

Senate Standing Committee on Environment, Communications and the Arts
**Enquiry into the Management of Australia's Waste Streams:
Additional Information**

Dave West, National Campaign Director 2nd July, 2008

The following additional information is provided to the Senate Enquiry to provide clarifying information regarding Boomerang Alliance's own submission and in light of assertions made in other submissions to this enquiry.

1. Container Deposit Systems Internationally

The Packaging Council of Australia has made a submission to The Senate Enquiry offering the paper "Excerpts on CDL Recycling Comparisons from Draft Report 'Status of Packaging Sustainability in Australia' by MS2 and Perchards for the Packaging Council of Australia". This paper contends that "Of the five EU 'deposit states', only Germany exceeded the average recycling rate in the EU-15 countries in 2005." The Boomerang Alliance feels that the information submitted creates a somewhat distorted picture of the reality of common practice in packaging recycling across the European Union. The PCA submission attempts to illustrate current recycling in Europe based on the graph found overleaf. While this graph accurately cites those EU jurisdictions that have specific Container Deposit Legislation it conveniently fails to identify those nations who have broader based legislation that, in practice, results in a deposit / refund on common beverage containers. For example:

- In Belgium the "Ecotaxes Act of 1993" requires all beer, soft drink or soda water products to: be offered in refillable containers; to place a deposit of at least 12¢ on containers; and for these containers to be actually reused at least 7 times to avoid be subjected to an ecotax of US52¢ a litre. So while there is no deposit legislation per se it is a requirement of Belgium.
- In Austria the "1990 Order Concerning Refillable Bottles", and the "1992 Federal Order for the Establishment of Goals for the Reduction and Recovery of Container Packaging and Related Packaging" is established to ensure the success of the refillable system. These ordinances require deposits on refillable PET bottles and operates in almost exactly the same manner as the Belgium system above.
- Luxembourg, The Netherlands and the Czech republic all operate in a similar manner.
- Norway and Switzerland both use Container Deposit Systems and have been excluded as they are not members of the EU 15. Norway is probably the best packaging recycling / reuse performers in Europe.

Our assertion is confirmed both by the WA government's investigation into best practice container deposit systems (http://www.zerowastewa.com.au/documents/sag_cds_report.pdf SEE: A1-07 EuropeMatrix.xls) and Diageo Australia's own investigation into Container Deposit Systems forwarded as an appendix of Boomerang Alliance's submission to this enquiry (pages 16 & 17). A corrected chart is found overleaf:

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 Association of NSW •
 - NSW Nature Conservation Council • Queensland Conservation Council •
 - Tasmanian Conservation Trust • Total Environment Centre •

