BOOMERANG ALLIANCE

RETURN AND EARN – HAS IT WORKED?

Report on Year 1 of Australia's first modern Container Deposit Scheme

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www.boomerangalliance.org.au

Contents

SUMMARY

- The NSW container deposit scheme (CDS) commenced on 1 December 2017 and has achieved 1 billion containers collected by its first anniversary.
- The container eligibility and refund amount mirror that of South Australia (as well as QLD and ACT). There is however a case for wine (and other excluded drinks) to be included in future changes; as well as a review of the deposit amount as inflationary impacts occur, to maintain and drive up recycling targets.
- NSW differs markedly from SA in employing consumer facing technology such as Reverse Vending Machines (RVM's) for collection. 80% of returns in the new network are coming through the automated network, reflecting its convenience; and it is exceeding the volumes collected by kerbside.
- The beverage industry owned 'scheme coordinator' in QLD opted for a less automated and therefore potentially less convenient scheme than NSW, though it will take several months to see the results of that approach.
- The NSW government contracted directly with the recycling sector (Network Operator) rather than the beverage industry owned scheme coordinator, in order to avoid perceived conflict of interest.
- The effect of the NSW 'direct contracting' approach has been to see the number of collection points substantially exceed the minimum required, with coverage at around 1 collection point for 11,000 people. This differs substantially from QLD at a minimum of 1 per 20,000 people (which should be upgraded).
- Recycling rates in NSW have climbed from approx. 32% to 54% and will go higher.
- The latest IPART analysis demonstrates that price rises in NSW have been less than the value of the 10cent deposit amount, so consumers that recycle through the scheme are not paying for the CDS.
- Material Recovery Facilities in NSW collect the deposit but not the handling fee on recovered containers. It's understood volumes through MRF's have only dropped by about 10% to date. Notably the value of the retained material has increased substantially because of refund redemption and cleaner materials overall - increasing MRF revenues.
- MRF arrangements with councils have reportedly been fraught as to whether sharing the refunds should be split 50/50 or differently.
- The value of CDS collected material has also increased markedly due to its lack of contamination e.g. unsorted PET was fetching $110 per tonne while sorted CDS PET is selling for around $375 per tonne a 350% increase in value. This is helping beat the China Sword policy which rejects contaminated recyclate. About 90% by weight of material is finding its way to domestic reuse / reprocessing markets.

- The NSW EPA and National Litter Index report that rates of littering of CD eligible containers have reduced since the scheme commencement by 44%.
- Consumer satisfaction with the scheme is high.
- Numerous stories of social enterprise and charity fund raising[1] have surfaced as well as novel outcomes such as strata units collectively redeeming deposits to pay off building strata fees.
- While there have been no reported job losses from the beverage sector, it is understood over 500 direct jobs have been generated by the scheme in NSW.
- Many tens of millions of dollars in private sector investment has been made into the NSW economy to establish collection and sorting infrastructure as well as transport.

Learnings from NSW leadership on this issue are now benefiting other states. This includes, longer implementation times which plagued the first few months of the NSW scheme; benefits of automation and reviewing bottler engagement costs.

Perhaps most importantly, the decision by NSW to adopt a container deposit scheme broke the paralysis that had plagued decision making across the states and nationally over decades, with most states now introducing the program. Victoria and Tasmania remain outliers, but a rational approach to policy making should encourage them to see the litter and recycling benefits and economic, employment and charity gains.

[1] https://returnandearn.org.au/news/

RECOMMENDATIONS FOR IMPROVEMENT IN NSW AND ADDITIONAL STATES

- Assessments of the benefits and costs of container deposit schemes should have rigorous review of data sources and a wide ambit of benefits assessed
- Additional items such as wine bottles should be included in the scheme across all jurisdictions
- IPART recommendations of in arrears invoicing in NSW is supported
- 12 month implementation timelines (to include consumer education) such as that proposed for WA are necessary
- NSW should consider increasing handling fees to improve the viability and financial stability of automated depots
- The economics of transport of plastic, metal and paper could be improved by allowing cans and bottles to be crushed after barcodes are read, eg at automated depots
- Drink containers in kerbside bins are donations by consumers and consequently there is a public interest in transparency and urgent reporting on the arrangements made between councils and collectors
- CD states should establish a formal process to harmonise deposit level increases and changes to eligible containers
- Victoria and Tasmania should adopt container deposit schemes

1. INTRODUCTION

On 1 December 2017, New South Wales began a container deposit scheme (CDS) called Return and Earn, providing a 10cent refund for the return of eligible drink containers. Its twin objectives were to reduce the volume of litter by contributing to the Premier's target of a 40% reduction by 2020 and increase recycling.

The CDS was the culmination of a more than decade long campaign ('Cash for Containers') by environment groups including the Boomerang Alliance, Total Environment Centre and CleanUp Australia, supported by the overwhelming majority of the community. Return and Earn will achieve one billion container returns in early December 2018.

