

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 legislation² 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.

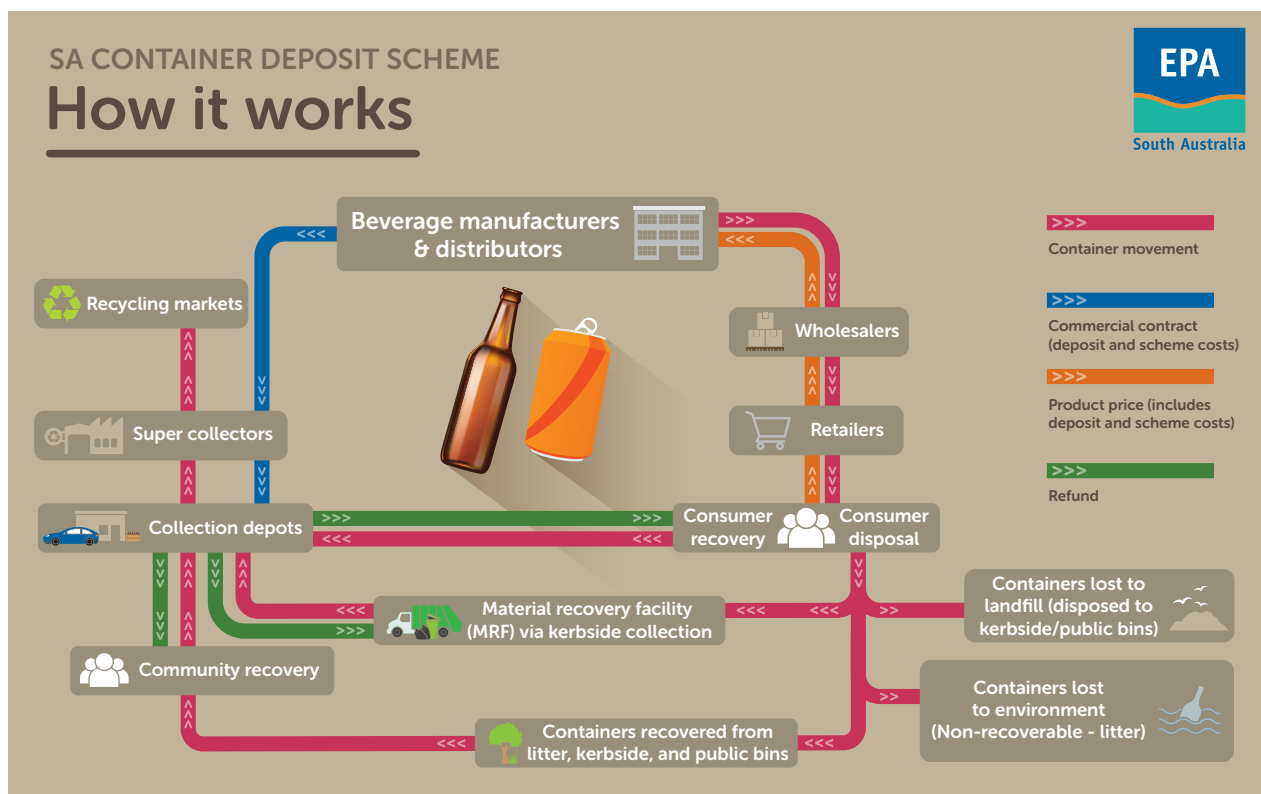
Operation of the scheme

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

2019-20 Highlights

1,383

full-time equivalent jobs provided by the CDS

\$157m

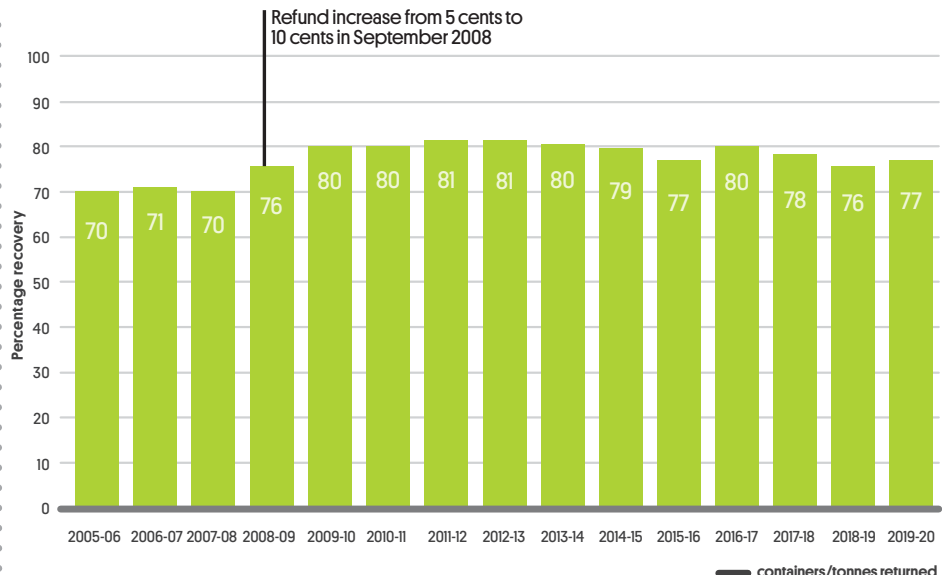
contribution to gross state product

605m

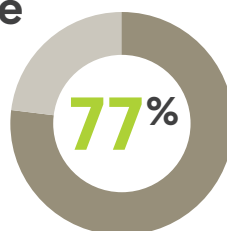
containers (40,354 tonnes) were returned

\$60m

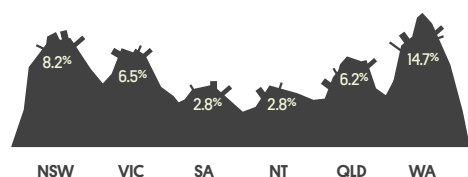
was refunded to the South Australian community



Return rate in SA 2019-20

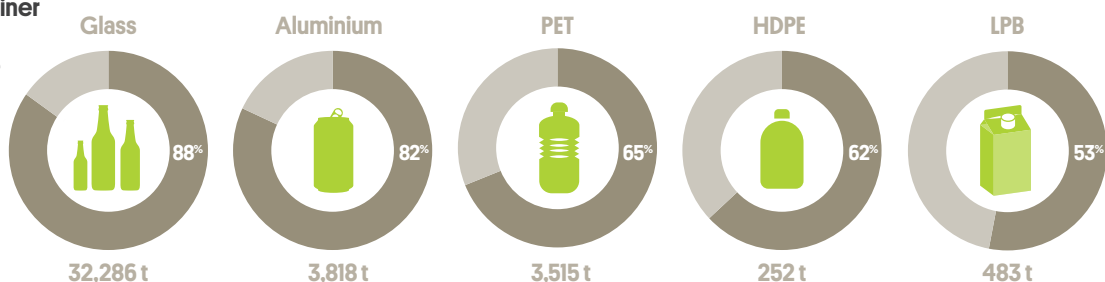


Beverage containers make up only 2.8% of litter in SA



McGregor Tan 2018
https://www.epa.sa.gov.au/files/14049_kesab_cdl_2018.pdf

SA CDS container return rate by material type 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 million⁴. 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 15⁵ local government employees (FTE) are employed at material recovery facilities to process and recover CDS beverage containers⁶. The current value of the CDS to local government is estimated to be around \$5 million per annum⁷.

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.