycling in SA. Together they support the implementation of South Australia's Waste Strategy 2020-2025[17] to avoid the disposal of these resources to landfill and the recovery and return of high-value resources to a more productive circular economy.

Product stewardship

In 2020, the Australian Government commenced a review of the *Product Stewardship Act 2011* including how to improve Australia's management of end-of-life products and transition to a circular economy.

The *Australian packaging covenant strategic plan 2017–2022*[18] that was published in 2019 outlines how circular economy principles will be applied to all packaging made, used or sold in Australia. The plan provides a broad framework in accordance with the National Environment Protection (Used Packaging Materials) Measure 2011, which includes four targets to be achieved by 2025, three of which are relevant to the CDS and listed in Table 1.

Underpinning current investments, local employment and community services

The waste management and resource recovery sector is a vital part of the South Australian economy providing an annual turnover of $1 billion and approximately 4,800 people with direct and indirect employment. In relation to direct employment, the industry creates 9.2 full-time equivalent employees for every 10,000 tonnes of waste compared with 2.8 full-time equivalent employees for the same amount of waste that goes to landfill (Green Industries SA 2015)[19].

Fluctuating commodity prices for recyclables such as paper, cardboard and mixed plastics and high sorting costs are regular challenges faced by the resource recovery and recycling industry. In 2017, China notified the World Trade Organisation that it would no longer be accepting certain kinds of solid waste, including plastic waste and unsorted waste paper. Other countries have since adopted similar policies further reducing the ability to export recyclable materials collected within Australia.

Relevant to this CDS review is the pivotal role that the CDS plays in the local resource recovery sector. Clean and colour-sorted CDS materials provide highly sought after recyclable feedstock for manufacturing with a value six times that of the commodity price. This higher value is reflective of the CDS deposit per container and

14 Australian Government 2019, *National Waste Policy Action Plan*, https://www.environment.gov.au/system/files/resources/5b86c9f8-074e-4d66-ab11-08bbc69da240/files/national-waste-policy-action-plan-2019.pdf.
15 Green Industries SA 2017, *Creating value: The potential benefits of a circular economy in SA*, https://www.greenindustries.sa.gov.au/documents/Potential%20Benefits%20of%20a%20Circular%20Economy%20in%20South%20Australia%20-%20report%20%282017%29.pdf?downloadable=1.
16 Green Industries SA 2021, *Driving the circular economy*, https://www.greenindustries.sa.gov.au/driving-the-circular-economy.
17 Green Industries SA 2020, *Supporting the Circular Economy: South Australia's Waste Strategy 2020-2025*, https://www.greenindustries.sa.gov.au/resources/sa-waste-strategy-2020-2025.
18 *Australian packaging covenant strategic plan 2017–2022*, https://www.environment.gov.au/system/files/resources/e2f0f12e-fa6e-4a4b-94e3-1268d9cd1360/files/australian-packaging-covenant-strategic-plan-2017-2022.pdf.
19 Green Industries SA 2020, *Supporting the Circular Economy: South Australia's Waste Strategy 2020-2025* https://www.greenindustries.sa.gov.au/resources/sa-waste-strategy-2020-2025.

the demand for clean and sorted recovered plastics, aluminium, liquid paperboard[20] and colour-sorted glass cullet ready for recycling into high-value products.

Both in SA and NSW the value of CDS materials offsets the falls in profit at local MRFs due to the 2017 export market collapse (Ritchie 2020[21]). This has resulted in many MRFs being able to limit their gate fee increases and costs to local governments as the international import restriction policies took effect, through the revenue provided by CDS recovered material. The CDS has and will continue to provide a significant revenue stream for MRFs, which helps ensure resource recovery and recycling of kerbside recyclables remains financially viable in the continuing situation of export restrictions.

The CDS also has a significant footprint in the state economy in terms of infrastructure, employment and community support. The recovery and recycling of empty CDS beverage containers requires depots, super collectors and MRFs to establish tailored business systems and infrastructure. Entrepreneurial community-based organisations have also established their business systems and infrastructure to benefit from revenue generated by the CDS.

It is intended to build upon this economic footprint (see Table 2) by finding improvements that are complementary and value add to the existing investment. The current direct footprint of the CDS operations, including the value of CDS participants to the state economy and estimated economic impact associated with the CDS, is as follows:

- The 132 depots operating across SA are estimated to generate a net revenue of $33 million from the handling fees paid to depots by super collectors
  - The receipt and processing of empty beverage containers results in 292 (FTE) jobs within the depots equating to an estimated $14 million in wages paid to employees
  - It is also estimated that $11 million of other value is added to the state's economy by the depots.
- Coordination and administration of the CDS by the super collectors is estimated to generate a net revenue of $23 million
  - The net revenue of super collectors results from $12 million paid by liable beverage producers and suppliers to super collectors to coordinate the scheme on their behalf and $11 million arising from the sale of recovered beverage container materials
  - The coordination and administration of the CDS results in 110 (FTE) jobs employed at the super collectors, $9 million in wages and added value of $4 million to the state's economy.
- The estimated $10 million net revenue of MRFs stems from the recovery of CDS containers from the kerbside co-mingled recyclables bin
  - The revenue is generated from the refund of the deposit and also the sale of beverage container materials to the recycling market
  - The recovery of CDS containers at MRFs in SA adds 68 (FTE) jobs within the MRFs, $4 million in wages paid and added value of $3 million to the state's economy[22].

20 Currently, liquid paperboard is not highly valued.
21 Ritchie 2020, *2 years since Asia stopped taking our recycling. Where do we stand?*, https://mraconsulting.com.au/2-years-since-asia-stopped-taking-our-recycling-where-do-we-stand/.
22 Hudson Howell 2020, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review December 2020, https://www.epa.sa.gov.au/files/15056_cds_econanalysis_review_report_dec2020.pdf.

Table 2—CDS economic footprint of SA depots, super collectors and material recovery facilities

	Net revenue ($m)	Employment (FTEs)	Wages ($m)	Other value added ($m)
Depots	$33.31	292	$13.56	$11.48
Super collectors	$23.29	110	$9.32	$3.96
MRFs (proportion linked to CDS product only)	$9.97	68	$4.28	$2.57
Totals:	**$66.57**	**470**	**$27.16**	**$18.01**

One of the findings of the South Australian Parliamentary Inquiry into the recycling industry is that: 'submitters and witnesses all recommended that government policy focus on the creation of local markets for recyclable and recycled products'[23]. Another finding was that: 'Overwhelmingly, there was a desire to decouple the state from external markets and to provide self sufficiency for future generations'.

This echoes one of the recommendations of the Northern Territory CDS scheme review undertaken by Ernst & Young for the Department of Environment and Natural Resources[24]. The purpose of that review was to explore and identify opportunities to promote circular economic activity and the domestic recycling of materials through the expansion and promotion of the domestic recycling industry and markets for recycled material.

South Australia currently has around a 50% share of the glass manufacturing in Australia, where the manufacturers utilise the highly valued CDS glass not only from SA, but also from NSW and QLD. South Australia's Recycling Activity Survey 2018-19 Report[25] identified that the outlook for the recovery of glass is expected to remain strong, as follows:

- Glass bottling companies continue to demand higher proportions of recovered glass in their manufacturing process.
- A significant part of the glass recovery arises from glass bottles returned as part of SA's CDS. This source of glass is of high quality and able to be turned to cullet and used by glass bottle manufacturers.
- Lower grade (MRF) glass can continue to be recycled for use in road base. However, this is a lower value option and represents a substantial cost to the kerbside system. The potential expansion of glass products under the CDS would likely increase volumes of high-quality source-separated glass that can be used for bottle remanufacture.

Plastics recovery and processing occurs within SA and interstate with the main remanufactured materials being recycled HDPE and PET pellets, granules and flakes. The majority of these materials are then sold for remanufacturing of plastic containers and other products either locally, interstate or overseas. CDS-derived recovered materials account for a significant proportion of the feedstock of these facilities. This provides a comparative advantage that could be grown and capitalised on further should the policy settings be conducive and more feedstock materials be made available.

Increasing the recovery of materials and the supply of these resources through the CDS and/or from an improved kerbside waste and co-mingled recyclables system, can underpin current investments and support additional investments in the domestic resource recovery and recycling sector. This in turn can encourage confidence in markets for local recycling and product remanufacturing and transition towards a circular economy.

Around 45 countries and territories around the world have container deposit or container return schemes

23 Environment, Resources and Development Committee, Parliament of South Australia—An Inquiry into the Recycling Industry, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/WasteandRecycling/Report.

24 Department of Environment and Natural Resources 2018, *Evaluation of the operation of the Northern Territory container deposit scheme*, https://ntepa.nt.gov.au/__data/assets/pdf_file/0011/590798/cds_review_report_ernst_young.pdf.

25 Green Industries SA 2020, *South Australia's recycling activity survey 2018-19 report*, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjBjcH7-8ryAhVAzTgGHZ-cCZYQFnoECAIQAQ&url=https%3A%2F%2Fwww.greenindustries.sa.gov.au%2Fdocuments%2FGISA_RAS%2520Report%25202018-19_final%255B1%255D.pdf%3Fdownloadable%3D1&usg=AOvVaw08x4-QKpgvtSnU4sPQN_st.

operating within an environment of shifting global consumption patterns, changing waste and recycling markets, and the desire to retain the circulation of resources within a circular economy. Newly designed and recently revised schemes (see appendix 3) focus on the avoidance of litter and the collection and recovery of container materials to support a circular economy by supplying markets with recovered resources.

Preferred option – Modernise the features of the CDS

The proposed update of the CDS objectives aims to provide a 'best fit' approach for SA, which both modernises and builds on the success of the current established scheme. It is planned to clarify the current purpose of the CDS, in other words, litter control; resource recovery and product stewardship; and strengthen the promotion of the circulation of materials through resource recovery and support a strong market for recovered resources within a circular economy. This includes supporting the current resource recovery and recycling services offered to the SA community, local business, employment growth, and participation of community groups.

It is recommended to further support CDS in SA to:

- continue to ensure beverage producer and supplier ownership for providing an efficient and effective container recovery and recycling system where fair contributions are made by beverage producers and suppliers
- further strengthen and underpin the financial viability and sustainability of the CDS and broader resource recovery and recycling markets in SA
- complement the kerbside waste system and improve the recycling outcomes of resources placed in the co mingled recyclables bin
- expand options for local employment within CDS-associated processing and remanufacturing businesses and better promote opportunities for community groups, not for profit organisations and charities.

Questions

1.1 Do you think the CDS should be supported and recognised as a key pathway for supplying recovered materials to remanufacturers and to achieve state and national resource recovery targets by:

- **1.1.a** supporting and building on existing beverage container resource recovery investments and infrastructure
- **1.1.b** optimising the recovery of high-value beverage container materials that support a circular economy
- **1.1.c** continuing to enable opportunities for local employment within the CDS and more broadly within the resource recovery and recycling sector
- **1.1.d** enabling opportunities for community groups, not-for-profit organisations and charities to benefit from the CDS through direct participation and the development of partnerships within the CDS?

Key Issue 2: Containers Included in the CDS

Beverage containers included in the South Australian CDS are specified within Part 8, Division 2 ('Beverage Containers') of the EP Act and Part 4 of the Environment Protection Regulations 2009. Appendix 2 lists the categories of containers included and excluded from the CDS. Included containers require approval prior to being sold in SA and are required to carry the refund marking and have in place a waste management arrangement for their collection and return for recycling. The currently excluded containers and matching beverages are:

- plain milk in any container
- wine (made from the fermentation of grapes) in glass bottles, plastic containers and sachets (250 ml or greater), or aseptic packs/casks (1 litre or more)
- spirituous liquor in glass bottles
- pure fruit/vegetable juice (90% or more juice content) in containers of 1 litre or more
- flavoured milk in containers of 1 litre or more
- concentrated fruit and/or vegetable juice
- health tonic
- cordial syrup
- any beverages in containers greater than 3 litres.

Figure 5 illustrates examples of how the container volume and beverage type influence the containers that are in and out of the CDS. Containers are currently excluded on the basis of not being a major contributor to litter or are considered beverages that contribute to nutrition, that is, plain milk or pure fruit and/or vegetable juice.

Figure 5—What's in, What's out of the CDS

Scoping Paper feedback: Scope of containers included in the CDS

Feedback from the community and sector stakeholders recognises that the current scope of beverage containers assists in reducing litter, thereby supporting resource recovery and recycling, and diversion of resources from landfill. However, the current scope of the CDS was viewed as inconsistent, confusing to the community and needs to be reviewed in line with the principles of a circular economy and support local resource recovery investment. Key views expressed related to the following:

- In order to reduce confusion, a simplified scope should be employed, which would include within the CDS currently excluded beverage containers.
- More types of beverage containers should be included in the CDS. The most frequently mentioned items for inclusion were glass wine/spirit bottles.
- Those against the inclusion of additional containers were primarily concerned about financial impacts on beverage producers.
- In order to align with other jurisdictions and to address the disproportionate cost associated with smaller beverage containers, containers less than 150 millilitres should be removed from the current CDS.
- A revision of the scope of containers should also consider the resource recovery capabilities and value of the recyclable material market for beverage container materials.

Review of the CDS scope to support a circular economy

Historically, the categories of containers included in the CDS were focused on those commonly found in litter. This approach has resulted in container size, beverage type and whether containers are typically consumed at home as being the basis of the CDS scope. This has caused confusion around what's in and what's out, for instance, a container of fruit and/or vegetable juice (less than 1 litre and containing at least 90% juice) is included in the CDS, but a similar container of concentrated fruit and/or vegetable juice intended for dilution is not included. Similarly, wine produced from fermented grapes in glass is not included, yet rice wines, fruit wines and ciders in glass are included. Over time, and with the expansion of the beverage product range, the level of confusion has increased for consumers, beverage producers and suppliers, scheme coordinators and depot container sorters.

A recent review of the Northern Territory CDS[26] made 21 recommendations about operational improvements and measures to ensure that the NT CDS meets the objectives under the relevant legislation. These included:

> *Recommendation 1: Consider the rationale and approach to excluding beverages and exempting containers from the scheme in order to ensure a well-defined, clear and consistent scope, which is aligned to all key objectives of the CDS.*

> *Recommendation 2: Determine the feasibility of including additional containers as regulated containers, considering specifically wine/spirituous liquor containers and milk bottles as well as excluded beverages and exempt containers where a similar container is currently a regulated container.*

One objective of this review is to make changes that will address the confusion about scope, as well as identify beverage containers where a benefit would be gained from their inclusion in the CDS, including ensuring stronger extended producer responsibility and circular economy objectives for the CDS.

Recovery of CDS containers

South Australian consumers typically discard empty beverage containers through CDS depots, at the kerbside or through commercial waste collection systems. The EPA receives CDS container sale and disposal data in order to monitor and report on the performance of the CDS. From this, it was found that

26 Department of Environment and Natural Resources 2018, *Evaluation of the operation of the Northern Territory container deposit scheme*, https://ntepa.nt.gov.au/__data/assets/pdf_file/0011/590798/cds_review_report_ernst_young.pdf.

in 2019-20 over 605 million CDS beverage containers (40,354 tonnes) were returned to the CDS for a refund, but data on the number and types of containers disposed of through the kerbside collection is not readily available. Therefore, the EPA commissioned an audit of containers disposed of to the kerbside co-mingled recyclables bin and waste bins to better understand the container disposal habits of SA households[27]. The CDS container return data (2019-20), kerbside bin audit, Recycling Activity Survey (2018-19)[28] and consultation with industry were used to develop an inventory of the beverage containers disposed of to the kerbside system in SA.

Based upon the inventory, it is estimated that approximately 276 million CDS and non-CDS beverage containers (47,563 tonnes) are placed in the kerbside co-mingled recyclables and waste bins in SA each year. The majority of these containers (211 million or 39,904 tonnes) were located in the co-mingled bin with the remainder (65 million or 7,659 tonnes) disposed of in the waste bin destined for landfill (see Figures 6 and 7). By number, glass and plastic beverage containers were the most frequently identified container material types placed in the kerbside bin system, that is, over 124 million glass and over 96 million plastic containers (see Figure 8). Of these, around 46 million (48%) were identified as plain milk HDPE containers (currently excluded from the CDS) located in the co-mingled recyclables bin.

By weight, beverage containers accounted for around 22% of the total content of kerbside co-mingled bins and 2.4% of the waste bin each week. Of the total beverage containers discarded to the kerbside system each year, the dominant (89%) beverage container material by weight was glass at 42,049 tonnes (as shown in Figure 9). Of this glass, approximately 20,342 tonnes (43%) was attributed to wine, 11,494 tonnes (24%) to non-alcoholic drinks, 7,044 tonnes (15%) to CDS-eligible containers and 3,169 tonnes (7%) to spirit containers[29]. The kerbside audit reported that, measured against all of the materials within the co-mingled bin, wine and spirit containers, alone, comprise on average 13% of that weight per week. The weight of the wine and spirit bottles differed by council area and ranged from 8%-17%.

The costs of the collection and recovery of CDS containers through the depots is fully funded by the participating beverage producers and suppliers based upon the number of eligible beverage containers sold and returned in SA. However, local councils pay for the collection, transport, recovery and disposal of the contents of the kerbside system on a per tonne basis. In cases where beverage producers and suppliers do not participate in the CDS and allow others to cover the costs of container collection and recovery from the kerbside collection system, commonly referred to as the 'free-rider' effect in product stewardship schemes, the benefits they acquire can be significant given the volumes and weight of these beverage containers.

27 SA EPA - CDS Review: Kerbside Household Bin Audit Report June 2020, Rawtec 2020, https://www.epa.sa.gov.au/files/15058_cds_kerbsite_bin_audit_report_jun2020.pdf.

28 Green Industries SA 2020, *South Australia's recycling activity survey 2018-19 report*, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjBjcH7-8ryAhVAzTgGHZ-cCZYQFnoECAIQAQ&url=https%3A%2F%2Fwww.greenindustries.sa.gov.au%2Fdocuments%2FGISA_RAS%2520Report%25202018-19_final%255B1%255D.pdf%3Fdownloadable%3D1&usg=AOvVaw08x4-QKpgvtSnU4sPQN_st.

29 Hudson Howell 2020, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review December 2020, https://www.epa.sa.gov.au/files/15056_cds_econanalysis_review_report_dec2020.pdf.

Figure 6—Total beverage container extrapolated number of items per annum disposed of in the kerbside waste bin and co-mingled recyclables bin (Hudson Howells, 2020).

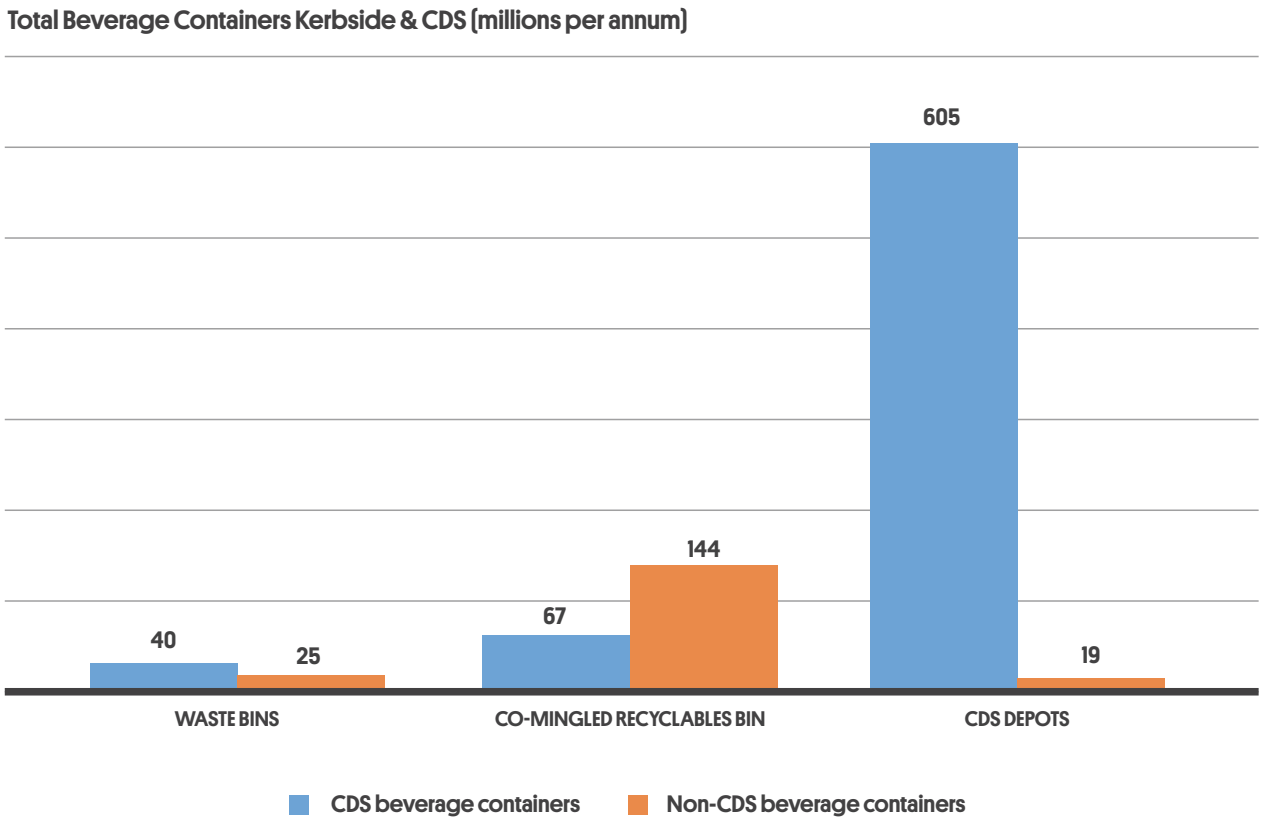


Figure 7—Total beverage container extrapolated weight per annum disposed of in the kerbside waste bin and co-mingled recyclables bin (Hudson Howells, 2020)

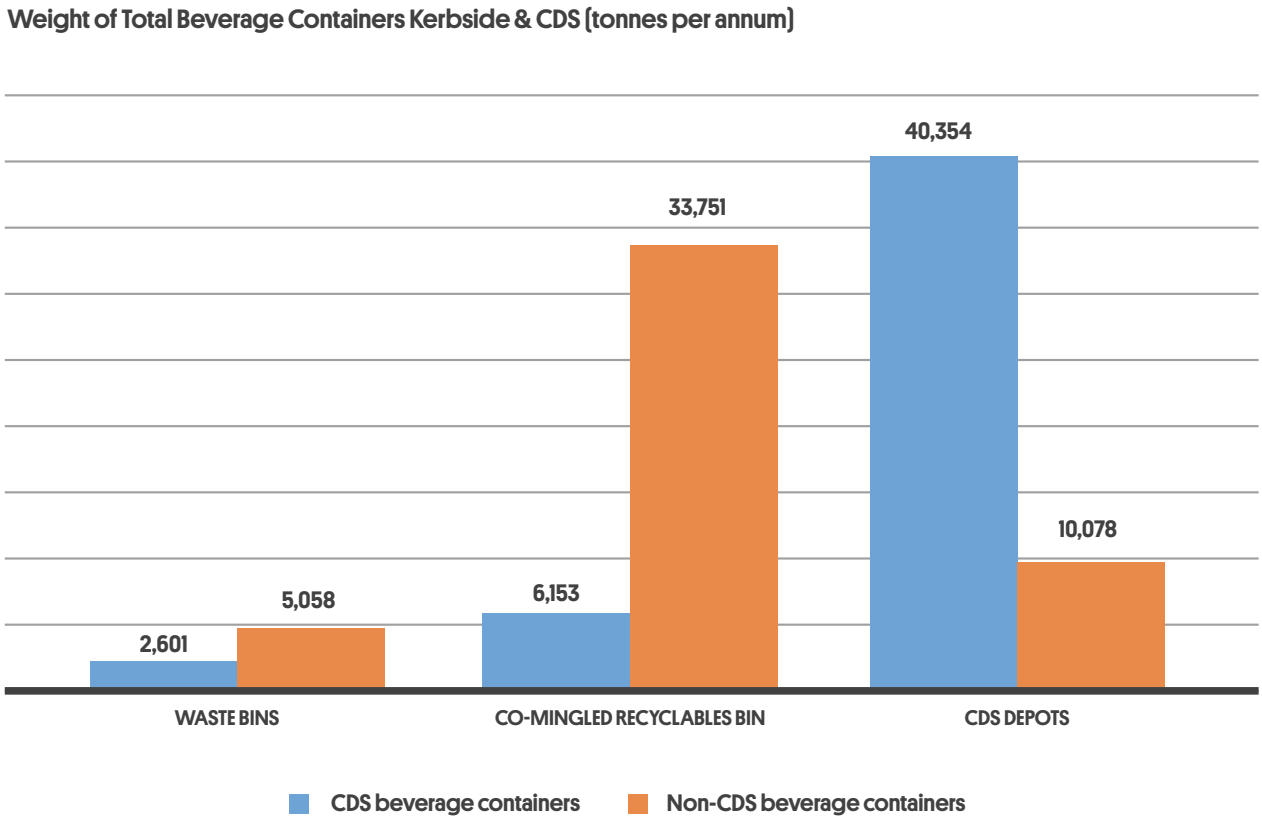


Figure 8—Count of beverage containers in kerbside bins by material type and plastics content (items per annum extrapolated to all of state)