The scheme was the first modern refund program introduced since the successful South Australian refund that began in 1975[2]. It contained important new aspects including the use of reverse vending machines, bulk automatic sorters and allocation of scheme rollout responsibility by tender and government contract.

The decision by the NSW government to implement container deposits was mired in controversy for many years prior, pitching the community and environment groups against major beverage companies. In addition, extensive regulatory and benefit/cost studies were required leading to debate about the accuracy of data (for example, number of containers consumed and recycled under existing programs); underlying assumptions (eg, what is a "benefit'' and a "cost"); and impact on consumer prices – all influencing government considerations and promoting delay. A number of aspects of these studies have since been found to be grossly erroneous; and it was not until the final regulatory impact statement by the NSW EPA that a positive benefit cost ratio was concluded[3].

This report reviews key aspects of the scheme. Further an assessment of Return and Earn should briefly examine those issues presented as negatives, in addition to other aspects promoted as positives by proponents.

Since the decision by NSW, other states and the ACT have followed suit with container refund schemes now in operation in Queensland, the ACT and due to commence in Western Australia in 2020. This leaves Victoria and Tasmania as recalcitrants which claim they are watching the performance of the NSW scheme before making a decision.

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[2] The Northern Territory began a scheme modelled on the South Australian scheme in 2012.

[3] See: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/container-deposit/container-deposit-scheme-consultation-regulation-impact-statement-170224.pdf

Two key errors were: the rate of recycling being overstated; and the at-home/away-from-home consumption split favouring at-home (70%). Boomerang claimed it was more like 50/50 or less for at-home. Both errors resulted in consultants overstating the cost of the CDS.

1. KEY FEATURES OF RETURN AND EARN

There are numerous scheme designs in over 40 nations and states around the world. Each has responded to the particular political conditions and economics, for example some schemes do not include all drink containers, while others vary in the size of the deposit and who manages the collection network.

There are a number of basic components of a CDS around which legislation, technology, governance, business and consumer behaviour revolve. An important issue in NSW (and consequent states) was to not create unnecessary differences in deposit level and included containers, so as to not interfere with intestate trade. It is proposed that these common elements will be able to change (harmonise) under joint state ministerial agreements in the future.

1. Eligible containers - as in South Australia and NT - plastic, metal, glass and LPB drink contains are included up to 3L. There is a small difference in the lower volume between the two with NSW opting for a 150ml cut off.

2. Refund and recycling level – 10cents as in SA and NT – has it been a sufficient incentive to improve recycling?

3. Handling fees – these are presently imposed in advance on bottlers to support the collection points, transport and bulk sorting centres.

4. Economic impact – there were claims the CDS would reduce employment and drink sales. The Independent Pricing and Regulatory Tribunal undertakes reviews of price impacts.

5. Governance – the EPA oversees compliance, regulatory instruments, container registration and key media coverage. A clear separation was made between the Coordinator, Exchange for Change which collects bottler fees, disburses funds and reports on returns; and the Network Operator (Tomra/Cleanaway) which rolls out and manages the collection infrastructure and payments to it. Unlike SA, there is a higher degree of government control over the Network Operator and Coordinator via detailed contracts.

6. Collection network – there is a major focus on automation (using optical readers in reverse vending machines (RVMs) and bulk sorting singulators) compared to the manual counting system in SA. There are some 'over the counter' (OTC) manual services. Specific consumer convenience zones were also developed to guide the rollout of collection points. In addition major retailers, including Woolworths, Coles and some independents participate in refund redemption.

7. Fraud control – there is the threat of containers from non-participating states being presented for refunds in NSW when the funds from consumers (via bottlers) have not been obtained; or

containers being presented more than once. Control is exerted via accurate counts from barcode and shape data read in RVM and bulk sorting machines.

8. Involvement of kerbside collections – recycling bins contain many containers and the CDS legislation requires councils and collectors to agree on a weight and audit based system to account for the amount of refund and for that refund to be shared.

9. Transportation of containers from collection points – uncrushed containers are transported from the hundreds of collection points to amalgamation points where they are sold for recycling.

10. Market for collected containers – a crucial aspect to the economics of the scheme is being able to sell the material to domestic and export markets. This has been made more complicated by China's rejection of contaminated recyclate (from comingled kerbside bins); but it was claimed that the cleaner stream from a CDS would make it more attractive to the market.

11. Consumer behaviour – has there been sufficient information provided to the consumer via public education about the existence of the scheme and what is an eligible container? There is a range of types of 'collectors' and redemption behaviour.

12. Impact on litter – this is a key metric for government policy.

Reverse Vending Machine kiosks redeem via paypal, tomra app or voucher at retailers - taking 80% of volume in new infrastructure

3 ASSESSMENT OF RETURN AND EARN

3.1 Eligible containers

Due to local political issues the SA scheme excluded wine bottles from deposits. This was mirrored in NSW. However, there is a considerable amount of wine consumed and the glass should be recycled. Further the price impact of 10cents deposit and handling fees would not affect sales. Consequently wine should be included.

