

SA EPA - CDS Review Collection Depot Consultations & Licensed Establishment Survey Report

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Document verification

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Executive summary

Project overview

South Australia's Container Deposit Scheme (CDS) legislation was introduced in 1977. Since then the scheme's overall design has remained mostly unchanged. Recently there has been a strong call from the public and industry to revise and update the scheme. The SA State Government began reviewing the CDS in 2019 in response to this. To assist in the review, Rawtec was engaged by the SA EPA to directly consult with several Collection Depot groups and survey a range of licensed establishments (e.g. hotels, café, sporting clubs) to understand the:

- direct and indirect benefits and value of the current CDS currently provides
- positive and adverse impacts of making any changes to the CDS (e.g. including additional container types) would have
- non-CDS plastic, metal, liquid paperboard (LPB) or glass container types that would provide the most benefit if included in the CDS.

Key findings from the consultations with the Collection Depot groups and surveys of licensed establishments are provided in the sections below.

Collection Depot consultation key findings

Overview of Collection Depot groups that were consulted

In total, three Collection Depot groups covering 16 Collection Depots (14 in metro Adelaide and two in regional SA) were consulted. These included:

- a not-for-profit Collection Depot group with ten sites that receive approximately 100 million containers per year
- a private metropolitan Collection Depot group with four sites that receive approximately 48 million CDS containers per year
- a private regional Collection Depot group with two sites that receive approximately 6.5 million CDS containers per year.

Additional consultation with Recyclers SA (an industry association that represents 111 of the 132 Collection Depots in SA) was also undertaken to gain an industry-wide perspective on the consultation questions and discussion topics.

Value of the CDS to Collection Depots

Key findings from the Collection Depot consultations on the value of the CDS to them included:

- The CDS underpins the revenue of these businesses, as CDS volumes and revenue are generally consistent each year. This is highly favourable from a business operation perspective.
- Employment at Collection Depots attributed to receiving, sorting, handling/managing CDS containers ranges between an estimated 0.8 to 1.4 full time equivalent staff per 1 million CDS containers received.
- The proportion of revenue from CDS containers ranges between 55% and 90%. Many depots have in the past, or currently, accept other recyclables (e.g. scrap metal, cardboard, mixed plastic). However, commodity prices and revenue for these materials is highly variable.
- Regional Collection Depots generally do not have sufficient volumes of CDS containers to enable them to be standalone businesses based on CDS container revenue. Therefore they are usually associated with providing other services (e.g. scrap metal recycling, firewood, service station).

How eligible containers are returned for recycling

The Collection Depot group consultations and investigations for how containers are returned through the CDS found that Collection Depots are the main point in which customers return containers. Within Collection Depot operations, there are two main methods for receiving CDS containers:

- customers drop off at Collection Depots
- direct collection from customers (direct-from-customer container collection service).

The other methods that customers return eligible CDS containers through the CDS include:

- returning at reverse vending machines (limited - one identified as operating in SA)
- placing into kerbside household (and business) comingled recyclables bins to be recovered by a material recovery facility (MRFs).

Incoming container types

Data and figures on incoming container received from the Collection Depot groups consulted found the following.

- The total CDS/non-CDS containers received (by count) at a Collection Depot included:
 - CDS containers: ~98%-99% of containers
 - non-CDS containers (mostly glass wine/spirit bottles): ~1%-2%.
- The total CDS/non-CDS containers received (by weight) at Collection Depots included:
 - CDS containers: ~60%-93% of containers
 - non-CDS containers (mostly glass wine/spirit bottles): ~7%-40%.
- The type and proportion of containers received by Collection Depots differ between metro Adelaide and regional South Australia (SA) depots. For example, the regional SA Collection Depot group consulted, received a greater percentage of aluminium/metal containers by count (57%) compared to metro Adelaide depots (45.5%)
- The not-for-profit Collection Depot group received/accepted significantly more non-CDS containers (mostly glass wine/spirit bottles) than the other metropolitan or regional depot group
- Glass CDS containers make up a significant volume of eligible containers received by weight (79.4% to 80.6%) compared to the volume of CDS containers received by count (25.2%-27.4%).

Value (handling fee)/commodity value received from CDS/non-CDS containers

Key findings from the consultations with the Collection Depot groups related to handling fee value and commodity values identified the following.

- Collection Depots receive handling fees for all CDS containers received and they also receive the commodity value (sale price) for CDS glass containers. However, Collection Depots are required to pay transport costs for CDS glass, whereas transport costs are covered in the handling fees for all other container types.
- Handling fees range between around ~\$0.051-\$0.068 per container depending on type, size, and transport distance. Please note that handling fees:
 - are negotiated individually between individual Collection Depots and Super Collectors
 - are adjusted periodically or at the end of contract periods, sometimes at CPI rates
 - differ for container types/size (larger containers generally have a higher handling fee applied)
 - are typically higher for regional Collection Depots.
- Commodity values for containers received depend on the quality of material (e.g. lids taken off, minimal contamination).

Impacts from making any changes to the scheme and recommended current non-CDS containers that should be included in the CDS

The Collection Depot groups consulted indicated the following changes that they would like to see be undertaken to improve the scheme.

- Glass wine/spirit bottles and all juice and flavoured milk containers should be considered for inclusion in the CDS. Including these containers in the CDS would:
 - increase the overall volume (and resulting revenue) of containers received at Collection Depots encouraging additional employment, investment in improving facilities, up-to-date infrastructure and expanding the number of depots available
 - enable direct collection of containers from all hospitality venues as restrictions on the percentages of wine bottles disposed of into bins would no longer be applied, as currently occurs, restricting many restaurants from direct container collection services
 - reduce the impact of broken mixed glass in the comingled recyclables bins/MRF system
 - make it easier for Collection Depot staff to distinguish between different container types while sorting (i.e. many non-alcoholic wines are currently eligible, while alcoholic wine is not)
 - incentivise households to separate/ return all containers, rather than place into kerbside household comingled recyclables bins.
- The CDS should have a single scheme coordinator that has an incentive to increase recovery rates and has no financial conflicts with beverage manufacturers.
- A flat rate for handling fees should be applied based on the count of containers paid out to customers, with additional considerations for regional depots (i.e. additional rebate).
- Containers should only need to be separated by material type (aluminium, metal, PET, HDPE, glass, non-foiled/foiled LPB), not by brand/beverage type as is currently required for some containers. This would increase efficiency and reduce costs.
- Any changes made to the CDS should be done with consideration to a wider national scheme.
- Containers used for beverages should be banned for sale in either polystyrene/PS, polyvinyl chloride/PVC, or foiled liquid paperboard. As these materials are unable to be recycled locally.

Licensed establishment survey key findings

Overview of licensed establishments that were consulted

In total, seven licensed establishments were surveyed (via a face-to-face and phone/email consultations). This included:

- two hotels (pubs), including one in metropolitan Adelaide and one in regional SA
- four community sporting clubs, including three in metropolitan Adelaide and one in regional SA
- one café in metropolitan Adelaide.

Summary of container sale/consumption details

The survey questions container sale/consumption at the licensed establishments found the following.

- The estimated consumption/sale of CDS and non-CDS containers ranged substantially between the sporting clubs and café/hotels surveyed.
- A large number of suppliers (i.e. craft breweries) are now providing their beverages exclusively in aluminium cans as they are more cost-effective to transport, due to cartons having less air space and therefore allowing more cartons to fit on pallets.

Summary of the CDS/non-CDS container return services/methods and other recycling/waste services (that may include some containers)

The survey questions related to the sale/consumption of containers at the licensed establishments found that licensed establishments return CDS/non-CDS containers through a mix of services/methods. These included the following.

- The café, two hotels and three sporting clubs all have a direct-from-customer container collection service for mixed containers from their premises. These allow up to around 10% non-CDS containers (mostly wine/spirit bottles). Services included the provision of 240L bins or 1m³ stillages collected weekly, fortnightly, every two months, or quarterly.
- One sporting club was provided with a CDS container only collection service using 3 x 240L bins collected fortnightly, as well as a wine/spirit bottles only service using 1 x 240L bin collected fortnightly.
- Two sporting clubs return eligible containers to Collection Depots in-person using bales/crates.
- Milk bottles were generally not disposed of into the mixed container collection bins and were disposed of into council kerbside comingled recycling bins or council kerbside/private service waste bins.
- One sporting club returned wine/spirit bottles to the Collection Depots without a rebate provided.
- Some of the surveyed licensed establishments are passed on the full 10c per eligible container received, while other providers only pass on a proportion (typically 6-7c per eligible container).

Positive and adverse impacts of broadening the types of eligible containers in the CDS would have on licensed establishments

The survey responses related to the sale/consumption of containers at the licensed establishments found that licensed establishments return CDS/non-CDS containers through a mix of services/methods, including the following.

- The main currently non-CDS containers sold/consumed at the sporting clubs were milk containers (mostly 2L plastic HDPE containers). However, this was a small proportion, ranging from 1 to 4 per week.
- The main current non-CDS containers sold/consumed at the surveyed café and hotels were milk containers (mostly 2L HDPE containers), with volumes ranging from 24 to 120 per week.
- A majority of responses stated that including milk containers in the CDS would be a positive impact on business and would help them support not-for-profits fundraising.
- The only adverse impact identified was that pricing for some menu items (e.g. coffee) would need to increase a small amount.

Positive and adverse impacts that increasing the types of glass in the CDS would have on licensed establishments

The survey responses related to the positive and adverse impacts that increasing the types of glass in the CDS would have on licensed establishments container sale/consumption at the licensed establishments found the following.