Total Kerbside Beverage Container Items by Material Type (millions per annum)

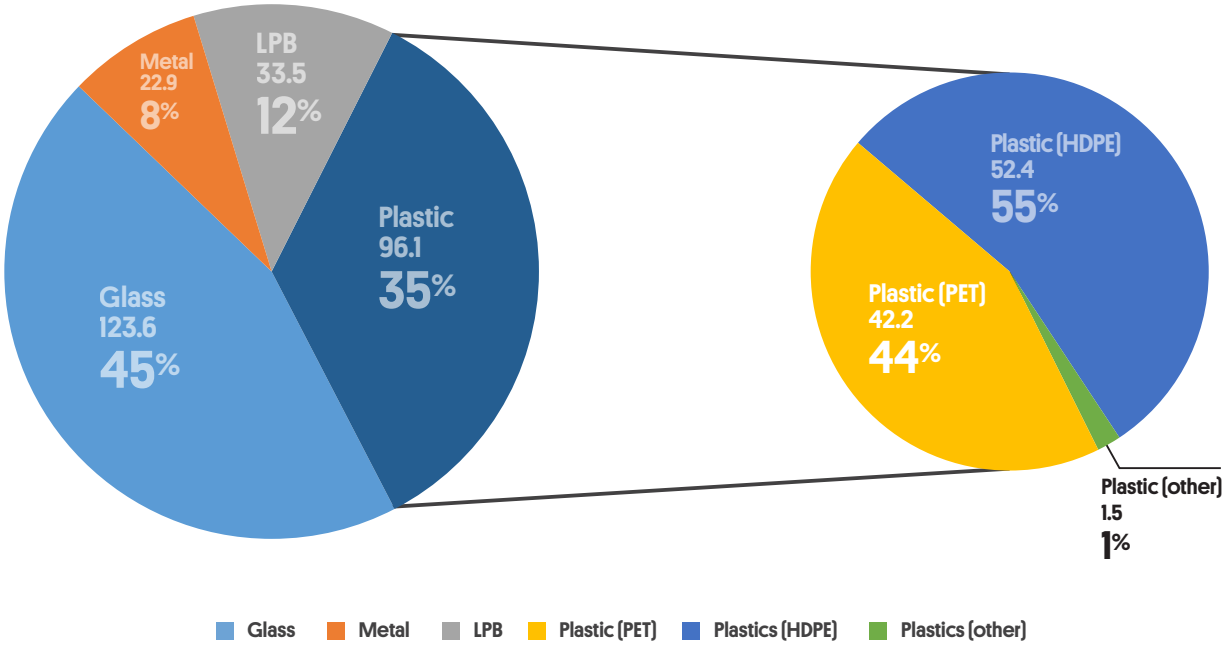
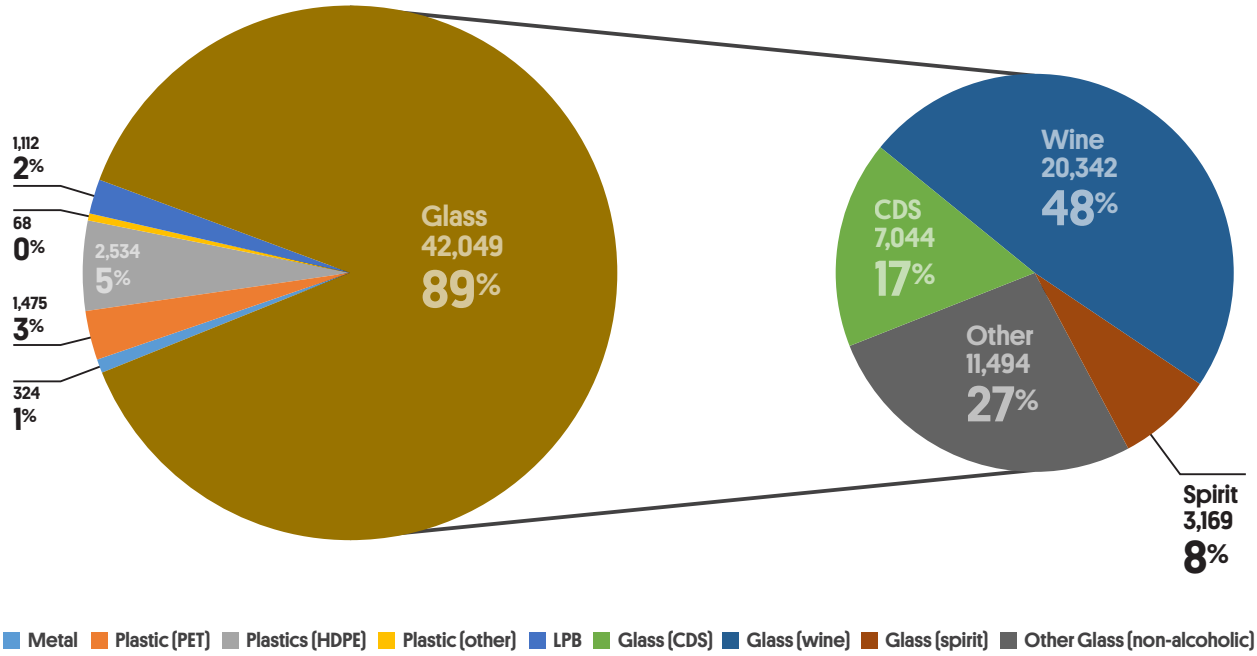


Figure 9—Weight of beverage containers in kerbside bins by material type and glass beverage content (tonnes per annum extrapolated to all of state)

Kerbside Beverage Container Weight by Material Type (tonnes per annum)



Current fate of beverage container materials in South Australia

The recovery of empty beverage containers in SA occurs primarily via the CDS or kerbside systems. The CDS container return data (2019-20)[30], kerbside bin audit (2020)[31], the Recycling Activity Survey (2018 19)[32] data and consultation with industry were used to develop a discarded glass (beverage and non-beverage) and plastic beverage (PET and HDPE) container inventory. The MRF material recovery data was derived from a South Australian facility that is considered to be best-in-class in terms of material recovery from the co-mingled kerbside bin. The pathways of glass, plastics PET and HDPE beverage containers were then mapped to reveal the fate of these materials used by beverage producers and suppliers to package beverages sold in SA (see Figures 10, 11 and 12). These container material types were chosen for further investigation due to their prevalence in the kerbside management system (see Figures 8 and 9), the limited knowledge about their movement and fate, and opportunities for recycling.

The recovery of beverage container materials through the CDS results in high-value recovered resources that are segregated according to material type and colour (glass) in accordance with the market requirements for recycled materials. Glass, aluminium and plastic (PET and HDPE) containers that are returned to depots in SA have very high recycling rates (as shown in Figures 10, 11 and 12) and, because they are contaminant-free, are highly desirable to be directly used as feedstock in the remanufacturing of containers or other industrial uses.

Beverage and non-beverage containers placed in the kerbside co-mingled recyclables bins are collected and transported by, or on behalf of, local government to a MRF. The bin contents are then processed to recover resources for sale and diversion from landfill. CDS beverage containers in the co-mingled recyclables bin are recovered by the MRF and returned to the CDS. A proportion of the co-mingled recyclables bin is disposed of to landfill rather than being recycled, due to the material being one of the following:

- non-recyclable materials (placed in the wrong bin) or recyclables that are too contaminated (including due to breakage of glass during collection, handling and processing of kerbside co-mingled bin contents)
- of low market value
- not able to be recovered by the systems and processes within the facility due to excessive breakage or contamination.

The materials that are recovered are then onsold to markets and the revenue is used to offset the costs of running the facility.

Glass beverage container recovery

The inventory of glass beverage containers discarded in South Australia[33] indicates that about 86,100 tonnes of glass container waste is generated in SA each year, with 45,200 tonnes recovered for bottle manufacturing, over 24,000 tonnes sent to civil construction uses (via the CDS and kerbside systems) and 17,400 tonnes disposed of to landfill (see Figure 10). There are 41,900 tonnes of CDS and non-CDS glass containers returned to the depots, with CDS glass accounting for 77% (32,286 tonnes) of this glass. The vast majority of the remaining glass (9,614 tonnes) handled by the depots is received from commercial returns of non-CDS glass containers, such as wine and spirit glass bottles from hotels, entertainment venues and sporting clubs. Individuals also return non-CDS glass to depots when they return their CDS containers for a refund. However, that number of containers is minor when compared with the commercial returns.

The glass received by depots is sorted, aggregated and sent on to a glass 'beneficiation' facility for further processing prior to sale as glass cullet. The beneficiation process results in 41,271 tonnes (99%) of glass received by the depots recovered for sale as cullet. The remaining 1% is disposed of as waste to landfill due to not being recoverable.

Of the 35,800 tonnes of glass containers placed in the kerbside co-mingled recyclables bin, only 11% is

30 Environment Protection Authority South Australia 2021, *Container deposits*, https://www.epa.sa.gov.au/environmental_info/waste_recycling/container_deposit.
31 SA EPA – CDS Review: Kerbside Household Bin Audit Report June 2020, Rawtec 2020, https://www.epa.sa.gov.au/files/15058_cds_kerbsite_bin_audit_report_jun2020.pdf.
32 Green Industries SA 2020, *South Australia's recycling activity survey 2018-19 report*, https://www.greenindustries.sa.gov.au/resources/recycling-activity-in-south-australia-2018-19.
33 Hudson Howell 2020, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review December 2020, https://www.epa.sa.gov.au/files/15056_cds_econanalysis_review_report_dec2020.pdf.

recovered as high-value cullet, with 85% recovered as low-value mixed glass for lower value civil application and, the remainder unable to be recovered due to excessive breakage, is disposed of to landfill. All 8,400 tonnes of glass containers placed in the general waste bins is sent to landfill. With recent improvements to MRF processing, the glass fines arising from glass breakages from the kerbside co mingled recyclables bin collection, transport and processing have largely (66%) been redirected from landfill by being collected and used for civil construction, for example, replacement of sand in road base. Although a beneficial use for recycled glass, it is of significantly lower value than glass recovered as cullet that is able to be remanufactured into glass bottles and containers.

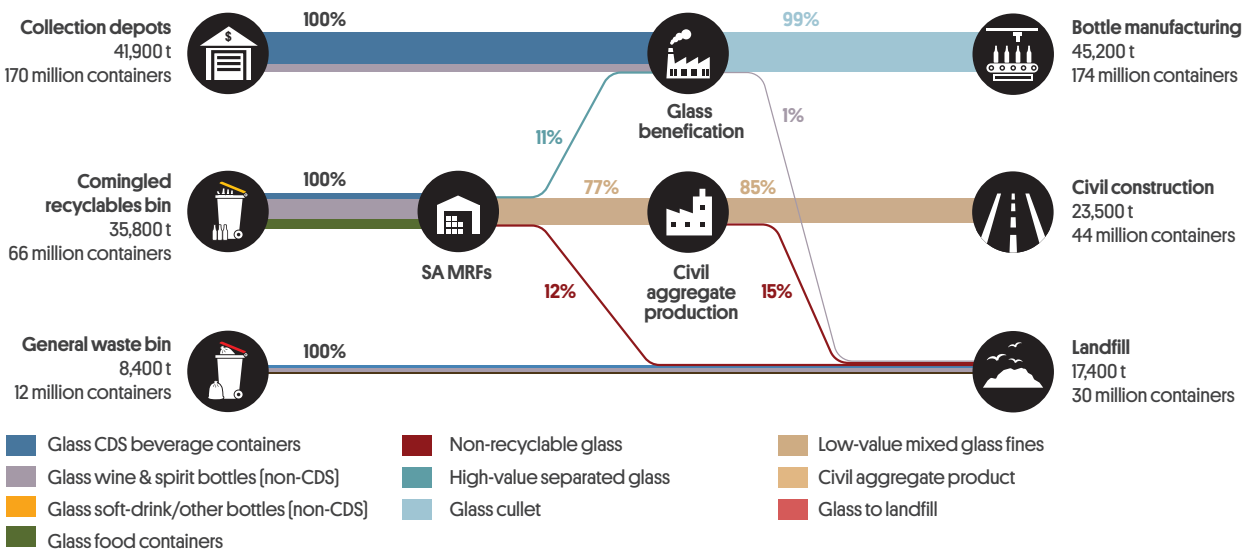
In summary, of the material recovered to high-value glass cullet per year, around 93% is derived through the CDS depots and around 7% is derived through the kerbside co-mingled recyclables bin. This is despite the tonnages of glass placed in the kerbside co-mingled recyclables bin and returned to the collection depots being similar (35,800 versus 41,900 tonnes per year, respectively).

The recovery of glass containers through the kerbside co-mingled recyclables bin represents a significant cost to local government and, ultimately, rate payers. A survey of local councils on the benefits and value of the current CDS identified that an increase in the types of beverage containers within the CDS will reduce the costs of the kerbside waste collection services provided by councils[34]. Modelling was undertaken to estimate the cost savings to local government as a result of diversion of the non-CDS glass beverage containers from the co-mingled kerbside bin to the CDS.

This showed, for example, that the diversion and recycling of 51 million non-CDS glass wine, spirit and cordial containers from the kerbside co-mingled bin to the CDS is estimated to save local government approximately $34 million per year[35]. The reduced costs are mostly attributed to the reduced volume of glass containers required to be processed by MRFs and reduced waste glass disposal costs[36]. The reduced volume of glass containers processed by MRFs would reduce the glass fines and waste glass generated at the facilities and, subsequently, reduce disposal costs of the facilities and local government, and offer more high value material for glass remanufacturing.

Figure 10—Material flow of glass containers in South Australia per annum (source: Rawtec, 2020)

Material flow of glass in South Australia



Disclaimer: This is a high-level illustration of the material flow of glass CDS and non-CDS beverage containers placed into general waste and co-mingled recycling kerbside bins by households or returned at collection depots. It does not include containers that are placed into commercial/industrial bins (general waste to landfill, co-mingled recycling), public place/street litter bins or litter in the environment due to insufficient data on these disposal destinations.

34 SA EPA - CDS Review: Council Survey Report July 2020, Rawtec 2020, https://www.epa.sa.gov.au/files/15058_cds_kerbsite_bin_audit_report_jun2020.pdf.
35 Hudson Howell 2021, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review - Addendum Report January 2021, https://www.epa.sa.gov.au/files/15057_cds_econanalysis_review_addendum_jan2021.pdf.
36 SA EPA - CDS Review Council Survey Report July 2020, Rawtec 2020, https://www.epa.sa.gov.au/files/15058_cds_kerbsite_bin_audit_report_jun2020.pdf.

Glass wine and spirit container recovery

The fate of wine and spirit glass containers in South Australia includes processed glass cullet for bottle remanufacturing, glass fines for civil construction, and unrecoverable material to landfill or to the broader environment as litter. A significant proportion of the wine and spirit bottles returned to depots arises from the commercial and hospitality sectors, and entertainment venues. The return of these containers occurs in combination with the collection of CDS containers also provided at these venues. Material flow for wine and spirit glass containers is described as follows:

- Around 10,020 tonnes of wine and spirit glass containers are returned to CDS depots each year with over 98% (9,870 tonnes) of this material recovered as high-value cullet, and only 2% (150 tonnes) disposed of to landfill.
- Approximately 22,031 tonnes of wine and spirit glass containers are placed in the kerbside co-mingled recyclables bin each year, with only 11% (2,523 tonnes) recovered as high-value cullet, and 67% (14,659 tonnes) as low-grade mixed glass, with the remaining 22% (4,849 tonnes) being disposed of to landfill.
- An estimated 1,304 tonnes of wine and spirit glass containers are disposed of in the kerbside waste bin each year, with 100% of this glass material disposed of to landfill.

Failure to recover these glass containers is attributed to breakage during collection, handling and processing of the kerbside co-mingled bin. Excessive damage or breakage of containers leads to the materials not being able to be recovered by the systems and processes within the MRFs. This breakage and the disposal of wine and spirit containers in the kerbside waste bin is estimated to result in 6,303 tonnes (or estimated 12,500 bottles) of glass wine and spirit bottles sold in SA ending up in landfill each year. The presence of these glass fines results in significant costs to both the MRFs and local government associated with collection and landfill, as well as cost to the remanufacturing industry and the community at large due to the lost opportunity to benefit from reusing and remanufacturing recovered containers. Broken glass also compromises the recovery and value of other kerbside co mingled recyclable materials.

Plastic (HDPE and PET) beverage container recovery

The inventory of HDPE and PET beverage containers discarded in South Australia[37] indicates that each year, about 2,750 tonnes of HDPE and 4,700 tonnes of PET beverage container waste is generated in this state. The majority of the HDPE and PET container waste arises from non-CDS plain milk HDPE containers (81%) and non-alcoholic CDS PET containers greater than 150 millilitres (91%). The fate of HDPE and PET beverage containers is as follows:

- 2,400 tonnes (87%) of HDPE is recovered for recycling, 20 tonnes (1%) is recovered and used for energy production[38] and 325 tonnes (12%) is disposed of to landfill each year (see Figure 11)
- 4,100 tonnes (87%) of PET is recovered for recycling, 175 tonnes (4%) is recovered as energy and 400 tonnes (9%) is disposed of to landfill each year (see Figure 12).

A portion of the HDPE and PET beverage containers sold in SA are discarded via the commercial and industrial, and construction and demolition sectors, as well as to public bins. This is estimated to equate to 5 tonnes of HDPE containers and 25 tonnes of PET containers that are either recovered for recycling, recovered as energy or disposed of to landfill.

An estimated 200 tonnes (7%) of HDPE beverage containers were returned to the depots, and 2,550 tonnes (93%) were placed in the kerbside system. An estimated 3,200 tonnes (68%) of PET beverage containers were returned to depots and 1,500 tonnes (32%) were placed in the kerbside system. Recovery rates for plastic are as follows:

37 Hudson Howell 2020, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review December 2020, https://www.epa.sa.gov.au/files/15056_cds_econanalysis_review_report_dec2020.pdf.

38 The recovery of energy from beverage containers results from the collaboration of SUEZ-Resource Co and Adelaide Brighton Cement to produce a processed engineered fuel that is used to as a partial fossil fuel replacement at the Birkenhead, SA based cement kiln. The fuel is produced by the recovery of combustible materials from received at the SUEZ-Resource Co facility based Wingfield, SA.

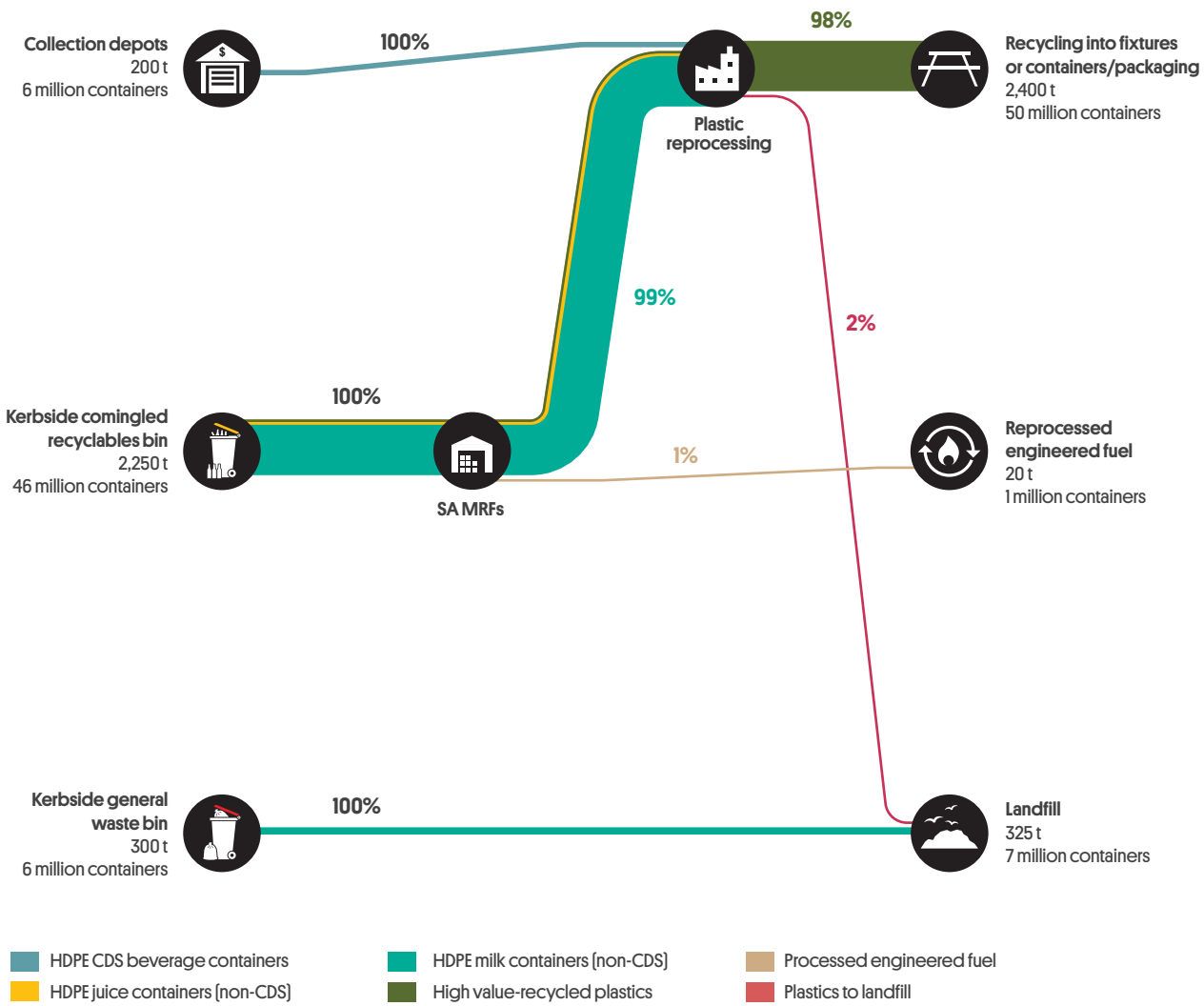
- Almost all (98%) of the HDPE and PET containers returned to depots are sent for recycling.
- Of the 2,250 tonnes of HDPE containers placed in the co-mingled kerbside bin each year, the vast majority (98%) of containers were recovered by MRFs for recycling (including 52 tonnes of CDS containers returned to the CDS) with small amounts sent for energy production (1%) and to landfill (1%).
- Of the 1,150 tonnes of PET containers placed in the co-mingled kerbside bin each year, the vast majority (83%) of containers were recovered by MRFs for recycling (including 306 tonnes of CDS containers returned to the CDS) with a small amount (15%) sent for energy production and a lesser amount (2%) disposed of to landfill.

The high recovery of plastic beverage containers within the kerbside bin system is associated with their resistance to damage during collection, handling and processing of the kerbside co-mingled bin and the design of the MRF systems and processes to recover these high-value resources.

