



Container Deposits: The common sense approach towards a zero waste society

Background Briefing – By Dave West & Abby Symes April 2008



In Support of Container Deposits:

"Container deposits are a sensible and timely idea. They work well in other places so why not here? I am convinced they are a practical way of reducing the huge amounts of packaging which are a blight on our natural and built environments."

Peter Garrett, (now Federal Environment Minister) - As ACF President 1998

"If industry hasn't dramatically improved and got its act together then it deserves to be regulated,"

Maree McCaskill, CEO Beverage Industry Environment Council, 21 January 2005, 7.30 Report

Container deposits are effective - Tonnage rates achieved in South Australia for beer bottles, soft drink glass and plastic soft drink containers are far in excess of those achieved in other states of Australia. South Australia recovers 85% of non refillable glass soft drink bottles, compared with 36% nationally. The return rate for plastic soft drink containers, (PET), is 74% whilst the national return rate is 36%. Liquid paperboard, a recent inclusion, has a return rate of 40% increasing.

Recyclers of South Australia Inc.

"We think the recycling scheme (CDL) works very well in South Australia and we've been supporters of it for many years, I think there's merit to the scheme operating outside of South Australia, just in terms of environmental impact. I believe that kerbside recycling systems are compatible with CDL, as the value of the deposits is used to offset the cost of kerbside operations"

Tim Cooper, Managing Director Coopers Brewery Ltd

"Maintaining the status quo is not an option if the government of Western Australia wants to reduce the number of beverage containers in waste and litter. Research conducted for this submission suggests that, of the range of interventions available, CDL consistently presents as the preferred option both in terms of recovery rates and cost of operation".

Clayton Ford, Manager, External Affairs, Diageo Australia

"Deposit systems are both well suited and needed to operate alongside existing kerbside systems. Deposits complement and subsidise the kerbside system by a) addressing its key weakness – away-from-home recycling, and b) reducing its net costs. A further benefit is the reduction in glass contamination of the paper recycling stream as glass containers are reduced in the commingled collection."

Markus Fraval CEO Revive Recycling Australia

"The simple fact is, that until it becomes economic to do so, there is no incentive for many organisations to recycle, to reduce landfill or to change their operational practices to reduce or reuse their waste products. This means that in the short term, organisations that are behaving responsibly are at a competitive disadvantage compared to those who are not bearing the appropriate costs associated with addressing the environmental impacts of their business activities."

Mike Ritchie National Marketing Manager SITA Australia

"I am embarrassed and appalled to see my bottled water products discarded on the side of the road. I feel a personal sense of responsibility about it. I hardly ever see discarded soda products as litter. The so-called 'Bigger Better Bottle Bill' needs to be passed in New York."

Andrew Swanander, CEO Mountaintown Spring Water

"Beverage container recycling rates are appallingly low in most states. 40% of the rubbish we collect on Clean Up Australia Day is bottles and cans, but in South Australia, where they have container deposits they are just 8.4% of the rubbish we collect"

Ian Kiernan AO Founder of Clean Up Australia and past Australian of the Year

"If we are committed to sustainability, matters which have dropped off the radar (because they don't get universal support) will need to be put back on the agenda. Keep Australia Beautiful (Qld) is starting with a simple one today: Container Deposit Legislation."

Tor Hundloe Chairman Keep Australia Beautiful (Qld)

"Containers consumed away from home at places like parks and football games are the containers not getting back into the system. In Perth, we have a poor recycling industry. This new system will really help waste reduction as well as creating more jobs and giving people an opportunity to make a difference and reduce waste. It will also reduce the cost of kerbside recycling."

Dr Sue Graham Taylor, Conservation Council of WA

"Container deposit legislation is a no-brainer. There is evidence all around the world that the energy that is needed to produce a new aluminium can or beverage container is 10 times the energy that is consumed if the aluminium container is recycled. South Australia already has container deposit legislation in a particular form. I am delighted that the minister has asked me to chair a working party comprised of representatives from industry and environmental groups and others, such as those who, like me, have a background in local government. Local government has seen the huge benefits of container deposit legislation."

John Hyde MLA Perth

"CDL is a proven system for ensuring high return rates of recyclable containers in good condition. Containers made from materials such as plastics, glass, steel, aluminium and liquid paperboard are expensive to collect through kerbside systems, due to their weight and/or bulk, and the need to avoid cross contamination. They are also the products where historically, financial returns have been less reliable and less likely to cover the cost of collection. Kerbside has proven to be an ineffective tool for containers, and only achieves return rates in the order of 20-40%."

Genia McAffery President NSW Local Government & Shires Association

"If the goal is to capture the maximum amount of materials possible, then kerbside recycling, deposits and dropoff centres should all be part of a well-thought out pollution prevention and waste reduction plan."

Lanier Hickman, Former Director Solid Waste Management Assoc. of North America

1 Packaging: A National Waste Disaster

Across Australia governments are facing spiralling costs to address increasing rates of consumption and waste (including away from home); exacerbated by market failure to recognise the environmental costs. Some states are also experiencing the systematic collapse of parts of their recycling industry.

Major environmental and economic problems are attributable to packaging waste:

- 1 The significant water and energy resources used and greenhouse gas emissions by Australia to produce over 4.3 million tonnes of packaging (some excessive; most virgin, unrecycled material) each year.
- 2 Recovery of post consumer packaging for recycling has stagnated at 43% nationally.¹
- 3 No reliable and sustainable infrastructure to recover the approx. 50% of beverage packaging consumed away from home.
- 4 Australian ratepayers pay a hefty \$374 million p.a., for kerbside recycling services.²
- 5 Collecting and disposing of litter is very expensive, the recent Regulatory Impact Statement for plastic bags estimates the national costs of managing litter at \$200million p.a.)³.
- 6 Over 10% of all recyclable materials collected are landfilled due to contamination.⁴

The public is calling for more action – a Newspoll survey conducted in December 2004 showed 91% of respondents thought governments should make those responsible for packaging waste deal with the mess⁵.