- The main non-CDS glass container type sold/consumed at the surveyed sporting clubs was wine bottles, with volumes ranging between seven to 96. Spirit bottles ranged between none and five per week.
- The main non-CDS glass container type sold/consumed at the café and hotels was wine bottles, with volumes ranging between 12 to 360 per week. Spirit bottles ranged between none to 12 per week.
- No licensed establishment indicated there would be an impact (positive or adverse) if other recyclable glass containers (e.g. jam jars, olive jars, sauce bottles) were included in the CDS, as they either consume very little on none of these glass container types on the premises. The café and hotels surveyed indicated that most food staples that were previously provided in glass jars/containers are now provided in plastic containers or aluminium tins.
- Three of the sporting clubs indicated that including wine/spirit bottles in the CDS would be a positive impact, as it would greatly assist with fundraising for not-for-profits who collect their containers. Furthermore, any additional funding large or small assists sporting clubs in staying afloat. Only one sporting club indicated including wine/spirit bottle in the CDS would not have a large impact, as they only consume small volumes.
- All surveyed café/hotels indicated that including additional glass containers in the CDS would have positive impacts on business revenue as well as their ability to support local not-for-profits that collect their CDS containers.
- Including additional glass containers in the CDS would significantly benefit sporting/community clubs in regional SA, as many take wine/spirit bottles to Container Depots anyway despite no rebate.
- Including additional container types (e.g. milk bottles, wine/spirit bottles) in the CDS may result in direct collection services becoming available for community/sporting clubs or restaurants, that currently cannot receive them, due to their total volumes being too low or non-CDS containers (i.e. wine/spirit bottles) making up a too greater proportion of containers placed in bins.

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Acronyms

CDS	Container Deposit Scheme
CPI	Consumer Price Index
HDPE	High-Density Polyethylene
LPB	Liquid paperboard
MRF	Materials Recovery Facility
PET	Polyethylene Terephthalate
PP	Polypropylene
PS	Polystyrene
PVC	Polyvinyl Chloride
RVM	Reverse Vending Machine
SA	South Australia
SA EPA	South Australian Environment Protection Authority
UHT	Ultra-heat treatment

Glossary

Collection Depots	Locations (typically recycling facilities) where CDS container returned and refund are provided. Some Collection Depots also accept non-CDS containers (e.g. wine/spirit bottles), however, no rebate/return is provided for these containers.
CDS containers	Eligible beverage containers where a 10c refund is available to the consumer for containers with the approved refund marking and they were purchased in South Australia.
Direct-from-customer container collections service	Some Collection Depots will collect CDS containers (and some non-CDS container e.g. wine/spirit bottles) directly from customers. This method generally uses stillages, bins or other container types on a regular or at-call basis.
Non-CDS containers	Containers not eligible for the 10c refund. Currently, this includes glass containers for wine and spirits and also larger fruit juice and flavoured milk containers (one litre and above).
Super Collectors	Once containers are received and sorted at Collection Depots, they are transported to the Super Collector (for all CDS container types except glass) for the recycling of material and auditing. Super Collectors enter into contractual arrangements with both Collection Depots and beverage suppliers. Super Collectors pay the Collection Depots back the 10 cent deposits which they pay out to customers, plus an agreed handling fee.



1. Project background

1.1 Project overview

South Australia's Container Deposit Scheme (CDS) legislation was introduced in 1977. Since its inception, the scheme's overall design has remained mostly unchanged. Recently there has been a strong call from the public and industry to revise and update the scheme. To respond to this, the SA State Government began reviewing the CDS in 2019.

To assist in the review, Rawtec was engaged by the SA EPA to consult with Collection Depots and survey a range of licensed establishments (at hotels, café, sporting clubs) to understand the:

- direct and indirect benefits and value of the current CDS currently provides
- positive and adverse impacts that making any changes to the CDS (e.g. including additional container types) would have
- non-CDS plastic, metal, LPB or glass container types that would provide the most benefit if included in the CDS.

1.2 Report structure

This report provides a summary of the key findings from the consultations with the Collection Depots and surveys of licensed establishments, including:

- an overview and summary of the findings from the consultations with Collection Depots
- an overview and summary of the findings from the surveys with licensed establishments
- key findings from the consultations.

1.3 Note regarding survey target audience and project findings

Please note that:

- This report summarises the findings and opinions from the consultations and surveys with Collection Depots and licensed establishments only. It does not represent the wider container/ beverage manufacturing or packaging, or waste and resource recovery industries or stakeholders.
- Where possible, survey comments or figures have been presented as they were provided in the consultations or survey responses. However, some responses have been edited to provide clarity to the readers of this report and figures been rounded where necessary as to not over-represent the accuracy of the data. Therefore, totals and summary figures in some tables may not equate.
- Several statements or figures contained in survey responses have been excluded from this report, as they were provided on a commercial in confidence basis.
- Any individual or extrapolated values or figures provided in this report are high-level only and are not intended to be relied upon other than for this report.
- Extrapolation of the consultation/survey findings to estimate the value of the CDS/any changes to the CDS across the metro Adelaide and all SA was considered. However, the sample sizes able to be obtained within the scope of the project were not large enough to enable this extrapolation (without input from other data sources unable to be considered within the project). However, the project obtained a range of suitable metrics would be relevant for use in future extrapolation projects.

Collection Depot Consultations



2. Collection Depot consultations

2.1 Consultation overview

To understand the value of the CDS and impacts that making changes to the scheme may have on recycling centres that accept CDS containers (Collection Depots), the consultations included:

- meetings (in-person and via phone/email) with selected Collection Depot groups
- site visits to understand how the Collection Depots operate (where permitted)
- collection of data and information suitable for this project including publicly available sources and provided by the SA EPA
- meetings (via phone/email) with Recyclers SA¹ to gain an industry-wide perspective of the consultation questions and discussion topics.

Note regarding consultation findings

Where possible, figures and data and be represented as they were provided in the consultations. Note some information was unavailable or commercial in confidence. Collection Depot group and Collection Depot names and locations have been anonymised and rounded/estimated where required (for data/figures that was not available or provided commercially in confidence).

¹ Recyclers SA is an incorporated industry association that represents Collection Depots in SA and provides a range of services for its members. Recyclers SA currently has 84 members who operate 111 Collection Depots (with several members operating more than one depot) of the 132 Collection Depots operating in SA.

2.2 Collection Depot groups consulted

Collection Depots consulted and consultation topics/questions

In total, three Collection Depot groups covering 16 Collection Depots (14 in metro Adelaide and two in regional SA) were consulted (either in-person or via phone/email). Where possible, consultation included obtaining information and data/figures for the following questions and discussion topics.

1. Overview of depot operations (no. depots, no. containers receives, no. FTEs etc.)
2. System(s) for collecting containers (e.g. customer drop off or direct-from-customer container collection service)
3. Current CDS/non-CDS return value/material commodity prices
4. Destination of each material type
5. Percentage of containers not sent to Super Collectors or recycling facilities (e.g. due to breakage etc.)
6. Recommended container types for inclusion in the CDS
7. Estimated time for additional container types if included in the CDS, to reach recovery rates of current CDS containers
8. Impacts on Collection Depots if any container types were removed from the CDS
9. Current non-CDS container types that would be difficult for Collection Depots to manage, if included in the CDS
10. Economic, social, and environmental impacts on Collection Depots, customers, and communities from making changes to the container types included in the CDS
11. Role of technology (e.g. RVMs, automatic sorting)
12. Other suggested modifications to the CDS and costs or benefits.

Table 1 overleaf provides a summary of the Collection Depot groups consulted, including:

- number of Collection Depots within the group and locations, and estimated depot sizes (containers per annum)
- how the Collection Depot group was consulted and whether a site walk around was permitted
- estimated number of staff dedicated to CDS container receipt, sorting and handling
- the estimated amount of revenue from the businesses from CDS containers received.



Table 1: Summary of consulted Collection Depot groups and overall operation summary

	Not for profit Collection Depot group	Private Collection Depot group	Regional Collection Depot group
Depot group location(s)	Metro Adelaide	Metro Adelaide	Regional SA (covering townships totalling ~7,500)
Consultation type	In-person	In-person	Over phone/emails
Site walk around undertaken	Not permitted	1 (main site)	Not permitted
No. depots	10 with a central depot for aggregation of materials	Four, with one large depot for aggregation of most depots	Two, one medium-sized depot (open full time) and one small-sized depot (open part-time)
Depot sizes/average depot size (containers per annum)	Total across all depots: 100 million	Total across all depots: ~48 million Large depot: ~24 million Medium depot: ~12 million Avg. depot size (all 4): Approx. 12 million	Total across both depots: Approx. 6.47 million Medium depot: ~5.3 million Small depot: Approx. 1.16 million Avg. depot size: ~3.23 million
No FTE staff dedicated to CDS container receipt, sorting and handling	Total across all depots: NA	Total across all depots: ~50 FTE	~5 FTE in total across the group Medium depot staffing: ~4.3 FTE Small depot: ~0.7 FTE
Estimated FTE staff to CDS container ratio**	~1.4 FTE per 1 million CDS containers received	~1 FTE per 1 million CDS containers received	~0.8 FTE per 1 million CDS containers received
The estimated amount of business revenue that is from CDS*	~55%+*	~80%+	~95%

Table note: *Based on the previous year, however, cardboard price has since been reduced to zero, therefore the proportion of revenue from CDS containers is likely higher.

Value of CDS containers on business/organisation revenue

Key findings from consultations on the value of CDS for the Collection Depots consulted include the following.