Figure 11—Material flow of plastic (HDPE) containers in South Australia each year (source: Rawtec, 2020)

Material flow of HDPE beverage containers in South Australia

Kerbside bins and collection depots

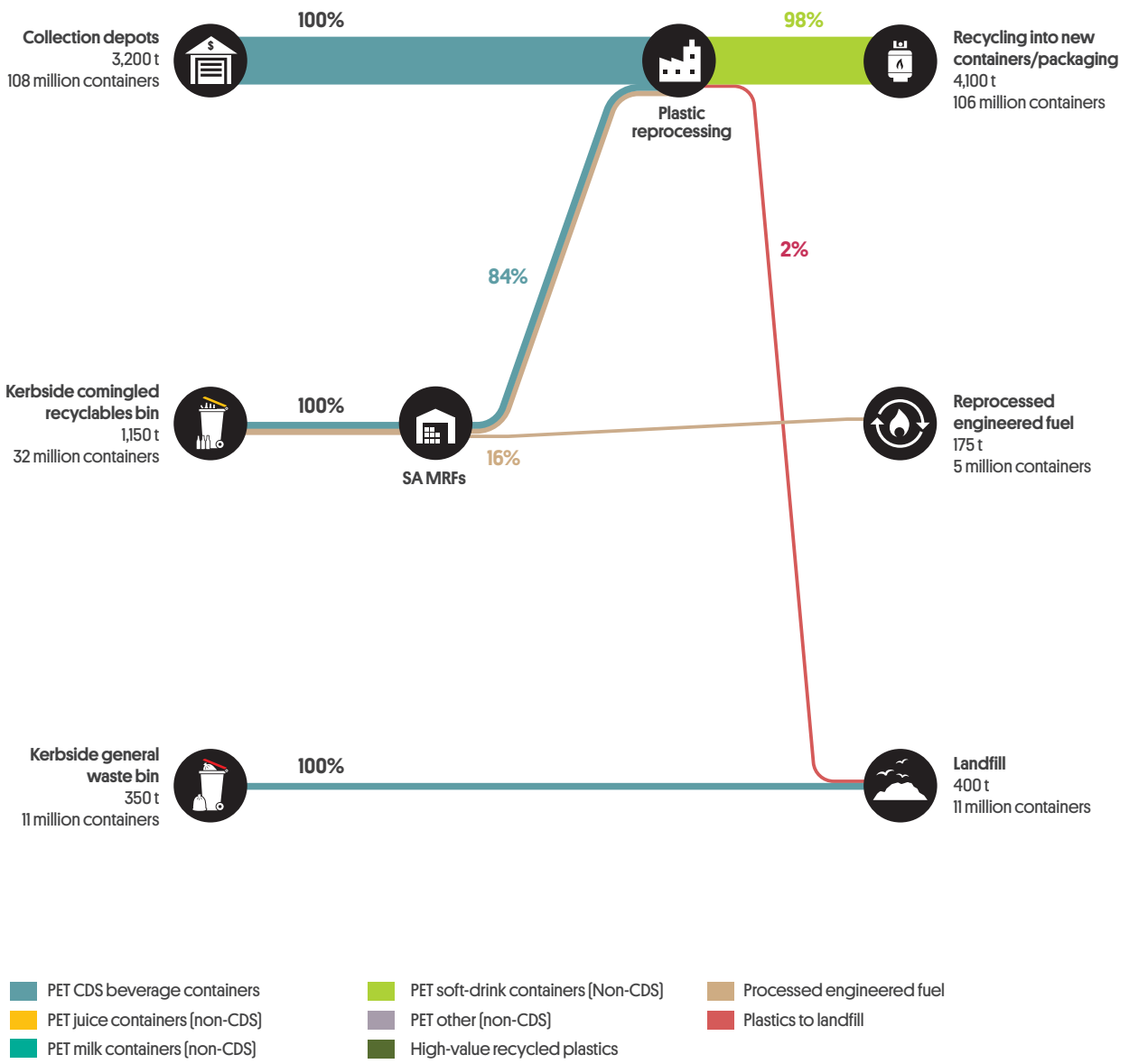


Disclaimer: This is a high-level illustration of the material flow of plastic HDPE CDS and non-CDS beverage containers placed into general waste and co-mingled recycling kerbside bins by households or returned at collection depots. It does not include containers that are placed into C&I bins (general waste to landfill, mixed recycling to alternative fuels), public place/street litter bins or litter in the environment due to insufficient data on these disposal destinations.

Figure 12—Material flow of plastic (PET) containers in South Australia each year (source: Rawtec, 2020)

Material flow of PET beverage containers in South Australia

Kerbside bins and collection depots



Disclaimer: This is a high-level illustration of the material flow of plastic PET CDS and non-CDS beverage containers placed into general waste and co-mingled recycling kerbside bins by households or returned at collection depots. It does not include containers that are placed into C&I bins (general waste to landfill, mixed recycling to alternative fuels), public place/street litter bins or litter in the environment due to insufficient data on these disposal destinations.

CDS versus kerbside beverage container recovery pathway

The glass and plastic (HDPE and PET) beverage container inventories and material flows show that the CDS pathway results in approximately 98% of glass, HDPE and PET containers being returned to the CDS depot is recovered as high-value material sold for recycling. The recovery of glass and plastic beverage containers deposited within the kerbside system, in other words, the combined kerbside waste bin and the co-mingled recyclables bin (then MRF for processing) results in approximately 62% of glass, 87% of HDPE and 75% of PET recovered for recycling.

However, the fate of glass containers placed in the kerbside co-mingled bin is estimated to be 11% recovered as high-value cullet, 85% recovered as

low-value mixed glass for civil applications and the remainder, unable to be recovered due to excessive breakage, is disposed of to landfill. The recovery of high-value glass cullet through the kerbside co-mingled recyclables bin is impeded by the mixing of other materials disposed of in the bin and excessive glass container breakage resulting from the collection, transport, handling and sorting of the bin contents. The CDS pathway on the other hand, minimises cross-contamination of materials (including by colour) and limits excessive glass breakage, resulting in high-value clean and sorted recovered material.

The fate of PET and HDPE beverage containers deposited in the kerbside co-mingled bin and processed by MRFs is estimated to result in a high proportion being recovered for high-value recycling into new products. Around 98% of HDPE and 84% of PET containers are recovered by MRFs for plastics processing. Around 1% of HDPE and 16% of PET containers handled within the MRF are recovered for use as processed engineered fuel. The processing (beneficiation) of both kerbside- and CDS-recovered PET and HDPE containers results in a small proportion (1%) requiring disposal to landfill.

This shows that, whilst PET and HDPE container recovery rates are less than those obtained through the CDS, they are still effective in recovering high-value plastics for recycling. However, the recovery of high value glass through the kerbside system is inferior when compared with the CDS. The diversion of additional glass containers away from the current kerbside system represents both a significant circular economy opportunity as well as a cost reduction opportunity for local government and the community.

The CSIRO's *National circular economy roadmap for plastics, glass, paper and tyres,* published in January 2021[39] recommends recovery of clean, sorted glass at the source and avoidance of mixed, compacted waste glass as a pathway for future growth opportunities for a circular economy within Australia. The APCO *Packaging material flow analysis 2018*[40] report also explains that the diversion of glass resources to the CDS would improve the quality and amount of glass packaging available for recycling and avoid the contamination of paper and plastic resources.

The Environment, Resources and Development Committee's June 2018[41] report provides a series of recommendations following the Committee's inquiry into the recycling industry, including the diversion of as much glass as possible from the co-mingled recyclables kerbside bin. The accessibility and convenience of the kerbside co-mingled recyclables and general waste bins make them valuable pathways for litter prevention, but are less successful in relation to glass meeting state objectives for resource recovery and the circular economy.

Economic analysis

Inclusion of currently excluded containers 3 litres or less (excluding plain unflavoured milk)

To inform the review of the CDS, the EPA commissioned consultants to survey local councils[42], CDS collection depots and licensed establishments such as hotels, clubs and sporting venues[43]. In response to what should be included in an expanded CDS scope, the vast majority of local councils surveyed responded that a wider range of beverage containers should be included.

The majority of councils responded that an increase in the beverage containers included in the CDS would reduce the local street, park, picnic and recreation area litter associated with these types of containers. Some of the justification for including a greater range of glass beverage containers is that the removal of glass containers from the kerbside system (in particular the co-mingled kerbside bin) will significantly reduce the contamination of other recyclable materials from broken glass and the costs to local government associated with recovery of glass in the co-mingled bin and disposal of glass fines. The EPA also sought the views of industry

39 CSIRO 2021, *National circular economy roadmap for plastics, glass, paper and tyres*, https://www.csiro.au/en/Research/Environment/Circular-Economy/Circular-Economy-individual-products.
40 Institute for Sustainable Futures 2019, APCO *Packaging material flow analysis 2018*, https://documents.packagingcovenant.org.au/public-documents/APCO%20Packaging%20Material%20Flow%20Analysis%202018.
41 https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/WasteandRecycling/Report.
42 SA EPA - CDS Review: Council Survey Report July 2020, Rawtec 2020, https://www.epa.sa.gov.au/files/15060_cds_councilsurvey_report_jul2020.pdf.
43 SA EPA - CDS Review: Collection Depot & Licensed Establishment Survey Report June 2020, Rawtec 2020, https://www.epa.sa.gov.au/files/15059_cds_collectiondepots_report_jul2020.pdf.

specialists working within the local waste and resource recovery sector, who also considered glass in the kerbside co-mingled recyclables bin as problematic as it is costly to deal with, recovered as low-value glass and a significant portion of the MRF waste sent to landfill.

The 2019 CDS review scoping paper feedback, the above stakeholder survey results and the findings of the current beverage container materials fate in SA report, all suggest a revised CDS scope that is less confusing and continues to champion recycling and supports a transition to a circular economy.

Economic modelling was undertaken of an alternate CDS scope scenario where the current volume threshold is removed and the range of glass beverage containers materials included in the CDS is increased. In this scenario, a reviewed CDS scope by means of

- an increase in the current beverage container volume threshold to 3 litres or less,
- inclusion of currently excluded glass beverage containers (that is, wine, spirit, juice and cordial containers), and
- the continued exclusion of plain unflavoured milk

is expected to result in an annual net benefit of $76 million (underpinned by glass recovery) and a net increase in employment (direct and indirect) of 121 (FTE) jobs in SA. Also, an additional 73 million beverage containers are estimated to be returned to CDS depots, equating to 679 million containers each year and diversion of 5,677 tonnes of CDS container materials from landfill each year (see Table 3).

The indirect cost of newly included beverage products for beverage producers and suppliers varies according to the size of the business and the number and range of CDS eligible beverage products sold in SA. The upfront indirect costs for small businesses are estimated to be 45 cents per CDS container in the first year of inclusion and 7 cents for larger businesses with a larger range of beverage products sold both within and outside of SA. The administrative costs, container approval fees (proposed to be removed) and printing costs components of the scheme costs for large and small beverage producers and suppliers are estimated to be 0.5 for large businesses and 4 cents per CDS container per year for small businesses. The average ongoing indirect scheme costs are estimated to be between 1 to 2 cents per container per year. These costs can either be absorbed by the producer or supplier or passed on to the consumer through increased retail prices. These indirect costs are consistent with independent economic analysis of newer schemes in ACT[44], NSW[45] and WA[46].

Based on an assumption that demand for these products is moderately sensitive to small price increases, the economic analysis indicated a 1.67% reduction in sales of beverages such as cordial, juice and flavoured milks with a retail price of $3, and a 0.33% reduction in sales of wine in glass bottles and 0.17% reduction in spirits in glass bottles with a retail price of $15 and $30, respectively. However, offsetting this is a substantial increase in the number of containers returned to the CDS, which, in turn creates economies of scale for depots and super collectors resulting in a small reduction in handling fees. A reduction in handling fees passed on to beverage producers and suppliers would lead to a reduction in the retail price of beverages that are already included in the CDS and mitigate the price impact of newly included beverage containers.

The CDS container scope change referred to above and the return of an additional 73 million (or 12%) beverage containers mainly via depots is expected to increase the return rate from the current 77% to 78% per year. The diversion of containers away from the kerbside system is estimated to result in a $34 million saving in waste management costs for local government. These impacts are dominated by the diversion of glass from the kerbside system to the CDS and utilisation of existing capital, infrastructure and employment within the CDS. Under this reform, the annual recovery of glass beverage containers by the CDS is expected to increase by about 22,000 tonnes and would increase the total amount to over 65,000 tonnes (equating to around a 50% increase).

44 Independent Competition and Regulatory Commission Final Report Container Deposit Scheme Price Monitoring 2019, Independent Competition and Regulatory Commission, https://www.icrc.act.gov.au/__data/assets/pdf_file/0020/1407602/Container-Deposit-Scheme-Price-Monitoring-Final-Report.pdf.

45 Independant Pricing and Regulatory Tribunal NSW 2018, https://www.ipart.nsw.gov.au/sites/default/files/documents/final-report-nsw-container-deposit-scheme-monitoring-the-impacts-on-container-beverage-prices-and-competition-december-2018.pdf.

46 Economic Regulatory Authority Western Australia, Report on the effects of the container deposit scheme on beverage prices in Western Australia, draft report July 2021 https://www.erawa.com.au/cproot/22078/2/-2019.CDS.Inq-CDS-Price-Monitoring---Draft-Report---to-publish.PDF.

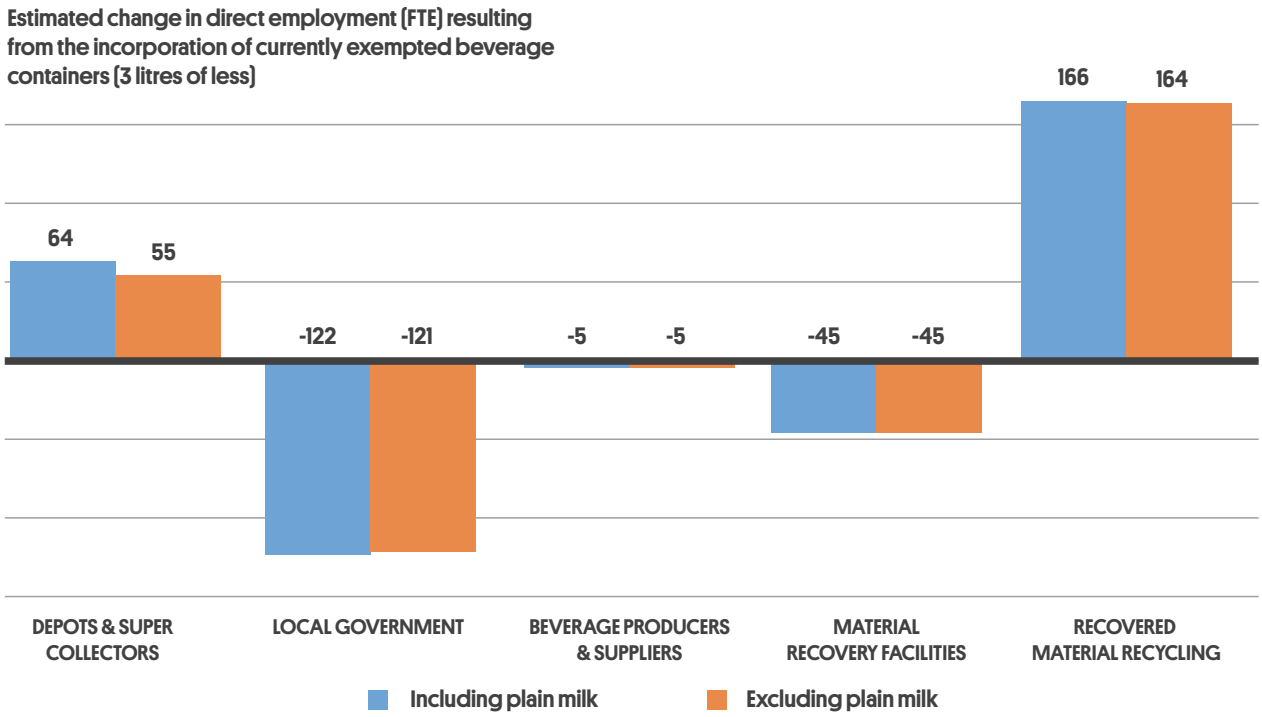
The diversion of glass, increased CDS value, and weight reduction of the kerbside waste system are the most significant factors in reducing the waste management costs for local councils and also for encouraging increased glass recovery and recycling in SA.

The diversion of over 73 million additional containers to the CDS is estimated to result in an additional 55 (FTE) jobs within the depots and super collector agencies and 164 (FTE) jobs from the recycling of recovered container materials into new containers or industrial products. The reduced volumes of CDS materials disposed of to the kerbside bin system is estimated to lead to 121 (FTE) fewer local government-funded jobs required for the collection and transport of the bin contents and reduced disposal of materials to landfill. The reduced demand for processing of the co-mingled bin contents at the MRF is estimated to result in 45 (FTE) fewer jobs within the MRFs. Employment by the eligible beverage producers and suppliers is estimated to reduce by 5 (FTE) jobs as a result of a small negative effect of extending the scope of the CDS on the sales of some products.

Analysis of an option to include plain unflavoured milk within this change to container scope estimated that an additional 30 million empty HDPE beverage containers will be diverted from the kerbside waste system and returned to the CDS per year (from 679 to 709 million) and the annual net benefit to SA is estimated to increase by $10 million (from $76 to $86 million). Inclusion of plain milk is also estimated to result in a further net increase in employment of 27 (FTE) jobs (from 121 to 148) and a reduced amount of container materials disposed of to landfill from 5,677 tonnes to 5,515 tonnes per year[47]. Whilst the diversion of an estimated 30 million plain milk containers to the CDS will increase the volume of plain milk containers recovered by the CDS, there is little change to local government costs and opportunities stemming from the processing of these recovered containers via the CDS pathway. The limited benefit to local government and materials processing is attributed to their low weight and the effective and efficient recovery of HDPE plain milk containers through the existing kerbside system, as described previously.

Figure 13 shows the estimated change in jobs (FTE) (relative to the 2019-20 FTE baseline) for key CDS stakeholders resulting from the inclusion in the CDS of currently excluded beverage containers (3 litres or less), and provides a comparison between the two scenarios of including plain unflavoured milk containers and excluding plain unflavoured milk containers.

Figure 13—Estimated change in direct employment (FTE) from inclusion of currently excluded containers



47 Hudson Howell 2021, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review - Addendum Report January 2021, https://www.epa.sa.gov.au/files/15057_cds_econanalysis_review_addendum_jan2021.pdf.

Economic analysis

Kerbside bin dedicated to glass

Whilst the inclusion of additional glass beverage containers in the CDS scope was identified as a pathway for improving the recycling of glass beverage containers, a small number of stakeholders suggested that a fourth kerbside bin dedicated to the disposal of glass is an alternative option to the CDS. A bin dedicated to glass waste is currently being trialled in Victoria and has also been in place in New Zealand since 2006 as part of the Glass Packaging Forum (GPF) Product Stewardship Scheme. All other industry groups, local government and the community held the view that wine and spirit glass containers should be included in an expanded CDS.

In New Zealand, the GPF invests in infrastructure that supplements the existing municipal recycling system by supporting councils, waste management contractors and community recyclers to recover container glass. The scheme is reliant upon government grants and local government subsidising collection and transport. The New Zealand GPF claims that the scheme currently recovers around 73% of glass containers. However, Zero Waste New Zealand has published the following statement:

> It [73%] is not from an independent source and includes glass going to roading and other down cycling. There is no state, province or country in the world that has a recycling rate that high without a deposit system in place[48].

The Victorian Government's 10-year policy and action plan for waste and recycling is set out by the Recycling Victoria – a new economy, February 2020. The action plan recognises that putting recyclables into a single commingled bin produces low-quality materials that are no longer in demand. In response to this, the action plan commits to reform the way Victorians recycle by establishing a four bin kerbside collection system that is better aligned with our local recycling markets and introduce a container deposit scheme. Amongst other kerbside system reforms, it is proposed that all Victorians will have a new glass bin or access to glass services by 2027.

In February 2021, in support of the action plan, the Victorian Government committed $20 million of public funds to support rural and regional councils as they work towards a four bin, or four service, recycling system that separates household waste into: rubbish, recycling, glass and green waste[49]. In April 2021, Visy announced that it will build a state of the art $35 million glass recycling cullet facility in Laverton in Melbourne's west in response to Recycling Victoria action plan[50]. The additional recycled glass will be made into new jars and bottles for Australian food and beverage companies and will be used in asphalt and road base works.

The results of the Victorian kerbside glass collection trial were not available at the time of writing this discussion paper. In the absence of performance data on the addition of a fourth kerbside bin dedicated to glass, consultation and modelling of the expected outcomes of the introduction of a kerbside bin dedicated to the disposal of glass in SA were carried out to inform the CDS review.

The introduction of a fortnightly kerbside bin service dedicated to glass in SA is expected to result in no increased costs to beverage producers and suppliers, reduce the number of empty glass containers (beverage and non-beverage) disposed to landfill, and as a result of improved kerbside segregation, increase the amount of glass resources available to produce high-value cullet and low value mixed glass fines for civil applications in SA. To achieve these results the kerbside bin system will require new infrastructure including household storage of an additional kerbside bin, additional fourth kerbside bin collection and transport equipment and a dedicated glass processing facility that is able to remove contaminants including non-recyclable glass discarded to the kerbside bin. The cost of a kerbside bin service dedicated to glass is expected to be funded by local government and rate payers as is the case for the current kerbside bin collection service (see Table 3).

The introduction of a fourth kerbside bin dedicated to glass in SA is expected to require an additional fortnightly bin collection service provided on behalf of local government and additional investment to establish

48 Zero Waste Network 2021, https\zerowaste.co.nz\container-return-scheme.
49 State Government of Victoria 2021, https://www.premier.vic.gov.au/regional-victoria-step-closer-four-stream-recycling.
50 VISY 2021, https://www.visy.com.au/newsroom/2021/4/15/investing-for-a-better-world.

a dedicated glass optical sorting plant at a cost of $12 million (not including other building structures and associated infrastructure). The change from a 3-bin to a 4-bin kerbside system is estimated to result in an annual net benefit of $58 million to the SA community.

An estimated additional 483 (FTE) jobs (comprising direct and indirect employment) within SA may be created. This includes the additional collection processing of materials in a kerbside bin dedicated to glass; an additional 82 (FTE) jobs funded by local government; 16 (FTE) jobs within MRFs to process bin contents; and 85 (FTE) jobs for the recycling of recovered glass materials into new containers, industrial products or civil applications (see Figure 14).

Comparison of expected glass recovery outcomes for and expanded CDS versus a kerbside bin dedicated to glass

The review of the CDS and associated consultation with industry experts has identified opportunities to increase the recycling of glass beverage containers through an expanded CDS, where currently excluded glass beverage containers are included in the CDS, or the introduction of a fourth kerbside bin dedicated to glass. The expected outcomes of these two options are outlined in Table 3.

The expansion of the CDS scope is expected to utilise the existing CDS infrastructure to recover high-value sorted and uncontaminated glass for high-value recycling and remanufacturing back to bottles. Associated with this recovery and recycling pathway is fewer jobs funded by local government and additional jobs within the glass material processing and remanufacturing sector.

The introduction of the fourth kerbside bin is expected to require new infrastructure to recover and process the glass resources placed in the new kerbside bin. A significant proportion of the resultant recovered glass is low-value glass for recycling within civil infrastructure and requires additional local government funded jobs needed for the collection and processing of the fourth bin contents.

It is estimated that $76 million of net benefit to SA is associated with the recovery and recycling of glass beverage containers is realised through an expanded CDS, where the currently excluded glass beverage containers are included in the CDS. When compared to the estimated $58 million net benefit of the introduction of a fourth kerbside bin dedicated to glass, the expansion of the CDS is a more efficient and beneficial way to remove glass containers from the kerbside bin system, reducing material going to landfill, and increasing more recovery to high-value products.