Boomerang Alliance has studied many container deposit systems around the world. Based on the success of container deposit systems in South Australia and internationally, the Boomerang Alliance have created models to assess the effectiveness of a National Container Deposit System in Australia⁶. The benefits are substantial. We believe a container deposit system will:

- Reduce the volume of litter in our parks, beaches and roadsides by 12-15%
- Increase Australia's recycling by over 630,000 tonnes p.a.
- Achieve a 6% diversion of all MSW waste away from landfill
- Reduce Australia's greenhouse gas emissions by over 1.3 million tonnes of CO₂e per year (equivalent to 197,000 homes switching to 100% renewable energy)
- Save enough water to permanently supply over 24,000 Australian homes
- Deliver the same level of Australian air quality improvements as taking 140,000 cars off the road
- Provide 250,000+ Australian homes with access to recycling services for the first time
- Save rate payers over \$59.8million per annum
- Significantly reduce the number of turtles, lizards, seals and birds killed by litter across Australia
- Create at least 1,000 new jobs, mostly in rural and regional Australia

Importantly our investigation highlights that container deposits can work with and improve the economics of kerbside, reducing the overall cost by at least \$59 million p.a. Further, Boomerang Alliance had no difficulty finding industry operators who were prepared to provide 100% of the capital investment to build a collection system, meaning that the system will be delivered with no infrastructure investment required by government.

¹ This figure appropriately omits office paper and newsprint

² Calculated from NEPM Used Packaging Data 2005-06

³ KAB: 2006 National Litter Index

⁴ e.g. in WA over 20% or 25,985 tonnes of the material recovered via MSW recycling is lost through contamination.

⁵ Newspoll 2004

⁶ See Financial Analysis of Costs & Benefits of a national Container Deposit System: BA April 2008

Overall packaging recycling rates will be dramatically improved. The following compares current national recycling rates and revised recycling rates with a container deposit system against the packaging targets for 2010 imposed by the Environment Protection & Heritage Council.

It is clear that the introduction on a National Container Deposit System will do more to lift Australia's appalling packaging recovery rates than any initiative over the last 20 years.

Packaging (Tonnes P.A.):	Current National Recycling Rate %	Revised National Recycling Rate with CDS	NPCC 2010 Target
Packaging & Industrial Paper:	47.06%	51.14%	70-80%
Glass Packaging	38.07%	79.62%	50-60%
Steel Cans	37.62%	90.28%	60-65%
Aluminium Bev Containers	71.30%	84.16%	70-75%
PET	46.54%	88.09%	–
HDPE	32.19%	63.70%	–
All Plastics (including the above)	30.60%	46.85%	30-35%
TOTAL PACKAGING	43.05%	55.88%	65%

2 Packaging Waste in Australia

Australians consume a lot of packaging and produce more packaging waste per person than many overseas countries.⁷ A summary chart outlining the per capita consumption of packaging net of recycling is shown in the graphic below.

In the areas of resource consumption, packaging and recycling, Australia falls well behind those commonly experienced in Europe. It is interesting to note that nations like Germany, Belgium, and Austria enjoy similar lifestyles and wealth to Australians, but consume just one third of the resources we consume for packaging.

Kerbside recycling

Kerbside collection is not financially viable without heavy subsidies from ratepayers, who must contribute a huge \$374 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.

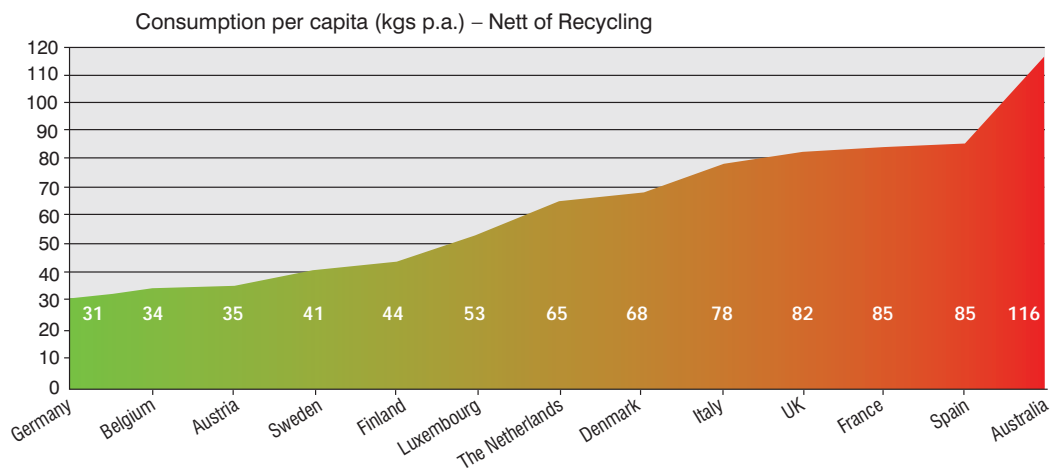
According to the NSW Local Government and Shires Association, councils were initially persuaded to establish kerbside recycling services because they involved little cost, due to industry subsidies on the payback price for recyclable materials. However, once kerbside services were established, industry quickly withdrew financial support, leaving ratepayers with the cost burden of recycling their products. Today, the packaging industry contributes

just \$3 million a year Australia-wide for both kerbside and public place recycling - less than 1% of the total cost.

Conversely, paper and cardboard remains reasonably viable for collection via kerbside recycling, thanks largely to the Publishers National Environment Bureau (PNEB) scheme to recycle newsprint which saw newsprint recycling rates lift from just 28% in 1990 to 75.4% in 2005. This dwarfs the meager 47.1% cardboard packaging recycling rates delivered under the National Packaging Covenant.⁸

Kerbside recycling is a reasonably effective tool for recovering packaging materials consumed in residential homes, but it has limitations:

- ☒ Changes in consumer behaviour have seen the majority of packaging consumption growth coming via the 'away-from-home' sector; whether it is at a restaurant or pub, take-away food, or a drink consumed while relaxing outdoors. Industry has estimated that the proportion of glass bottles, PET plastic bottles and aluminium cans being consumed 'away from home' and entering the non-residential waste stream to be 55%, 36%, & 56% respectively.
- ☒ The lightweighting of glass bottles causes increased breakage leading to a high incidence of glass fines contaminating recovered paper. Nationally the contamination of paper and



Source: Assure 2004

⁷ The Packaging Council of Australia (PCA) recently made much of the fact that the methods of measuring recycling in Europe are far different from those in Australia. This is untrue.