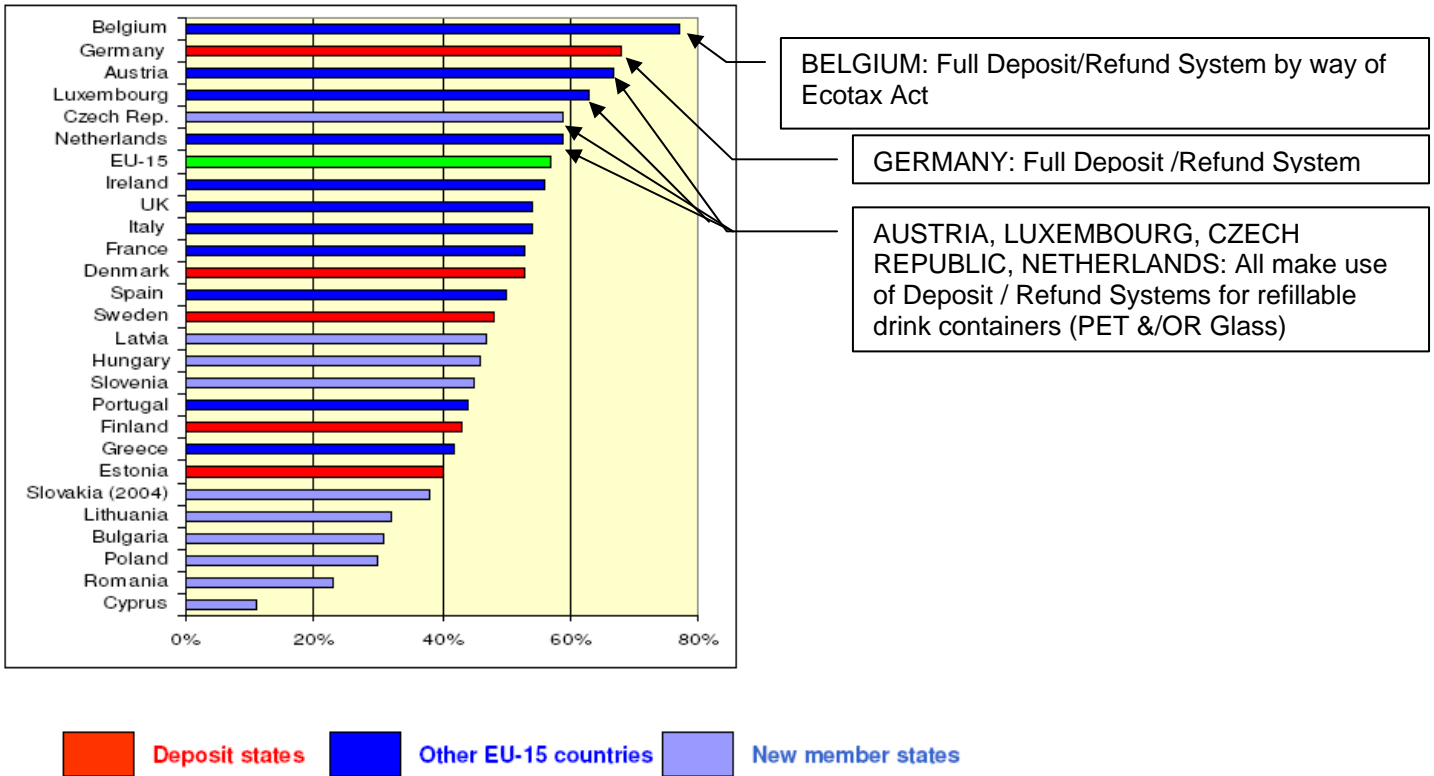
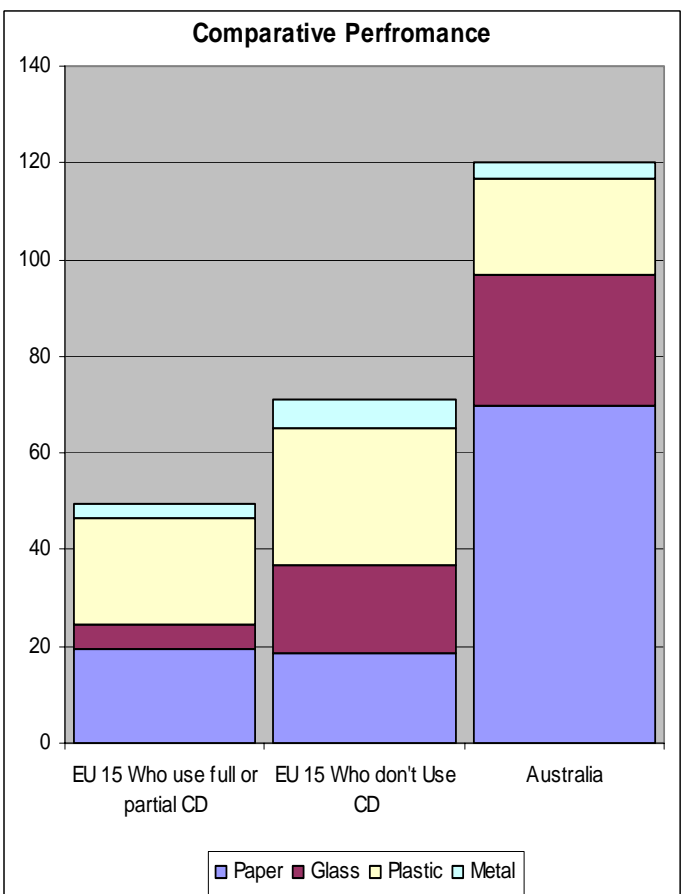
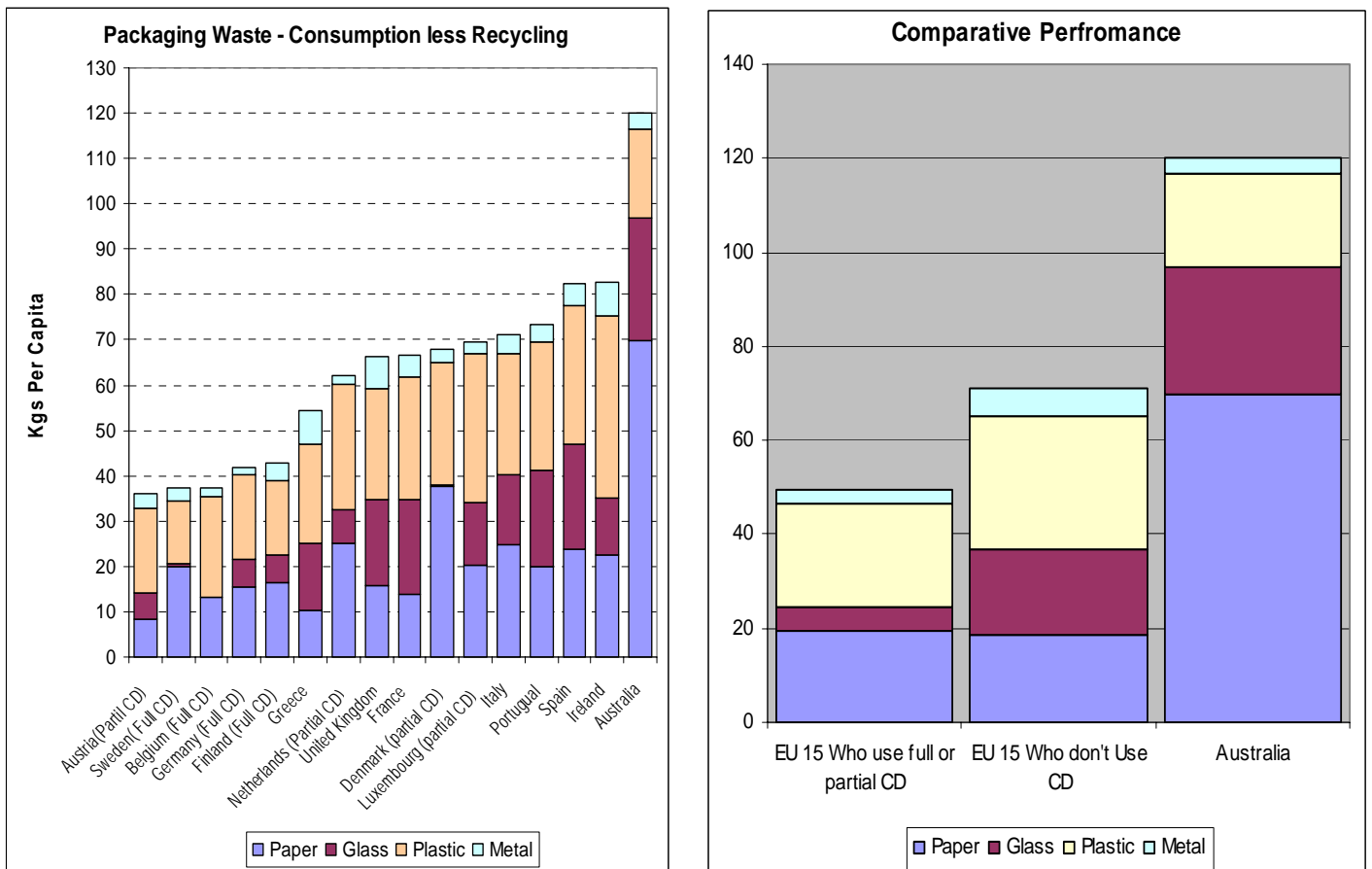