Figure 14—Estimated change in direct employment (FTE) from an expanded CDS or glass-only kerbside bin

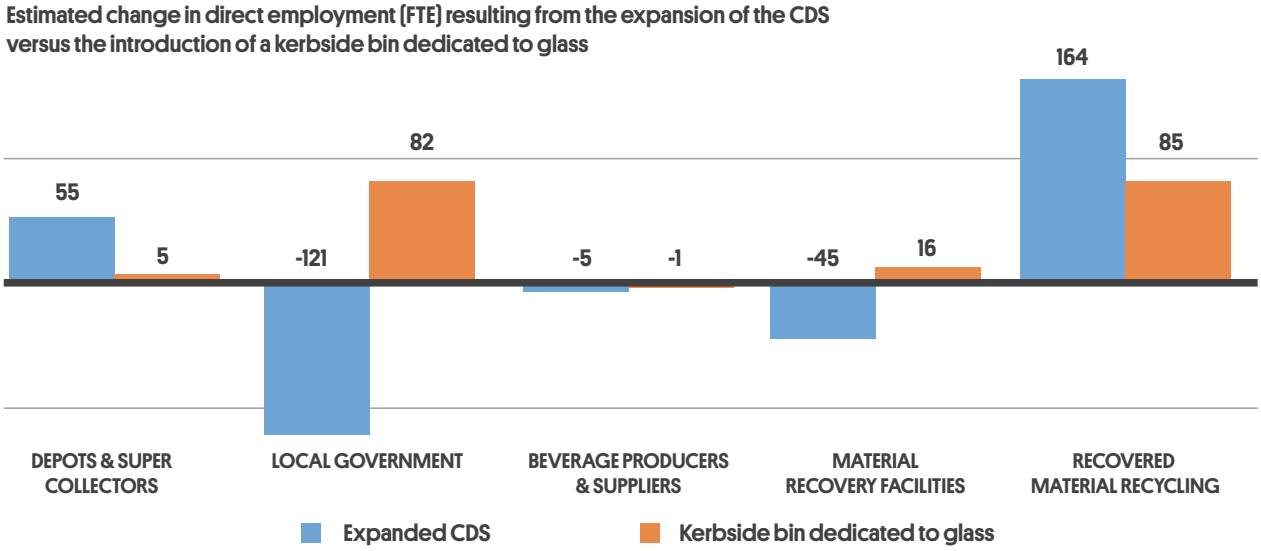


Table 3—Expected glass recovery outcomes for an expanded CDS versus glass-only kerbside bin

	Expanded CDS	Glass-only kerbside bin
Pros	• Estimated net benefit of $76 million to SA	• Estimated net benefit of $58 million to SA
	• Decreased cost to local government and rate payers due to reduced kerbside waste collection and processing costs – $34 million	• No increased cost to beverage producers and suppliers
	• Recovery of empty glass beverage and food containers » 22,000 tonnes diverted to cullet per annum » 20,000 tonnes diverted from road base per annum	• Recovery of empty glass beverage and food containers » 19,000 tonnes diverted to cullet per annum » 13,500 tonnes diverted from road base per annum
	• Increased recovery of high-value sorted and uncontaminated glass for recycling	• Increased recovery of low-value glass for recycling • Improved glass and other recyclable material segregation at the household
	• Direct jobs (FTE) impact » 121 less local government funded jobs » 55 additional CDS depots and super collectors jobs » 5 less beverage producer and supplier jobs » 45 less MRF jobs » 164 additional material processing and remanufacturing jobs	• Direct jobs (FTE) impact » 82 additional local government funded jobs » 5 additional CDS depots and super collectors jobs » 1 less beverage producer and supplier job » 16 additional MRF jobs » 85 additional material processing and remanufacturing jobs
	• Utilisation of existing CDS infrastructure and capacity	• Establishment of glass material collection and processing infrastructure – $12 million
	• Progression of product stewardship responsibilities of producers and suppliers selling beverage products in SA	
Cons	• Increased scheme cost impacts for newly included beverage suppliers and producers – $570,000 per annum	• Increased cost to local government and rate payers due to new infrastructure requirements – $25 million per annum
	• Additional household storage space for CDS containers and increased frequency of trips to CDS depots	• Additional household and kerbside storage space required for kerbside bin dedicated to glass
		• Exacerbates 'free-rider' effect and avoidance of product stewardship responsibilities by some beverage producers and suppliers selling beverage products in SA
		• Recovery of additional glass containers at lower net benefit to SA ($76 million via the CDS versus $56 million for a dedicated kerbside bin for glass).

Preferred option – Review and clarify the CDS scope to support the circular economy principles

It is intended to progress alignment of the container scope of the CDSs across Australia to support the transition to a circular economy through working with other states and territories.

As a first step in reconsidering the scope of CDS containers across the country, SA proposes to:

- maintain the high level of beverage container litter reduction and consider options of how to further prevent beverage container litter within local streets, parks, picnic and recreation areas
- consider options of how to remove glass from the kerbside bin system, including adding all currently excluded glass beverage containers, for example, wine, spirit and cordial bottles, to the CDS
- include all fruit/vegetable juice and cordial containers (up to 3 litres) to remove the inconsistency and confusion of what is in and out of scope and increase recovery of high-value plastics (PET and HDPE) used as feedstock in remanufacturing
- remove beverage volume thresholds to include, for all beverage containers currently in the scheme, container sizes of up to 3 litres, to reduce confusion
- continue to exclude from the CDS
  - containers for plain unflavoured milk on the basis of there being no confusing anomaly (and because they are effectively recycled via the kerbside bin system)
  - containers greater than 3 litres
- exclude from the CDS
  - containers less than 150 millilitres to align with other jurisdictions.

In parallel to progressing alignment across Australia, it is intended to undertake a coordinated CDS awareness and container return education campaign to divert CDS containers away from the kerbside waste collection system and bolster the return of CDS containers to CDS depots and return points.

Questions

2.1 Should plain unflavoured milk containers up to 3 litres continue to be excluded from the CDS? If not, why not?

2.2 Do you think the diversion of glass from the co-mingled recyclables bin is best achieved through the CDS or a fourth kerbside bin dedicated to glass?

2.2.a Do you agree that all glass beverage containers up to 3 litres should be included in the CDS (wine, spirit and cordial)? If not, why not?

2.2.b Alternatively, if a fourth kerbside bin collection system dedicated to glass was made available, who should pay for it?

2.3 Do you agree that all plastic fruit/vegetable juice and cordial containers (in addition to soft drinks, fruit juice drinks and water) up to 3 litres should be included in the CDS? If not, why not?

2.4 Do you think a contemporary CDS education and awareness campaign that incorporates the proposed new inclusions would divert more beverage containers away from the kerbside co-mingled bins and residual waste bins towards CDS depots? What media platforms should be used for such a campaign?

Key Issue 3: Scheme Approvals and Container Markings

EPA approval is necessary before eligible containers are distributed or sold and returned for a refund in South Australia. To gain approval for beverage containers, there must be:

- a waste management arrangement in place for the collection, sorting and aggregation of empty containers for their reuse or recycling
  - Category A containers are approved to be returned for refund to any outlet where that beverage is sold
  - Category B containers are approved to be returned for refund to any of the SA collection depots. A waste management arrangement for this return method is by way of a contractual arrangement with one of the super collectors
- a displayed approved refund marking (see Figure 15)
- payment of an application fee.

More than 23,000 types of eligible beverage containers are currently approved by the EPA in accordance with the container deposit legislation. Four Category A containers are currently approved by the EPA, and these are comprised of containers for freshly pressed juice products sold at the premises where the beverage is produced. All of the Category B containers are sold within supermarkets and other retailer outlets and are approved for return to any of the 132 SA collection depots.

Beverage producers and suppliers pay beverage container application fees to the EPA to complete the container and waste management arrangement assessment of new beverage containers on a cost recovery basis. The SA Government currently funds the additional regulatory services, such as compliance and enforcement, reporting and auditing, and legislative and policy updates. More information about the current beverage container approval process is provided in the EPA guidelines: *Beverage container approval*[51].

The refund marking informs consumers or container collectors that the beverage container is included in the CDS and that a refund is available when the empty container is returned to a CDS collection depot (for Category B containers) or to any outlet where that beverage is sold (for Category A containers). The refund marking is also used by the depot operators and scheme collectors to verify that the container has been approved by the EPA and is eligible for the refund when returned. There are also specific rules around operating a collection depot or super collector facility. A person must not operate a business as a depot or super collector without the approval of the EPA[52].

Figure 15—Refund marking requirements for CDS containers sold in South Australia

51 Environment Protection Authority South Australia 2020, *Beverage container approval*, https://www.epa.sa.gov.au/files/4771402_cdlguide 01.pdf.
52 In accordance with section 69 of the EP Act. A collection depot is a facility or premise for the collection and handling of approved beverage containers presented for refund and includes a reverse vending machine. A super collector collects, handles and delivers for reuse, recycling or other disposal, containers received from collection depots.

Scoping Paper feedback: Container refund markings

The Scoping Paper asked whether there is a need to modernise how containers are marked to display the 10-cent refund and indicate their inclusion within the CDS. Community and sector stakeholders pointed out that the current markings are well-recognised by the SA community and operators of CDS collection depots. Most industry stakeholders did not want to see changes to existing container refund marking requirements due to the costs involved in refund marking alterations and the potential risks of causing confusion amongst consumers. Some stakeholders highlighted that a revision of beverage container refund marking could assist non-English speakers and/or those living with disability, and may present an opportunity for renewed community and consumer education about the CDS.

Scheme approvals and application fees

Application fees and scheme compliance costs

The application and assessment processes for CDS beverage container approvals differs between schemes across states and territories. The application fee in South Australia varies depending on the number of labels in a single application, as shown in Table 4.

Table 4—CDS beverage container application fees

Description	Fee ($)
Application with 1 label	328.50
Application with 2–5 labels	547.50
Application with 6–10 labels	810.30
Application with 11–20 labels	1,335.90
Application with more than 20 labels	2,387.10

During public consultation, it was identified that this fee structure has a disproportionate impact on small and boutique beverage producers and suppliers who typically supply a wide range of products in small volumes and seek container approvals frequently. NSW and SA are the only states that charge a container application fee, with the NSW fee currently prescribed at $13.70 per application. This amount was recommended by the NSW Independent Pricing and Regulatory Tribunal (IPART), which was asked by the NSW Government to monitor and report on the impact of the NSW CDS on beverage prices and competition between 1 November 2017 and 1 December 2018.

The SA fees were established at a time when approvals were manually undertaken and were designed to partially cover the costs incurred by the EPA of administering the beverage container approvals, compliance and enforcement of the scheme. The application process is now an online one, which has reduced the administrative effort required by the EPA when assessing applications.

The IPART report recommended that the container approval fee should cover only the costs associated with container assessment and approval. IPART also recommended that regulatory compliance and enforcement costs incurred by the NSW EPA should be recovered through a scheme compliance fee payable by the scheme coordinator.

As is the case in NSW, the primary regulatory costs associated with the SA CDS relate to compliance and enforcement rather than approval fees. A modernised CDS that seeks to embrace new ways for the SA community to participate in the CDS, return containers and receive the deposit will also result in new ways for beverage producers and suppliers, depots and super collectors to take part within the CDS. EPA's cost recovery requirements are being reviewed in this context of a modernised CDS. The introduction of a scheme compliance fee that reflects the efficient level of regulatory and compliance costs of the modernised CDS provides for a transparent cost recovery system, is being considered. The requirement for scheme compliance fee to be payable by the super collectors on behalf of the eligible beverage producers and suppliers will also improve the efficiency of the cost recovery system.

Limited terms for scheme approvals

Approvals issued to beverage producers and suppliers, collection depot operators and super collector operators are currently perpetual. Beverage suppliers continually update their range of beverages and cease production or distribution of particular brands. Introducing a limited term for approvals and allowing for a review and subsequent revocation or extension of approvals at the end of that term would provide a tool to revoke approvals that are no longer needed by beverage producers or suppliers. This would enable the container approvals database to be updated.

Prior to the end of the term, a renewal notification would be sent to the approval holder seeking confirmation of contact details and that the activity is still being undertaken at the premises. Any amendments to the previous approval could then be incorporated into the new five-year approval and databases could be updated to enable accurate auditing and reporting.

Refund marking and national alignment

States and territories are currently working together to align three elements of their respective schemes, including container approval processes and refund markings. The potential gain in efficiency for both beverage producers and government is significant. This is echoed by the Northern Territory CDS Review recommendation advocating the adoption of a coordinated approach or mutual recognition of container approvals across participating states and territories in Australia. Refund markings for containers sold within and across jurisdictions are already in place and approved for use within each scheme (see Figure 16).

Figure 16—South Australian EPA-approved refund markings

Approved refund markings in South Australia are:

10c refund at collection depots when sold in SA

OR

10c refund at SA/NT collection depots in state/territory of purchase

OR

10c refund at collection depots/points in participating state/territory of purchase

OR

10c refund at points of sale when sold in SA

Economic analysis

Beverage producers and suppliers are considered new entrants to the CDS if they distribute or sell in SA:

- new beverage containers (that is, a new product range) that are within the existing CDS scope, or
- new classes of beverage containers that may fall within a potential expanded scope of CDS, should this be agreed by all states and territories.

The costs to new entrants and the costs incurred by beverage producers and suppliers of products included within the CDS are:

- container application fees
- application preparation costs
- labelling costs
- ongoing scheme participation administration costs
- costs of the deposit and handling fees (as determined by super collectors).

Both the costs of the deposit and handling fees are influenced by the CDS return rate in that the deposit and handling fees are not paid for non-returned containers and so not incurred by beverage producers and suppliers.

Economic analysis of the costs to new entrants and the distribution of ongoing costs of the CDS to beverage producers and suppliers was undertaken. The analysis identified the following core factors that impact upon the relative costs to beverage producers and suppliers:

- number of separate beverage containers (products) that require approval
- extent to which existing labels need to be redesigned to incorporate CDS labelling requirements
- number of markets in which the beverages are supplied and sold.

To provide an indication of these costs, indicative modelling was undertaken of a beverage producing sector ranging from small enterprises, whose average value of sales is $15,000 and includes 6 beverage products, to very large enterprises, whose average value of sales is $15 million and includes 54 beverage products. The modelling assumed that 50% of the products produced by the small enterprises and 20% of the very large enterprises are sold in SA and included within the CDS.

The modelling estimated that the initial costs for small beverage producers is 45 cents per container (equating to 2.27% of annual revenue) with an annual cost per CDS container sold in SA of 4.6 cents. For very large beverage producers, the estimated initial cost is 7 cents per container (equating to 0.14% of annual revenue) with an annual cost of 0.5 cents per CDS container sold in SA. For small beverage producers, the container application costs account for around 51% of the CDS entry costs and ongoing costs of 2.7 cents per container per annum. For very large beverage producers, this container application cost accounts for 22% of the CDS entry costs and ongoing costs of 0.4 cents per container sold per annum. The illustrative modelling demonstrates that the impact of the CDS on new entrants that are small to medium-sized enterprises with a greater proportion of their beverage product range sold within SA is greater than very large enterprises with a wider range of beverage products sold outside SA.

The modelling also illustrates that the current container application fee structure has a disproportionate impact on existing small to medium-sized enterprises that have a broad range of eligible beverage containers sold in SA. As a result of the analysis, it was recommended that the application process be simplified and that fees be more equitably spread to reduce fees for smaller operators. The indicative modelling showed that the removal of the application fee for the new entrant beverage producers will result in the ongoing annual cost per container reducing from 4.6 cents to 1.9 cents per container sold for small beverage producers and 0.5 cents to 0.1 cents per container sold for very large beverage producers[53].

53 Hudson Howell 2021, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review - Addendum Report January 2021, https://www.epa.sa.gov.au/files/15057_cds_econanalysis_review_addendum_jan2021.pdf.

Preferred option – Maintain the current refund marking, review the CDS cost recovery system, introduce limited term for approvals and assist smaller to medium beverage producers and suppliers in the transitioning period.

It is proposed to make changes to container approvals and the CDS cost recovery system through methods such as:

- removal of the application fee for container and refund marking approvals
- establishment of a scheme compliance fee payable by the super collectors (or scheme coordinator) to the EPA to recover regulatory costs for compliance and enforcement necessary for the effective administration and oversight of the scheme
- introduction of a limited term for new and retrospective approvals to allow for a periodic review of approvals, which would provide a tool to extend or end container, depot and super collector approvals
- enable the CDS to subsidise the initial scheme preparation costs for new-entrant small to medium beverage suppliers and producers
- continue work with other states and territories that are investigating alignment of cross jurisdictional approval processes.

Container refund marking preferred options are as follows:

- Retain the current refund container markings.
- Work with other states and territories to review container markings to promote CDS branding and circular economy awareness.

Questions

Scheme approvals and scheme cost recovery

3.1 As a beverage producer or supplier, do you support the CDS subsidising new-entrant small to medium beverage suppliers and producers in the form of scheme induction and initial preparation costs? If not, why not?

3.2 As a beverage producer or supplier, do you agree with the application of a scheme compliance fee paid by the super collectors to cost recover the scheme compliance and enforcement costs? If not, why not, and what alternative method of cost recovery could be applied?

3.3 As a beverage producer or supplier, do you support the removal of the container approval application fee and incorporation of these assessment costs as part of the scheme compliance fee? If not, why not?

3.4 If the SA Government introduces a limited term for approvals, do you think a five year term, in line with other state and territory schemes, is a suitable time period? If not, why not, and what would you suggest?

Container refund marking

3.5 As a beverage producer or supplier, super collector or depot operator, do you support the alignment of CDS-eligible beverage container refund markings nationally, and why?

3.6 What potential container branding would you recommend that could be used to promote and raise awareness of the CDS and the circular economy?

Key Issue 4: Container Return Rates

The South Australian community has developed a positive relationship and culture towards the beverage container deposit scheme over its 44-year operation. The 2019-20 return rate for CDS beverage containers in SA was 77%, which corresponds to over 605 million beverage containers being returned for a refund and collected for recycling.

The EPA uses the 'return rate' to determine how the container deposit scheme is performing. Return rates are calculated based on industry data regarding the number of eligible beverage containers sold in SA compared with the number of those containers returned for a refund. Comparison of the performance of schemes across Australia, measured according to return rate, reveals that the mature SA and NT schemes outperform the newly established NSW, QLD and ACT schemes (see Table 5). (The return rate for WA has not been included in the table as its scheme is relatively new and relevant data was not available.) The QLD and WA schemes have proposed container return rate targets of 85% by 2022 and 2023, respectively.

Table 5—Inter-jurisdictional comparison of CDS container return rate

Jurisdiction	Year	Return rate (%)
SA	2019-20	77
NSW	2019	65[54]
QLD	2019[55]	52-55
NT[56]	2019-20	80
ACT	2018-19[57]	50

One of the aims of the SA Government is to increase the container return rate to facilitate the diversion of beverage container materials and other recyclable materials away from the kerbside system, litter stream and landfill. There are a number of factors that influence community behaviour and the extent to which empty beverage containers are returned. This section focuses on deposit value and refund amount, ease of container return and payment of refund as primary influences on empty beverage container return rates.

54 New South Wales Government 2020, *Return and Earn: NSW recycling success story*, https://www.exchangeforchange.com.au/_cache_51b2/content/6531970000008035.pdf.
55 Reloop 2021, *Published articles*, https://www.reloopplatform.org/resources/published-articles/.
56 Northern Territory Environment Protection Authority 2020, *Environment Protection (Beverage Containers and Plastic Bags) Act 2011: Annual report 2019-20*, https://ntepa.nt.gov.au/__data/assets/pdf_file/0004/946093/cds-2019-2020-annual-report.pdf.
57 Australian Capital Territory Government 2019, *ACT container deposit scheme annual statutory report 2018-19*, https://www.exchangeforchange.com.au/_cache_c3c0/content/5957580000044890.pdf.

Key Issue 4.1: Deposit Value and Refund Amount

The deposit places a value on empty beverage containers, which acts as an incentive for individuals to collect and return eligible containers for a refund. The setting of the deposit value is based on the dual objective of providing enough incentive for returns while keeping costs to the beverage manufacturers and suppliers funding the scheme as low as reasonably possible. In South Australia, a 5-cent deposit was established with the introduction of the Beverage Container Act in 1977. In 2008-09, when the deposit value was increased from 5 cents to 10 cents (along with the scope of containers captured) the overall return rate rose significantly and peaked at 81% in 2011-12. However, since then, annual return rates have exhibited a trend downwards to 77% for 2019-20.

The deposit value and refund amount applicable to CDSs operating within all states and territories is currently set at 10 cents. Maintaining alignment of the deposit value across jurisdictions would assist in addressing the issue of refund fraud[58], which negatively impacts on the viability of those schemes. Alignment of the deposit and refund amount would also allows beverage producers and suppliers to have consistent pricing and deposit marking for their products across each state and territory, thereby enabling administrative efficiencies.

Scoping Paper feedback: Deposit value and refund amount

Feedback regarding the Scoping Paper showed that two-thirds of the community and sector stakeholder respondents agreed that the current 10-cent deposit value and refund amount is adequate and supports the objectives of the CDS with its current return rate being adequate. The remaining third responded that an increase is needed to achieve higher return rates and saw a need to maintain the value of the deposit in line with inflation. An increase would result in an increase in the price of beverage products returned to the CDS. All stakeholders agreed that any changes to the deposit value and refund amount should occur across all participating states and territories and the timing of any increase should be harmonised.

Preferred option – Maintain the alignment of the deposit value and refund amount

It is proposed to maintain the alignment of the deposit value and refund amount with the CDSs operating in the other states and territories. Parallel to this review, the Environment Ministers Meeting and Heads of EPAs have agreed that states and territories will collaborate and investigate opportunities for alignment of container scope, deposit amount, and approvals across jurisdictions. In regard to deposit amount, the SA EPA is coordinating a behavioural research study on the relative influences of the deposit value, ease of container return/convenience of return points and the motivation to participate in an effective scheme for container recovery and recycling on the level and nature of community participation in CDSs. This behavioural study will inform decision-making about whether to increase the deposit/refund amount and, if so, the simultaneous timing of any increase across all states and territories.

Questions

4.1.1 Does the current deposit amount of 10 cents influence whether you return empty beverage containers for recycling via CDS depots? If so, how does it influence your participation? If not, why not?

58 The transport of empty beverage containers, sold in one jurisdiction with a lower deposit value, for a refund within a jurisdiction with a higher deposit value.

Key Issue 4.2: Ease of Container Return

To redeem the 10-cent deposit in SA, beverage containers need to be returned to an approved depot[59]. There are currently 132 approved collection depots (1 depot for every 13,404 South Australians) of which the majority (87) are located in non-metropolitan areas.

The convenience and accessibility of the depots for people wanting to return their empty beverage containers is a significant factor in the level of participation of South Australians in the CDS. In addition to offering container return services, many depots accept other recyclables such as cardboard, metals and non-CDS beverage containers, and/or are co-located with other non-recycling related services such as service stations or local stores, making a trip to a depot a more convenient option.

Scoping Paper feedback: Ease of container return

The majority of community and sector stakeholder feedback indicated that it was easy to return empty beverage containers for the refund at the local depot and that this was typically a positive customer experience. Most of those who stated that the return of empty containers for a refund was difficult and inconvenient identified the depot location and/or its operating hours as the cause.

Resource recovery sector stakeholders highlighted that the placement of additional return points must be coordinated and based on an unmet need of a region or local community. It was noted that some regions are well-serviced and that additional return options may be unsustainable and lead to little improvement in container return rates.

CDS return point accessibility

Research commissioned by the EPA and GISA in 2012[60] identified that community members who returned beverage containers to collection depots take, on average, 210 containers every 2-3 months to a depot located within 5 kilometres of their home. Consistent with the community feedback previously discussed, the research identified that the main reasons people don't return empty beverage containers to a collection depot are that they either do not know where a depot is located, or the depot is too far away or operates with inconvenient trading hours.

The 2012 research also identified that containers were placed in the kerbside co-mingled recyclables bin due to convenience. Local government is not directly involved in the CDS, but collects empty containers disposed of in kerbside bins on the rate payer's behalf. Containers placed in the kerbside co-mingled recyclables bin are transported to an MRF, which then sorts and processes the contents of this bin to recover the valuable recyclable materials, including CDS-eligible beverage containers. The eligible CDS beverage container refunds are then redeemed via a CDS depot. This revenue assists in offsetting the processing and sorting costs at the MRF facility.

The NSW, QLD, ACT and WA schemes prescribe customer service standards including minimum standards for the location and distribution of CDS refund points and hours of operation. These standards are required to be met by the scheme coordinators in QLD and WA and by the network operators in NSW and the ACT. Neither the SA nor the NT schemes prescribe minimum service standards, allowing the individual depots to determine the depot to population ratios, depot location and operating hours.

To deliver upon the prescribed customer service standards, scheme coordinators in NSW, the ACT, WA and QLD, and network operators in NSW and the ACT utilise a broader range of return point types than are currently available in SA. These include container return depots (staffed and automated), reverse vending

59 As prescribed under s. 69 of the *Environment Protection Act 1993*.
60 Environment Protection Authority South Australia 2012, *CDL awareness & support research project*, https://www.epa.sa.gov.au/files/4771391_full_cdlrpt.pdf.

machines (RVMs) and mobile (pop-up) donation points. The return point type available is, in part, dependent on local conditions, including access to infrastructure, availability of appropriate sites and planning rules.

The 2019 review of the Northern Territory CDS recommended the establishment of RVMs at retail outlets and precincts and other areas of high public foot traffic[61]. The review also identified the need to promote the establishment of more collection points, particularly in remote communities.

