

# Packaging Waste in Australia: an overview

## **THE PACKAGING WASTE PROBLEM:**

1. Australia produces over 3.3 million tonnes of packaging each year.
2. Despite the 'hype' regarding the success of recycling programs, recovery of post consumer packaging for recycling and/or waste-to-energy from kerbside collection is a poor 20.1%.
3. Up to 50% of major food items are consumed away from home, away from recycling services.
4. The cost of kerbside recycling has skyrocketed to \$294.5 million per annum, placing a heavy cost burden on local government and ratepayers.
5. More than 85% of the items collected on Clean Up Australia Day are packaging used by people while they are away from home.
6. Collecting and disposing of litter costs approx. \$50 million in Victoria alone.
7. 116,830 tonnes of the resources collected via kerbside recycling are lost through contamination.
8. Public opinion is clearly in favour of more action – a Newspan survey conducted in December 2004 showed 91% of respondents thought governments should make those responsible for packaging waste deal with the mess.

## **THE REGULATORY SITUATION:**

- All States and Territories bar the Northern Territory adopted the National Packaging Covenant (NPC) in August 1999. The NPC is a self-regulatory agreement between industries in the packaging chain and all spheres of government.
- After five years operating under the NPC, the National Packaging Covenant Council (NPCC) could provide no evidence of environmental improvement or reductions in packaging waste.
- Federal, State and Territory Environment Ministers at a 3 December 2004 meeting of the Environment Protection and Heritage Council decided to incorporate targets into the NPC MkII.
- At a 31 January NPCC meeting designed to move forward on this directive, environment groups walked out of the negotiations due to the obvious lack of a clear process and failure to effectively set targets.
- Current policy initiatives by states and territories have strong commitments to Extended Producer Responsibility and/or zero waste approaches, neither of which are incorporated into the NPC approach. This sets the NPC on a policy collision course with its own jurisdictions.

## **THE BOOMERANG ALLIANCE IS CALLING FOR THE NPC MK II TO EMBODY:**

1. Overreaching targets to achieve key goals in resource conservation, waste avoidance, recycling rates, and wider issues within ecological lifecycle – such as 80% recovery by 2010.
2. A mandatory commitment to continuous improvement with a minimum acceptable performance standard that ensures trends for overall loss of resources are reducing, not increasing.
3. Definitions of the level of responsibility that the supply chain bears and a plan to shift (over time) a fair share of the burden onto industry.
4. An independent assessment of Extended Producer Responsibility and other economic instruments.
5. Landfill bans on problematic packaging materials and phase-out of the most detrimental materials.

## Container Deposits and kerbside recycling

Container deposits are a simple program of placing a deposit on a bottle, can or other container that is refunded when the container is returned, thereby incentivising consumers to do the right thing.

### **Container deposits: the opportunity to save kerbside**

The beverage industry and other container deposit opponents frequently argue that container deposit schemes undermine the viability of kerbside recycling services by removing valuable resources from the kerbside waste stream.

But, in the words of NSW Local Government Association past president Cr Peter Woods OAM, “How can you jeopardise the viability of something which is already not viable?”

Kerbside collection is not financially viable without heavy subsidies from ratepayers, who must contribute to the huge \$294 million nationwide annual cost to run kerbside recycling services. There is a large and widening gap between kerbside cost and the revenue received by local governments from the sale of recyclables – this represents approximately \$36 million per year of ratepayer cost in Sydney alone.

According to the NSW Local Government and Shires Association, councils were initially persuaded to establish kerbside recycling services because they involved little cost, due to beverage and packaging industry subsidies on the payback price for recyclable materials. However, once kerbside services were established, industry quickly withdrew financial support, leaving ratepayers with the cost burden of recycling their products. Today, industry contributes just \$3 million a year Australia-wide for both kerbside and public place recycling, which represents less than 1% of the total cost.

Rather than competing against kerbside services, container deposits provide councils with potential income from refunds when householders elect to use the kerbside collection system for deposit-bearing materials. Councils in South Australia, where container deposits have been in place since 1975 have reported income of up to \$90,000 per year from unredeemed deposits. Vaughan Levitzske, Chief Executive of Zero Waste South Australia, agrees: “Most CDL materials go back through depots, the remainder through kerbside. This means that while we have fewer containers in kerbside, they are worth a lot more, hence it still helps reduce costs of kerbside services.”

A deposit/refund system can also improve the economic viability of kerbside by reducing volumes and the number of collection services and sorting operations which need to be provided, reducing landfill and associated levy costs by increasing return rates, and therefore reducing the residual waste stream.