Figure 1-1: Container deposits and European recycling rates 2005

Further, Looking at recycling rates alone to assess European performance is misleading as most European jurisdictions require the reuse of glass and PET containers. Reuse is not reflected in recycling rates and the impact of having these containers returned can only be seen through reduced consumption of materials and the volume of material to landfill. The following graphic is a measure of per capita consumption of materials less recycling measured (excluding any recovery for waste to energy purposes). It is based on formal reporting under the EU Packaging Directive:



Container Deposit System in Europe - Summation:

- **The 6 best packaging recyclers within the EU all use Container Deposits in some form.**
- **8 of the EU15 deploy a container deposit system to maximise packaging recycling.**
- **EU nations with CD consume 30.5% less packaging materials than the rest of the EU.**
- **Nett of recycling the 8 EU nations utilising Container Deposits consume just 49 kilograms of packaging/capita p.a. compared to Australia's average of 120kgs/capita.**

2. Costs of Existing Recycling Vs Container Deposit Systems

Some submissions cite a report undertaken by Nolan ITU (now Hyder Consulting) for the Victorian EPA as evidence that the costs of the Drink Container Recycling Bill outweigh its benefits. Interested in understanding this analysis, Boomerang Alliance hired leading Australian economists Marsden Jacob to review this report (copy attached). Marsden Jacob found that the report had significant "methodological shortcomings", was poorly constructed and "significantly overstates cost impacts on households". Further the government peer review of Nolan's report by Perchards identified that Nolan's estimated costs of 13.5 – 14.5¢ per container were significantly exaggerated and that in their estimate the cost per container would be in the vicinity of 3.5¢ - 4¢. Perchards estimate is reasonably accurate for a manual handling system but does not consider the lower operating costs using reverse vending machines.