Economic analysis

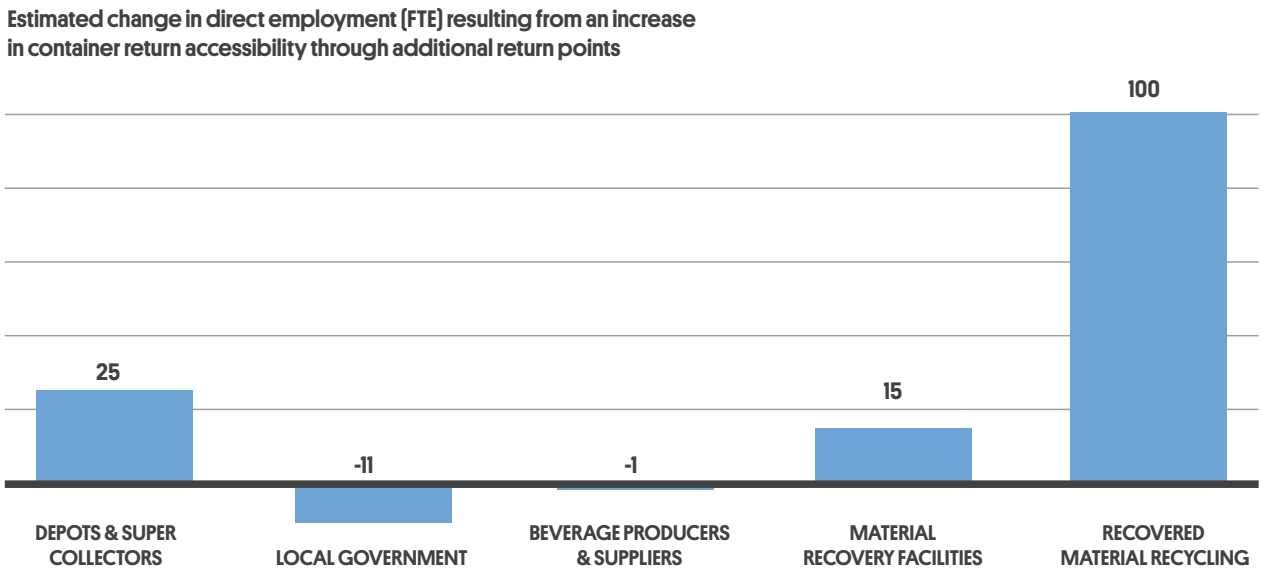
The establishment of additional return points in SA is expected to increase the convenience for consumers returning empty CDS beverage containers for a refund[62]. The increased convenience (reduced costs of time and travel for individuals) is expected to result in the return of an additional 20 million (just over 3%) empty beverage containers equating to a return rate of about 80% and a reduction of 561 tonnes of beverage containers to landfill per year.

These changes are expected to produce significant net benefits to South Australia. Benefit-cost analysis identified an annual net benefit of about $76 million primarily as a result of increased economic activity in the CDS and processing recovered materials into new products. There would also be annual benefits of about $1 million due to reduced emissions of greenhouse gases, landfill disposal and energy usage.

The economic analysis also indicated that there would be a positive net impact on employment with about 336 (FTE) additional jobs (comprising direct and indirect employment) being generated. This would primarily be due to the direct generation of about 100 jobs (FTE) for container material recycling, about 25 jobs (FTE) within the super collectors and depots, 15 (FTE) jobs within MRFs and 207 (FTE) indirect jobs created as a result of the operators in the CDS purchasing goods and services from the rest of the economy and expenditure of wages by people employed in the sector. It is estimated that an increased volume of containers returned to the CDS and diversion from the kerbside system will lead to 11 (FTE) fewer jobs within the local government sector and 1 (FTE) less job within the beverage producer and supplier sector.

Figure 17 shows the change in FTE employment (compared with the 2019-20 FTE baseline) for key CDS stakeholders resulting from an increase in convenience regarding the return of empty beverage containers due to the establishment of additional return points.

Figure 17—Estimated change in direct employment (FTE) from establishment of additional return points



61 Department of Environment and Natural Resources 2018, *Evaluation of the operation of the Northern Territory container deposit scheme*, https://ntepa.nt.gov.au/__data/assets/pdf_file/0011/590798/cds_review_report_ernst_young.pdf.

62 Hudson Howell 2020, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review December 2020, https://www.epa.sa.gov.au/files/15056_cds_econanalysis_review_report_dec2020.pdf.

A key issue is the stimulus for the establishment of additional return points. The extension of the CDS to incorporate additional containers or to increase the recovery of beverage containers are key reforms that could encourage the establishment of additional return points and the required investment. As indicated, incorporating additional container types is expected to result in the annual recovery of about 20 million additional containers via the CDS.

The additional recovery of these containers is reliant upon the convenience and accessibility of return points to enable individuals to return empty CDS beverage containers and participate in the CDS. The quantity and type of additional return points would be determined by a range of commercial factors, including the extent of spare capacity at existing collection depots and investment costs that would, in part, be determined by the choice of types of new return points to be established.

Preferred option – Maximise CDS container return point accessibility

It is proposed to maximise the accessibility of CDS beverage container return points by prescribing customer service standards and linking these to the needs of the local community through:

- seeking to amend the *Environment Protection Act 1993* to allow a broader range of return point types in addition to local depots
- coordination, promotion and incentivising depots and other return point providers to introduce a broader range of return point options
- requiring the scheme coordinator(s) to incentivise depots and other return point operators to establish return point customer service standards
- establishing a mechanism for governments to set container return performance targets, including for remote communities, to provide accessible return points based on community needs
- requiring the scheme coordinator(s), in collaboration with depots, to fund and deliver CDS awareness initiatives that seek to improve community involvement in, and understanding of, container return opportunities within the local community.

Questions

4.2.1 If the existing depots were supplemented with new return points, which types of location/s would you find the easiest to return eligible beverage containers to? For example:

- supermarket or shopping centre
- local retail outlet, for example, newsagency or convenience store
- entertainment and sporting events
- waste transfer station
- home pick-up service (for fee).

4.2.2 Would you use self-service return points (for example, reverse vending machines or 'drop and go' stations) located in one of the above locations to divert more of your containers from the kerbside waste system to the CDS?

4.2.3 Will promotion and consistent branding of return points, including information about locations, operating hours and beverage container return requirements, assist you in returning eligible containers and accessing the refund?

4.2.4 As a community organisation such as a charity, school or sports club, how do you or would you like to participate in, and benefit from, the CDS? For example:

- by building and operating refund collection points yourself
- by partnering and hosting refund collection points with approved CDS depots
- by carrying out a collection of containers to take to a local collection point
- by registering with the scheme as a nominated donation partner that is eligible to receive electronic funds donations through automated reverse vending machines
- through mobile or 'pop-up' refund points as part of a fundraising drive.

Scheme coordinators and depot operators

4.2.5 The handling fee payable to depots and return point operators is one lever used to influence accessibility and servicing of return points within a community. What other levers or incentives could be used?

4.2.6 What would be the best mechanism to ensure the CDS achieves return rate targets and accountability standards for metropolitan, non-metropolitan and remote areas of the state?

Key Issue 4.3: Payment of Refund Method

The CDS requires depot operators to provide a refund for each eligible CDS container that is returned to the depot. Payment of the refund supports the incentive for individuals and groups to collect and return eligible containers. Current refund options available in SA are prescribed by regulation and are limited to cash or credit note redeemable for cash.

The SA Government has made permanent the temporary amendment to section 71A of the *Environment Protection Act 1993* to provide the ongoing option for the refund of CDS eligible containers to be paid by way of EFT to a bank account or credit card account. The amendment has been passed by Parliament as part of legislation in response to the Covid-19 pandemic and promotes general community safety in the way that customers seek refund for containers. Whilst the majority of individuals who return eligible beverage containers prefer a cash refund this change removes the legislative obstacle to pay refunds by way of EFT and reflects today's increasingly cashless society.

Feedback on payment of refund method

The Scoping Paper sought views on the payment method for the container refunds and whether there is another way to pay refunds beyond the current cash or credit note options. The majority of community and sector stakeholders responded that refunds in the form of cash and credit notes should remain, but that alternative non-cash refund methods should be enabled within the CDS.

A common view was that the methods of refund payments should respect consumer preferences and improve customer experience. The incorporation of additional refund methods may increase administrative effort, infrastructure requirements and operating costs for depot operators, thereby creating a disadvantage for smaller depots.

Refund payment options

Payment methods for the refund of the deposit for eligible beverage containers across all other jurisdictions currently operating a CDS include both cash and non-cash options. All state and territory schemes enable payment of refunds through cash payments and EFT (which SA recently introduced in response to COVID-19[63]).

The NSW, QLD, ACT and WA schemes enable customers to pay their refund forward via donations to third parties, including a charity or community group of their choice. Since the beginning of the NSW scheme in 2017, over $1 million in donations has been raised and shared amongst charities, schools, and community and sporting groups[64]. The majority of donations by individuals returning containers to a depot or return point linked to a donation partner are underpinned by EFT linked directly to a nominated bank account.

63 *Environment Protection Act 1993*
64 New South Wales Government 2020, *Return and Earn: NSW recycling success story*, https://www.exchangeforchange.com.au/_cache_51b2/content/6531970000008035.pdf.

The NSW and QLD schemes also allow refund payments via E-Voucher or points towards a loyalty program that are redeemable for cash or can be used for purchases at supermarkets. The method of refund payment is linked to the return point options available within each jurisdictional scheme. Cash refunds are redeemed from staffed return points, whilst non-cash refunds are redeemed primarily through self-service reverse vending machines, 'drop and go' depots and mobile donation points.

Preferred option – Incorporation of non-cash refund payments

It is proposed to establish non-cash (EFT) refund payment methods in addition to the cash option at CDS Depots and return points in SA. The availability of cash and non-cash options would support customer preferences and enable the ability to donate refunds to EPA-authorised donation partners such as charities, not-for-profits and community groups.

Questions

General questions

4.3.1 How would you like to receive your refunds for containers?

- cash
- electronic funds transfer (EFT) / online payment
- direct electronic funds transfer to a donation partner of your choice
- vouchers (for example, for use at local stores)
- all refund options as above.

4.3.2 Is the addition of non-cash refund methods likely to increase the level of convenience for you when returning empty beverage containers to a CDS depot?

For depot owners

4.3.3 Will you need to change the operation of your business to provide for non-cash refund methods such as EFT? If yes,

4.3.3.a What do you expect to be the nature and cost of providing non-cash refund methods?

4.3.3.b What would this look like at your depot and how long would this take (for example, 1 year or less, up to 2 years)?

4.3.4 Do you anticipate that a partnership with at least one donation partner could support your local community and increase the customer base at your depot?

Key Issue 5: Governance Arrangements

Governance is the way in which a system is structured and its rules of operation, including administration and business relationships. It defines roles that support the system, responsibilities for meeting expenses and requirements for auditing, reporting, compliance and enforcement. Industry led product stewardship schemes such as the CDS benefit from governance arrangements that set out clear roles and responsibilities of both government and industry that detail performance requirements, targets and expectations, accountability frameworks, auditing and reporting requirements, and funding arrangements.

The operation of the SA CDS is undertaken by the super collectors and depot operators in accordance with the requirements of the *Environment Protection Act 1993* and *Environment Protection Regulations 2009*. The current roles of the main groups involved in the SA CDS and governance arrangements are detailed in this section and depicted in Figures 18 and 19.

Figure 18—Main groups involved in the South Australian CDS and their roles

EPA

The EPA, on behalf of the SA Government, oversees the regulation of the CDS in accordance with requirements of the *Environment Protection Act 1993* and Environment Protection Regulations 2009. A person must not operate a collection depot or carry on business as a super collector without the approval of the EPA. The EPA also provides policy advice to the government on the scheme, including its contribution to the state's environmental, and waste and resource recovery objectives.

Super collectors

Super collectors, funded through waste management arrangements from participating beverage producers and suppliers, act as scheme coordinators. Super collectors also use waste management arrangements to fund CDS depots for both the deposit refunds and 'handling fee' costs associated with the return of empty CDS beverage containers. They also organise for the collected metal (aluminium), liquid paperboard and plastic container materials to be onsold to recycling markets.

Depots

Depots receive and sort empty CDS beverage containers and provide a refund to consumers and third parties who return the containers. CDS depots have waste management arrangements in place with one or more super collectors for the payment of refunds and handling costs and for the return of empty beverage containers for sale to recycling markets. They also organise for collected and colour-sorted glass to be sold to recycling markets.

Consumers and third parties

Consumers and third parties who return CDS containers to a depot receive the 10-cent refund for each eligible container returned.

Materials recovery facilities (MRFs)

MRFs have contracts with, and provide a service to, local governments and other organisations to accept and sort recyclable materials. The CDS-based income helps MRFs to fund the handling, sorting and management costs of operating the facility.

SA CONTAINER DEPOSIT SCHEME

Current CDS governance overview

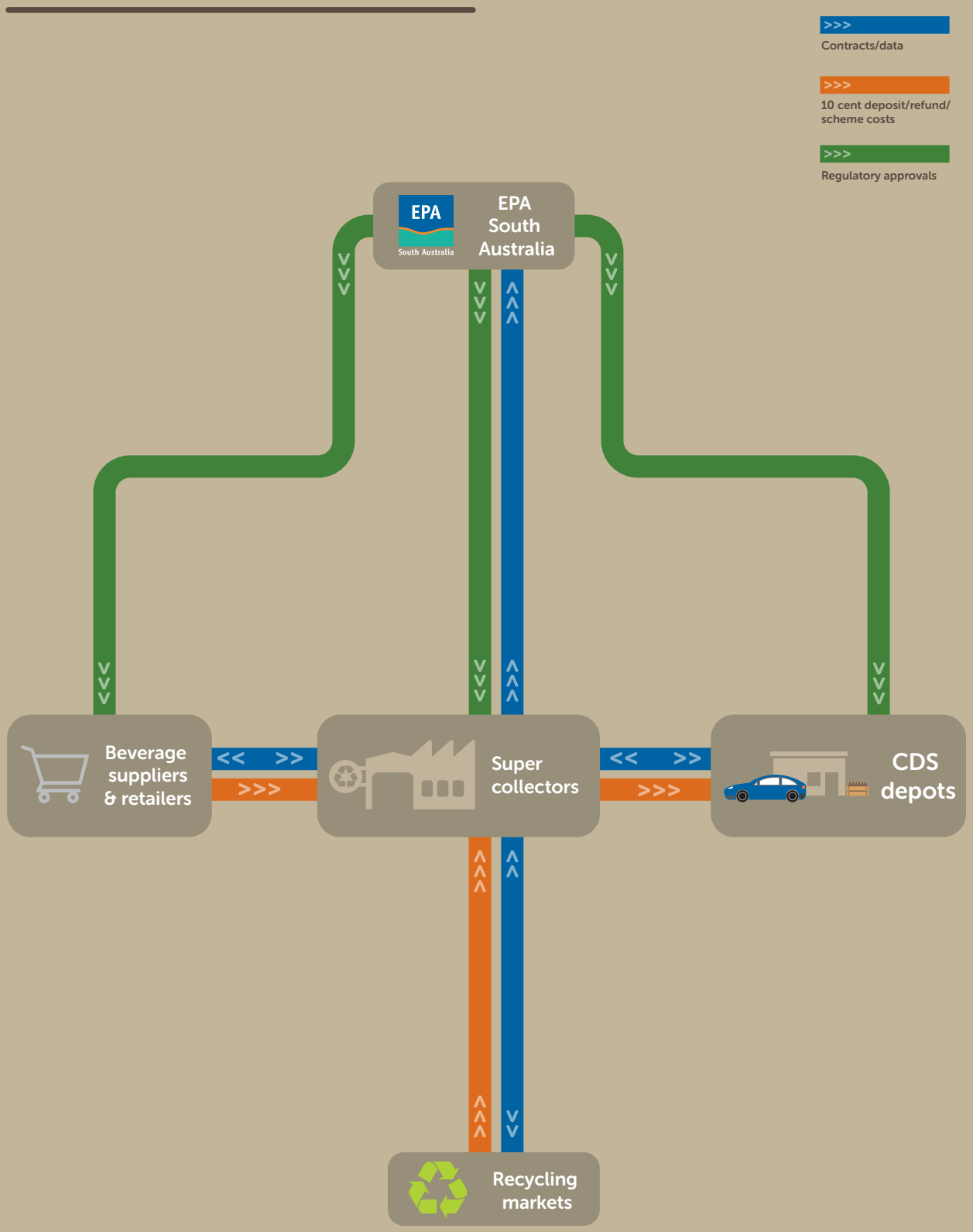


Figure 19—Current CDS governance arrangements

Scoping Paper feedback: Governance

The general community did not express specific views on the governance arrangements. However, sector stakeholders indicated that a review of the governance arrangements should seek to:

- strengthen the accountability and accuracy of reporting to more equitably recover scheme costs and fund container collection, sorting and return
- address payment disputes between beverage producers, suppliers, super collectors and depots, in particular through a transition away from container weight-to-number conversion practices to container count-based reporting methods
- introduce independent, transparent and standardised scheme cost-setting practices, including publication of scheme costs per container material
- standardise container approvals and registration across jurisdictions using a single portal that promotes national alignment
- address the current practice of depots being required to have a waste management arrangement with more than one super collector and the requirement of container sorting according to brand
- better-recognise the role of charity and community groups.

CDS governance across Australia

CDS governance arrangements across Australia are subject to the regulatory requirements of each state and territory. The CDSs in SA and the NT are administered by a multiple scheme coordinator 'super collector' model, where more than one super collector has the responsibility to administer and coordinate the scheme. By comparison, the NSW, ACT, QLD and WA schemes are administered by a single scheme coordinator. The NSW and ACT schemes also utilise a network operator to run the network of return points.

Scheme governance and coordination

Scheme coordination is required to ensure that the different scheme participants work together effectively to ensure that empty containers are collected, sorted and transported to a centralised collection centre and, from there, recycled. The coordination of beverage producers and suppliers and the network of container refund points is undertaken by approved super collectors (in SA and the NT) or scheme coordinators (in WA, NSW and the ACT) or the product responsibility organisation (in QLD). The super collectors, scheme coordinators and the product responsibility organisation are all approved, or appointed by, the relevant minister or government department. The appointed coordinator is then subject to a series of approval conditions that relate to achieving the objectives of the respective schemes.

In SA and the NT, waste management arrangements between super collectors and depots are used to coordinate the collection, sorting and recovery of empty beverage containers and the transfer of the required refunds and handling fees. The NT CDS includes an additional requirement for the establishment of a coordinator arrangement to facilitate the recovery of containers and transfer of the funds between the super collectors. This enables depots to have a single arrangement with a single super collector of their choosing, and retains the ability of beverage producers and manufacturers to fund the scheme through a super collector of their choosing. The QLD, NSW, ACT and WA schemes employ a single scheme coordinator resulting in one waste management arrangement with each depot.

Scheme coordinators in NSW, ACT, QLD and WA are provided with oversight from governing boards who are responsible for the overall governance and strategic direction of the scheme coordinator organisation. The NSW and ACT scheme coordinators each have a board of directors appointed by shareholders[65] and two independent directors. The composition of board membership within QLD and WA is approved by the relevant minister who can refuse membership if the minister is satisfied that the person:

- is not a fit and proper person
- is biased or could be perceived to be biased in favour or against any scheme participant
- does not have adequate relevant experience
- would not support the achievement of the objects of the scheme.

These legislated requirements enable the relevant minister to establish a governing board that is independent of both the beverage and waste industries. The appointed scheme coordinators of the QLD and WA schemes are required to maintain a board that has the following composition (differences are indicated below):

- a Chair who is approved by the minister and is a director, independent of the beverage industry and independent of the waste industry (WA only)
- at least 1 director who is an executive officer, employee or business associate of a minor beverage supplier or an association that represents minor beverage suppliers
- at least 1 director who is an executive officer, employee or business associate of a major beverage supplier
- at least 1 director who is independent of the beverage industry and has experience in the recycling and waste industry (including, but not limited to, experience in waste recovery, processing, transport or logistics) (WA only)
- in addition to the Chair, at least 1 other director, who represents the interests of the community, is independent of the beverage industry, is independent of the waste industry and is approved by the minister
- at least 2 other directors who have legal or financial qualifications and experience, independent of the beverage industry, and independent of the waste industry (WA only).

The independent oversight of the scheme supported by a centralised scheme governance enables an increased level of transparency and accountability within the CDS. Independent oversight of scheme costs, performance targets such as container return rate, customer service and return point accessibility provide community confidence in the scheme and support the achievement of the scheme objectives. A centralised governance arrangement that incorporates a centralised IT platform enables transparent auditing and reporting against the schemes performance criteria and enhances the ability for an e-based container and financial tracking system as the pillar of the scheme.

Weight-based versus container-count audit and reporting methods

In SA, super collectors coordinate the movement of funds from the beverage producer and suppliers through the CDS to the depots, based upon the conversion of container material weight to container number. This weight-based method is also used to calculate and report on the number of eligible containers returned to determine the performance of the scheme.

The weight-based method of payment has been the subject of disputes, particularly as beverage containers have become lighter over time and with an increase in variations in container size. The container weight-to-number conversion ratios are complex to determine accurately and rely on periodic audits to establish the number of containers per tonne of plastics, metal (aluminium), glass or LPB material. Variations in the number of containers per tonne of material can result in overpayment or underpayment of scheme costs by the beverage producer and suppliers and the deposit and handling fee to depots.

65 Asahi Holdings (Australia) Pty Ltd, Coca-Cola Amatil (Aust) Pty Ltd, Coopers Brewery Limited, CUB Pty Ltd and Lion Pty Ltd).

The NSW, QLD, WA and ACT schemes have adopted container counting systems to facilitate the administration of funds, reporting and auditing of returned beverage containers. The use of container count-based mechanisms minimises the potential for disputes between beverage suppliers, scheme coordinators and return point operators by supporting the verification of container sales and returns and the fair movement of funds within the scheme.

A centralised IT platform, incorporating the registration, sale and return of containers, supports the auditing and reporting requirements of the NSW, ACT, QLD and WA schemes. The ability to maintain records and report on the refund amounts paid and containers collected, sorted and transported for recycling provides a level of transparency and assurance, which is currently not available in SA. This lack of transparency is a common area of dispute between SA super collectors, depot operators and beverage producers and suppliers.

Efficient waste management arrangements

The SA CDS utilises waste management arrangements for the collection, sorting and aggregation of empty beverage containers and their reuse, recycling or disposal. Each super collector has a waste management arrangement (contract) with each depot, resulting in depots having more than one waste management arrangement. Super collectors make use of arrangements with depots to coordinate the collection, sorting and recovery of empty beverage containers and the transfer of the required refunds and handling fees.

In addition to the sorting of containers by glass, plastic, liquid paperboard and metal (aluminium) container types, aluminium cans are required to be further sorted by brand. The brand-sorted aluminium containers are stored and transported separately to the relevant super collectors and then sold for recycling into new containers (regardless of branding). This multiple handling is a point of inefficiency and cost for depot operators and, therefore, the scheme. The employment of a single scheme coordinator in the NSW, ACT, WA and QLD schemes has addressed both the multiple contract and sorting by brand issues.

The NT legislation requires that supplier arrangements cannot specify that the collection depots must sort returned containers according to brand. It also requires that the arrangement cannot specify that coordinators amalgamate containers by the beverage producer or supplier they represent. The NT scheme employs a coordinator arrangement between super collectors. Super collectors are required to come to an arrangement in order to allow any one super collector to accept all containers belonging to all other super collectors. This enables depots to return all empty beverage containers to one super collector using one waste management arrangement regardless of container branding or material type.

The ability of SA depots to have a waste management arrangement with a single super collector and the removal of the need to sort the returned beverage containers according to brand will address a frequent dispute raised by depot operators in SA and improve the efficiency of depot operations.

Performance reporting and scheme auditing

Periodic reporting against set objectives and targets enables transparency and monitoring of scheme performance. Schemes in all jurisdictions require quarterly and annual reporting to the relevant minister on behalf of government. The NSW, ACT, QLD and WA scheme performance measures are set by government within the legislation. Scheme performance targets are either legislated or incorporated into the relevant scheme coordinator or network operator arrangements approved by the relevant minister.

The scheme coordinator and network operator are then accountable for achieving the performance targets. The publication of data on scheme costs, return point network operation and container return rate for each container material is used to monitor the scheme against the performance targets.

This level of accountability and transparency is not available in SA or the NT because the current arrangements between super collectors, depots and beverage manufacturers are commercial in confidence. In contrast, the reporting requirements in other jurisdictions are the responsibility of the scheme coordinator who must prepare and deliver to the relevant minister an annual report on the performance of the scheme and any other matter prescribed by the Regulations.

The reporting requirements of the SA CDS are incorporated as conditions of approval within the super collector authorisation. Super collectors are required to report to the SA EPA, on annual basis, the overall return rate of containers sold in SA and the return rate of glass, plastic (HDPE and PET), metal (aluminium) and liquid paperboard. To verify the return rate, the reporting includes the number of containers sold in SA, the number of containers returned and the weight of containers returned by material type.

Common reporting requirements in the NSW, ACT, QLD and WA schemes include:

- financial statements that have been audited by an independent auditor
- total operating cost and revenue breakdown
- average handling fee rate per region payable to refund operators
- numbers or weights of containers sold and collected, and destination of each container material type
- number of containers for which refund amounts have been paid by return points, by region and by material type
- whether the network of depots and return points in a community meets the reasonable needs of that community
- number and type of disputes involving scheme participants, actions taken in response to each dispute and the outcomes of the dispute resolution process
- number and type of complaints received about the scheme, actions taken in response to each complaint and the outcomes of each action.