⁸ Source: Industry Edge for the NPCC reviewing flawed estimates of Mr Russ Martin used in 2006 NPCC Annual Report

cardboard sees some 122,000 tonnes of recovered material disposed to landfill costing an estimated \$19.8million p.a. This represents a contamination rate of over 10%. In South Australia where their container deposit system sees most glass removed from kerbside collection, contamination rates are just 1.7%.¹⁰

☒ In the 1990's kerbside recycling systems were expected to collect just 1 type of plastic PET, today they are expected to collect at least 4 varieties of plastic packaging and dozens of composite plastics. This increases sorting costs and undermines the value of the material collected. For example clean PET collected via a system such as container deposits is worth around \$750 per tonne, compared to just \$400 for mixed plastics collected via kerbside recycling.

These changes in lifestyle and the diversification of packaging materials have serious economic and environmental ramifications, requiring a fundamental shift in the policy focus of governments. For example, even if kerbside recycling is 90% effective (which is best practice in Australia nett of

contamination and limited geographic collection), the changes in consumption mean it can only ever achieve a 50% recovery rate because of public place (e.g. malls, parks, sporting and cultural events) and commercial consumption (e.g. cafés, pubs and clubs).

It is simple common sense to identify that kerbside systems aren't designed to recover from these sources – without incentive to encourage the right behaviour only the most committed environmentalist will carry their rubbish around until they return home.

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. This is incorrect as councils make a profit from the unredeemed deposits, more than making up for any loss of material. Our recent investigation of a National CD System, confirmed this, with local councils saving an estimated \$59.8million p.a. if a National CD System is introduced.

3 Is the National Packaging Covenant (NPC) the answer?

The NPC is intended to have a focus on away from home consumption. The current 'solution' being pushed by it, is two-fold:

1. A focus on low hanging fruit in Commercial & Industrial (C&I) sector recovery, where volumes of packaging are consumed such as in food courts, hotels etc.

However there is no requirement or incentive within the NPC for these sectors to participate nor is there a provision within the National Environment Protection Measure for Used Packaging (NEPM) to take action when these points of consumption fail to undertake recycling activity.

2. "Public Place Recycling" is pushed as a silver bullet solution by industry voices such as The

Australian Food & Grocery Council's (AFGC) Packaging Stewardship Forum (PSF) and The Packaging Council of Australia (PCA).

Yet this approach requires local government to replace local rubbish bins with a new multi-bin system and split collection service, which local government believes could double or triple the costs of collection. There is little to no current funding, nor a likely future permanent source to support this activity from either the state or industry and no evidence that contamination of recyclables can be brought down to a very small level. Importantly the current NPC policy approach has no financial underpinning to ensure a strategy for collection infrastructure succeeds over the long term.

⁹ 2005/06 NEPC Annual Report
¹⁰ 2005/06 NEPC Annual Report

This means governments can choose to use the last resort - anti-litter campaigns – or select one of the following policy approaches to address packaging waste:

1. Regulate the selection of materials used for packaging materials.
2. Directly tax industry (and in turn consumers) for the total cost of recovery.
3. Utilise a market-based instrument (MBI) to develop incentives and infrastructure for new 'away from home' recovery.

None of these three options are supported by the packaging industry which says their membership of the NPC gives them a veto over government policy. In relation to the collection of packaging waste, they insist on the soft NPC approach with education programs and a few research and trial projects. The NPC has many signatories and has the potential to influence packaging design and manufacturing processes, but is unable to develop sustainable and comprehensive materials collection systems.

The Performance of the NPCC

The improvement in recycling rates reported in the National Packaging Covenant 2006 Annual Report collated by controversial consultant Mr Russ Martin has recently been shown to be overstated by independent investigation commissioned by the

NPCC. Subsequent investigations into Mr Martin's calculations by Industry Edge and Pitcher Partners for the NPCC showed the following **errors** occurred for a variety of reasons:

- ☒ Annual paper & cardboard recycling figures included approx. 279,000 tonnes of newsprint and white office paper, which is not considered packaging.
- ☒ Glass recycling figures included 70,000 tonnes of glass processed by Visy in New Zealand.

This overstatement of recycling performance by the NPCC is not unusual. Boomerang Alliance is disappointed that for over 3 years the recycling estimates provided by Mr Russ Martin consistently overstate the case. It is our opinion that the NPCC should seek alternative, independent advice.

We also believe plastics recycling rates could still be overstated with pre-consumer recycle included in recovery figures.¹¹

It is clear that after nearly 8 years of efforts by the National Packaging Covenant Council there has been little if any improvement. Further it is clear that the NPC targets will not be met. The best estimates of the current state of packaging recycling presented to the National Packaging Covenant Council are as follows:

Material	MS2 estimate for NPC 2006 Annual Report (2005 Performance)	Pitcher Partners/Industry independent adjustment to MS2 2005 figures (November 2007)	NPC Targets for Mid term review
Packaging & Industrial Paper	66%	47%	70-80%
Glass Packaging	44%	36%	50-60%
Steel Cans	37%	38%	60-65%
Aluminium Cans	71%	71%	70-75%
Sub Total - Plastics	30%	31%	30-35%
Total Packaging	56%	43%	65%

*NB: Attempts are being made by industry to inflate recovery by inclusion of non post consumer packaging such as newsprint and office paper to arrive at a figure of 58%. Exclusion of these reduces the figure to 43% in 2006.