Other reports such as the "Independent Assessment of Container Deposit Legislation (The White Report) produced by the Institute for Sustainable Futures for the NSW Government estimate that Container Deposit Systems would actually provide a net economic benefit of \$70 - \$100million in NSW alone. We note with interest that a submission to this enquiry by Revive Recycling has calculated that a national benefit of \$360-\$490million p.a. These estimates are consistent with the findings of the leading U.S. study into container recycling systems "Understanding Beverage Container Recycling. A Value Chain Assessment for the Multi-Stakeholder Recovery Project" which found that "deposit systems result in the highest level of recovery" and "based on a comparison of net costs that includes revenue from material sales and (for deposit systems) revenue from unredeemed containers, curbside programs are most costly, followed by traditional deposit systems and residential drop-off programs... On average, reverse vending machine based deposit systems show a surplus when unredeemed deposits are included."

In attempt to provide some real clarity about the impacts of a Container Deposit System, Boomerang Alliance has undertaken its own modelling of the direct financial impacts of a Container Deposit System which is based on formal quotes received from recycling operators:

Costs	\$ Per Annum
Existing Cost to Collect & Recycle Packaging via MSW [Kerbside & Drop Off] (less recyclate sales)	-\$154,613,873
Costs for an Administrator of a National CD System	-\$4,000,000
Costs of CD Handling Fees for collection and Hubs [supercollectors] (nett of recyclate sales)	-\$140,575,916
Existing Costs of landfilling containers currently	-\$37,960,132
Existing Cost of containers 'share' of litter abatement (28.38% of litter volume)	-\$58,760,000
Less Savings & Benefits:	\$ Per Annum
Increased paper recyclate sales through reduced glass contamination	\$14,265,248
Savings to operation of kerbside and MSW recyclate	\$18,928,717
Savings to MSW be 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 Cost	-\$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 or Rates	\$84,944,167

Even if the entire nett savings and benefits identified in the table above are not considered it is apparent that the gross system costs identified above represent an average cost of 0.9¢ per container [\$144million p.a. to collect some 11billion containers annually] compared to the current cost of recovering containers, which (based on reporting to the National Environment Protection Council for the Used Packaging NEPM) represents an average cost of 2.65¢ per container [\$155million p.a. to collect approx. 5billion containers annually].

Further this estimated cost for existing recycling systems only reflects local government costs and does not take into account the costs of Commercial and Industrial recycling, and costs to process recyclate at a Materials Recycling Facility. The table below estimates the cost to recover C&I materials via a 'Dirty MRF'. Using this estimate the nett cost to recover the current 221,000 tonnes of containers collected via the C&I stream, conservatively adds a further \$20million to the cost of current recovery, representing a total cost to recover containers of some \$175million per annum or increasing the cost to recover containers to an estimated 3¢ per container.

Cost of Recovery: 1 tonne of typical C&I Waste

(Source: Warken ISE 'Potential GHG Abatement from Waste Management & Resource Recovery)