This range of reporting and monitoring is not currently required of the SA super collectors or depots. Stronger and more robust reporting and monitoring enables scheme participants to be held accountable for a broader range of performance measures related to their respective roles and responsibilities in achieving the objectives of the scheme. In QLD and WA, the minister may give the scheme coordinator a written direction about the performance of its functions or the exercise of its powers. The coordinator must comply with the direction, and failure to do so may result in a civil penalty (in WA) or may be grounds for suspending or cancelling a company's appointment as a scheme coordinator.

Donations to not-for-profit organisations, charities and community groups

CDSs across Australia have been used by charities, community groups, not-for-profit organisations and local sporting clubs to raise funds to help pay for the services they provide. In SA, these groups typically receive donations in the form of empty beverage containers, which are then returned to depots for a refund that they retain. Larger community organisations in SA and the NT have established and operate depots, or have partnered with an established depot, to receive donated beverage containers, as follows:

- In 2020, Scouts SA processed 105 million containers through the operation of 12 depots[66].
- The 'Tinnies for Vinnies[67]' initiative commenced in 2020 as a partnership between St Vincent de Paul Society, Recyclers SA and Scrap Hotline. Customers who visit participating Recyclers SA/Scrap Hotline recycling depots are able to drop some or all of their refundable cans and bottles into specially marked 'Tinnies for Vinnies' bins on site. The depots will then donate the cash equivalent of the refund of those containers to the St Vincent de Paul Society.

Charities, community groups and not-for-profit organisations in NSW, ACT, QLD and WA are able to raise funds and receive donations through the donation of eligible containers or the electronic transfer of refunds to a nominated account. These groups can benefit from the scheme by one of the following:

- redeeming donated eligible containers at an approved collection point

66 Scouts SA 2020, *Scouts SA Annual Report*, https://sa.scouts.com.au/magill/2021/06/24/2020-annual-report/.
67 St Vincent de Paul Society 2021, *Recyclers SA/Scrap Hotline*, https://www.vinnies.org.au/page/Get_Involved/Become_a_corporate_partner/State_Partners/SA/Recyclers_SA_Scrap_Hotline/.

- registering to become a collection point operator to exchange eligible drink containers for the 10-cent refund
- registering to become a donation partner integrated with a scheme ID or account used to identify donation partners and enable refunds to be donated directly into a nominated charity or community group fundraising account.

Expansion of the range of donation pathways available to SA charities, not-for-profit organisations, community groups and sporting clubs has the potential to simplify and increase the range of opportunities for donation by individuals to a group of their choice.

Economic analysis

Amendment to the current CDS governance arrangements via improved resolution of disputes, enabling depot operators to contract with a single super collector or transition to a single scheme coordinator is estimated to result in an annual net benefit of $50 million, $54 million and $56 million respectively to the SA community[68]. These changes are expected to decrease scheme administration costs, in other words, time and effort required by depot operators and super collectors to interact, address disputes and negotiate new waste arrangements. These reduced scheme costs are expected to be passed on by beverage producers and suppliers to customers through reduced beverage product retail prices.

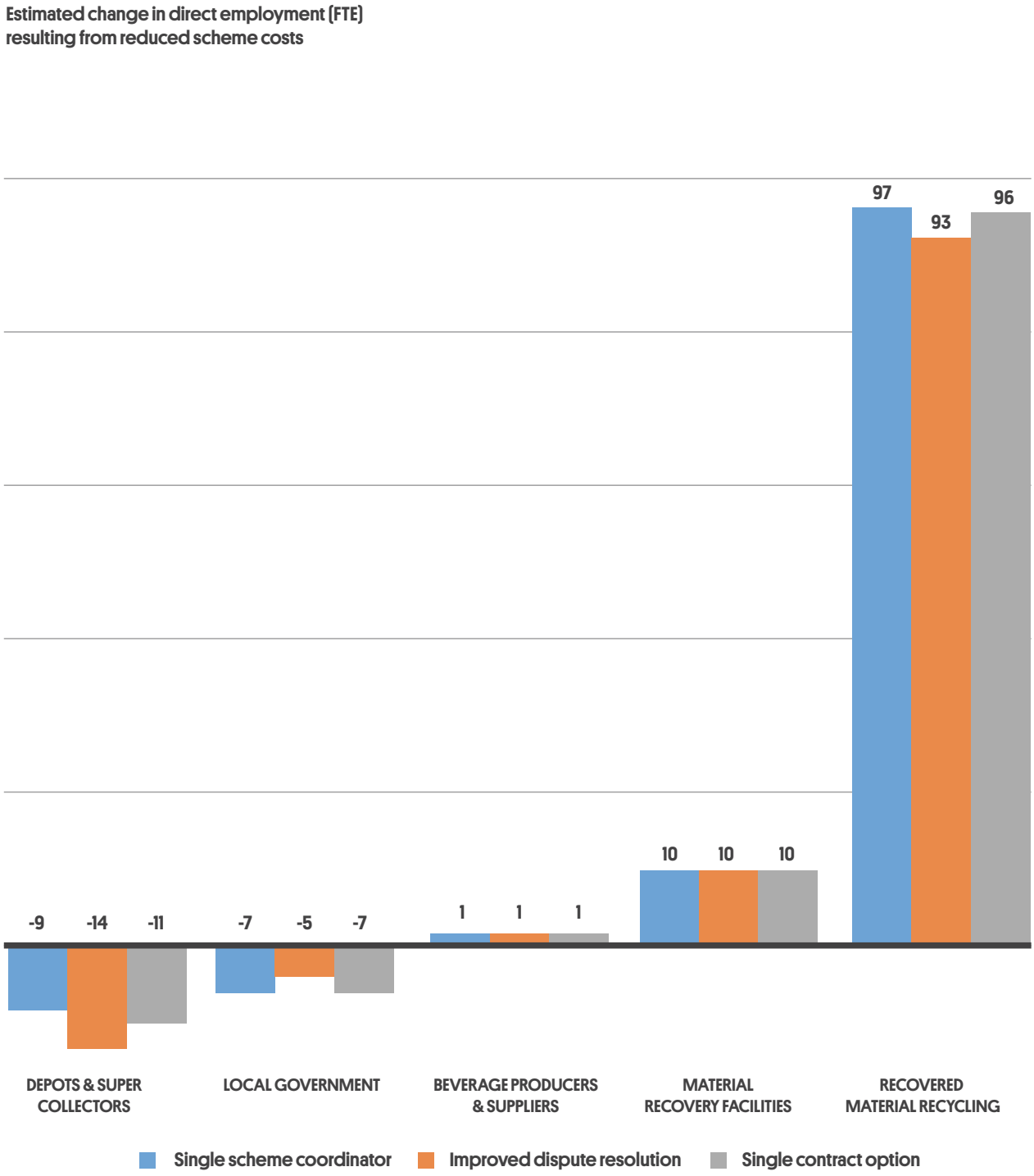
Reduced administrative costs for both super collectors and depots linked to improved dispute resolution is estimated to result in the return of an additional 5 million empty beverage containers to depots, an estimated additional 220 (FTE) jobs (comprising direct and indirect employment) within SA and a reduction in the disposal of beverage containers to landfill by about 362 tonnes per year. Enabling depot operators to contract with a single super collector is estimated to result in the return of an additional 12 million beverage containers through the CDS, an estimated 232 (FTE) jobs (comprising direct and indirect) within SA and a reduction in the annual disposal of beverage containers to landfill by about 461 tonnes.

A transition in the coordination of the scheme from the current multiple scheme coordinators to a single scheme coordinator is expected to decrease coordination costs of the scheme through increased economies of scale, with savings passed on to both the beverage producers and suppliers, and the depots. The scheme coordination savings are estimated to result in an additional 14 million empty beverage containers returned to depots, and create an estimated additional 240 (FTE) jobs (comprising direct and indirect employment) within SA and reduce the annual disposal of beverage containers to landfill by about 495 tonnes. The recovery of additional high-value beverage container materials would also result in an estimated annual benefit of about $1 million due to reduced emissions of greenhouse gasses as a result of reduced landfill disposal volumes and energy usage from the recycling of these resources.

Figure 20 shows the change in direct (FTE) employment (compared with the 2019-20 FTE baseline) for key CDS stakeholders resulting from a decrease in scheme costs as a result of improvements to dispute resolution, enabling depot operators to contract with a single super collector or transition to a single scheme coordinator.

68 Hudson Howell 2020, South Australian Environment Protection Authority, Container Deposit Scheme Economic Analysis Review December 2020, https://www.epa.sa.gov.au/files/15056_cds_econanalysis_review_report_dec2020.pdf.

Figure 20—Estimated change in direct employment (FTE) resulting from reduced scheme costs



The expected benefits resulting from an amendment to the current CDS governance arrangements via improved resolution of disputes, enabling depot operators to contract with a single super collector or transition to a single scheme coordinator have been assessed independently of each other. They could, however, be introduced as a combination of reforms leading to cost reductions and flow-on impacts on beverage product annual sales, return of beverage containers to the CDS, recycling of beverage container materials, reduced landfill disposal volumes and reduced emissions of greenhouse gasses.

Preferred option – Modernise the CDS governance to increase transparency and accountability

It is proposed to amend the CDS governance arrangements (see Figure 21) to increase transparency and accountability of the CDS and centralise scheme governance by establishing independent oversight of key CDS elements through

Option 1: an independent governing body appointed by the Minister for Environment and Water in consultation with relevant industry stakeholders to oversee the existing multiple super collector system, or

Option 2: a single independent not-for-profit scheme coordinator appointed by the Minister for Environment and Water in consultation with relevant industry stakeholders.

Oversight of the following elements are required

- scheme costs per container per material (approved by the Minister)
- performance targets (approved by the Minister), such as return rate, community awareness and education, and customer service standards including
  - geographical distribution of return points
  - operating hours
  - return point types based on community need
- container recovery from remote communities, including Aboriginal communities
- scheme participant dispute resolution and response to scheme complaints
- scheme performance, including container returns and sales by material type and by region, and the destination of sold materials

- requiring container returns to be measured by container count, not weight as currently occurs, to enable better transparency and fairness, and remove the primary cause of many disputes in the SA CDS
- considering the creation of scale/volume thresholds that will require a move to more e-based counting and sorting systems, whilst maintaining manual sorting (and recording counts through an online approach) for smaller and regional depots
- establishing a centralised IT system that supports a transition to an e-based container and financial tracking system throughout the CDS,
- modifying the reporting and auditing framework and employing container counting systems linked to scheme costs, container returns and container material fate
- establishing independent oversight and setting of scheme costs, including a scheme compliance fee (payable to the SA Government/EPA by the super collectors (for option 1) or the independent scheme coordinator (for option 2) in place of the current container approval application fee
- improving waste management arrangements including container sorting according to brand dispute resolution processes between the current super collectors, beverage producers and suppliers, and depots
- collaborating with interstate CDSs to build an IT system able to interface with, or be a part of, a national container approval process and system portal.

Centralised and independent scheme governance

The SA Government is planning on centralising scheme governance by establishing an independent governing body. Two options for scheme coordination are proposed (see Table 6). Option 1 retains the for-profit multiple super collector model and incorporates an independent body appointed by the Minister for Environment and Water on behalf of the SA Government to direct and oversee the scheme's performance. Option 2 replaces the super collectors with a single independent not-for-profit scheme coordinator appointed by the Minister for Environment and Water on behalf of the SA Government (similar to WA and QLD schemes).

The proposed detailed requirements for these options are presented below. The requirements will apply to each option unless otherwise indicated.

1. The **Minister for Environment and Water** will retain an independent governing body or independent not-for-profit scheme coordinator comprised of the following governing body consisting of members appointed by the Minister for Environment and Water

- a Chair who is a director, independent of the beverage industry and independent of the waste industry, who is nominated by the Minister for Environment and Water
- at least 1 director who is an executive, employee or business associate of a producer or supplier of alcoholic beverages or an association that represents producers and suppliers of alcoholic beverages
- at least 1 director who is an executive, employee or business associate of a producer or supplier of non-alcoholic beverages or an association that represents producers and suppliers of non-alcoholic beverages
- at least 2 directors who are independent of the beverage industry and have experience in the recycling and waste industry (including, but not limited to, experience in waste recovery, processing, transport or logistics)
- at least 1 director who is nominated by the Minister for Environment and Water
- at least 2 other directors who have legal or financial qualifications and experience, are independent of the beverage industry and are independent of the waste industry.

2. The Minister for Environment and Water, informed by the EPA and the independent governing body, will approve CDS performance objectives and measures, including

- return rate targets
- scheme costs (including scheme administration, compliance, recovered container transportation and handling fees)
- governance agreements and accountability frameworks.

3. The **independent governing body** will govern the super collectors (option 1) and be accountable to the Minister for Environment and Water. The **independent not-for-profit scheme coordinator board** will govern the scheme coordinator (option 2) and be accountable to the Minister for Environment and Water. The function of the governance arrangement, approved by the Minister, is to develop a framework of rules and relationships, systems and processes by which the scheme will be directed, controlled and held to account. The independent body or independent not-for-profit scheme coordinator will be required to

- develop a strategic plan for the scheme for the approval of the Minister
- develop a governance plan for the approval of the Minister
- justify to the Minister costs (including scheme administration, compliance and handling fees) payable under the scheme. The Minister may seek an independent justification of the fees proposed
- raise and maintain public awareness of the scheme, including how the scheme operates and locations and customer service standards of refund points
- publish and provide an annual report to the Minister that includes the performance of the independent body or scheme coordinator against the CDS performance objectives and measures set by the Minister
- not act unfairly or unreasonably to discriminate in favour of or against any particular scheme participant when negotiating, entering into, performing obligations under or enforcing any scheme management arrangements.

4. The independent body or independent not-for-profit scheme coordinator board must provide the Minister with an annual report that includes, for the reporting period

- financial statements that have been audited by an independent auditor (option 2 only)
- total operating cost and revenue breakdown (option 2 only)
- the handling fee rate per region payable to refund operators
- current and historical figures showing total numbers of containers sold, collected for which refund amounts have been paid by depots and return points (by region) and total weight of CDS collected and supplied for recycling by destination (overseas, interstate or local) in SA by each container material type
- economic viability of each depot and return point, including type of return points and proximity to other return points
- whether the network of depots and return points in a community (including remote communities) meets the reasonable needs of that community
- total number and type of disputes within the CDS involving super collectors (for option 1) or scheme coordinator (for option 2), depots, return point operators and donation partners, actions taken in response to each dispute and the outcomes of the dispute resolution process
- total number and type of complaints received about the scheme, actions taken in response to each complaint and the outcomes of each action.

5. **Beverage producers and suppliers** will continue to fund the scheme and only sell eligible beverage containers in SA once approved by the EPA and have a current waste management arrangement in place. It is proposed to require the registration of beverage containers (and barcodes if available) as a condition of container approval to enable the barcode to be scanned (or otherwise recognised) when an empty container is returned for a refund at an approved depot or return point. Beverage producers and suppliers must utilise a centralised IT platform for auditing and reporting purposes in accordance with the supplier arrangement approved by the super collector or scheme coordinator.

6. The **super collectors** or **independent not-for-profit scheme coordinator** must endeavour to achieve the scheme's objectives and targets as set by the Minister. The super collectors will be accountable to the independent body (option 1) and the independent scheme coordinator accountable to the Minister. The scheme's coordination arrangement must include performance targets that ensure arrangements are in place to

- coordinate the collection, recovery and reuse or recycling of empty eligible beverage containers
- to coordinate the receipt and payment of funds in accordance with supplier, coordinator and waste management arrangements
- coordinate the centralised IT platform that supports container counting and is able to achieve reporting and auditing requirements
- enable a single waste management arrangement per depot or return point for the payment of funds and eliminate container sorting by brand
- implement a CDS awareness and community engagement strategy as approved by the independent body
- verify that all collected and returned containers are reused and recycled
- verify the number of containers that have been returned to refund points
- verify the amounts received or paid under a scheme arrangement
- identify and report to the EPA persons suspected of selling eligible containers without a current waste management arrangement, refund marking or container approval.

The super collectors or scheme coordinator must also provide a quarterly report to the EPA that includes, for the reporting period, the

- number of containers sold by material type
- number of containers for which refund amounts have been paid by depots and return points, by region and by material type
- total weight of CDS material types collected and supplied for recycling
- total number and type of disputes involving the super collectors (for option 1) or scheme coordinator (for option 2), depots, return point operators and donation partners, actions taken in response to each dispute and the outcomes of the dispute resolution process.

7. The depot and return point operators must endeavour to achieve the objectives of the scheme in relation to container returns and refund payments. The main function of the depot or return point operator is to operate in accordance with customer service standard approved by the independent body and waste management arrangement approved by at least one super collector (option 1) or the customer services standard and the waste management arrangement approved by the independent scheme coordinator (option 2), including

- operating in accordance with the customer service standards as approved by the independent body
- accepting and paying a refund for empty eligible beverage containers when a barcode is scanned (or approved container otherwise recognised)
- paying the refund amount in cash, EFT or other manner as prescribed by regulation
- sorting and counting returned containers according to material type in accordance with the waste management arrangement
- utilising the centralised IT platform and employing container counting to verify the number of containers that have been returned to refund points, unless otherwise outlined in the approved waste management arrangement
- identifying and reporting to the EPA persons suspected of returning eligible containers for a refund without a current waste management arrangement or container approval
- establishing an arrangement with one or more authorised donation partners to enable the direct payment of refunds to a nominated fundraising account upon the request of individuals for returned CDS-eligible beverage containers.

8. **Donation partners** must apply and gain approval from the EPA prior to establishing a donation arrangement with a collection depot or return point operator for the receipt of donated funds, prior to permitting refunds to be donated directly into a nominated charity or community group fundraising account.

Questions

Scheme oversight

5.1 Do you think the SA Government should appoint an independent governing body for the existing multiple super collector system or independent not-for-profit scheme coordinator who will have oversight of the scheme, and make recommendations on the performance targets, container return rate targets, scheme costs and the reporting and accountability framework to the SA Government?

5.1.a If so, do you think the proposed governing body membership is appropriate? If not, what would you suggest?

Scheme auditing and reporting

5.2 It is proposed to require registration of beverage containers (and barcodes if available) within a centralised IT platform as a condition of container approval to enable tracking and counting of containers. If a barcode is not used, what alternative tracking and counting methods would you suggest and where are they in use?

5.3 It is proposed that beverage producers and suppliers, depots, and super collectors or the single scheme coordinator must utilise a centralised IT platform for auditing and reporting purposes in accordance with the supplier arrangement. Do you agree with this? If not, why not?

Scheme coordination

5.4 Which of the scheme coordinator options (option 1: multiple super collectors or option 2: single independent not-for-profit scheme coordinator) do you prefer and why?

- **5.4.a** What do you see as the risks and benefits of each of these scheme coordination options?
- **5.4.b** What would be the impacts of the different options on your business?
- **5.4.c** If option 1 was the model chosen to coordinate the scheme, how should accountability for meeting scheme performance indicators, such as return rate targets, be shared amongst the super collectors?

5.5 The establishment of a single waste management arrangement between depots and at least one super collector (for option 1) or single independent scheme coordinator (for option 2) is proposed to enable depots to contract with a single super collector and remove sorting by container brand.

- **5.5.a** Do you agree with this change as a way of addressing these concerns? If not, why not? If not, what alternative approach would you suggest?

5.6 The weight-based conversion of container material weight to container number has been the subject of disputes over containers returned. It is proposed to transition to a container-count methodology to report on container return rates and payment for returns.

- **5.6.a** Do you foresee any issues with this method of payment for returned containers?
- **5.6.b** How would smaller depots with low container return volumes achieve container counting?

5.7 Do you think the CDS scheme should establish geographical performance targets, including distribution of container return points per region and return rates for regional and remote areas?

SA CONTAINER DEPOSIT SCHEME

Proposed governance structure with new single scheme coordinator or multiple super collectors

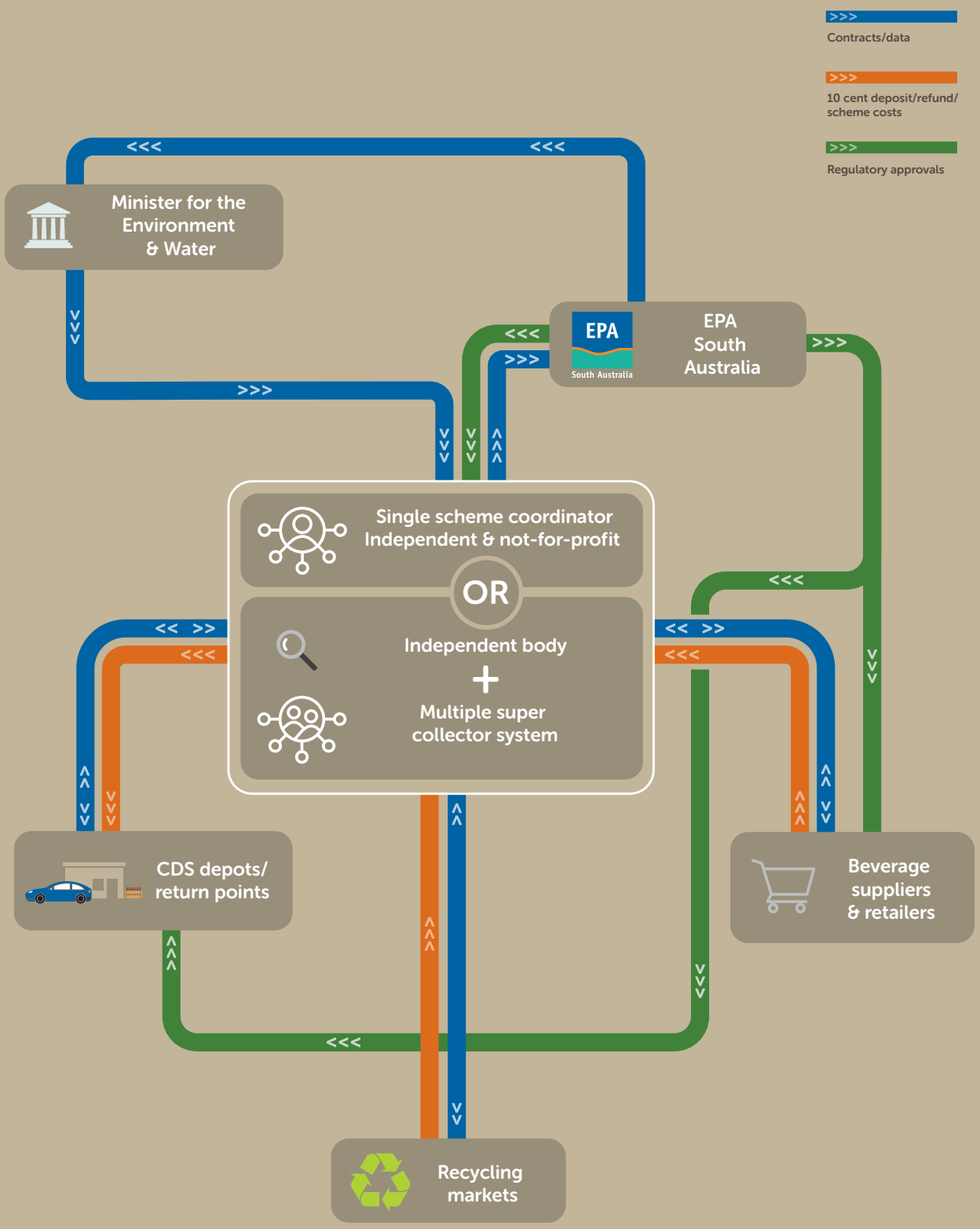


Figure 21—Proposed CDS governance arrangements detailing a proposed single and multiple coordinator governance model

Table 6—Comparison between current governance arrangements and proposed Options 1 and 2

	Current governance arrangements (current responsibilities)	Option 1: Enhance current system of multiple scheme coordinators	Option 2: Single independent not-for-profit scheme coordinator
SA Government supported by the EPA	The Minister for Environment and Water is responsible for: a. setting the deposit amount. The EPA is responsible for: b. approving and setting conditions for the super collectors, collection depots and refund points c. approving and auditing eligible beverage containers d. monitoring compliance in relation to the legislation and undertaking enforcement action, as necessary, upon free riders e. providing strategic policy advice to the government with regard to the scheme and its contribution to the state's environmental and waste objectives f. promotion and communication of the scheme to the public and sector stakeholders.	In addition to current responsibilities, the Minister for Environment and Water is responsible for: a. approving scheme costs b. approving the strategic objectives and performance targets of the CDS c. appointment of the Chair of the independent governing body. In addition to the current responsibilities, the EPA is responsible for: d. approving donation partners e. auditing and monitoring of the CDS against performance objectives, which is reported to the public via the Minister for Environment and Water.	In addition to current responsibilities, the Minister for Environment and Water is responsible for: a. approving scheme costs b. approving the strategic objectives and performance targets of the CDS c. appointment of the Chair of the independent governing body d. appointment of the single scheme coordinator. In addition to the current responsibilities, the EPA is responsible for: e. approving donation partners f. auditing and monitoring of the CDS against performance objectives, which is reported to the public via the Minister for Environment and Water.