- The CDS underpins these businesses and allows some Collection Depots (depending on local population density and competition) to provide other benefits for their customers and communities, as a one-stop-shop for recycling (e.g. some allow scrap metal services, cardboard drop off etc.).
- CDS volumes and revenue is generally consistent year on year. This is highly valuable from a business operation perspective. This allows investment in new technology, systems, and site improvements to be planned and implemented. Additionally:
- Many Collection Depots either previously or currently accept other recyclables (e.g. scrap metal, cardboard, mixed plastic). However, unlike the CDS containers, commodity prices and incoming volumes for these other recycling operations are highly variable, and the proportion of business revenue varies depending on the time of year and for each Collection Depot.
- Regional Collection Depots generally have insufficient volumes of CDS container to enable them to be standalone based on CDS container revenue. Many Collection Depots have additional business activities (firewood supply, fuel stations, supermarkets/convenience stores, caravan parks, takeaway shops)
- As per Table 1 above, the ratio of staff required to accept, sort, handle and manage CDS containers received at a Collection Depot (for the Collection Depot groups consulted), ranges between an estimated 0.8 to 1.4 FTEs per CDS million containers received. These figures can be compared to an overall sector figure of an estimated 1,000 FTEs employed at Collection Depots in South Australia (provided by consultation with Recyclers SA). Based on the estimated 612 million containers returned in 2017/18², this works out to be an industry ratio of an estimated 1.6 FTEs per million CDS containers received. However, this ratio figure does not account for other businesses activities that are undertaken at Collection Depots (e.g. scrap metal recycling, firewood, service station) undertaken on each site.

² Source: EPA SA 2020, Container deposits - The CDL Success story, https://www.epa.sa.gov.au/environmental_info/container_deposit

2.3 CDS and non-CDS container receipt methods

Summary of how the SA CDS works and the role of Collection Depots

Figure 1 overleaf provides a diagram of how the CDS operates via container transfers and fee transfers between manufacturers, Super Collectors, Collection Depots, consumers, and retailers. The steps involved are summarised below.

- Step 1 - Suppliers:
 - Wholesale suppliers supply eligible containers to retailers. The 10 cent deposit and an agreed handling fee (negotiated between each Collection Depot and Super Collectors) are included in the wholesale price of the beverage.
 - The deposit and handling fee are retained by the beverage filler or their Super Collector. This is held until the deposit containers are returned to them to be recycled.
- Step 2 - Retailer (hotels, delicatessens, supermarkets etc):
 - Supply consumers. The 10 cent deposit and handling fee are included in the retail price paid by the consumer for the beverage.
- Step 3 - Consumer:
 - Consumers purchase the eligible beverages and return deposit containers (CDS containers) to Collection Depots for a full refund of the 10 cent deposit.
- Step 4 - Collection Depots:
 - Collection Depots sort the containers by material i.e. glass, aluminium, PET, or required beverage/brand type, for return to the appropriate Super Collector or recycling facility (glass CDS containers only).
- Step 5 - Super Collectors:
 - Once containers are sorted, they are sent back to the Super Collector (all container types except glass) for the recycling of material and auditing.
 - Super Collectors pay Collection Depots back the 10 cent deposits which they paid out to the consumer in Step 3, plus the agreed handling fee (negotiated between each Collection Depot and Super Collectors).
 - In South Australia, the Super Collectors are:
 - Marine Stores Pty Ltd owned by Lion Nathan/SA Brewing, Coopers and Carlton United Brewery products,
 - Statewide Recycling and Flagcan Distributors, owned by Coca Cola, Schweppes, and companies marketing a wide range of boutique beers, spring waters etc. (cans, PET, and non-refillable glass containers)



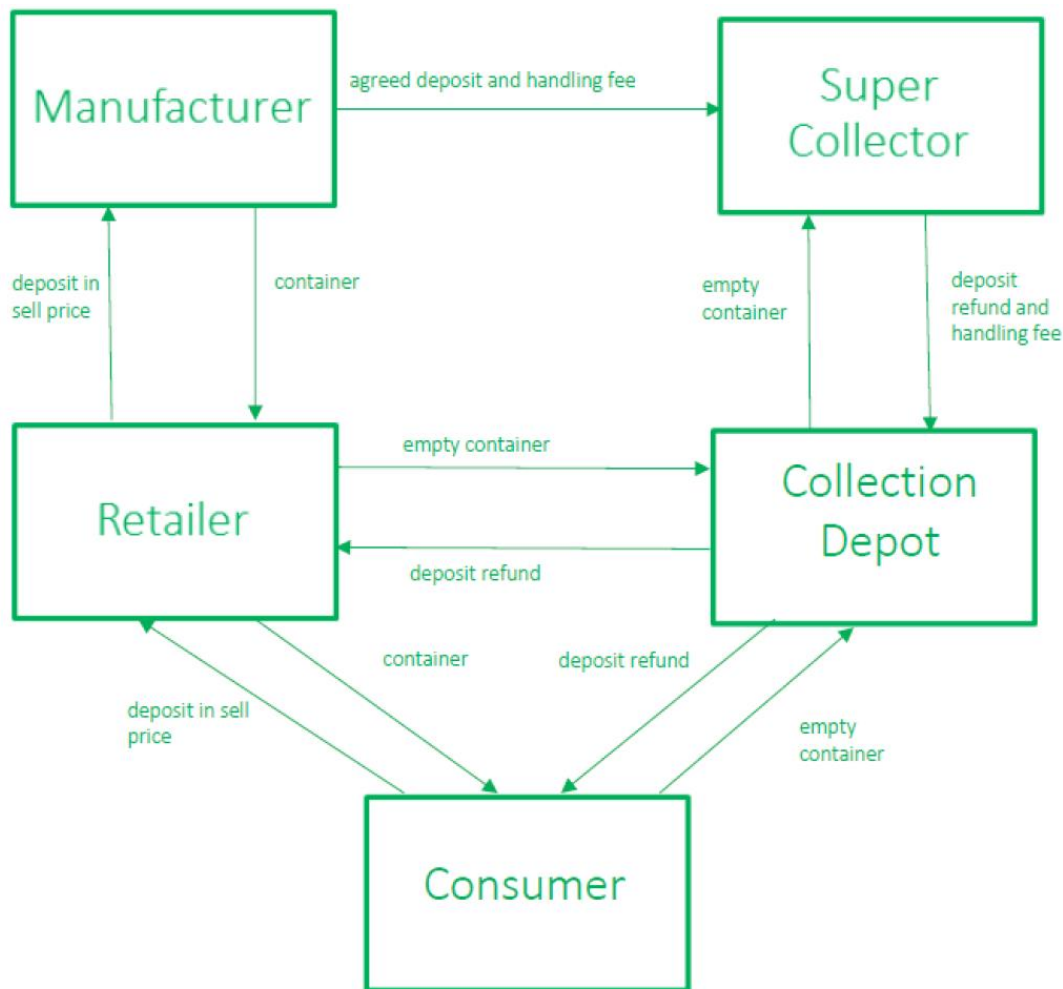


Figure 1: Diagram showing how the SA Scheme operates via container transfers and fee transfers between manufacturers, Super Collectors, Collection Depots, consumers, and retailers (reference

Collection Depot container receipt methods

As indicated in the diagram in Figure 1 above CDS containers can be returned through either retailers or Collection Depots. Collection Depots are the main point (estimated at >~99% of containers returned) where eligible containers are returned. Only a small number of containers are eligible for a refund from the place of purchase (retailer). These containers have a refund marking which states that a refund is available at points of sale and can be returned to any retailer which sells that product. These containers cannot be returned at Collection Depots for a refund.

Within Collection Depot operations, the consultations identified two main methods for the receipt of CDS containers in South Australia were identified during the consultation. These included:

- customers dropping off at Collection Depots
- collection from customers (direct-from-customer container collection service).

The other methods that customers return eligible CDS containers through the CDS include:

- returning at reverse vending machines (limited - one identified as operating in SA)
- placing into kerbside household (and business) commingled recyclables bins to be recovered by a material recovery facility (MRFs).

The methods mentioned above are detailed further in the sections below.

Customer drop off method

Customers can physically drop off their containers at Collection Depots. Table 2 below provides a summary of the key steps involved in this method. Key findings/considerations identified from consultation on this method include:

- Customers do not tend to bring in broken glass bottles or crushed cans/containers. If they do, a rebate is not given, however, the containers are still separated and aggregated into the stillages that either go to Super Collectors or recycling facilities (even if broken/crushed when received).
- Not all Collection Depots have a baler or a glass crusher and balers/crushers differ in size/cost.

Table 2: Summary of the steps involved in customer container drop off receipt method



Customer drop off steps	Example images/further details
1) Customers transport containers to Collection Depots (e.g. using their own vehicles).	
2) Customers/Collection Depot staff place containers on a sorting bench to be counted and sorted.	 <p data-bbox="858 707 1378 869">Once placed on the bench, containers are sorted by material or beverage/brand types as required and any remaining lids are taken off. Non-CDS containers are also separated.</p>
3) Sorted containers are aggregated for transport to the Super Collectors or recycling facilities.	

Figure 2: Example photo of sorting bench at a Collection Depot

Figure 3: Example photos of how containers are aggregated at Collection Depots

Containers are sorted and handled/managed using the following methods³:

- Aluminium/metal cans are separated into beverage brands that have contracts with Statewide (which are placed into either cages, wool bales or 'blocks'), and beverage brands that have contracts with Marine Stores (placed into bales).
- PET plastic containers and LPB cartons are placed unsorted (or 'bulked') into cages or wool bales for collection by Statewide.
- HDPE plastic containers are placed unsorted into wool bales for collection by Statewide.
- Glass is separated into colours (amber, flint and green) for Marine Stores and is placed into bins or crushed into 'glass cullet' by depots with a crushing machine, to save storage and transport costs. Glass is then delivered to the Visy glass beneficiation plant.
- Once sorted as above, Collection Depots do not further separate by size.
- Some Collection Depots also use a 'baling machine' that compresses sorted cans or plastic containers into 'blocks', to save storage and transport costs.