Container deposits also offset significant environmental costs, representing sizeable funds that could be diverted to kerbside recycling. Factors such as the cost of litter collection, injuries from littered glass and the extra energy and waste consumption associated with using virgin rather than recycled materials in container manufacturing are often ignored in industry estimates of the cost to implement container deposits. However, Dr Stuart White from Australia’s Institute of Sustainable Futures estimates that implementation of a deposit and refund scheme could save NSW alone between \$70 and \$100 million in environmental costs.

## Impact of the away-from-home sector

Container deposits complement kerbside recycling perfectly by focusing on containers consumed away-from-home which kerbside systems are very poor at recovering.

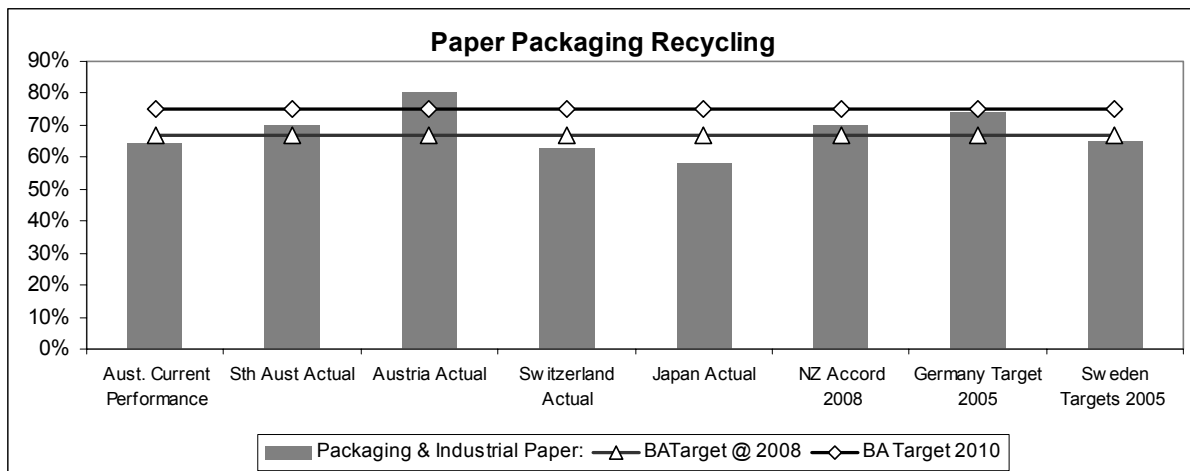
The proportion of glass bottles, PET plastic bottles and aluminium cans being consumed ‘away from home’ and entering the non-residential waste stream has been estimated by industry to be 55%, 39% and 54% respectively. These figures relate to non-alcoholic beverage containers and result in an average away from home consumption rate of 48%.

This highlights that even if kerbside recycling is 100% effective, a significant proportion of packaging materials can only ever achieve a 50% recovery rate because of public place and commercial consumption (e.g. cafés, pubs and clubs).

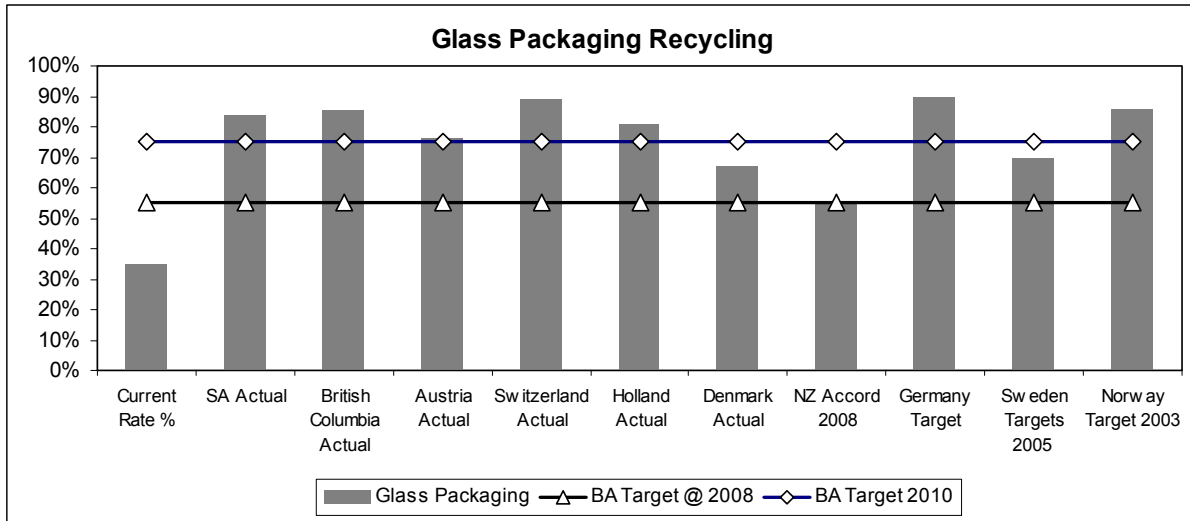
In comparison, South Australia’s 85% beverage container recovery rate and noticeable lack of litter in highways, parks and beaches shows that container deposits are highly effective in addressing away-from-home consumption. The deposit refund incentive means that littered containers are likely to be picked up by other interested parties such as community groups for fundraising. It also saves local government millions in litter collection costs – for example, \$50 million is spent on litter collection every year in Victoria alone.