¹¹ They are excluded from all other materials and are generally not to be considered in recycling figures because they are little more than the collection of materials spilled on the factory floor and as such are not added back into consumption figures which are based on purchasing of sales data i.e. they are already recovered before the packaging enters the market.

4 The case for Container Deposits

Why devote resources and new policy to packaging rather than just focus on tyres, construction waste, or toxic materials? Of course tyres, computers, etc must also be dealt with - however packaging is one of our most persistent and regular major waste sources. It is the biggest single target for EPR in terms of tonnes to landfill, and nothing is more persistent in its confrontation with the entire society. To demonstrate, the following is a direct comparison between plastic bags (an agreed State & Federal Government priority) and beverage containers in Australia:

Overall South Australian recycling per capita exceeds that of all other states as illustrated below¹².

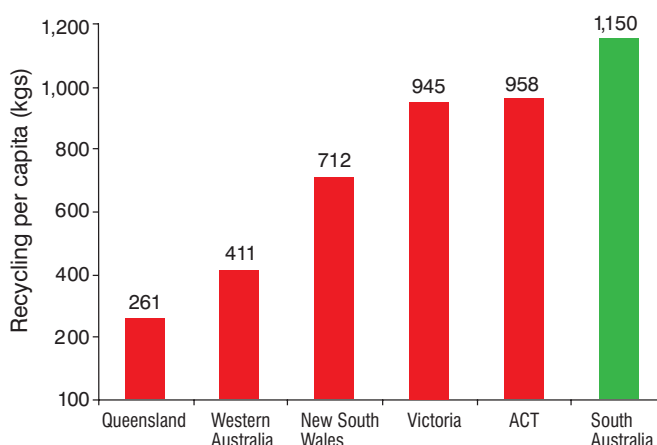
Further, the cost of kerbside in SA is estimated to be just \$24.18 a household/pa compared to other states such as WA's \$107/household/pa, or NSW's \$58.23/household/pa.¹³

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,

	Plastic Bags	Containers	Difference
Annual Consumption	3.92 billion plastic bags consumed annually	Over 14 billion containers: 4.2 billion glass bottles 1.3 billion steel cans 3.4 billion aluminium cans 3.1 billion PET bottles 2.3 billion HDPE bottles	There are 3 and half times more containers consumed than plastic bags in Australia
Annual tonnes to landfill or litter	20,700 tonnes of plastic bags are landfilled annually	743,000 tonnes of containers are landfilled annually	The amount of containers landfilled is some 35 times the magnitude of pastic bags

Because of the persistent and pervasive reach of packaging in Australia, Boomerang Alliance believes that beverage containers represent the ideal base load material to develop the collection infrastructure necessary to drive towards a zero waste society – it's everywhere in manufacturing, retail, pubs and clubs, city homes and country farms. Dealing with these items can also assist in creating the necessary community infrastructure (like drive through recycling centres) and 'social ecology' to begin reforming the waste sector.

Market failure is causing many local councils, jurisdictions and community groups to investigate the alternatives. Compared to the current performance levels of the rest of Australia, South Australia's 80%+ beverage container recovery rate and the noticeable lack of litter on highways, parks and beaches, shows that container deposit systems are proven to be highly effective in addressing away from home consumption.



where container deposits have been in place have reported income of up to \$90,000 per year from unredeemed deposits.

Vaughan Levitzske, Chief Executive of Zero Waste South Australia, explains: "Most CDL materials go

¹² Source: Hyder Consulting: Total Review of Recycling Activity in WA / SA etc.

¹³ National Environment Protection Council Annual Report 2005 – 2006.

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 offer significant environmental benefits. 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. Dr Stuart White from Australia’s Institute of Sustainable Futures estimates that implementation of a deposit and refund scheme could save NSW alone between \$70-100 million in environmental costs.

Financial benefits of Container Deposits to kerbside recycling

The chart below highlights the current cost of packaging waste, recycling and litter¹⁴.

Our recent report assessing the financial costs and benefits of a National Container Deposit System indicates that local government MSW waste and recycling costs would save over \$59.8million p.a. if a national CD system was adopted. This is a far more conservative estimate than the over \$30 per household savings estimated by South Australian recyclers.

These savings are attributable to the increased value of remnant materials left within kerbside recycling i.e. that the redemption of deposits from remnant CD material is far more financially lucrative than any revenues lost through less materials to sell. To demonstrate:

- ☑ 1 tonne of glass recycle is worth around \$72 and typically contains an average of some 4,784 bottles. At a deposit value of 10¢ - a tonne of bottles is worth \$478.40 in redemptions. This means that even without efficiency gains made through revised collection runs etc. a kerbside operator needs just 2.1% of consumption to remain in their system to be revenue neutral.
- ☑ The value of 1 tonne of PET recycle is \$500 and typically contains an average of some 29,205 bottles. At a deposit value of 10¢ - a tonne of bottles is worth \$2,920.50. The kerbside operator needs just 1.9% of consumption to remain in their system to be revenue neutral.

Annual Cost of Packaging Waste, Litter, & Recycling	Kerbside Recycling (@ \$248.47/tonne)	Landfill Cost (Containers @ \$51.08/tonne)	Litter Cost (National litter cost x 29.38%)	Gov't & Ind NPCC Funding	Total Cost
The current cost to manage beverage containers	\$154,613,873	\$37,960,132	\$58,760,000	\$6,000,000	\$257,334,005

¹⁴ see Boomerang Alliance Financial Analysis of Costs and benefits of a national Container Deposit System* www.boomerangalliance.org

Other substantial areas of savings include:

1. Fewer materials are landfilled, saving around \$26.6 million p.a. in reduced landfill fees.
2. Reduced volumes of material allow kerbside recyclers to service a higher number of households per collection run.
3. Lower levels of glass collected through kerbside recycling in a CD system reduces the lost incomes through glass fines contaminating paper. In South Australia just 1.7% of paper recovered is sent to landfill, compared to over 10% nationally. This represents a potential saving of over \$19.8million p.a.
4. Reduced tonnages of material will also lead to substantially lower gate fees charged to councils and in turn, ratepayers.