	Current governance arrangements (current responsibilities)	Option 1: Enhance current system of multiple scheme coordinators	Option 2: Single independent not-for-profit scheme coordinator
Independent CDS governing body/ Independent scheme coordinator board	NA	The independent governing body will be accountable to the Minister for Environment and Water according to the governance arrangement approved by the Minister. The governance arrangement will require the governing body to: a. develop a strategic plan for the scheme for the approval of the Minister b. develop a governance plan for the approval of the Minister c. determine scheme costs, including administration, compliance and handling fees payable under the scheme d. raise and maintain public awareness of the scheme, including how the scheme operates and locations and customer service standards of refund points e. provide an annual report to the Minister that includes the performance of the independent body against the CDS performance objectives and measures set by the Minister f. not act unfairly or unreasonably discriminate in favour of or against any particular scheme participant when negotiating, entering into, performing obligations under or enforcing any scheme management arrangements. The independent body must provide the Minister with an annual report that includes, for the reporting period: g. average handling fee rate per region payable to refund operators h. current and historical figures showing total numbers of containers sold, collected for which refund amounts have been paid by depots and return points (by region) and total weight of CDS collected and supplied for recycling by destination (overseas, interstate or local) in SA by each container material type i. economic viability of each depot and return point, including the proximity of return points to other return points j. whether the network of depots and return points in a community is appropriate for that community k. whether the network of depots and return points in a remote community is appropriate for that community l. total number and type of disputes involving the super collectors, depots, return point operators and donation partners, actions taken in response to each dispute and the outcomes of the dispute resolution process m. total number and type of complaints received about the scheme, actions taken in response to each complaint and the outcomes of each action.	The independent scheme coordinator board will be accountable to the Minister for Environment and Water according to the governance arrangement approved by the Minister. The governance arrangement will require the independent scheme coordinator board to: a. develop a strategic plan for the scheme for the approval of the Minister b. develop a governance plan for the approval of the Minister c. determine scheme costs, including administration, compliance and handling fees payable under the scheme d. raise and maintain public awareness of the scheme, including how the scheme operates and locations and customer service standards of refund points e. provide an annual report to the Minister that includes the performance of the independent body against the CDS performance objectives and measures set by the Minister f. not act unfairly or unreasonably discriminate in favour of or against any particular scheme participant when negotiating, entering into, performing obligations under or enforcing any scheme management arrangements. The independent scheme coordinator board must provide the Minister with an annual report that includes, for the reporting period: g. financial statements that have been audited by an independent auditor h. total operating cost and revenue breakdown i. average handling fee rate per region payable to refund operators j. current and historical figures showing total numbers of containers sold, collected and destination (overseas, interstate or local) in SA by each container material type k. economic viability of each depot and return point, including the proximity of return points to other return points l. whether the network of depots and return points in a community is appropriate for that community m. whether the network of depots and return points in a remote community is appropriate for that community n. total number and type of disputes involving the depots, return point operators and donation partners, actions taken in response to each dispute and the outcomes of the dispute resolution process o. total number and type of complaints received about the scheme, actions taken in response to each complaint and the outcomes of each action.

	Current governance arrangements (current responsibilities)	Option 1: Enhance current system of multiple scheme coordinators	Option 2: Single independent not-for-profit scheme coordinator
Super collectors/ independent not-for-profit scheme coordinator	Authorised super collectors approved to operate and coordinate the CDS must: a. operate in accordance with the conditions of EPA approval b. have a waste management arrangement in place with eligible beverage suppliers and retailers for the collection of funds (deposit and administration costs) based upon the number of approved beverage containers sold in SA c. have a waste management arrangement with EPA authorised depots (or return point operators) for the transfer of deposit refunds, payment of handling fees and collection of returned CDS-eligible beverage containers d. arrange for the collection, handling and transport of recovered eligible beverage containers from EPA authorised depots or refund points for recycling e. identify and report to the EPA persons suspected of selling eligible containers without a current waste management arrangement, refund marking or container approval f. annually report to the EPA • the total number of containers sold for each material type • the total number of containers returned for each material type • the total weight of containers returned for each material type • the rate of return for each material type.	In addition to the current responsibilities, authorised super collectors must: a. coordinate the centralised IT platform that supports container counting and is able to achieve reporting and auditing requirements b. enable a single waste management arrangement per depot or return point for the payment of funds and eliminate container sorting by brand c. reimburse the scheme compliance costs to the EPA as prescribed by regulation d. implement a CDS awareness and community engagement strategy as approved by the independent body e. verify that all collected and returned containers are reused and recycled f. verify the number of containers that have been returned to refund points g. verify the amounts received or paid under scheme arrangements h. monitor and report against the CDS performance targets as approved by the Minister for Environment and Water i. provide a quarterly report to the EPA that includes, for the reporting period, the • number of containers sold by material type • number of containers for which refund amounts have been paid by depots and return points, by region and by material type • total weight of CDS material types collected and supplied for recycling • total number and type of disputes involving the super collectors, depots, return point operators and donation partners, actions taken in response to each dispute and the outcomes of the dispute resolution process.	In addition to the proposed responsibilities, the independent scheme coordinator must: a. coordinate the centralised IT platform that supports container counting and is able to achieve reporting and auditing requirements b. enable a single waste management arrangement per depot or return point for the payment of funds and eliminate container sorting by brand c. reimburse the scheme compliance costs to the EPA as prescribed by regulation d. implement a CDS awareness and community engagement strategy as approved by the independent body e. verify that all collected and returned containers are reused and recycled f. verify the number of containers that have been returned to refund points g. verify the amounts received or paid under scheme arrangements h. monitor and report against the CDS performance targets as approved by the Minister for Environment and Water i. provide a quarterly report to the EPA that includes, for the reporting period, the • number of containers sold by material type • number of containers for which refund amounts have been paid by depots and return points, by region and by material type • total weight of CDS material types collected and supplied for recycling • total number and type of disputes involving the scheme coordinator, depots, return point operators and donation partners, actions taken in response to each dispute and the outcomes of the dispute resolution process.
Beverage producers and suppliers	Beverage suppliers and retailers must: a. not sell an eligible beverage container unless it is approved by the EPA and displays the EPA approved refund marking b. ensure that the eligible beverage container is recyclable c. have in place an arrangement with the relevant super collector for the coordination of the collection, handling and recycling of returned empty beverage containers sold in SA d. pay the super collector the required refund amount and scheme coordination fees based upon the number of containers sold in SA.	In addition to the current responsibilities, beverage suppliers and retailers must: a. register approved beverage containers (and barcodes if available) b. have in place an arrangement with at least one super collector c. utilise the centralised IT platform for auditing and reporting purposes in accordance with the supplier arrangement approved by at least one super collector d. report the number and types of eligible beverage containers sold in SA via the centralised IT platform.	In addition to the current responsibilities, beverage suppliers and retailers must: a. register approved beverage containers (and barcodes if available) b. have in place an arrangement with the scheme coordinator c. utilise the centralised IT platform for auditing and reporting purposes in accordance with the supplier arrangement approved by the scheme coordinator d. report the number and types of eligible beverage containers sold in SA via the centralised IT platform.

	Current governance arrangements (current responsibilities)	Option 1: Enhance current system of multiple scheme coordinators	Option 2: Single independent not-for-profit scheme coordinator
Collection depot and return point operators	Authorised collection depots and return points approved to refund deposits upon return of empty eligible beverage containers must: a. aoperate in accordance with the conditions of EPA approval b. refund the deposit upon return of empty eligible beverage containers that display the approved refund marking and that are sold in SA c. pay the refund amount in cash or credit note redeemable for cash as prescribed by regulation d. have a waste management arrangement with the relevant EPA authorised super collector for the reimbursement of deposit refunds and payment of container handling fees e. handle and process the empty beverage containers in accordance with the arrangement with the super collector f. enable the collection, handling and transport of recovered eligible beverage containers by or on behalf of the EPA authorised super collector depots for recycling.	In addition to the current responsibilities of authorised collection depots and refund points, the approved collection depots and return points must: a. operate in accordance with the customer service standards as approved by the independent body b. have a waste management arrangement with at least one super collector for the reimbursement of deposit refunds and payment of container handling fees c. accept and pay a refund for empty eligible beverage containers when a barcode is scanned (or approved container otherwise recognised) d. pay the refund amount in cash, EFT or other manner as prescribed by regulation e. count and sort returned containers according to material type in accordance with the waste management arrangement f. utilise the centralised IT platform and employ con-tainer counting to verify the number of containers that have been returned to refund points, unless otherwise outlined in the approved waste manage-ment arrangement g. identify and report to the EPA persons suspected of returning eligible containers for a refund without a current waste management arrangement or container approval h. establish an arrangement with one or more authorised donation partners to enable the payment of refunds to the donation partner direct to a nominated fundraising account upon the request of individuals for returned CDS-eligible beverage containers that display the approved refund marking and that are sold in SA.	In addition to the current responsibilities of authorised collection depots and refund points, the approved collection depots and return points must: a. operate in accordance with the customer service standards as approved by the independent body b. have a waste management arrangement with the scheme coordinator for the reimbursement of deposit refunds and payment of container handling fees c. accept and pay a refund for empty eligible beverage containers when a barcode is scanned (or approved container otherwise recognised) d. pay the refund amount in cash, EFT or other manner as prescribed by regulation e. count and sort returned containers according to material type in accordance with the waste management ar-rangement f. utilise the centralised IT platform and employ container counting to verify the number of containers that have been returned to refund points, unless otherwise outlined in the approved waste management arrangement g. identify and report to the EPA persons suspected of returning eligible containers for a refund without a current waste management arrangement or container approval h. establish an arrangement with one or more authorised donation partners to enable the payment of refunds to the donation partner direct to a nominated fundraising account upon the request of individuals for returned CDS-eligible beverage containers that display the ap-proved refund marking and that are sold in SA.
Donation partners	NA	Authorised donation partners must: a. be a not-for-profit organisation b. operate in accordance with the conditions of EPA approval c. have an arrangement with an EPA authorised collection depot or return point operator for the receipt of donated funds.	Authorised donation partners must: a. be a not-for-profit organisation b. operate in accordance with the conditions of EPA approval c. have an arrangement with an EPA authorised collection depot or return point operator for the receipt of donated funds.

Glossary

Word	Definition
Beneficiation	Treatment of materials to improve their physical or chemical properties to increase their value.
Circular economy	Reference to an economic model that contemplates the production of goods and services by a reduced reliance on virgin mate-rials, on the basis of continuously functioning utility and an ex-tended life cycle and in a manner that eliminates, as far as is reasonably practicable, waste or pollution, or harm to the environment.
Container deposit legislation	Part 8, Division 2: Beverage Containers, in the *Environment Protection Act 1993*.
Container deposit scheme	A litter control and waste management system for beverage con-tainers through a regulatory scheme for the protection of the environment, which prohibits the sale or supply of beverages in certain containers in the state unless approved by the EPA and are returnable to retailers and collection depots for a refund.
Cullet	Recovered glass that is crushed and free of contamination ready for remelting and remanufacturing into glass products.
Environment Ministers Meeting	Comprises the Commonwealth Minister for the Environment and the Environment Minister from each Australian state and territory.
Extended producer responsibility	A type of product stewardship that places the responsibility on the producers, importers and sellers of a product to fund activi-ties to reduce the environmental, and health and safety impacts of that product.
Free-riders	Those who do not participate in the provision of a resource, service or public good, such as product stewardship, but benefit from it by allowing others to cover the costs.
Heads of EPAs	The Heads of EPA Australia and New Zealand (HEPA) is an informal alliance of environmental regulation leaders from Australia and New Zealand.
Materials recovery facility	A facility that receives waste or matter for sorting, aggregating, compacting, baling or packaging prior to its transfer elsewhere for lawful reuse.
Product stewardship	A shared responsibility ensuring that products or materials are managed in a way that reduces their impact, throughout their life cycle, on the environment and on human health and safety.
Recycle	To treat materials so that new products can be made from them.
Resource recovery	Reusing, recycling or recovering energy or other resources from waste or matter.
Source separated	Material that has been separated by type for resource recovery and recycling.
Waste	Any discarded, dumped, rejected, abandoned, unwanted or surplus matter, whether or not intended for sale or for purification or resource recovery by a separate operation from that which produced the matter.
Waste management hierarchy	Reference to an order of priority for the management of waste in which avoidance, minimisation, reuse, recycling, recovery of energy and other resources, treatment and disposal of waste in an environmentally sound manner are pursued in that order.

Abbreviations and symbols

Abbreviation	Meaning
ACT	Australian Capital Territory
CDL	container deposit legislation
CDS	container deposit scheme
EPA	South Australian Environment Protection Authority
EPR	extended producer responsibility
FTE	full-time equivalent
GISA	Green Industries South Australia
GPF	Glass Packaging Forum
HDPE	high-density polyethylene
IPART	NSW Independent Pricing and Regulatory Tribunal
LPB	liquid paperboard
MRF	materials recovery facility
NGOs	non-government organisations
NSW	New South Wales
NT	Northern Territory
PET	polyethylene terephthalate
RVM	reverse vending machine
SA	South Australia / South Australian
WA	Western Australia / Western Australian

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Appendix 1: List of all questions from the key-issues section

Key Issue 1: Objectives of the CDS

Preferred option – Modernise the features of the CDS

Questions

1.1 Do you think the CDS should be supported and recognised as a key pathway for supplying recovered materials to remanufacturers and to achieve state and national resource recovery targets by:

- 1.1.a supporting and building on existing beverage container resource recovery investments and infrastructure
- 1.1.b optimising the recovery of high-value beverage container materials that support a circular economy
- 1.1.c continuing to enable opportunities for local employment within the CDS and more broadly within the resource recovery and recycling sector
- 1.1.d enabling opportunities for community groups, not-for-profit organisations and charities to benefit from the CDS through direct participation and the development of partnerships within the CDS?

Key Issue 2: Containers Included in the CDS

Preferred option – Review and clarify the CDS scope to support the circular economy principles

Questions

2.1 Should plain unflavoured milk containers up to 3 litres continue to be excluded from the CDS? If not, why not?

2.2 Do you think the diversion of glass from the co-mingled recyclables bin is best achieved through the CDS or a fourth kerbside bin dedicated to glass?

- 2.2.a Do you agree that all glass beverage containers up to 3 litres should be included in the CDS (wine, spirit and cordial)? If not, why not?
- 2.2.b Alternatively, if a fourth kerbside bin collection system dedicated to glass was made available, who should pay for it?

2.3 Do you agree that all plastic fruit/vegetable juice and cordial containers (in addition to soft drinks, fruit juice drinks and water) up to 3 litres should be included in the CDS? If not, why not?

2.4 Do you think a contemporary CDS education and awareness campaign that incorporates the proposed new inclusions would divert more beverage containers away from the kerbside co-mingled bins and residual waste bins towards CDS depots? What media platforms should be used for such a campaign?

Key Issue 3: Scheme Approvals and Container Markings

Preferred option – Maintain the current refund marking, replace the container application fee, introduce limited term for approvals and subsidise smaller beverage producers and suppliers

Questions

Scheme approvals and scheme cost recovery

3.1 As a beverage producer or supplier, do you support the CDS subsidising new-entrant small to medium beverage suppliers and producers in the form of scheme induction and initial preparation costs? If not, why not?

3.2 As a beverage producer or supplier, do you agree with the application of a scheme compliance fee paid by the super collectors to cost recover the scheme compliance and enforcement costs? If not, why not, and what alternative method of cost recovery could be applied?

3.3 As a beverage producer or supplier, do you support the removal of the container approval application fee and incorporation of these assessment costs as part of the scheme compliance fee? If not, why not?

3.4 If the SA Government introduces a limited term for approvals, do you think a five year term, in line with other state and territory schemes, is a suitable time period? If not, why not, and what would you suggest?

Container refund marking

3.5 As a beverage producer or supplier, super collector or depot operator, do you support the alignment of CDS-eligible beverage container refund markings nationally, and why?

3.6 What potential container branding would you recommend that could be used to promote and raise awareness of the CDS and the circular economy?

Key Issue 4.1: Deposit Value and Refund Amount

Preferred option – Maintain the alignment of the deposit value and refund amount

Questions

4.1.1 Does the current deposit amount of 10 cents influence whether you return empty beverage containers for recycling via CDS depots? If so, how does it influence your participation? If not, why not?

Key Issue 4.2: Ease of Container Return

Preferred option – Maximise CDS container return point accessibility

Questions

4.2.1 If the existing depots were supplemented with new return points, which types of location/s would you find the easiest to return eligible beverage containers to? For example:

- supermarket or shopping centre
- local retail outlet, for example, newsagency or convenience store
- entertainment and sporting events
- waste transfer station
- home pick-up service (for fee).

4.2.2 Would you use self-service return points (for example, reverse vending machines or 'drop and go' stations) located in one of the above locations to divert more of your containers from the kerbside waste system to the CDS?

4.2.3 Will promotion and consistent branding of return points, including information about locations, operating hours and beverage container return requirements, assist you in returning eligible containers and accessing the refund?

4.2.4 As a community organisation such as a charity, school or sports club, how do you or would you like to participate in, and benefit from, the CDS? For example:

- by building and operating refund collection points yourself
- by partnering and hosting refund collection points with approved CDS depots
- by carrying out a collection of containers to take to a local collection point
- by registering with the scheme as a nominated donation partner that is eligible to receive electronic funds donations through automated reverse vending machines
- through mobile or 'pop-up' refund points as part of a fundraising drive.

Scheme coordinators and depot operators

4.2.5 The handling fee payable to depots and return point operators is one lever used to influence accessibility and servicing of return points within a community. What other levers or incentives could be used?

4.2.6 What would be the best mechanism to ensure the CDS achieves return rate targets and accountability standards for metropolitan, non-metropolitan and remote areas of the state?

Key Issue 4.3: Payment of Refund Method

Preferred option – Incorporation of non-cash refund payments

Questions

General questions

4.3.1 How would you like to receive your refunds for containers?

- cash
- electronic funds transfer (EFT) / online payment
- direct electronic funds transfer to a donation partner of your choice
- vouchers (for example, for use at local stores)
- all refund options as above.

4.3.2 Is the addition of non-cash refund methods likely to increase the level of convenience for you when returning empty beverage containers to a CDS depot?

For depot owners

4.3.3 Will you need to change the operation of your business to provide for non-cash refund methods such as EFT? If yes,

4.3.3.a What do you expect to be the nature and cost of providing non-cash refund methods?

4.3.3.b What would this look like at your depot and how long would this take (for example, 1 year or less, up to 2 years)?

4.3.4 Do you anticipate that a partnership with at least one donation partner could support your local community and increase the customer base at your depot?

Key Issue 5: Governance Arrangements

Preferred option – Modernise the CDS governance to increase transparency and accountability

Questions

Scheme oversight

5.1 Do you think the SA Government should appoint an independent governing body for the existing multiple super collector system or independent not-for-profit scheme coordinator who will have oversight of the scheme, and make recommendations on the performance targets, container return rate targets, scheme costs and the reporting and accountability framework to the SA Government?

5.1.a If so, do you think the proposed governing body membership is appropriate? If not, what would you suggest?

Scheme auditing and reporting

5.2 It is proposed to require registration of beverage containers (and barcodes if available) within a centralised IT platform as a condition of container approval to enable tracking and counting of containers. If a barcode is not used, what alternative tracking and counting methods would you suggest and where are they in use?

5.3 It is proposed that beverage producers and suppliers, depots, and super collectors or the single scheme coordinator must utilise a centralised IT platform for auditing and reporting purposes in accordance with the supplier arrangement. Do you agree with this? If not, why not?

Scheme coordination

5.4 Which of the scheme coordinator options (option 1: multiple super collectors or option 2: single independent not-for-profit scheme coordinator) do you prefer and why?

5.4.a What do you see as the risks and benefits of each of these scheme coordination options?

5.4.b What would be the impacts of the different options on your business?

5.4.c If option 1 was the model chosen to coordinate the scheme, how should accountability for meeting scheme performance indicators, such as return rate targets, be shared amongst the super collectors?

5.5 The establishment of a single waste management arrangement between depots and at least one super collector (for option 1) or single independent scheme coordinator (for option 2) is proposed to enable depots to contract with a single super collector and remove sorting by container brand.

5.5.a Do you agree with this change as a way of addressing these concerns? If not, why not? If not, what alternative approach would you suggest?

5.6 The weight-based conversion of container material weight to container number has been the subject of disputes over containers returned. It is proposed to transition to a container-count methodology to report on container return rates and payment for returns.

5.6.a Do you foresee any issues with this method of payment for returned containers?

5.6.b How would smaller depots with low container return volumes achieve container counting?

5.7 Do you think the CDS scheme should establish geographical performance targets, including distribution of container return points per region and return rates for regional and remote areas?

Appendix 2: Beverages included in the South Australian CDS

NON-ALCOHOLIC BEVERAGES			
BEVERAGE TYPE	**CONTAINER MATERIAL**	**CONTAINER SIZE**	
		INCLUDED	**EXEMPTED**
Carbonated soft drinks	All	3 litres or less	Greater than 3 litres
Non-carbonated, soft drinks including (but not limited to) fruit-juice based drinks (containing less than 90% juice), 'sports' drinks, 'vitamin' drinks, 'energy' drinks, ready-to-drink cordials	All	3 litres or less	Greater than 3 litres
Water—plain, still or carbonated spring water, mineral water and any other water intended for human consumption	Aseptic packs/casks (made from cardboard and/or plastic and/or foil)	Less than 1 litre	1 litre or more
	All other materials	3 litres or less	Greater than 3 litres
Pure fruit/vegetable juice—means a liquid containing at least 90% fruit juice and/or vegetable juice	All	Less than 1 litre	1 litre or more
Flavoured milk—milk to which flavour has been added (milk being cow's milk or the milk of any other animal, soy milk, ultra-heat-treated milk, low-fat milk, etc.)	All	Less than 1 litre	1 litre or more
• Plain, unflavoured milk • Concentrated fruit and/or vegetable juice intended to be diluted before consumption • Health tonic included on the Australian Register of Therapeutic Goods and with label specifying recommended maximum dosage • Cordial (undiluted)	All	Nil	All

ALCOHOLIC BEVERAGES			
BEVERAGE TYPE	**CONTAINER MATERIAL**	**CONTAINER SIZE**	
		INCLUDED	**EXEMPTED**
Beers/ales/stout	All	3 litres or less	Greater than 3 litres
Spirituous liquor—a liqueur or other alcoholic beverage produced by distillation (for example, brandy, gin, rum, vodka, whisky)	Glass	Nil	All
	All other materials	3 litres or less	Greater than 3 litres
Wine (straight wine)—a beverage produced by the fermentation of grapes that contains only grapes and no other beverages. Includes de-alcoholised wine (alcohol has been removed from the wine), but does not include non-alcoholic grape juice, which has not undergone the fermentation process.	Glass	Nil	All
	Aluminium	All	NIL
	Plastic	Less than 250 millilitres	250 millilitres or greater
	Sachets (plastic and/or foil)	Less than 250 millilitres	250 millilitres or greater
	Aseptic packs/casks (cardboard and/or plastic and/or foil)	Less than 1 litre	1 litre or more
Flavoured alcoholic beverages with a wine base—any beverage that contains wine plus additional beverages, ingredients or flavours. This can include (but is not limited to) fruit-flavoured wine, wine coolers, ready-to-drink alcoholic beverages	Aseptic packs/casks (cardboard and/or plastic and/or foil)	Less than 1 litre	1 litre or more
	All other materials	3 litres or less	Greater than 3 litres
Alcoholic beverages—derived from fruit or other substances (cider, alcoholic lemonade, plum wine, sake etc)	All	Up to and including 3 litres	Greater than 3 litres
Flavoured alcoholic beverages with a spirit base—any beverage that contains spirituous liquor plus additional beverages, ingredients or flavours. This can include (but is not limited to) 'alcopops', ready-to-drink alcoholic beverages and spirit-based beverages sold in casks	All	3 litres or less	Greater than 3 litres

Appendix 3: Comparison with other schemes in Australia and overseas

State and territory container deposit/return scheme objectives

There are a number of common principles that underpin the CDS objectives within each Australian state and territory that currently have a CDS. These include:

- establish a litter control system for empty beverage containers
- reduce loss of high-value beverage container materials to landfill and the environment as litter
- uphold the extended producer responsibilities of beverage producers and suppliers to fund the recovery of eligible beverage containers
- promote the recovery, reuse and recycling of empty beverage containers
- engender value to incentivise the return of empty beverage containers
- provide funding opportunities for community groups, sports clubs, charities and social enterprises and employment.