While public place recycling can go some way towards addressing away-from-home consumption, there has been mixed success of programs and trials. Confusion about how and what to recycle in the community has occurred because of differences between what can be recycled at home and in public, and differences between the collection systems in neighbouring councils. This often results in low amounts of recyclable materials collected, or high levels of contamination in recycling bins.

## All the world’s best recyclers have one thing in common – container deposits

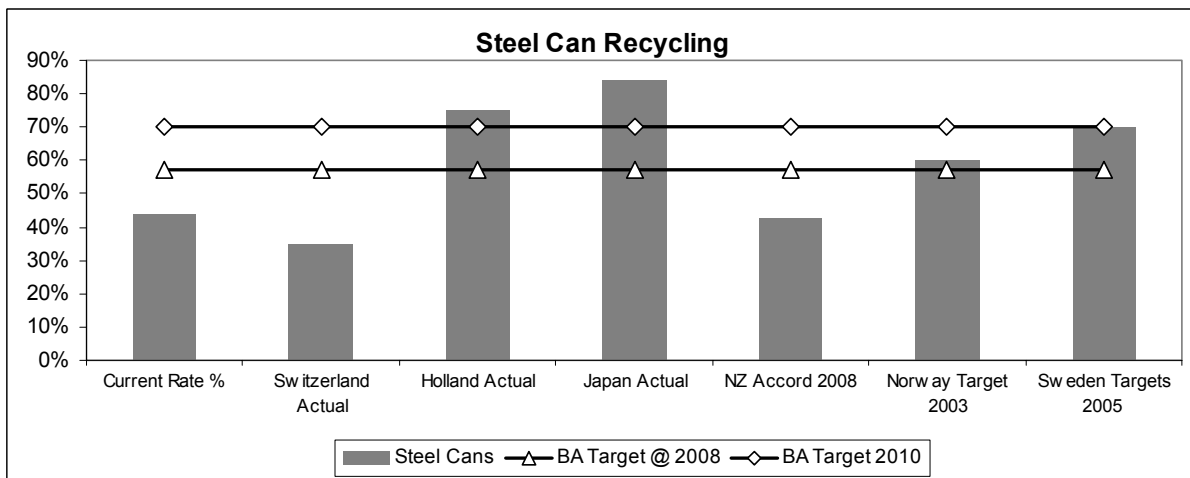


Despite claims that countries that adopt container deposit systems have poor recycling rates for non-beverage containers, Northern European nations have as good or better recovery rates for paper packaging when compared to Australia. South Australian paper recovery has improved in recent years and now performs better than the national average.