A detailed assessment of the costs and impacts of a container deposit system has been undertaken by

the Boomerang Alliance (Financial Analysis of Costs and Benefits of a National Container Deposit System.)¹⁷. The table below extracted from this analysis summarises the changes in materials and financial flows to local government kerbside recycling operations (excluding efficiency from longer runs, better compaction).

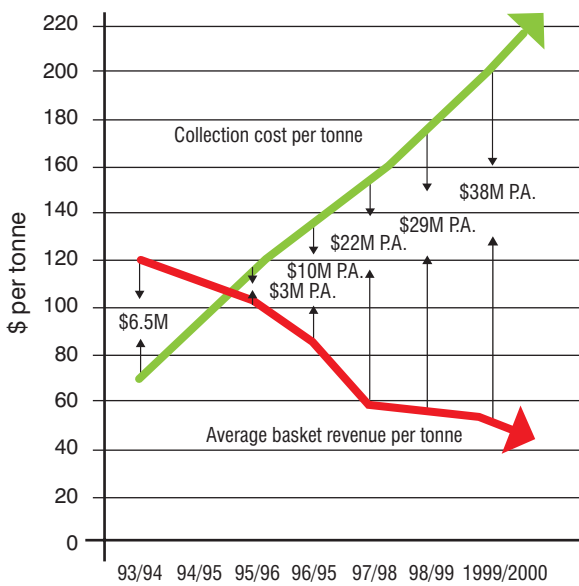
Despite the misleading and inflammatory efforts of some in the beverage industry (in particular Coca Cola, Fosters and Lion Nathan), container deposits are a very cost effective way to recover our precious natural resources, as the major costs (the deposit) are actually refunded. The total impact on our economy is actually a saving of some \$3million p.a. Our analysis has also shown \$84.9million p.a. operating surpluses from the System Administrator which can be returned to tax payers via rates or income tax or new social and environmental programs. This represents an annual saving of some \$11.52 per Australian household.

Costs	\$ Per Annum
Existing cost to collect & recycle packaging via MSW [kerbside & other] (nett of recycle sales)	-\$154,613,873
System Administrator	-\$4,000,000
Handling fees for collection and hubs [supercollectors] (nett of recycle sales)	-\$140,575,916
Existing costs of landfilling containers currently	-\$37,960,132
Existing cost of containers 'share' of litter abatement (29.38% of litter volume)	-\$58,760,000
Less Savings & Benefits:	\$ Per Annum
Increased paper recycle sales through reduced contamination	\$14,265,248
Savings to operation of kerbside and MSW recycle	\$18,928,717
Savings to MSW by reduced volumes of landfill	\$26,631,962
Savings from reduced volumes of litter (reduction @ 12% of total litter)	\$24,000,000
Additional greenhouse abatement @ \$35 / tonne	\$48,360,715
Additional water savings	\$9,403,495
Total Costs minus Savings/Benefits	-\$254,319,785
Less Existing Costs (Status Quo)	-\$257,334,005
Annual Savings if a National CD System is introduced:	\$3,014,221
Annual Savings if government refunds System surpluses via taxes/rates/programs	\$84,944,167

¹⁶ NEPC 2006 Annual Report Used Packaging NEPM: http://www.ephc.gov.au/nepc/annual_report06.html

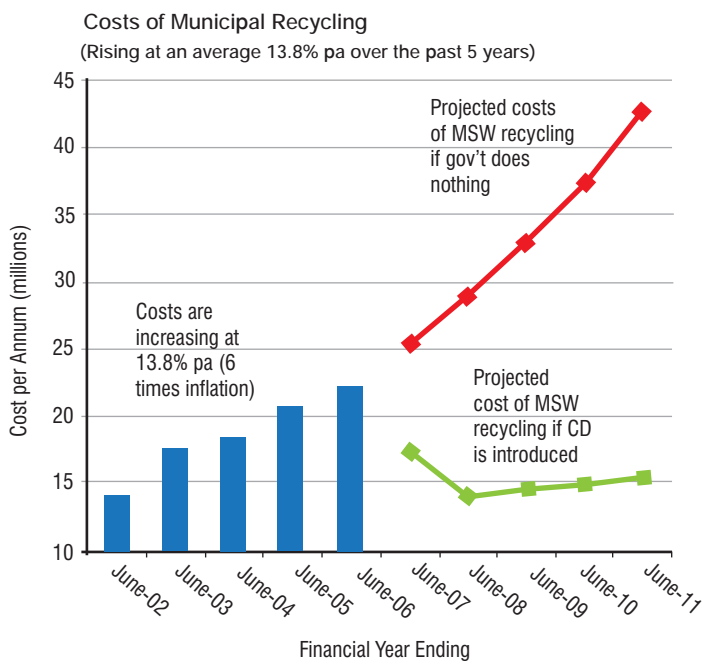
¹⁷ www.boomerangalliance.org

Detailed studies by the NSW Local Government Association in 2000 and by Boomerang Alliance in 2006 clearly demonstrate that without an intervention like container deposits, kerbside recycling costs continue to spiral out of control. The following charts demonstrate:



Of course, industry argues that a container deposit system is expensive. This is untrue. Overall there may well be some increase in overall costs if a CD system is introduced nationally (though the extent of this cost is very much based on the type of system adopted) because the volume of material collected will increase by at least 605,000 tonnes per annum, which however leads to large offsetting benefits.

Industry also claims that individuals will spend time redeeming deposits and that this lost time is a large 'cost'. However, collection of deposits becomes integrated into behaviour (eg during shopping trips) and is not regarded as lost time but a willing contribution. If the same economic approach had been taken with kerbside recycling, it would have never got off the ground!



Public support for container deposits

It is clear from Newspoll surveys commissioned by the Boomerang Alliance that the public is calling for more action. A survey conducted in December 2004 showed 91% of respondents thought governments should intervene and make those responsible for packaging waste deal with the mess¹⁸.