³ Source: ACCC 2018, Application for authorisation AA1000415 lodged by Recyclers of South Australia Incorporated in respect of proposed collective negotiations and collective advice regarding contracts with Super Collectors, Date: 29 August 2018 Authorisation number: AA1000415

- 4) Sorted containers are transported to Super Collectors.
- Transport costs for container types differ between material type, including:
- For aluminium, plastic or LPB containers, transport fees for these containers are covered by the handling fee for the containers received by Collection Depots.
 - For glass containers, Collection Depots are required to pay for the transport costs.

Super collectors under the SA Scheme have the following arrangements in place⁴:

- Statewide handles all plastic (PET and HDPE and LPB) and its own customers' aluminium cans.
 - Marine Stores handles all glass containers and its own customers' aluminium cans.
 - Flagcan does not handle any containers but has arrangements in place with Statewide to handle its customers' containers.
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⁴ Source: *ACCC 2018, Application for authorisation AA1000415 lodged by Recyclers of South Australia Incorporated in respect of proposed collective negotiations and collective advice regarding contracts with Super Collectors, Date: 29 August 2018*
Authorisation number: AA1000415

Direct-from-customer container collection service method(s)

Some Collection Depots will collect CDS containers (and some non-CDS containers e.g. wine/spirit bottles) directly from customers. This method generally uses stillages, bins or other container types on a regular or at-call basis. Table 2 below provides a summary of the key steps involved in this method. Key findings/considerations identified from consultations included the following.

- Only a small number of Collection Depots/Collection Depot groups (around 3-4) provide direct-from-customer container collection services, due to costs of providing service.
- Some customers are passed on the full 10c per eligible container received while other providers only pass on a proportion (typically 6-7c per eligible container).
- Typically, a maximum of 10% wine/spirit bottles is allowed in these services, as they are not currently eligible to receive the 10c return, and Collection Depots pay transport of recovered glass. For this reason, few restaurants are provided with direct-from-customer container collection services.
- Some Collection Depots in regional areas also provide collection from other townships without a Collection Depot on a routine basis for a short amount of time (e.g. one day a month using trucks/shipping containers to collect the CDS containers).

Table 3: Summary of the steps involved in direct-from-customer container collection service

Direct collection steps	Example images/further details
1) Customers organise regular or at-call direct container collection service.	Direct-from-customer container collection services are typically only provided to hotel/clubs and licensed sporting/community premises. Few restaurants are provided with this service due to the high presence of wine bottles (which do not have a deposit/handling fee attached to them).
2) Customers are provided with stillages/bins. These can range from 240L bins to 1-3m ³ stillages or cages as per the examples in Figure 4.	
3) Customers dispose of CDS/non-CDS containers (if permitted) into provided stillages/ bins.	Some providers allow businesses/organisations are permitted up to 10 per cent wine bottles in the bins/stillages/containers.
4) Containers in stillages/bins are transported to Collection Depots for sorting and counting (as per steps 2-3 in Table 2 above).	Collection Depots for sorting and counting (as per steps 2-3 in Table 2 above).
5) Customers are then reimbursed for eligible CDS containers received.	Some providers pass on the full 10c per eligible container to the customer, while other providers only pass on a proportion (typically 6-7c per eligible container) received from the direct-from-customer container collection service.

Figure 4: Example photos of direct-from-customer container collection services (240L bins (left) and 3m³ (middle) and 1.5m³ stillages (right))

Other methods identified

REVERSE VENDING MACHINES

Of the 132 approved CDS return locations in South Australia, only one was identified as a reverse vending machine (RVM) in Adelaide. An RVM is a device that accepts used beverage containers and returns money (or other incentives, e.g. vouchers) to the user. RVMs are popular in places that have mandatory recycling laws or container deposit legislation.

The RVM is operated by Envirobank at the Adelaide IKEA store. Figure 5 below provides an example photo of the RVM, as well as an illustrated list of what is accepted and not accepted (glass containers).

The Collection Depots groups consulted were asked whether they were considering installing any RVMs and none were due to:

- the high capital and operating costs for RVMs
- most RVMs not are able to accept glass containers
- not wanting to move away from the one-stop-shop recycling centre model that most can provide under current Collection Depot arrangements
- RVMs not being consistent with the current South Australian CDS regulations and legislation (i.e. sorting and separation criteria, the requirement for lids to be removed which cannot be guaranteed using RVMs)
- the technology in most RVMs does not currently work well with crushed/deformed containers, containers where the barcode has been scratched off/removed or containers that are difficult to distinguish if they are eligible/not eligible
- SA customers not being notably interested in RVMs – as they grew up with Collection Depots being the location CDS containers are returned to.

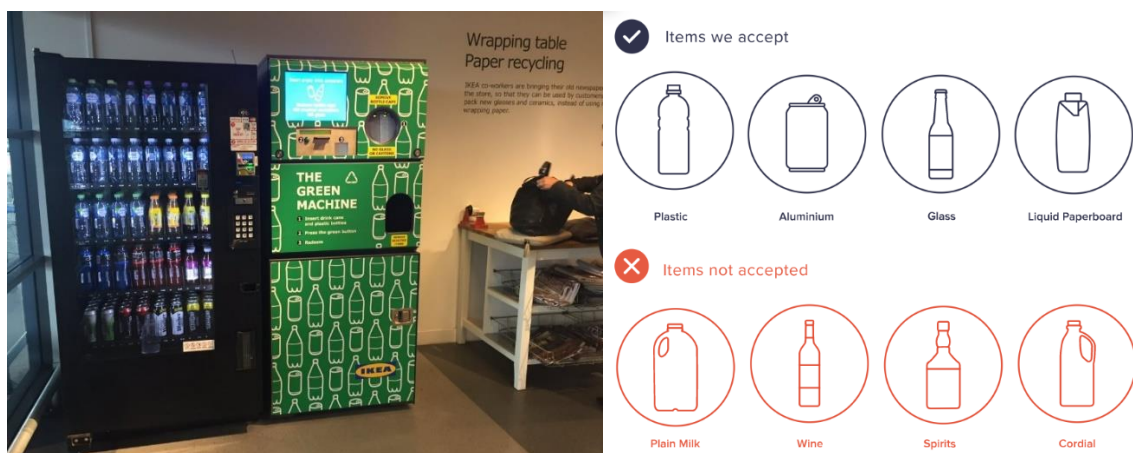


Figure 5: Example photo of the RVM at the Adelaide IKEA store and illustration of items accepted.

COLLECTION OF CONTAINERS FROM MATERIAL RECOVERY FACILITIES

The consultation with the Collection Depots identified that 100% of containers returned through the CDS are returned through Collection Depot companies (either physically or through administration processes), to keep within the regulations governing the CDS. This is either done via either mixed/separated CDS containers in cages (as per the example photo in Figure 6 below), baled containers, crushed containers in skip bins (for glass).



Figure 6: Example photo of roll-on/roll-off CDS container cage from a MRF that would be transported directly to a Super Collector facility for baling and sending to markets for recycling

2.4 Quantities of incoming containers by type

The sections below provide high-level estimates for the proportion (% by weight and count) of containers (CDS and non-CDS glass/wine bottles) received by the Collection Depot groups consulted per annum (Table 4 below) and the estimated incoming containers by count and weight for the average facility size for each of the consulted Collection Depots groups (Table 5 overleaf). These are based on data/figures provided during the consultation with the Collection Depot groups, as well as other information sources directed to by the Collection Depot groups.

Containers received by percentage weight and count

Table 4 below provides a summary of the estimated percentages of container types received at each Collection Depot group consulted. Key findings from this included the following.

- The proportion of containers received by Collection Depot groups in metro Adelaide differed from the proportion received by the regional SA Collection Depot group consulted (i.e. greater percentage of aluminium/metal containers).
- The not-for-profit Collection Depots group received/accepted significantly more non-CDS (mostly glass wine/spirit bottles) than the other Collection Depot groups.

Table 4: Estimated percentage of incoming containers CDS (by type/total) and non-CDS glass wine/spirit bottles

	Not for profit Collection Depot group		Private Collection Depot group		Regional SA Collection Depot group	
Depot location (metro/regional)	Metro Adelaide		Metro Adelaide		Regional SA	
	% weight*	% count*	% weight*	% count*	% weight	% count
CDS container proportions						
Aluminium CDS containers	8.9%	45.5%	8.9%	45.5%	11.9%	57.0%
Steel CDS containers	NA	NA	NA	NA	1.3%	0.4%
Glass CDS containers	80.6%	27.4%	80.6%	27.4%	79.4%	25.2%
PET plastic CDS containers	8.2%	19.6%	8.2%	19.6%	6.1%	13.6%
HDPE plastic CDS containers	0.9%	2.0%	0.9%	2.0%	0.7%	1.5%
Other plastic (i.e. PS) CDS containers	NA	NA	NA	NA	NA	NA
LPB CDS containers	1.5%	5.5%	1.5%	5.5%	0.7%	2.3%
Total CDS containers	100%	100%	100%	100%	100%	100%
Total proportions for CDS/non-CDS containers received						
Approx. proportion CDS containers	60%	98%	93%	99%	94%	99%
Approx. proportion non-CDS glass wine/spirit bottles**	40%	2%	7%	1%	6%	1%

Table notes:

NA = Data was unable to be provided for these streams. Consultation estimates the proportion of these streams to make up less than one per cent of incoming containers in total.