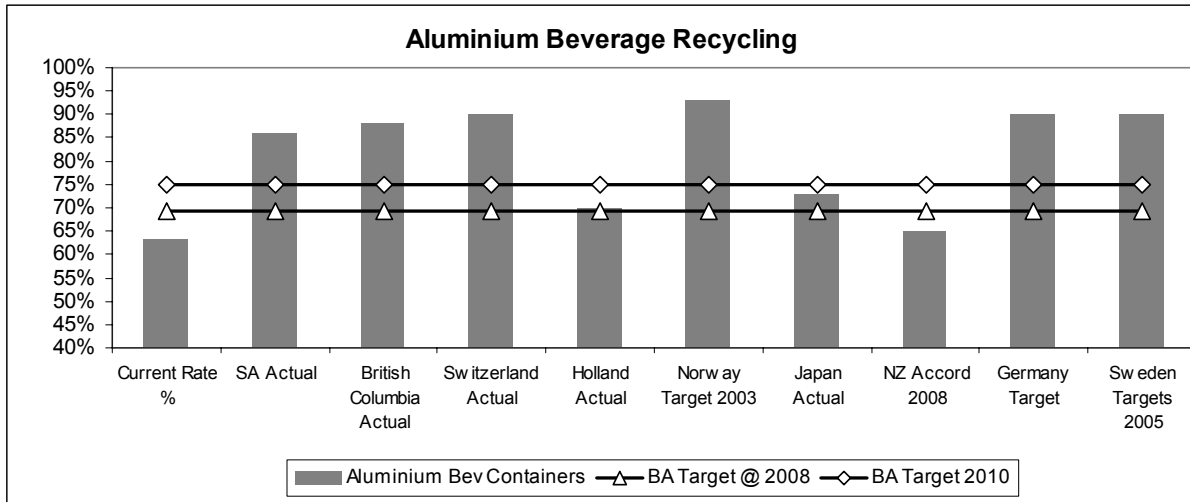


Australian glass recovery rates lag well behind the best practice standards, while South Australia (the only jurisdiction with container deposits) maintains high standards of recycling.

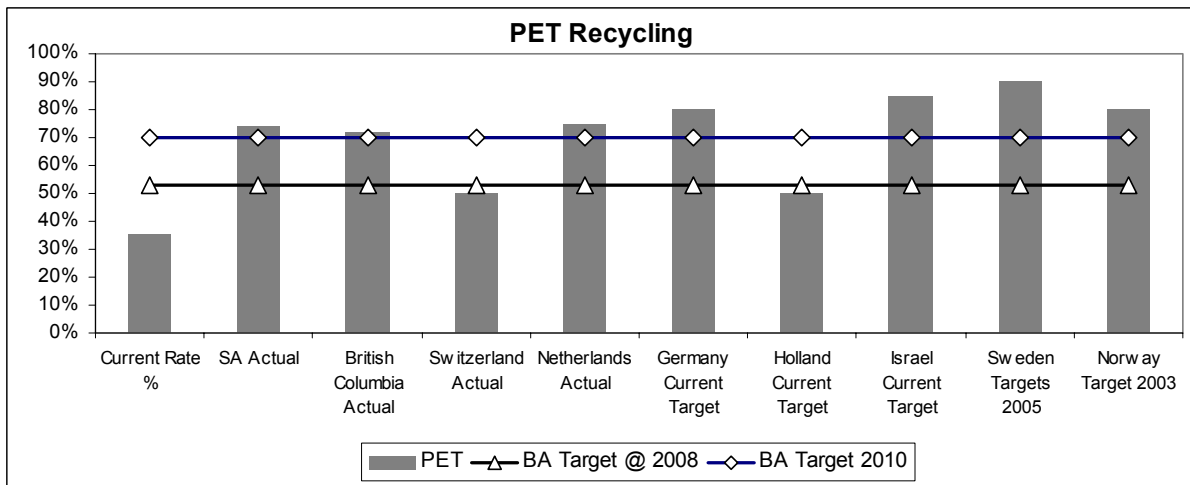
The Boomerang Alliance's suggested targets give industry five years to reach a level of recovery that will remain well below the performance of leading nations around the world.



Proposed targets for steel cans and packaging represents a substantial improvement, but in 2008 Australian recovery rates will only just be reaching the current recovery levels of leading nations.



Aluminium recovery leads Australian rates of recovery in the food and grocery sector, but still falls well short of the best practice standards. Capturing the embedded energy recovered through recycling provides major greenhouse gas reductions.



Pathetic plastic recovery lags well behind best practice. International recovery numbers are understated as most Northern European nations also have substantial programs to refill PET bottles – where these systems are in place recovery escalates as high as 98% - highlighting Australia's abysmal efforts of just 35%.