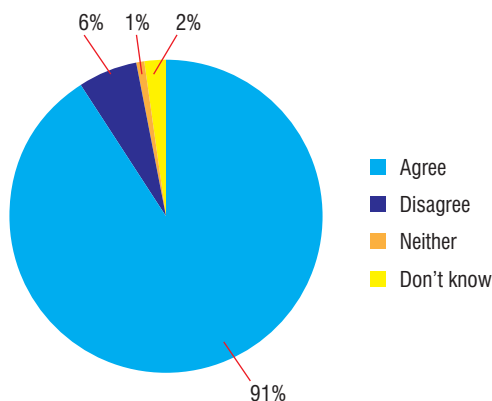
Subsequent research undertaken by Newspoll¹⁹ for the Boomerang Alliance in Western Australia in May '06 indicated that 94.45% of the adult population want CD with just 2.58% against. In Feb '07 the survey indicated 94.48% for and 3.87% against.

Research indicated a large majority of Australians wanted more action to be taken in addressing

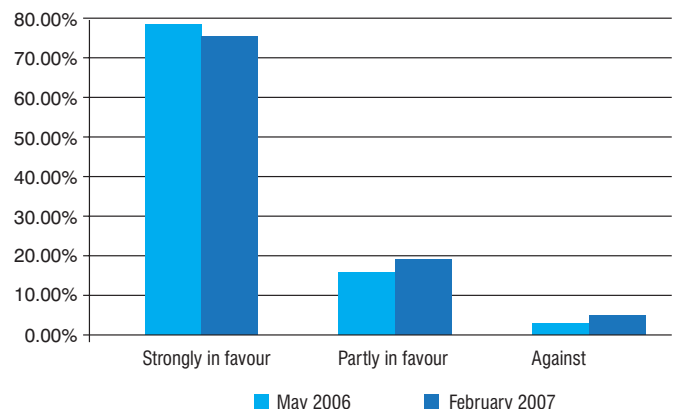
packaging waste. This belief has also been advocated by some members of the industry, including Coopers Brewery and Diageo, who have supported the adoption of greater responsibility on the part of manufacturers.

While the public recognizes that CD means payment of an upfront deposit, once again there is a very strong commitment to CD or 'willingness to pay' with 96% prepared to pay @ 5¢, 89% prepared to pay @ 10¢ and 75% prepared to pay at a high 20¢. The following graph is prepared by Newspoll and shows both the public's likely rates of returning and their preparedness to pay the deposit:

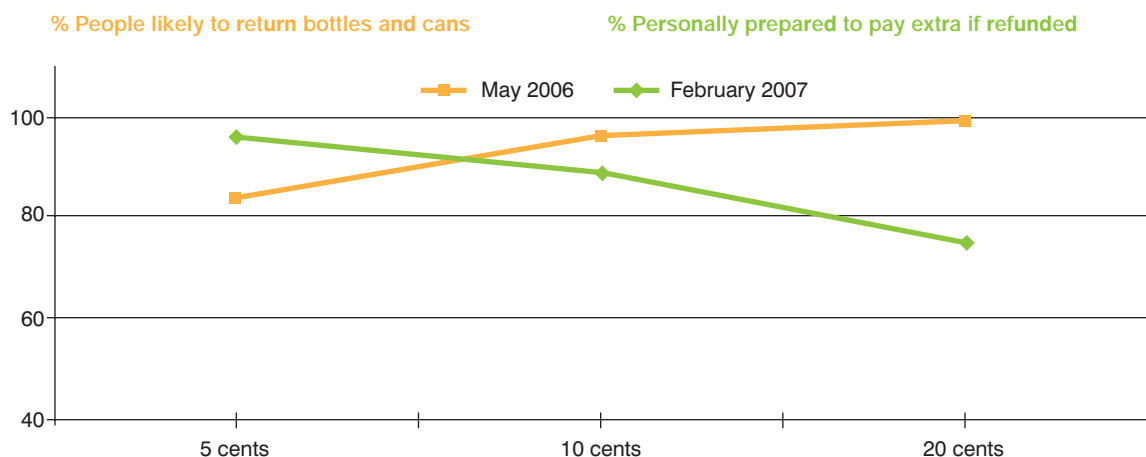
Is government intervention required?



Popularity of CDS in WA



Source: Newspoll



¹⁸ Newspoll 2004

¹⁹ Newspoll 2004

Who would administer the deposit? It may take a variety of forms; however the Boomerang Alliance suggests that:

1. Self-administered systems like the current approach in South Australia have limited transparency and a poor audit trail. While deposits have not been physically transferred to the state they should be viewed as public funds held in trust by bottlers. This is important. The Packaging Stewardship Forum recently highlighted the Hawaiian Auditor General's report to the WA CD Stakeholder Advisory Group to emphasise the importance of strong accountability and audit to build public trust.

This is good advice as the current South Australian system is hidden from public scrutiny under the guise of protecting bottlers' commercial in confidence processes. This approach should be improved to guarantee that public funds are adequately managed. There are also some questions about potential taxation of deposits if funds are self-administered. This is not an important issue in South Australia while industry 'absorbs' the deposit but has ramifications if bottlers ever decide to directly pass on the deposit value to consumers.

2. Systems directly administered by governments tend to be expensive and excessively bureaucratic. This leads to a slow response to problems, which can alienate public support, and tend to be more focussed on process than outcomes, as demonstrated in the Hawaiian Auditor General's report.

Boomerang Alliance recommends the formation of an incorporated non-profit entity to administer the CD system. This entity should produce annual

audited reports, and quarterly published data about production, consumption and recovery rates.

Surplus funds from the CD system create a significant windfall to the public purse, with an estimated \$80+ million p.a. surplus in a system that is fully funded by the sale of recovered recyclate and retention of unredeemed deposits. We recommended that these funds should be retained for waste management; used for other social policy such as binge drinking or childhood obesity programs or channelled back to the public by way of tax or rate reductions.