Material Type	Kgs in 1 Tonne of C&I	Cost of MRFing	Transport	Additional Processing	Recyclate Value	Net Cost	Cost Per Tonne
Paper & Cardboard	213	-\$19.21	-\$3.20	-\$10.67	\$14.94	-\$18.14	-\$85.16
Glass	28	-\$2.49	-\$0.41	-\$2.76	\$1.99	-\$3.67	-\$131.07
Non-Ferrous Metal (aluminium)	10	-\$0.87	-\$0.15	-\$0.97	\$11.62	\$9.63	\$963.00
Ferrous Metal	57	-\$5.09	-\$0.85	-\$5.65	\$4.52	-\$7.07	-\$124.04
Plastic	122	-\$11.02	-\$1.84	-\$36.74	\$30.62	-\$18.98	-\$155.57
Garden Organics	99	-\$8.91	-\$1.49	-\$7.92	\$0.00	-\$18.32	-\$185.05
Food and other organics	152	-\$13.65	-\$2.27	-\$12.13	\$0.00	-\$28.06	-\$184.61
Wood/Timber	153	-\$13.81	-\$2.30	-\$12.28	\$0.00	-\$28.39	-\$185.56
Soil/Rubble & Clean Excavated Material	68	-\$6.15	-\$1.02	-\$6.83	\$0.00	-\$14.00	-\$205.88
Concrete, bricks and asphalt	69	-\$6.20	-\$1.03	-\$6.89	\$0.00	-\$14.13	-\$204.78
Other recyclables (inc Textiles)	23	-\$2.04	-\$0.34	-\$2.26	\$0.00	-\$4.64	-\$201.74
Other (waste)	6	-\$0.56	-\$0.09	-\$0.63	\$0.00	-\$1.29	-\$215.00
Total	1,000	-\$90.00	-\$15.00	-\$105.74	\$63.68	-\$147.05	
Average Cost to recover packaging via a C&I Dirty MRF (nett of Recyclate Value)							-\$88.91

Finally, Boomerang Alliance estimates that there is a further \$37.9million cost to landfill containers that are not recovered plus another \$58.7million expended by state and local governments to manage container rubbish in the litter stream. An appalling waste of resources and tax payers money.

Summation: Costs of Recycling

- **Only 40.8% of containers are currently recycled at a cost of \$175million p.a.**
- **The failure to recover almost 60% of all containers represents an annual cost of \$86.6million in government expenditure for landfilling and litter abatement.**
- **A Container Deposit System would lift recycling rates to an approx. 81.6% and reduce the costs of container litter, waste and recycling by some \$85million p.a.**
- **Over and above these savings, A national container deposit system will save local government's kerbside recycling services at least \$59.8million per annum plus significantly greater efficiency gains through improved operational efficiencies.**
- **Even if the savings and benefits of a national container deposit system are ignored the estimated collection costs of 0.9¢ / container are more than 70% lower than the current 3¢ / container Australians expend to recover containers via MSW and C&I recycling.**

3. The Importance of A National Container Deposit System

A number of submissions have suggested that the adoption of a Container Deposit System nationally will only have a small impact on the waste stream. However it is important to stress that once you break the waste stream into individual product categories almost every part of the waste stream can be perceived as a relatively small component. Compared to the other problem wastes commonly identified as needing their own product stewardship or EPR scheme to manage their recovery it becomes obvious that containers dwarf all other targets and as such need to be the first point of action if we are able to address waste management on a more holistic level.

The following chart demonstrates:

Common Products Category Identified for 'EPR'	Tonnes Per Annum
Containers (approx 29% of all packaging)	1,255,000
Newsprint (scheme in place)	772,551
Used Tyres (scheme being finalised)	280,000
Shredder Flock (The landfilled proportion of cars at end of life)	156,000
Used Oil (scheme in place)	93,000
Paint Waste	77,400
Computers	25,000
Plastic Bags (scheme being proposed)	20,700
TVs	15,000
Cigarette Butts	15,000
Printer Cartridges	5,000

As this chart demonstrates container waste is the single largest 'problem waste' in Australia and is a major source of contamination with glass and aseptic plastic containers creating significant contamination of paper and organic materials and adding millions of dollars to the efforts to recycle these relatively simple materials.

Further containers are a priority for action as they enable further resource recovery programs. As almost all Australians use containers they are an ideal first point of action to establish both the necessary behavioural change to create the habit of taking materials to the local recycling centre and also become the basic bread and butter product that will fund the necessary collection infrastructure to approach resource recovery more broadly (in much the same way as Publishers national Environment Bureau's world leading newsprint recovery program underpinned the rollout of kerbside recycling across Australia). Boomerang Alliance estimates that a national container deposit system will see the creation of at least 400 large scale drive through recycling centres and another 2,000+ convenience collection centres.

Summation: Why Container Recycling is a priority

- **Container are the largest single waste target of all materials identified as national priorities within the national EPHC agenda;**
- **Containers create nearly 8 times more waste than motor vehicle scrap and some 50 times more waste than plastic bags;**
- **Containers are a major contaminant of the waste stream with glass, aseptic plastics etc. causing reductions in resource recovery and significant additional operating cost;**
- **The Drink Container Recycling Bill will see some 2,400 new recycling collection points established throughout Australia;**
- **These recycling centres represent virtually all of the collection infrastructure needed to effectively deal with nearly every priority waste in Australia.**