# California's container deposit system

## Key features:

- Established in 1986. Involves a coordinated effort by environmentalists, the grocery industry, container manufacturers and government.
- Offers a California Redemption Value (CRV) to consumers and recycling entities for the return of containers.
- Beverage distributors pay redemption payments which fund the CRV and for other costs of the recycling program. All beverage distributors must deposit a redemption payment for every covered container sold or offered for sale in the state: 2.5 cents for every container smaller than 24 ounces and 5 cents for every container equal to or greater than 24 ounces. In addition to these payments, beverage manufacturers pay processing fees that vary by container type and by year.
- Administered by the Californian State's Department of Conservation (DOC), which established the California Beverage Container Recycling Fund (CBCRF) in the State Treasury.
- The CBCRF contains redemption payments collected from beverage distributors. In contrast, no other American bottle-bill state has a state fund and each bottler is responsible for the deposits and refunds of their own bottles.
- The other states' systems are less efficient in that stores must sort bottles for return to each bottle's original distributor. California's unitary fund makes it possible to pay the refund for return bottles without regard to who sold or distributed the bottle.
- The CBCRF is also used to pay the costs of recycling and for payment of administrative fees, handling fees, part of the processing payment, supplemental kerbside payments, and various community and educational programs.
- A broad range of beverage containers are covered, but the system does not include wine, milk, or juice in containers greater than 46 ounces, vegetable juice in containers greater than 16 ounces, and liquor.
- Another unique feature is that payments for returned containers are calculated on a weight basis. All other U.S. bottle bill states and the Canadian provinces pay redeemers of containers by counting the containers and paying a fixed price per container (often varying with size and type.)
- Prices are set on a per pound basis for each material type. Within a material type, e.g. aluminium cans, there is no segregation by brand or size at the time of redemption, nor does the Act require such segregation at any later point.
- The payment made in California to the agent who returns a container is called a California Refund Value (CRV) and is distinguished from a deposit in its payment by weight.
- Redemption facilities must be available close to major supermarkets, with a fixed number of minimum hours that they must be open.
- In addition, California has recycling centres that are not sited at supermarkets, kerbside collection, and drop off and community-service programs.
- California's CRV is about half of the deposit levied by most other bottle-bill states. With the exception of Michigan that has a deposit of 10 cents, all other states charge 5 cents for the great majority of their returned containers.

## **The Californian bottle bill and kerbside recycling**

As California's network of 1,100 grocery store recycling centres cover the deposit redemption obligations of all retailers, this substantially reduces the amount of handling fees, enabling the system to be entirely self-sustaining.

A 1991 study of California's Bottle Bill by accounting firm Ernst & Young concluded that the system "is significantly more cost-effective than traditional deposit legislation, saving California consumers and business between \$245 and \$390 million annually".

Kerbside programs are one of the biggest beneficiaries of California's Bottle Bill program. They receive up to \$23 million each year in retained redemption values, and \$9 million in processing fees, administrative fees and grants. None of this \$32 million for kerbside would have been available without the Bottle Bill.

The differences in California's recycling behaviour by material type highlights the reason why the dual solutions of kerbside recycling and container deposits work effectively together and enable a better outcome than one solution alone.

In 1999, 69 percent of aluminium cans were recycled at non-supermarket sited recycling centres and 25 percent were recycled at supermarket sites, while only 5 percent were recycled via kerbside and 1 percent via other collection programs. But kerbside programs received 19 percent each of total glass CRV and PET CRV containers, and collection programs received 4 percent of glass CRV and 3 percent of PET CRV containers.

These differences in recycling methods by container type reflect the differences in ease of recycling and scrap values, with aluminium easier to handle and more likely to be valuable to consumers for scrap values and CRV per pound. The conclusion – diverse systems are needed for a diverse society.

An analysis of the Californian system by the University of California found that total container collection by kerbside recycling would increase by only around 4% if there were no container deposits.

In terms of kerbside revenue, removal of the bottle bill would cause losses to the kerbside program of between \$35 and \$40 million, so the financial loss to the kerbside programs would be large and not at all sensitive to the estimate of how much additional material would come to kerbside if there were no bottle bill.

The study also found that kerbside recycling would not be a sufficient substitute for the bottle bill. It found that without the bottle bill, recycling rates would be less than half their current rates.

## Container deposits and kerbside around the world

There are many examples of states and countries around the globe in which container deposit schemes and kerbside recycling services run effectively side-by-side.

### UNITED STATES

**Massachusetts:** In 1995, 69% of Massachusetts' residents were served by 143 kerbside recycling programs, and of the 456,259 tonnes of residential waste diverted during this year, 71,199 tonnes (16%) were diverted through the state's Bottle Bill. The proportion of redeemed containers averages at approximately 80%.

Massachusetts' kerbside recycling programs receive a boost from unclaimed deposits. The state's administering agency for unclaimed deposits reports that between 1990 and 1996, a total of \$62.5 million from abandoned deposits was used to fund environmental programs including municipal recycling.