Regardless of who administers the system, it is apparent that designing a system today can be done at a far lower cost than that experienced in SA where industry owned supercollectors place significant impediments to modernising the collection system. The Boomerang Alliance recommends the system be run by private enterprise. Discussions with industry indicates that the private sector ***is prepared to develop the entire collection system with no infrastructure investment or subsidy by government.*** The consortia estimate that they simply require a handling fee of between 3¢ and 4.2¢ per container, which would be funded with little if any charges to industry given that at an 80% recovery rate there is 2cents in income generated from unredeemed deposits and the value of additional materials sales represents a further 2-2.5¢ per container. Boomerang Alliance is happy to introduce industry figures to reassure government of this costing.

A system for recovery

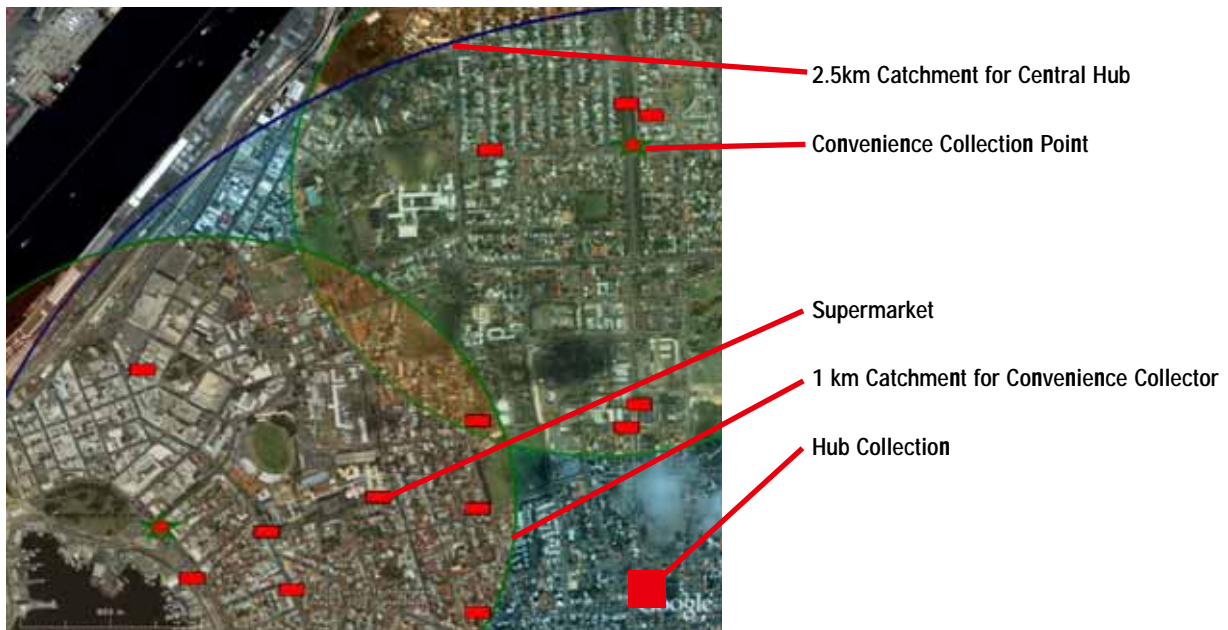
Based on modelling undertaken by Boomerang Alliance for the WA inquiry into adopting a best practice container deposit system, we believe that a National CD System would require the establishment of a series of central collection depots across the country as in the graphic below. Initial discussions with experts in the resource recovery sector and venture capitalists have indicated that they would be able to develop a self funded enterprise to establish these systems with no further financial assistance from the government or packaging industry other than the incomes from running the scheme.

Reverse vending operations should be established within zones of convenience to retail operations acting as a 'spoke' to deliver into the central 'hub' collection centres. International experience indicates that these operations could operate on a stand alone basis – locating machines in service stations, shopping centre parking areas, and convenience

stores where the additional passing trade creates sufficient commercial opportunity to secure sites.

The points of collection should be convenient for most people. After deposit value, this will be the most important factor affecting recovery rates. One of the limitations of the South Australian CD system is the limited collection points, which are often located some 5kms from major retail beverage points of sale (supermarkets). The result is that Adelaide has only 38 redemption points compared to 94 suggested in the Boomerang Alliance proposal for Perth. Nationally we estimate there will be over 1,200 points of collection that will also be able to collect a variety of other problem wastes. Obviously, a system with a high deposit value and low convenience (number and proximity to retail – i.e. the places people travel to regularly) has the potential to reduce community support for the system.

(graphic shows satellite image of the suburb of Fremantle, WA).



5 Costs of Alternative Policy Options

National Packaging Covenant

Environment Ministers agreed to renew the National Packaging Covenant in 2005 with firm targets, identifying minimum acceptable performance standard and assurances from regulators in NSW, Victoria and the Federal Government. They were:

- That the NPC had a strategy²⁰ based to meet these targets by focusing on:
 - a. Expansion of 'best practice' kerbside recycling across Australia;
 - b. Introduction of a comprehensive public place recycling system;
 - c. Private & State government investment (over and above agreed commitments to NPC) would fund the development of new Materials Recycling Facilities, a number of regional reprocessing facilities in the more remote states (particularly Qld & WA).

Based on the above Boomerang Alliance undertook an analysis of the best case scenario for increased packaging recycling and costs of same²¹. The results of this analysis are shown in the table below

This calculation clearly demonstrates that not only will the NPC strategy miss the minimum performance targets by an estimated 355,251 tonnes p.a; it will also collect some 275,757 less tonnes of recycling than a National CD System.

Contradicting the beverage industry argument that a Container Deposit System is expensive, the NPC strategy will cost a ridiculous \$222.4million per annum to operate nett of the initial infrastructure investment.