All schemes are built on the premise of the collection, recovery and recycling of beverage container materials, in addition to reducing beverage container litter and disposal to landfill. Community involvement and local employment are embedded features of the SA CDS. The schemes in other jurisdictions also explicitly prioritise the provision of opportunities for social enterprise and employment opportunities within their respective jurisdictions.

Beverage container scope and alignment for CDS across Australia

The majority of beverage containers (up to 3 litres) that are sold in states and territories with a CDS are captured within the scope of respective schemes. The beverage container scope of the current CDSs across Australian states and territories is consistent, with the exception of SA and NT, where beverage containers less than 150 millilitres are also included. The container deposit value and refund amount of 10 cents per eligible container sold is uniformly applied across states and territories that currently have a CDS.

Container deposit or container return schemes are in place or planned to be introduced in all states and territories across Australia. The following table: 'National container deposit/return schemes: Inter-jurisdictional comparative table' provides a summary of each Australian jurisdiction's scheme commencement date and objectives. It is recognised by government and industry stakeholders that, in the absence of a national scheme, national alignment of key components of the state and territory schemes will provide administrative efficiencies to all parties.

The EPA, in collaboration with all Australian states and territories, is investigating opportunities to better align jurisdictional CDSs. The aims of an alignment are as follows:

- maintain the same container deposit amount in all jurisdictions
- completely align the scope of containers included in each jurisdiction's scheme
- align approval processes and refund marking as much as possible across all jurisdictions.

Scheme regulation, coordination and return points across Australia

The structure of CDSs across Australia is not uniform, and variations are found in scheme coordination, governance and container return models. The coordination of the schemes in Australia is characterised as a 'multiple super collector' or 'single scheme coordinator' approach. The SA and NT schemes employ multiple super collectors to coordinate the collection and distribution of funds from beverage producers and suppliers and the recovery of empty beverage containers from the community. The NSW, ACT, QLD and WA schemes employ a single scheme coordinator to undertake this role.

The coordination of container recovery via return points differs across jurisdictions. NSW and the ACT both employ a network operator to centralise and manage the network of container return points.

The remaining jurisdictions, including SA, employ a decentralised and open network of independent return point operators. Return points are either staffed or self-serviced automated set-ups (as shown in the following infographic) and are typically made up of one or more of the following:

- collection depots—staffed, and medium to large numbers of containers returned per customer
- reverse vending machines—self-service, and small number of containers returned per customer
- 'drop and go' stations—staffed or self-serviced, and small to medium number of containers returned per customer
- mobile/pop-up points—staffed or self-serviced, and small to medium number of containers returned per customer.

Upon return of empty eligible beverage containers, members of the public can redeem the 10-cent refund through cash, vouchers, donation or electronic funds transfer (EFT), with the exception of SA where currently the refund is required to be paid via cash. In response to COVID-19, the SA Government has temporarily allowed refunds to be redeemed via EFT in addition to cash. Some schemes also allow community and charity groups to sign up to a scheme account that enables refunds to be donated directly into a nominated charity or community group fundraising account.

What are the current CDS costs in Australia?

The introduction of schemes across Australia has prompted investigations to monitor and report on the impact on beverage prices and competition arising from the introduction of these schemes, as follows:

- The Independent Regulatory and Pricing Tribunal NSW report[69] found, on average, pricing of all eligible containers increased by 7.7 cents per container (including GST) during the first year of the scheme's operation. Non alcoholic-beverage prices increased by an average of 10.1 cents per container and alcoholic beverages an average of 5.1 cents per container.
- The Independent Competition and Regulatory Commission ACT's *Final report: Container deposit scheme price monitoring*[70] found that the retail price of non-alcoholic beverages increased by about 10 cents per container and alcoholic beverages by an average of 11 cents per container (beer prices increased by about 5 cents per container).
- The Economic Regulation Authority WA draft report[71] found, that based on the first six months of the scheme, the average retail prices increased by less than the costs of administering and operating the scheme. Non-alcoholic beverages increased by 10.5 cents per container and alcoholic beverages increased by 7.6 cents per container.

The reports further stated that the price increases are consistent with a workably competitive market and that there is no specific evidence to suggest the NSW, ACT and WA schemes have had unintended market impacts on customers. The NSW, QLD, ACT and WA scheme indirect costs and the independent CDS price monitoring findings provide an indication of the impact on potential new beverage producer and supplier entrants into the CDS.

In SA, beverage producers and suppliers pay a fee to the super collectors based on the cost of the scheme per container returned to the CDS. The fee is made up of the deposit (10 cents), the handling fee (on average 6 cents) and relevant super collector administration fees. The manufacturers and suppliers who pay the 10-cent deposit component of the fee to the super collectors recover this by adding the 10 cents to the product price. The remaining costs are offset by the income generated from the sale of the recovered container materials to recycling markets.

The NSW, ACT, QLD and WA schemes have published the cost per container incurred by beverage producers and suppliers of their respective schemes on a container material basis (as shown in the following table). Being a commercially based scheme, this level of transparency is not currently available in SA. Based on the data and information gathered from interviews and discussions with depot and super collector operators and beverage industry representatives, the economic analysis has determined that the ongoing costs of the SA scheme are, on average, 11 cents per eligible container sold in SA.

NSW, QLD and WA schemes cost to beverage producers and suppliers per container (excluding GST) by container material type

69 Independant Pricing and Regulatory Tribunal NSW 2018, https://www.ipart.nsw.gov.au/sites/default/files/documents/final-report-nsw-container-deposit-scheme-monitoring-the-impacts-on-container-beverage-prices-and-competition-december-2018.pdf.

70 Independent Competition and Regulatory Commission Final Report Container Deposit Scheme Price Monitoring 2019, Independent Competition and Regulatory Commission, https://www.icrc.act.gov.au/___data/assets/pdf_file/0020/1407602/Container-Deposit-Scheme-Price-Monitoring-Final-Report.pdf.

71 Economic Regulatory Authority Western Australia 2021, Report on the effects of the container deposit scheme on beverage prices in Western Australia, draft report July 2021, https://www.erawa.com.au/cproot/22078/2/-2019.CDS.Inq-CDS-Price-Monitoring---Draft-Report---to-publish.PDF.

Container material	QLD[72] (cents/container)	NSW[73] (cents/container)	ACT[74] (cents/container)	WA[75] (cents/container) estimated
Aluminium	9.9	13.3	12.6	11.4
Glass	10.5	14.8	11.0	11.8
HDPE	10.6	7.4	6.9	11.9
PET	10.3	11.8	9.4	11.8
Liquid paperboard	10.6	5.1	6.0	12.2
Steel	-	4.1	4.0	-
Other plastics	-	5.6	32.8	-
Other materials	-	10.4	32.8	-

Beverage container litter items per 1,000 m² per jurisdiction[76]

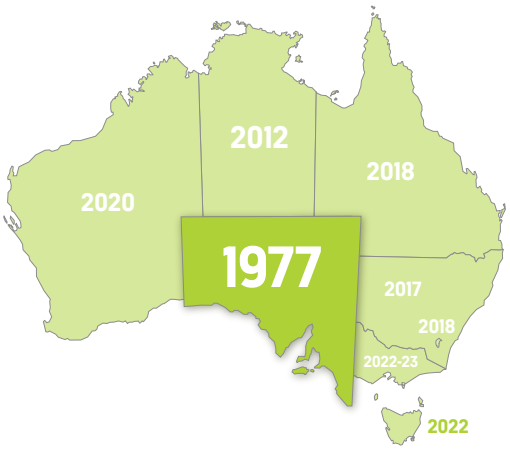
Jurisdiction	2014-15	2015-16	2016-17	2017-18	2018-19
SA	0.90	1.37	1.07	0.84	0.84
VIC	1.78	1.34	1.19	1.47	1.29
NT	1.21	1.45	1.17	0.98	1.70
QLD	3.72	3.11	3.99	3.40	2.02
NSW	4.20	4.00	4.73	3.35	2.91
WA	7.32	6.61	6.24	5.87	5.19
National (average)	3.19	2.98	3.07	2.65	2.33

72 Queensland Productivity Commission 2019, *Issues paper: Container Refund Scheme Price monitoring review*, https://qpc.blob.core.windows.net/wordpress/2019/05/Issues-Paper-Container-Refund-Scheme.pdf.
73 Exchange for Change, *NSW container deposit scheme September 2020 volumes report*, https://www.exchangeforchange.com.au/schemes/scheme-reporting.html.
74 Exchange for Change, *ACT September and Q3 2020: True up summary*, https://www.exchangeforchange.com.au/schemes/scheme-reporting.html.
75 Western Australia Return Recycle Renew 2020, *Containers for Change: Scheme pricing announcement Media Release 14 February 2020*, https://warrrl.com.au/wp-content/uploads/2020/02/Media-release-Scheme-Pricing-announcement-140220.pdf.
76 KESAB Environmental Solutions 2016, CDL containers & plastic shopping bags in the litter stream, https://www.epa.sa.gov.au/files/13021_kesab2016.pdf.

Comparison of objectives, coordinator models, scope, refund payments and approvals between jurisdictions

What CDS looks like in Australia

	SA	NT	NSW	QLD	ACT	WA	TAS	VIC
Year est	1977	2012	2017	2018	2018	2020	2022	2022-23



	SA	NT	NSW	QLD	ACT	WA	TAS	VIC
Scheme	Container deposit	Container deposit	Container deposit	Container refund	Container deposit	Container refund	Proposed to commence in 2022	Proposed to commence in 2022-23
Scheme oversight and regulation	SA Government	NT Government	NSW Government	QLD Government	ACT Government	WA Government		
Scheme coordination and implementation	Super collectors (multiple)	Super collectors (multiple)	Single scheme operator (joint venture)	Single scheme operator (not-for-profit)	Single scheme operator (joint venture)	Single scheme operator (not-for-profit)		
Container return operation	Independent network	Independent network	Network operator	Independent network	Network operator	Independent network		
Payment of refund	Cash	Cash EFT Donation Voucher	Cash EFT Donation Voucher	Cash EFT Donation Voucher	Cash EFT Donation Voucher	Likely to include: Cash EFT Donation Voucher		
Refund points	Collection depots	Collection depots RVMs	Over the counter RVMs Automated depot Donation station	RVMs Drop'n'Go stations Over the counter Mobile/pop-up points	Bulk depots Express return points at charity locations	RVMs Over the counter depots Bag drops Mobile refund points		

National container deposit/return schemes – Inter-jurisdictional comparative table

SCHEME COMMENCEMENT								
	TAS	VIC	NSW	ACT	QLD	SA	NT	WA
Commencement	*From 2022	*From 2023	1 December 2017	30 June 2018	1 November 2018	1977	3 January 2012	1 October 2020

SCHEME OBJECTIVES								
	TAS	VIC	NSW	ACT	QLD	SA	NT	WA
Objectives defined by legislation	✓	✓	✓	✓	✓	✓	✓	✓
Litter prevention	✓	✓	✓	✓	✓	✓	✓	✓
Waste reduction	✓	✓	✓	✓	✓	✓	✓	✓
Recycling	✓	✓	✓	✓	✓	✓	✓	✓
Circular economy	TBC	*✓	✗	✗	✓	✗	✗	✗
Product stewardship	TBC	✓	✗	✗	✓	✗	✗	✓
Best practice	TBC	✓	✗	✗	✗	✗	✗	✗
Social enterprise	TBC	TBC	✗	✗	✓	✗	✗	✓
Employment	TBC	TBC	✗	✗	✓	✗	✗	✓

SCHEME GOVERNANCE								
	TAS	VIC	NSW	ACT	QLD	SA	NT	WA
Scheme regulator	TAS EPA	VIC EPA	NSW EPA	ACT Government	Department of Environment and Science	SA EPA	NT EPA	Department of Water and Environmental Regulation
Scheme name	TBC	TBC	Return and Earn	Return and Earn	Containers for Change	N/A	N/A	Containers for Change
Scheme coordinator (SC)	TBC	TBC	Exchange for Change	Exchange for Change	Container Exchange	Super Collectors	Super Collectors	Return Recycle Renew
Single or multiple SC	*Single	*Single	Single	Single	Single	Multiple	Multiple	Single
Not-for-profit SC	TBC	TBC	✗	✗	✓	✗	✗	✓
Container return network	centralised	centralised	centralised	centralised	decentralised	decentralised	decentralised	decentralised
Network operator legislated separate to SC	*✓	*✓	✓	✓	✗	✗	✗	✗
Ministerial direction of SC	TBC	TBC	✓	✓	✓	✗	✗	✓
SC Board	TBC	TBC	✓	✓	✓	✗	✗	✓
Board role and composition legislated	TBC	TBC	✗	✗	✓	N/A	N/A	✓
Board role and composition approved by ministerial agreement	TBC	TBC	✗	✗	✓	N/A	N/A	✓

PERFORMANCE MEASURES & TARGETS								
	TAS	VIC	NSW	ACT	QLD	SA	NT	WA
Min. recovery rate target legislated	✓	✓	✗	✗	✓	✗	✗	✓
Min. recovery rate target set by minister/govt	TBC	*✓	✓	✓	✓	✗	✓	✓
Min. number of collection points legislated	TBC	TBC	✓	✓	✓	✗	✗	✗
Min. network standards set out in contract/ agreement	TBC	TBC	✓	✓	✗	✗	✗	✓

REPORTING								
	TAS	VIC	NSW	ACT	QLD	SA	NT	WA
Annual report legislated	TBC	TBC	✓	✓	✓	✗	✗	✓
Annual report required by contract/ agreement	TBC	TBC	✗	✗	✗	✓	✓	✗
Quarterly report legislated	TBC	TBC	✓	✓	✓	✗	✗	✓
5 yearly review legislated	TBC	TBC	✗	✗	✗	✗	✓	✗
Performance audit legislated	TBC	TBC	✓	✗	✗	✗	✗	✗
Scheme costs published online	TBC	TBC	✓	✓	✓	✗	✗	✓

COMMUNITY / CHARITY								
	TAS	VIC	NSW	ACT	QLD	SA	NT	WA
Charity or donation partner approval	TBC	✓	✓	✓	✓	✗	✗	✓
Charities and community groups may establish collection point	TBC	✓	✓	✓	✓	✓	✓	✓
Direct donation of refund from collection points to charities and community groups	TBC	TBC	✓	✓	✓	✗	✗	✓

CONTAINER RETURN AND REFUND POINTS								
	TAS	VIC	NSW	ACT	QLD	SA	NT	WA
Collection depots	TBC	TBC	✓	✓	✓	✓	✓	✓
Reverse vending machines	TBC	TBC	✓	✓	✓	✓	✓	✓
Return to retailer (over the counter)	TBC	TBC	✓	✓	✓	✗	✓	✓
Mobile refund points	TBC	TBC	✓	✗	✓	✗	✗	✓
Bag drops	TBC	TBC	✓	✓	✓	✗	✗	✓
Cash refunds	TBC	TBC	✓	✓	✓	✓	✓	✓
Electronic refunds	TBC	TBC	✓	✓	✓	#✓	✓	✓

CONTAINER COUNT & BEVERAGE SUPPLIER RECONCILIATION								
	TAS	VIC	NSW	ACT	QLD	SA	NT	WA
Barcode scanning required	TBC	TBC	✓	✗	✗	✗	✗	✗
Count by weight with cost per container conversion between SC & supplier	TBC	TBC	✗	✗	✗	✓	✓	✗
Count all containers with cost per container between SC and beverage supplier	TBC	TBC	✓	✓	✓	✗	✗	✓

* = Proposed. N/A = Not applicable. # = Temporarily enabled. TBC = To be confirmed

Summary of Scottish, British Columbian (Canadian) and German schemes

Scotland

Scotland will implement a CDS in 2022. The four 'investment objectives' of the Scottish scheme[77] are:

1. improving recycling quantity
2. improving recycling quality
3. encouraging wider behaviour change around materials
4. delivering maximum economic and societal benefit for Scotland during the transition to a low carbon world.

Consumers will pay a deposit (20p, which is equivalent to $0.37 AUD)[78] when they buy a drink in a single use container and will receive their deposit refund when the container is returned to any retailer that sells single-use drink containers covered by the scheme.

The scheme will include all PET plastic bottles, steel and aluminium cans, and glass bottles between 50 millilitres and 3 litres irrespective of the beverage contained within. Containers can be returned at two types of collection points—over the counter or via reverse vending machines. Deposits will be redeemed as cash, tokens, retail discount vouchers or via EFT.

Producers may appoint a scheme administrator to discharge obligations on their behalf. Scheme administrators will likely take the form of not-for-profit

77 Scottish Government 2019, *A deposit return scheme for Scotland: Full business case Stage 1*, viewed on 02/07/2020, https://www.gov.scot/publications/deposit-return-scheme-scotland-full-business-case-stage-1/pages/3/.
78 Currency comparisons with the Australian dollar were correct at the time of writing.

industry-led privately-owned bodies. Applications to become a scheme administrator will be subject to approval by the Scottish ministers. Applications for registration of a producer must be made to the Scottish Environment Protection Agency. Three sources of scheme funding have been identified, including: unredeemed deposits, revenue from the sale of recovered container materials and a producer (participation) fee.

British Columbia (Canada)

British Columbia's CDS commenced in 1970, and the current version was implemented in 2004, eligible empty beverage containers can be returned to retail points or depots for a refund. Initially, the British Columbian scheme only included carbonated soft drinks and beer. During 2020, all ready-to-drink beverage containers sealed by a manufacturer, except those containing milk and milk substitutes, were included in the scheme and are required to include a 10-cent ($0.11 AUD) deposit for beverages up to and including 1 litre, with those over 1 litre requiring a 20-cent ($0.21 AUD) deposit. From 2022, the deposit will be standardised across all container sizes, and milk and milk products will be included, as provided by a 2020 scheme modernisation process.

The deposit scheme is operated by the beverage producers and there are no statutory fees or charges remitted to government under the system. Beverage producers have formed two stewardship agencies: Brewers Distributor Ltd[79] and Encorp Pacific[80]. Brewers Distributor Ltd is a private joint-venture company, while Encorp Pacific is a federally incorporated, not-for-profit, product stewardship corporation.

As a not-for-profit product stewardship agency, Encorp Pacific only charges the net cost for recovering and recycling beverage containers. Encorp pays a handling fee to authorised Return-It™ depots that handle returned beverage containers and prepare them for shipment to processors. The handling fee varies by container type and depot agreement.

Germany

During 2005, the Deutsche Pfandsystem GmbH (DPG) was established by the German trade sector and beverage industry. DPG is jointly operated by the German Retail Association and the German Food Association. It provides the organisational framework for settlement of deposits (deposit clearing) between the entities participating in the system.

The DPG developed a set of standards for uniform refund marking that enables the automatic collection of non-reusable drinks containers subject to the required deposit. A refillable beverage container system operates in parallel with the DPG.

The German Packaging Act 2019 commenced on 1 January 2019 and sets objectives for reusable beverage packaging, including a target reusability rate of 70% for beverage packaging. As of 2019, the mandatory deposit was extended to include carbonated fruit and vegetable nectars and mixed milk drinks such as energy drinks with whey content/ milk products >50%.

Container return points are over-the-counter at retail locations and from staffed by cashiers at retail locations, as well as RVMs, some of which are equipped with compactors to reduce storage and transport requirements. The refund amount for single-use containers is 25 eurocents ($0.41 AUD). Refillable containers, which make up a significant portion of the beverage market in Germany, carry voluntary deposits of 8 eurocents for beer bottles and 15 eurocents for non-carbonated beverage bottles. Retailers own the recyclable commodities, and no formal handling fee is included in the beverage/product price[81]. Based on 2015 data[82], the German scheme achieved a 98.4% overall return rate, with a 99% return rate for cans and 98% return rate for glass.

79 Brewers Distributor Ltd - http://bdl.ca/.
80 Encorp Pacific (Canada) 2021, Who is Encorp?, viewed 25 August 2021, https://www.return-it.ca/about/.
81 Reloop 2016, *Deposit systems for one-way beverage containers: Global overview*, viewed 15 July 2020, available at: https://reloopplatform.eu/reloop-releases-global-overview-of-deposit-return-systems/.
82 BottleBill.org 2020, *Germany*, viewed 15 July 2020, http://www.bottlebill.org/index.php/current-and-proposed-laws/worldwide/germany.

Comparison of international schemes

Governance characteristics & objectives	
Commencing 2022	**Governance:** • Government-legislated mandatory product stewardship scheme. • To be administered by an industry-led, privately-owned body operating on a not-for-profit basis. **Objectives:** • Improving recycling quantity. • Improving recycling quality. • Encouraging wider behaviour change around materials. • Delivering maximum economic and societal benefit for Scotland during the transition to a low carbon world.
Mandated 2019	**Governance:** • Government-legislated mandatory beverage packaging deposit. • Administered by an industry-led product stewardship body. **Objectives:** • Waste management objective to avoid or reduce the environmental impacts of waste arising from packaging.
Modernised 2020	**Governance:** • Government-legislated mandatory EPR scheme. • Board of Directors to oversee including beverage and non-beverage industry members. • Administered by two industry-led product stewardship agencies. **Objectives:** • Divert used products from landfill and incineration. • Prevent litter. • Promote the use of end products that maximise the value of the recovered materials.

Material types								
	HDPE	PET	PVC	PS	Aluminium	Steel	Glass	LPB
	✗	✓	✓	✓	✓	✓	✓	✗
	✓	✓	✓	✓	✓	✗	✓	✗
	✓	✓	✓	✓	✓	✓	✓	✓

	Beverage types								
	Soft drinks	Water	Pure fruit/ vegetable juice	Juice & cordial concentrate	Plain milk (PET, glass, cans)	Flavoured milk (PET, glass, cans)	Beer	Spirits	Wine
	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✗	✓ >50% milk	✓ >50% milk	✓	✗	✗
	✓	✓	✓	✓	✓ From 2022	✓ From 2022	✓	✓	✓

	Deposits & fees (per container)		
	Deposit	Return rate	Notes
	0.20 GBP (0.36 AUD)	Not available	Producer fees to be charged by a scheme administrator.
	0.25 EUR (0.41 AUD)	98.4%	No handling or scheme admin/recycling fee. Retailers own recyclable materials, pay recycling costs and earn revenue.
	0.10 CAD (0.11 AUD)	77.4%	Fees are calculated annually.

International container deposit scheme circular economy objectives

Around 45 countries and territories around the world have container deposit or container return schemes. Each of these schemes operates within an environment of shifting global consumption patterns, changing waste and recycling markets, and the desire to retain the circulation of resources for as long as possible within a circular economy.

Newly designed and recently revised schemes, such as the proposed Scottish and established German and British Columbian schemes (as discussed previously) have progressed from schemes that focus on the avoidance of litter to incorporating the collection and recovery of container materials to support a circular economy by supplying markets with recovered resources. This assists in meeting the United Nations Sustainable Development Goal 12: Ensure sustainable consumption and production patterns[83]. Sustainable consumption and production incorporates decoupling economic growth from environmental degradation, increasing resource efficiency and promoting sustainable lifestyles.

The *Circular economy action plan for a cleaner and more competitive Europe*[84] presents a set of initiatives that build on circular economy actions implemented since 2015 and ensures that the regulatory framework pursues a sustainable future through reduced waste and a secondary raw materials market, while minimising burdens on people and businesses. A key action of the plan to be achieved by 2021-22 is: 'Mandatory requirements on recycled plastic content and plastic waste reduction measures for key products such as packaging, construction materials and vehicles'.

This concept of sustainable production, consumption and recovery of high-value materials is reflective of the material types and beverage containers included in the scope of the schemes. For example, the more recent Scottish and Canadian schemes include plain milk, pure fruit/vegetable juice, and wine and spirit containers made from high-value glass, PET and aluminium within their respective schemes.

83 United Nations 2021, *Sustainable development goals*, https://www.un.org/sustainabledevelopment/sustainable-consumption-production/.
84 European Commission 2020, *Circular economy action plan*, https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en.

Beverage manufac
& distributors
collectors
Collection depots

EPA
South Australia