**Maine:** The Maine Municipal Association, an association of municipal governments, actively opposed repeal of Maine's deposit laws in 1996, arguing that approximately 48,000 tonnes of materials currently being recovered through the Bottle Bill would enter the waste stream and increase kerbside recycling and disposal costs.

**Oregon:** Savings of \$656,832 in trash pick-up, hauling and landfilling were reported in the first year after enactment of Oregon's Bottle Bill. The deposit system provides a steady supply of clean, sorted recyclables that boost recycling markets. Oregon's bottle bill has also positively affected the recycling of other materials through increased public awareness and education.

A 1989 Glass Packaging Institute (GPI) press release prompted a letter from Fred Hansen, then the Director of Oregon's Department of Environmental Quality, stating: "The Department believes that curbside [sic] recycling and deposit legislation are fully compatible, and that the two together complement the many other recycling opportunities in Oregon."

### CANADA

**Nova Scotia:** Under Nova Scotia's half-back system, deposits are paid on all containers and while deposits are refunded in full for refillable containers, only half is refunded for non-refillable containers. 50% of net revenues from the scheme are paid from the coordinating body – the Resource Recovery Fund Board (RRFB) – to municipalities for their recycling efforts, including kerbside collections. The entire province has access to kerbside recycling and the programs frequently pick up deposit bearing containers, thereby receiving an extra funding source. Kerbside has grown since the deposit system was set up, partly because of RRFB funding, and partly because some people leave deposit containers in kerbside pickups as a 'donation' to kerbside programs.

**Quebec:** Unlike most areas in Canada, Quebec retailers (both large supermarkets and corner grocery/convenience stores) are satisfied with handling refunds on beer and soft drink containers. They see it as a convenience service to their customers and a way of generating return traffic to their locations.

Juice, water, iced tea and 'new age' beverages do not bear a deposit. However, producers of these beverages and other industries are required to contribute significantly towards the cost of picking up their packaging via kerbside recycling. Industry pays approximately \$22 million of the \$30 million cost of kerbside recycling. The \$8 million municipal share of costs recognises that municipalities would have to pay to landfill materials if there was no kerbside recycling.

Where beverages are concerned, this means that the 20% of beverage containers not previously covered by full producer responsibility (i.e. beer and soft drinks) are now covered by a system where producers pay 75% of the costs of kerbside recycling.

## EUROPE

**Austria:** In Austria, container deposits operate alongside kerbside services that are funded by license fees paid by companies for the right to use a “green dot” on their packaging, showing that they dispose of packaging in compliance with the Austrian Packaging Ordinance. The revenues are passed on by ARA to the collection and/or recycling companies and further to operative partners, disposal companies, and communal waste cooperatives. This model ensures Extended Producer Responsibility is incorporated throughout the waste management system.

**Denmark:** Since 1981, beers and soft drinks may only be marketed in Denmark in refillable packaging approved by the Danish Environmental Protection Agency (DEPA). Imported drinks may be sold provided a system of return and deposit has been set up for their packaging. Since Denmark’s bottle return system began in 1904, Danish brewers have employed 30 types of refillable glass or PET bottles, ensuring that beverage containers are reused.

Kerbside recycling services in Denmark offer separate collection of paper, glass and hazardous waste. However, Danish people have clearly embraced the concept of take-back schemes and the majority of household recycling involves individuals taking their waste to bottle and paper banks or ‘bring sites’ for other materials rather than doorstop collection.

## AUSTRALIA

The South Australian Government introduced container deposits in 1975, and remains the only Australian state or territory with this type of legislation.

All beverage containers subject to container deposits in South Australia display approved markings that show where the refund is available:

- ‘10c refund at points of sale when sold in SA’ means that the container must be returned to a retailer who sells the beverage in that container; and
- ‘5c at collection depots when sold in SA’ means that the container must be returned to a collection depot. Collection depots are the most common points of return.

A 2001 study by the Institute for Sustainable Futures found that unit costs (¢/container, or \$/tonne) of the South Australian deposit/refund system were lower than kerbside systems alone and could help to reduce the net costs of kerbside collection. Container deposits free up much needed funds to deal with other waste materials.

South Australian Councils also receive income from refunds when householders elect to use the kerbside collection system for deposit-bearing materials – Councils have reported income of up to \$90,000 per year from unredeemed deposits.

The dual system of container deposits and kerbside recycling provides South Australian householders with the opportunity to separate recyclables from their domestic waste, resulting in the diversion of a greater share of material from the waste stream than either system alone is able to achieve.