Stakeholders that would bear the brunt of costs to implement the NPC strategy would be (in the main) local government whose annual costs would increase by some \$196.1million p.a. and property owners, the hospitality industry and event managers

Annual operating costs to implement the NPC Strategy	Estimated Total Cost P.A. ²²	Est. Tonnes Needed to meet NPC Target	Projected Additional Tonnes - NPC Strategy ²³	Estimated Cost per Tonne	Shortfall NPC Target of strategy
MSW Additional cost - kerbside incl. educ'n & promo	-\$148,243,901	263,000	190,000	\$780.00	-73,000
MSW Permanent Public Place - incl. educ'n & promo	-\$42,062,500	71,000	23,555	\$1,786.00	-47,445
MSW Seasonal Public Place (high traffic flows etc.) - inc educ'n & promo	-\$5,804,625	46,000	1,413	\$4,107.00	-44,587
C&I: Shopping Malls/food courts excl. educ'n & promo	-\$18,091,000	149,000	64,000	\$283.00	-85,000
C&I: Hospitality - excluding educ'n, promo & staff	-\$2,500,000	127,000	66,500	\$37.59	-60,500
C&I Office Blocks - excluding educ'n, promo & staff	-\$1,997,474	25,000	8,370	\$239.00	7,630
C&I: Event Management - no educ'n & promo	-\$3,701,500	25,000	1,413	\$2,619.00	23,587
Operating Cost to increase recycling via kerbside and public place	-\$222,401,000	706,000	355,251	626.04	-279,315

²⁰ See National Packaging Covenant - Schedule 1 "Implementation Context for the Covenant" further detail based on BA records of final 'Covenant Working Group Meeting' D.West and J.Angel of TEC attending

²¹ Assessment by Warnken Industrial Social Ecology April'05 to assess best case scenario of recycling rates and costs of NPC

²² Costs are nett of the incomes earned from the sale of recycle

²³ NB This strategy has not been implemented

whose annual costs would increase by \$26.3million p.a. with the packaging industry, supermarkets, or food and grocery industry making no contribution at all. Once again this highlights that in reality the food and grocery industry's advocacy is not about the most efficient cost approach but rather how to save themselves money by forcing third parties to pay for their waste.

It should be noted that the beverage industry is responsible for only a proportion of these @ 29.11% of the total weight of packaging by volume (which we have used for cost comparisons in this report). Nevertheless beverage containers are a prime material that is not being recycled and thus is a key target for any public space system.

An Advance Disposal Fee

An alternative market based Instrument that could be adopted would an advance disposal fee on all packaging, but as the assessment above demonstrates without a consumer incentive such as a deposit/refund it would be unlikely to increase recycling rates to any more than an overall 51%. We would also view that the vast majority of packaging using reasonably simple cardboard and paper derivatives is viable for collection so long as the practice of producing composites such as liquid paper board and paper/plastic aseptics is controlled.

Should governments wish to pursue an ADF, it will need to generate some \$524million p.a.²⁴. This translates to a levy of \$121.55/tonne of packaging material produced and would cost each Australian household some \$68.63 per annum in increased food and grocery prices.

Summary

As stated at the start of this report the existing costs of recycling, landfilling and abatement of beverage containers costs the Australian taxpayer a staggering \$257,334,005 or \$33.70 per household.

While the current National Packaging Covenant strategy continues to bogged down should it be implemented the costs will skyrocket to over \$303 million (and the annual cost of managing packaging waste will increase to more than half a billion dollars p.a.).

Conversely, the adoption of a National CD System would reduce the overall cost of managing containers by \$84million p.a. while also lifting container recycling rates to over 80%, and eliminate the need for any regulatory action on the remaining 70% of food and grocery companies that largely use cardboard based products.

The comparable costs are as follows:

Annual Cost of Various Systems	Kerbside Recycling Costs	Landfill Costs	Litter Costs	Gov't & Industry NPCC Funding	Total Cost
The current cost to manage beverage containers	\$154,613,873	\$37,960,132	\$58,760,000	\$6,000,000	\$257,334,005
The cost of the NPC Strategy	\$219,364,830	\$19,810,766	\$58,760,000	\$6,000,000	\$303,935,596
The cost of combined CDS & kerbside	\$202,231,614	\$11,328,170	\$34,760,000	-\$75,929,946	\$172,389,838

²⁴ Based on the estimated \$257million to pay for the current system + \$222million to implement the NPC plan + \$4million administration + \$59million in landfill costs - \$18 million in landfill savings.

6 Benefits of a CD System

Boomerang Alliance has studied many container deposit systems around the world. Based on the success of container deposit systems in South Australia and internationally, the Boomerang Alliance has created models to assess the effectiveness of a national container deposit system in Australia. The benefits are substantial. We believe a container deposit system will:

Reduce the volume of litter in our parks, beaches and roadsides by 12-15%

Increase Australia's recycling by over 630,000 tonnes p.a.

Achieve a 6% diversion of all MSW waste away from landfill

Reduce Australia's greenhouse gas emissions by over 1.3 million tonnes of CO₂e per year (equivalent to 197,000 homes switching to 100% renewable energy)

Save enough water to permanently supply over 24,000 Australian homes

Deliver the same level of Australian air quality improvements as taking 140,000 cars off the road

Provide 250,000+ Australian homes with access to recycling services for the first time

Save rate payers over \$59.8million per annum

Significantly reduce the number of turtles, lizards, seals and birds killed by litter across Australia

Create at least 1,000 new jobs, mostly in rural and regional Australia

It's common sense – container deposits are the simplest and best first step towards a zero waste society

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The Boomerang Alliance:

- Australian Conservation Foundation ■ Arid Lands Environment Centre ■ CleanUp Australia
- Conservation Council of South Australia ■ Conservation Council of Western Australia
- Environment Centre of the Northern Territory ■ Environment Tasmania ■ Environment Victoria
- Friends of the Earth ■ Greenpeace Australia Pacific ■ Local Government & Shires Assoc'n of NSW
- NSW Nature Conservation Council ■ Queensland Conservation Council ■ Tasmanian Conservation Trust
- Total Environment Centre