*The metro Adelaide Collection Depot groups consulted said that their splits of container types by count were consistency with what had previously been published in the ACCC 2018, Application for authorisation AA1000415 lodged by Recyclers of South Australia Incorporated in respect of proposed collective negotiations and collective advice regarding contracts with Super Collectors, Date: 29 August 2018 Authorisation number: AA1000415.

** Unable to distinguish between total counts/weights of glass wine bottles and spirit bottles. Consultation with the depot groups indicated that the majority of non-CDS glass containers are wine bottles (>95%).

Containers received by count and weight (average Collection Depot for each group consulted)

Table 5 below provides a summary of the estimated weight and count of container types received at the average Collection Depot size for each of the Collection Depot group consulted.

Table 5: Estimated count and weight of incoming containers CDS (by type/total) and non-CDS glass wine/spirit bottles (average depot size for each consulted Collection Depot group)

	Not for profit depot group		Commercial depot group		Regional depot group	
Depot location (metro/regional)	Metro Adelaide		Metro Adelaide		Regional	
Estimate size (for location)	Medium-Large		Large		Medium Covering a township of an est. 4,000 persons	
	Weight (tonnes)	Count	Weight (tonnes)	Count	Weight (tonnes)	Count
CDS containers						
Aluminium CDS containers	63.8	4,550,000	77	5,460,000	25.9	1,845,100
Steel CDS containers	NA	NA	NA	NA	2.7	12,900
Glass CDS containers	578.9	2,740,000	695	3,288,000	172.3	815,700
PET plastic CDS containers	58.7	1,960,000	70	2,352,000	13.2	440,200
HDPE plastic CDS containers	6.2	200,000	7	240,000	1.5	48,600
Other plastic (i.e. PS) CDS containers	NA	NA	NA	NA	NA	NA
LPB CDS containers	11.0	550,000	13	660,000	1.5	74,500
Estimated total CDS containers	719	10,000,000	862	12,000,000	217	3,237,000
Estimated non-CDS glass wine/spirit bottles*	480	253,300	25	48,000	4	8,000
Total all containers received	1,199	10,253,300	888	12,048,000	221	3,245,000

Table notes:

NA = Data not able to be provided

*The metro Adelaide Collection Depot groups consulted said that their splits of container types by count were consistency with what had previously been published in the ACCC 2018, Application for authorisation AA1000415 lodged by Recyclers of South Australia Incorporated in respect of proposed collective negotiations and collective advice regarding contracts with Super Collectors, Date: 29 August 2018 Authorisation number: AA1000415.

** Unable to distinguish between total counts/weights of glass wine bottles and spirit bottles. Consultation with the Collection Depots groups indicated that the majority of non-CDS glass containers are wine bottles (>95%)

Value/commodity prices for CDS/non-CDS containers received by Collection Depots

The consultations with Collection Depot groups found that they receive different values for container received, depending on the material type/beverage type/brand of the container. Value comes from two main sources, revenue from handling fees and the commodity value of the material. A summary of the overall handling fees and material commodity values for CDS (and some non-CDS) containers for Collection Depots is provided below.

HANDLING FEES

- Handling fees range between around ~\$0.051-\$0.068 per container depending on type, size, and transport distance. However, handling fees:
 - Are negotiated between individual Collection Depots and the Super Collectors.
 - Differ between container material types and size (larger container types generally have a higher handling fee applied).
 - Are typically higher for regional Collection Depots.
 - Are adjust periodically or at the end of contract periods, and sometimes increased at CPI rates (depending on individual contracts).
- Some handling fees are based on the count of containers paid out to Super Collectors and some are based on the weight of material received and a formula (based on audits) is used for estimating how many containers per tonne are received.
- For container types paid out based on weight received and using a formula to calculate the number of containers in the load, the perception from the Collection Depots consulted is that audits aren't consistently or transparently undertaken and the sizing and nature of containers have changed significantly over the past few years (e.g. containers are getting smaller and lighter). This means that weight-based handling fees are becoming less accurate or fairly calculated and not keeping up with current market proportions for containers sold in SA. Some Collection Depots are paying out more to customers than what is compensated.
 - For example, 'stubbies' (aluminium cans) used to be 375ml and are now 340-350ml, so have less aluminium in them. Previously, 73 cans would add up to a kilogram in weight, but now with smaller cans in the market and Collection Depots need 80 cans to make a kilogram, resulting in CDS containers losing money on seven cans (paid out to customers) for every kilo provided a rebate for. Over millions of containers sold at Collection Depots, this adds up to significant losses across all Collection Depots.

COMMODITY VALUE RECEIVED

- The commodity value is received by the Super Collectors for all CDS container streams except for glass.
- Most regional Collection Depots do not accept non-CDS containers (i.e. wine bottles) as they cost too much to transport to Super Collectors or recycling facility.
 - This is particularly relevant for non-CDS glass, as Collection Depots have to pay the freight costs to transport glass to recycling facilities. Accepting and mixing too much non-CDS glass with the CDS glass stream, reduces the viability of being able to transport the CDS glass stream to the recycling facility.
 - Generally, only Collection Depots that are on busy transport routes/connections accept non-CDS containers.
- Commodity values for received containers recovered through the SA CDS are generally higher than most other states due to:
 - The SA CDS has been around longer other state's schemes, and therefore experience lower contamination rates.
 - Lids are required to be removed in the SA CDS and as the vast majority of containers returned in SA are manually handled/sorted rather than mechanical sorting/RVMs, meaning that there is more opportunity for Collection Depots staff to remove lids as they are received or discard any contaminated containers (e.g. with cigarettes, needles, rubbish in them).
- SA Collection Depots are not allowed to discuss handling fee rates between themselves. This is compared to other schemes (e.g. New South Wales) where the handling fee is set for all Collection Depots, with consideration for transport costs/distances for regional Collection Depots, and adjusted each year based on inflation.
- Customers do not tend to bring in broken glass bottles. 100% of incoming containers sorted into stillages/bins that either go to Super Collectors or recycling facilities (even if broken on the bench or crushed).



Value/commodity prices and fate for individual container types

The sections below provide details on the value and commodity value for each container type, including container examples, transport cost, where aggregated containers transported to, and estimate commodity values and who receives the commodity value.

METAL/ALUMINIUM CONTAINERS

Table 6 below provides a summary of the metal/aluminium container value/commodity prices for Collection Depots and fate based on information and data/figures received during the consultations and other investigations.

Table 6: Metal/aluminium container value/commodity prices for Collection Depots and fate

Return location	CDS containers	Non CDS containers
Container examples	Aluminium containers: Beer cans, soft drink, wine in a can, kombucha. Metal containers: some coconut waters (estimated at less than >0.5% of all containers received)	Imported water alternatives (e.g. coconut water - few received by Collection Depots). Some Collection Depots accept food cans/tins etc.
Handling fee based on	Handling fee based on the weight of material received and formula for the estimated number of containers per weight for all Collection Depots.	NA
Transport cost paid by	Covered in the handling fee	NA - Assumed that these containers are mixed with scrap metal recycling
Approx. transport costs	NA - Covered in the handling fee	NA
Aggregated containers transported to	Super Collectors	Scrap metal recyclers
Approx. commodity value	Aluminium cans: \$1,050/tonne ⁵ to \$2,357/tonne ⁶ Metal cans: \$110/tonne ⁵ to \$333/tonne ⁶	
Commodity value received by	Super Collectors	Collection Depots
Market options for recycling	Strong market options locally and international for recycling/remanufacturing	

Table note: NA = No details provided or not applicable.

⁵ Sustainability Victoria 2020, Recovered Resources Market Bulletin February 2020 Victorian Market Intelligence Pilot Project (edition #11), <https://www.sustainability.vic.gov.au/Business/Investment-facilitation/Recovered-resources-market-bulletin>

⁶ Green Industries SA 2019, [South Australia's Recycling Activity Survey 2017-18 Report](#)

PLASTIC CONTAINERS

Table 7 provides a summary of the value/commodity prices for plastic containers including polyethylene (PET), high-density polyethylene (HDPE), polystyrene (PS) and polyvinyl chloride (PVC) for Collection Depots, and the fate of containers based on information and data/figures received during the consultations and other investigations.

Table 7: Plastic container value/commodity prices for Collection Depots and fate

Return location	CDS containers	Non CDS containers
Container examples	HDPE: Iced coffee, milk drinks PET: Soft drink PS: Yakult only containers identified PVC: No containers identified	Very few depots accept non-CDS plastic containers Examples include cordial containers (PVC)
Handling fee based on	HDPE: Handling fee based on the count of containers paid out to customers for all Collection Depots. PET (differs between metro/regional depots): <ul style="list-style-type: none"> Metro Adelaide Collection Depots: Handling fee based on the weight of material received and formula for the estimated number of containers. Regional SA Collection Depots: Handling fee based on a count of containers paid out to customers. PS: Handling fee based on the count of containers paid out to customers for all Collection Depots.	NA
Transport cost paid by	Covered in the handling fee	Collection Depots
Est. transport costs	Included in the handling fee	NA
Aggregated containers transported to	Super Collectors	Plastics recyclers
	<i>Note: Regional Collection Depots were previously able to send mixed plastic bales to Super Collectors. They are recently required or being encouraged to separate all plastic containers by type.</i>	
Approx. commodity value	PET: \$300/tonne to \$ ⁷ HDPE: \$600/tonne ⁷ PS and PVC: NA - Assume negligible or cost to recycle Mixed plastic codes (1-7): \$60/tonne Mixed plastic (codes 3-7): Cost of \$20/tonne ⁷	
Commodity value received by	Super Collectors	Collection Depots
Market options for recycling	HDPE/PET: strong markets for recycling/remanufacturing locally internationally. PS/PVC: limited markets or unable to be recycled/remanufactured locally	

Table note: NA = Not applicable or no details able to be provided.

⁷ Sustainability Victoria 2020, Recovered Resources Market Bulletin February 2020 Victorian Market Intelligence Pilot Project (edition #11), <https://www.sustainability.vic.gov.au/Business/Investment-facilitation/Recovered-resources-market-bulletin>

GLASS CONTAINERS

Table 8 below provides a summary of the glass container value/commodity prices for Collection Depots and fate from the consultations. Key findings included the following.

- Not all Collection Depots accept non-CDS glass wine/spirit bottles and glass jars, if they do, they only accept small volumes.
- Depots receive the handling fee and commodity value of glass CDS containers received; however, they also are required to pay transport.

Table 8: Glass container value/commodity prices for Collection Depots and fate

Return location	CDS containers	Non CDS glass containers
Container examples	Soft drink, beer, premix alcohol drinks, non-alcoholic wine.	Beverage examples: Wine bottles or spirit bottles Non-beverage examples: food containers: Glass Jars
Handling fee based on	Handling fee based on the weight of material received and formula for the estimated number of containers for all Collection Depots.	NA
Approx. transport costs	Metro Adelaide: ~\$20-\$40/tonne Regional SA: ~\$70/tonne (full load) to \$100/tonne (half load) Note: Some regional Collection Depots also receive a \$15/tonne rebate for glass transport costs from Super Collectors.	
Transport cost paid by	Transport costs are paid by the Collection Depots	
Approx. commodity value	~\$120/tonne (separated by colour, type)*	
Aggregated containers transported to	Glass recycling/remanufacture facilities (located in SA)	
Markets options for recycling/remanufacturing	Strong local and domestic market options	

Table notes:

NA = no details provided or not applicable.

*Based on consultation findings from a current glass recycling contract deal with all Collection Depots which expires in around three years. When this occurs it is expected the new rate will be significantly lower, most likely closer to the market rate for separated glass, which is currently approx. \$75/tonne⁸ for source-separated glass (by type and colour).

⁸ Sustainability Victoria 2020, *Recovered Resources Market Bulletin February 2020 Victorian Market Intelligence Pilot Project (edition #11)*, <https://www.sustainability.vic.gov.au/Business/Investment-facilitation/Recovered-resources-market-bulletin>

LPB CONTAINERS

Table 9 below provides a summary of the foiled and non-foiled liquid paper board (LPB) container value/commodity prices for Collection Depots and fate from the consultations.

Table 9: LPB container value/commodity prices for Collection Depots and fate

Return location	CDS LPB containers	Non CDS LPB containers
Return Location	Non-foiled LPB examples: Flavoured milk Foiled LPB examples: Coconut water, juice boxes.	Non-foiled LPB examples: Milk Foiled LPB examples: Long-life UHT treated milk
Handling Transport cost paid by fee basis	Handling fee based on a count of containers paid out to customers for all Collection Depots.	NA
Approx. transport costs	Covered in the handling fee	NA
Aggregated containers transported to	Super Collectors	Scrap metal recyclers
Aggregated containers transported to	Non-foiled LPB containers: Previously ~\$30/tonne (estimate from 2018/19) ⁹ however, most likely a cost as now due to China Sword etc. Foiled LPB containers: Unknown - most likely a cost for sending to a recycler.	
Markets options for recycling/remanufacturing	Non-foiled LPB containers: Low - Only international options available, however, this has been limited due to China Sword, export bans etc. Foiled LPB containers: Unknown - No National or international recycling market locations known	

Table notes:

NA = Not applicable or no details able to be provided.

**Based on a current contract deal with all Collection Depots which expires in approx. three years. When this occurs it expected the new rate will be significantly lower.*

⁹ Rawtec based on industry knowledge.

2.5 Impacts from making changes to the type of containers included in the CDS

Recommended container types for inclusion in the CDS from the point of view of Collection Depots

Consultation with the Collection Depot groups indicated that including additional container types in the CDS would have an overall positive impact on businesses, their customers and community.

Notably it would:

- increase patronage and recovery rates for all container types, as historical experience has shown that volumes tend to peak after additional value for customers is applied to the CDS containers. For example, the change in return rate from 5c to 10c
- increase the volume of containers received at Collection Depots would increase the viability of expanding recycling services at Collection Depots, hiring more staff and increasing the number of Collection Depots in SA
- provide an additional incentive for customers to separate containers and return them at depots, rather than place containers into kerbside household bins
- increase the volume of containers received and rebates provided to sporting/ community groups/clubs.

Table 10 overleaf provides a summary of the recommended container types to include in the CDS as indicated in the consultation, as well as the reason for the inclusion of each container and reasons against.



Table 10: Summary of recommended container types to include in the CDS (from the consultations) and reason for/against

Container type	Groups for	Reasons for	Reasons against
Glass wine/spirit bottles	3/3	<ul style="list-style-type: none"> • Non-alcoholic wine is included in the CDS. • Glass is food grade and readily recycled. • Allow all restaurants to access a direct-from-customer container collection service. • Single-use champagne/wine bottles are now commonly consumed away from home as with beverages in the CDS. • Most metro Adelaide Collection Depots currently accept wine/spirit bottles, however, majority of regional Collection Depots do not. This is mainly due to high transport costs without a handling fee being applied to each container. • Reduce the amount of mixed broken glass in kerbside household comingled recyclables bins/MRF material which can contaminate recovered paper/cardboard. Mixed glass also has almost no commodity value¹⁰, due to contaminants (e.g. window/Pyrex glass, ceramic) within the mixed glass and is usually sent to landfill. • Increase the amount of clean separated glass available for reuse/recycling. Clean separated glass also has a higher commodity value. 	No reasons against provided.
All flavoured milk and juice regardless of size	3/3	It is time/resource consuming for Collection Depot staff to sort through and inspect each flavoured milk container to determine if each is eligible for the 10c refund.	No reasons against provided.
All milk containers (flavoured and non-flavoured /white milk)	1/3	It is time/resource consuming for Collection Depot staff to sort through and inspect each milk, as some a flavoured and without the 10c return (e.g. some breakfast milk mixes) and some are plain but in similar packaging.	Milk is considered an essential good, whereas other beverages (e.g. soft drink, flavoured milk alcohol) are not.
Other food continuing containers (glass jars)	1/3	It is better from an environmental/circular economy perspective to put in processes in place to manage the risks of contaminants from these products (e.g. residual food products) than send these items to landfill.	Containers with contamination (e.g. residual food products) would be challenging for Collection Depots as they are not currently equipped to manage it.

¹⁰ Mixed glass market value is an estimated market value of -\$30 as per the Sustainability Victoria 2020, Recovered Resources Market Bulletin February 2020 Victorian Market Intelligence Pilot Project (edition #11)



Recommended container material types that should be banned from being able to be sold in SA

All Collection Depot groups consulted indicated that the material types of containers are increasingly complex, making it more time/resource consuming to adequately separate them as required.

Therefore, they all provided feedback that polymers and material types that are difficult to recycle or unable to be recycled in SA/Australia should be banned for sale. These include:

- Polystyrene/PS
- Polyvinyl Chloride/PVC
- Foiled LPB.

They also indicated that regulatory restrictions should also be put in place/reviewed to ensure that beverage/liquid containers are not able to be sold in bioplastics, for example, polylactic acid/PLA), which is occurring overseas, as these container types can contaminate high-value plastic recycling streams (PET, HDPE).

Estimated time for additional container types, if included in the CDS, to reach recover rates of current CDS containers

All Collection Depot groups consulted indicated that return rates for additional containers in the CDS would be almost instant (e.g. within 6-12 months). Customers who return containers to Collection Depots already have a set aside an area (e.g. in a shed) and containers (e.g. in boxes/crates) for separate collection of containers. So it would be just a matter of more boxes/crates or more frequent trips to the Collection Depots for these customers.

Impacts on Collection Depots if any container types were removed from the CDS

All Collection Depot groups consulted indicated that several challenges would occur if any container types were removed from the CDS. These include the following.

- It would impact on the volume of containers received at a Collection Depots (and subsequent revenue), which would follow on impacts on revenue and Collection Depots standards and reduce staffing required.
- The value of a single container without the 10c deposit is negligible, which would mean that it is not worth customers of Collection Depots separating and would either end up in kerbside household waste or comingled recycling bins.
- It would also discourage customer returning other CDS containers, as the value to each trip would be diminished, or they would have to stockpile containers longer between trips.
- It would also be confusing for customers as containers that they once received a return value for, no longer had the return value, making sorting more difficult and impacting customer relations.

Current non-CDS container types that would be difficult for Collection Depots to manage, if included in the CDS

All Collection Depot groups consulted indicated that there would be no issues handling any additional container types included in CDS, as equipment, systems etc. are already in place. It would be a matter of increasing collection frequency/transport to Super Collectors/recycling facilities.

2.6 Other suggested modifications to the CDS and costs or benefits to the Collection Depot's collection and/or material recovery systems.

CDS system improvements

The consultations with the Collection Depot groups indicate the following additional suggestions for consideration for improving the CDS from the perspective of Collection Depots.

- The CDS should have a single scheme coordinator (similar to the Queensland CDS) that focuses on improving the recovery rates and efficiency of the system (not just profits). This would also:
 - Reduce administration on Collection Depots and the Super Collector(s) of the system.
 - Reduce the need for sorting of individual container types (e.g. by brand/beverage type).
- Fees, charges, returns should be standardised fairly to reduce the administration and additional separation burden. This includes a single handling fee across all container types which would reduce the need for additional sorting (e.g. by brand) as is currently required.
 - Handling fees in South Australia are currently negotiated between each Collection Depot and Super Collectors. In other state schemes (e.g. New South Wales) handling fees are set for all Collection Depots at 6c per container, adjusted for inflation each year.
 - Handling fees for some regional depots have not increased in recent years, and the depots are starting to wear the costs.
 - As soon as the value of the handling fee reduces below a certain point compared to operating costs, the viability of the business is reduced.
- The return value should be increased (i.e. 20c), which would see a sharp increase in the number of containers returned as similar to 5c to 10c increase. Future return values should keep up with inflation.

Role of technology

Technology that improves sorting efficiency and quality, should be part of the future scheme and should be encouraged by scheme coordinator(s), with additional funding opportunities available for implement new technologies and equipment/infrastructure at Collection Depots.



Licensed Establishment Surveys



3. Licensed establishment surveys

3.1 Consultation overview

To understand the value of the CDS and any impacts from making any changes to the scheme will have on licensed establishments (e.g. pubs, community/sporting clubs, café/restaurants that are licensed to sell alcoholic) the following consultation activities were carried out.

- A survey (conducted in-person or via phone/email) was undertaken with a range of licensed establishments in metro Adelaide and regional South Australia (SA).
- Collection and review of data and information related to the project, including publicly available sources, and provided by the SA EPA.

Note regarding consultation findings

Where possible, figures and data are represented as they were provided in the surveys. However, note that the surveyed licensed establishments were generally only able to provide estimates on beverage consumption/sold or rebates for CDS containers returned as actual figures are commercial in confidence. Names and locations of the licensed establishments surveyed have been anonymised for this report figures have been rounded off and/or estimates have been made and indicated (for data/figures that weren't able to be provided or were provided commercially in confidence).



3.2 Licensed establishments consulted

Licensed establishments surveyed

Table 11 below provides a summary of the licensed establishments. In total, seven licensed establishments were surveyed, this included:

- two hotels (pubs), including one in metro Adelaide and one in regional SA
- four sporting clubs, including three in metro Adelaide and one in regional SA
- one café in metro Adelaide.

Table 11: Summary of the surveyed licensed establishments

Type	Location (metro/regional)	Suburb/area	Activities	Approx. members	Approx. regular weeks of activity
Sporting club	Metro Adelaide	Adelaide Parklands	Football, cricket, netball soccer	~200-300 depends on the year	2 nights a week for 20 weeks a year. 1 day a week rest of year
Bowling club	Metro Adelaide	Somerton Park	Lawn bowls	140 regular and 300 night (Tues, Wed, Thurs nights) members	Busy four days and three nights a week (nights consume considerably more beverages)
Football club	Regional SA	Limestone Coast	Football	250	8 months 35 weeks
Sailing club	Metro Adelaide	Somerton Park	Sailing	250	~One day/night a week over 8 months of the year
Café	Metro Adelaide	Glenelg South	Café	Seats ~30 max. at a time	52 weeks/year
Hotel	Metro Adelaide	Glenelg South	Hotel	NA	52 weeks/year
Hotel	Regional SA	Clare Valley	Hotel	NA	52 weeks/year

Consultation topics/questions

The surveyed licensed establishments were asked to respond to the following survey questions or discussion topics. A copy of the survey is provided in Appendix 1.

1. Licensed premise activities (e.g. hotel, café, sporting club).
2. Approx. members/patrons (if able to be provided).
3. Approx. regular weeks of activity (e.g. for football clubs the season is approx. six months with two days a week member use of the licensed establishment part of the club).
4. Type and size of beverage containers sold/consumed and estimate number of containers sold/consumed per week for beer/cider/premix, soft drink/water, bottles of wine, spirit bottles and milk containers.
5. Details of regular container disposal/recycling services provided to the business/organisation for (if applicable) separated 10c (CDS) and non-CDS containers, separated wine/ spirit bottles, separated plastic milk bottles, separated milk cartons, other separated containers, mixed/comingled recycling and waste and details of any other container recycling services or activities (e.g. containers taken by staff to the Collection Depots).
6. The impacts that the following changes to the CDS would have on your business/organisation.
 - 6.1 For plastic, metal, and liquid paper board (LPB) containers:
 - Part A: Positive and adverse impacts to the business/organisations from increasing the types of plastic, metal, and LPB containers in the CDS?
 - Part B: Particular types of plastic, metal or LPB containers that would provide the most benefit to the business/organisation if included in the CDS and why?
 - 6.2 For glass containers (e.g. wine and spirit bottles):
 - Part A: Positive and adverse impacts from increasing the types of glass containers (e.g. wine and spirit bottles) in the CDS?
 - Part B: Are there any particular types of glass containers that would provide the most benefit to the business/organisation if included in the CDS and why?
 - Part C: Positive and adverse impacts from including all recyclable glass containers and jars (e.g. jam jars, olive jars) in the CDS.
7. Any other suggested modifications to the current CDS and costs or benefits to the State's economy or other comments.



3.3 Container usage/purchase and return methods

The sections below provide a summary of the estimated responses for the type and number of containers consumed at the licensed establishments, as well as container return and recycling/waste services (that may include containers placed into them) provided to the respondents.

Container usage

Table 12 below provides a summary of the estimated number of containers sold/consumed each year by the surveyed licensed establishments for the main container types identified in survey responses.

Key findings from this table and the responses included the following.

- The estimated consumption/sale of CDS containers ranged between:
 - 1,300 to 28,000 CDS containers per annum for the sporting clubs surveyed
 - 3,600 to 37,300 CDS containers per annum for the café and hotels surveyed.
- The estimated consumption/sale of wine/spirit bottles ranged between:
 - 15 to 3,200 glass wine/spirit bottles per annum for the sporting clubs surveyed
 - 600 to 18,700 glass wine/spirit bottles per annum for the café and hotels surveyed.
- The estimated consumption/sale of milk containers (mostly HDPE 2L) ranged between:
 - 25 to 130 containers per annum for the sporting clubs surveyed
 - 1,200 to 6,200 for the café and hotels surveyed.
- Other plastic, metal and LPB container type consumption (e.g. juice containers) was insignificant.
- A large number of suppliers (i.e. craft breweries) are now providing their beverages exclusively in aluminium cans as they are more cost effective to transport.

Table 12: Estimated container consumption at each premise per annum

	Beer/ cider/ premix (CDS)	Soft drink/ water (CDS)	Total CDS containers	Wine bottle (non CDS)	Spirit bottle (non CDS)	HDPE/PET milk containers (non CDS)	Total non CDS	Est. total per annum
Metro Adelaide sporting club	8,600	1,700	10,300	270	0	70		10,600
Metro Adelaide bowling club	8,000	6,600	14,600	3,200	160	130		18,000
Regional SA football club	24,900	3,100	28,000	400	25	25		28,400
Metro Adelaide sailing club	900	400	1,300	15	0	35		1,300
Metro Adelaide café	1,200	2,400	3,600	600	0	6,200		10,400
Metro Adelaide hotel	24,900	12,400	37,300	18,700	600	1,800		58,400
Regional SA hotel	24,900	4,900	29,800	9,300	600	1,200		40,900

Table note: Figures are rounded so may not equate.



Container return/recycling services and activities

Table 13 overleaf provides a summary of the CDS/non-CDS container return services/methods and other recycling/waste services (that may include some containers) and estimated volumes generated per annum (adjusted for the approximate number of regular weeks of activity indicated in responses) for each of the surveyed licensed establishments. Key findings from this table and survey responses include the following.

- The café, two hotels and three sporting clubs received direct-from-customer container collection services for mixed CDS containers and up to 10% non-CDS containers (mostly wine/spirit bottles) from their premises. Services included the provision of 240L bins or 1m³ stillages collected either weekly, fortnightly, every two months, or quarterly.
- One sporting club was provided direct-from-customer container collection services including:
 - A CDS only using 3 x 240L bins collected fortnightly
 - a wine/spirit bottles only service using 1 x 240L bin collected fortnightly.
- Two sporting clubs had volunteers return CDS containers to Collection Depots using bales or crates.
- Milk bottles were generally not disposed of into the CDS primarily disposed of into kerbside household comingled recycling bins or waste bins.
- One sporting club returned wine/spirit bottles to the Collection Depot using crates even despite no rebate provided.
- Some of the surveyed licensed establishments indicated that they were told by their Collection Depot providers that they are passed on the full 10c per eligible container received, while other providers only pass on a proportion (typically 6-7c per eligible container).



Table 13: Container return/recycling services and per annum volumes, adjusted for approx. regular activity weeks

	Direct from customer container collection service	Other CDS container return method	Est. CDS rebate returned	Separate glass wine/spirit bottle recycling	Kerbside comingled recyclables bin	General waste
Metro Adelaide sporting club	Not-for-profit service Using 1m ³ stillage collected quarterly ~4m ³ per annum		~\$1,000 per annum	NA - Wine/spirit bottles go in council recyclables bins		Private service Using 6 x 240L bins collected monthly ~12m ³ per annum
Metro Adelaide bowling club	Private service Using 4 x 240L bins collected fortnightly ~16m ³ per annum		~\$1500 per annum	Private service Using 1 x 240L bins collected fortnightly ~4m ³ per annum	Council service Using 4 x 240L bins collected weekly ~16m ³ per annum	Council service Using 7 x 240L bins collected monthly ~56m ³ per annum
Regional SA football club		Volunteers take containers from club and from around the oval to the local Collection Depot every fortnight using wool packs.	~\$2,800 per annum	Volunteers take wine/spirit bottles to the local Collection Depot using crates with no rebate received		Council service Using 4 x 240L bins collected fortnightly ~12.5m ³ per annum
Metro Adelaide sailing club		Volunteers take separated CDS containers to the local Collection Depot twice a year using crates.	~\$120 per annum	NA - Wine/spirit bottles go in council recyclables bins	Council service Using 3 x 240L bins collected weekly ~12.5m ³ per annum	Council service Using 3 x 240L bins collected monthly ~25m ³ per annum
Metro Adelaide café	Not-for-profit service Using 2 x 240L bins collected every 2 months ~3.1m ³ per annum		~\$360 per annum	NA - Wine/spirit bottles go in container collection service	Council service Using 2 x 240L bins collected fortnightly ~12.5m ³ per annum	Private service Using 1 x 1.5m ³ bins collected fortnightly ~39m ³ per annum
Metro Adelaide hotel	Not-for-profit service Using 2 x 1m ³ stillage collected weekly ~104m ³ per annum		~\$3,000 to \$3,500 per annum (varies year to year)	NA - Goes in container collection service	Council service Using 2 x 240L bins collected fortnightly ~12.5m ³ per annum	Private service Using 1 x 3m ³ bins collected weekly ~156m ³ per annum
Regional SA hotel	Not-for-profit service Using 2 x 1m ³ stillage collected fortnightly ~52m ³ per annum		Est. around \$2,500 to \$3,000 per annum (goes to local CFS)	NA - Goes in container collection service		Private service Using 1 x 3m ³ bins collected fortnightly ~78m ³ per annum

Table note: * Service generally includes up to 10% wine/spirit bottles.

3.4 Qualitative survey question response summary

This section provides a summary of the key responses from the surveyed licensed establishments for the qualitative survey questions. Where relevant, key responses have been grouped or separated into responses from sporting clubs or café/hotels surveyed.

Question: Please describe the positive and adverse impacts that increasing the types of plastic, metal and LPB containers in the CDS would have on your business/organisation?

The key response to this question from the surveyed sporting clubs only was that the main non-CDS plastic, metal and LPB containers sold/consumed at the surveyed sporting clubs were milk containers (mostly 2L plastic HDPE containers). However, only small volumes of milk containers were sold/consumed, ranging between 1 to 4 per week. Other plastic, metal and LPB container types (e.g. juice containers) were sold/consumed even less. Therefore, there would be little to no impact at sporting clubs if milk containers were included in the CDS and would minorly help with fundraising.

Key responses to this question from the surveyed café and hotels only included the following.

- The main non-CDS plastic, metal, and LPB containers sold/consumed at the surveyed café and hotels were milk containers (mostly 2L plastic HDPE containers).
- Large volumes of milk containers were consumed at the café and hotels, ranging from 24 to 120 milk containers per week.
- Other plastic, metal and LPB container type consumption (e.g. juice containers) were insignificant.
- Majority of responses stated that including milk containers in the CDS would be a positive impact on business and would help them assist not-for-profits undertake fundraising activities.
- Currently, milk containers are either placed into kerbside comingled recyclables bins or kerbside/private service waste bins.
- The only adverse impact identified (although minor) was that pricing for some menu items (e.g. coffee) would need to increase a minor amount.

Question: Are there any particular types of plastic, metal or LPB containers that would provide the most benefit to the business/organisation if included in the CDS and why?

Key responses to this question from all the surveyed licensed establishments included the following.

- Three survey responses indicated that including milk containers would provide the most benefit to them/their associated non-for-profit groups that they assist with fundraising.
- The remaining survey responses did not identify any particular non-CDS container types for inclusion in the CDS, as the majority of containers sold/consumed at the premises were already included in the CDS.



Question: Please describe the positive and adverse impacts that increasing the types of glass containers in the CDS would have on your business/organisation?

Key responses for this question from surveyed the sporting clubs only included the following.

- The main non-CDS glass container sold/consumed at the surveyed sporting clubs was wine bottles, ranging between 7 to 96 per week.
- Spirit bottles ranged between none and 5 per week.
- Three of the sporting clubs indicated that including glass containers (e.g. wine/spirit bottles) in the CDS would be a positive impact as it would greatly assist with fundraising. Furthermore, any additional funding large or small assists sporting clubs in staying afloat. One surveyed club made loss in 2018/19.
- Including additional glass containers in the CDS would also significantly benefit clubs in regional SA, as many take wine/spirit bottles to Collection Depots anyway even though no rebate is received.
- One sporting club indicated there would not be a large impact, as they only consume small volumes.

Key responses to this question from the surveyed café and hotels only included the following.

- The main non-CDS glass container sold/consumed at the surveyed café and hotels was wine bottles, ranging between 12 to 360 per week.
- Spirit bottles ranged between none and 12 per week.
- All surveyed licensed establishments (regardless of if they sold/consumed one case or 30+ cases of wine/spirit bottles), said that including additional glass containers in the CDS would have positive impacts on the business from revenue bases as well as their ability to support local not-for-profits that undertake the collection of their CDS containers.
- One surveyed licensed establishment indicated that there would be a minor negative effect as they would need to increase their prices for wine/spirit drinks.

Question: Are there any particular types of glass containers that would provide the most benefit to the business/organisation if included in the CDS and why?

Key responses to this question from all the surveyed licensed establishments included the following.

- Three responses indicated that including both wine and spirit bottles in the CDS would provide the most benefit.
- Three responses indicated that including only wine bottles in the CDS would provide the most benefit.
- One response did not indicate any particular type of current non-CDS glass container to include in the CDS.



Question: Please describe the positive and adverse impacts that including all recyclable glass containers and jars (e.g. jam jars, olive jars) in the CDS would have on your business/organisation?

Key responses to this question from all the surveyed licensed establishments included the following.

- No responses indicated that there would be an impact if other recyclable glass containers (e.g. jam jars, olive jars, sauce bottles) were included in the CDS, as they either consume very little on none of these glass container types on the premises.
- The café and hotels also indicated that most food staples that were previously provided in glass jars/containers are now provided in plastic containers or aluminium tins.

Question: Please provide any other suggested modifications to the current CDS and costs or benefits to the State's economy or other comments regarding the review of the CDS?

Key responses to this question from all the surveyed licensed establishments included the following.

- There is a lot of wine bottles consumed in South Australia, so it is a fantastic idea and makes sense for those type of glass containers to be included in the CDS. If this happens all states should include wine/spirit bottles in their container deposit schemes.
- Including additional container types (e.g. milk bottles, wine/spirit bottles) in the CDS may enable some community/sporting clubs or cafés/restaurants that would otherwise be unable to be provided with a direct-from-customer container collection service due to their volumes being too small or a too greater proportion of wine bottles, to be provided with this type of service.
- Including milk containers would be highly beneficial for cafés as they consume high quantities of milk containers while providing their services.
- All surveyed licensed establishments were in favour of the CDS and supported making improvements to it to keep glass and plastic out of landfill.



Appendices



Appendix 1: Licensed Establishment survey

Table 14: CDS review licensed establishment survey (completed in-person or over the phone/email)

Council/Authority Details				
Organisation name:				
Respondent name:			Position:	
Phone:			Email:	
Survey Questions				
Question	Response			
1. Please provide a summary of the business/organisation.				
1.1. Type of business				
1.2. Estimated size of business (e.g. small/med/large), floor area (if available)/				
1.3. Type and size of containers and the estimated number of containers used per week				
2. Please provide a summary of the regular container disposal or recycling undertaken at the business/organisation.	Provided with service	Stillage or container size (L or m ³) <i>e.g. 240L bins, crate</i>	No of stillages or containers per week	Estimated cost (or rebate) received per annum
2.1. Separated CDS containers	Yes/No			
2.2. Mixed recycling	Yes/No			
2.3. General Waste				
2.4. Separated wine bottles	Yes/No			
2.5. Separated spirit bottles	Yes/No			
2.6. Separated plastic milk bottles	Yes/No			
2.7. Separated milk cartons	Yes/No			
2.8. Other separated containers	Please detail if required			
2.9. Other separated containers	Please detail if required			
3. Please provide any details of any other container recycling services or activities <i>e.g. containers taken to the bottle & can depots/Collection Depots by staff</i>	Please detail if required			



<p>4. Please describe the positive and adverse impacts that the following changes to the CDS would have on your business/organisation.</p>	
<p>Part A: Increasing the types of plastic, metal, and liquid paper board (LPB) containers in the CDS.</p>	<p><u>Response:</u></p>
<p>4.1 Part B: Are there any particular types of plastic, metal or LPB containers that would provide the most benefit to the business/organisation if included in the CDS and why?</p>	<p><u>Response:</u></p>
<p>Part A: Increasing the types of glass containers (e.g. wine and spirit bottles) in the CDS.</p>	<p><u>Response:</u></p>
<p>4.2 Part B: Are there any particular types of glass containers that would provide the most benefit to the business/organisation if included in the CDS and why?</p>	<p><u>Response:</u></p>
<p>Part C: Including all recyclable glass containers and jars (e.g. olive jars) in the CDS.</p>	<p><u>Response:</u></p>
<p>5. Please provide any other suggested modifications to the current CDS and costs or benefits to the State's economy.</p>	<p><u>Response:</u></p>





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