Drink products such as milk, cordial, health drinks and pure juice[4] are also excluded, ostensibly on the basis that they are consumed at home and government wanting to minimise the impact on the cost of living (a sensitive political issue). Again the 10cents makes very little difference to prices and eventually these should be included in all the Australian schemes. This is particularly important with the loss of market for comingled recyclate in kerbside bins, as a CDS produces material of higher quality acceptable to reprocessors.

The NSW bulk processing centre

[4] Exclusions are: plain milk (or milk substitute) containers · flavoured milk containers of one litre or more · pure fruit or vegetable juice containers of one litre or more · glass containers for wine and spirits · casks (plastic bladders in boxes) for wine and casks for water of one litre or more · sachets for wine of 250 millilitres or more · containers for cordials and concentrated fruit/vegetable juices · registered health tonics

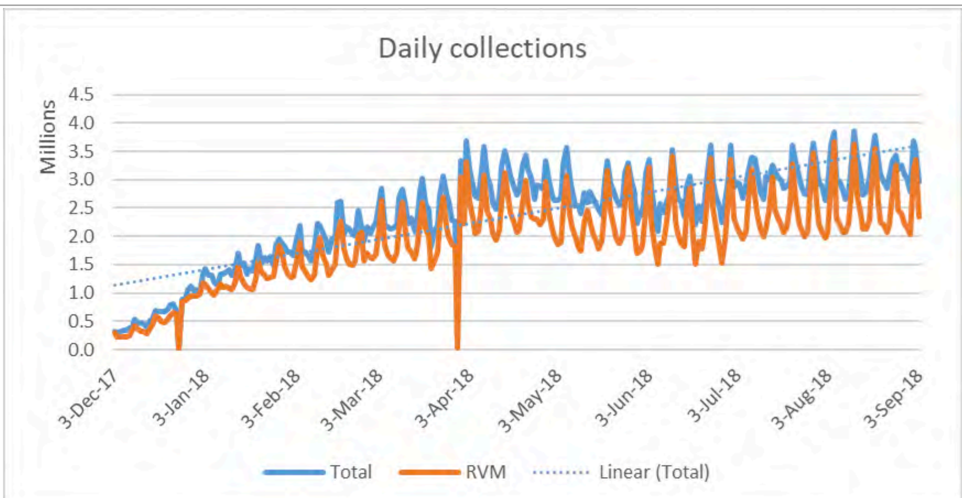
3.2 Refund level

At present the 10cents is clearly motivating return of a significant amount of containers. Recent government data reports the collection rate for eligible containers as 54%, an increase of 69%.[5] Boomerang projects it grow quickly.

One of the contentious issues debated about the refund scheme was whether it would make a meaningful difference to the prior recycling rate. If it did not, then the investment in a new collection system (in addition to existing kerbside recycling and public space bins) would not produce benefits exceeding the cost. Boomerang Alliance maintained the position during the debate that recycling was closer to about 48%.

However it has become apparent that the prior claimed recycling rate by government and industry was too high being based in inaccurate data. It is now possible to calculate because accurate drink sales figures are being obtained by the scheme and can be compared to recycling collections. The prior CDS rate for the primary collection point of kerbside, is now calculated to be about 33%[6], rather than the 65% previously claimed by the Australian Packaging Covenant (2016). Thus investment in a new CDS collection infrastructure (markedly improving recycling and material sales) is justified. by the major improvement brought about by the CDS.

As has been experienced in other schemes (including SA), inflation will weaken the message of the 10cents and inevitably the refund will increase over time.



Collection volumes took several months to ramp up, partly due to delays in infrastructure provision

[5] https://www.epa.nsw.gov.au/news/media-releases/2018/epamedia181202-return-and-earn-a-billion-reasons-to-celebrate.
[6] Confirmed by NSW government, 2 December 2018.

3.3 Handling fees

These are confidential but it is understood that in the early stages of establishing a collection point (in particular bulk or automated sorting centres) the financial equation is very tight. The fees in Queensland are higher and may provide a greater comfort level for investors, although depot 'territories' are only assured for 12 months. One of the areas most impacted by the lack of collection points is the inner west, north shore and CBD as rents are very high (and not offset to a degree by a higher handling fee). Additional issues are lack of land, truck access and parking space. Consequently consumers in some areas are lacking key infrastructure to which they can return their containers.

The refund and handling fee are imposed on bottlers. IPART (2018) has recommended the fees imposed on bottlers be changed from in advance, to arrears, to reduce cost volatility. It will also make it easier for bottlers, in particular smaller enterprises to pay the invoice. We endorse this recommendation[7].

3.4 Economic impact

There was furious debate about the impact of the deposit and handling fee on prices, drink sales and jobs. The beverage producers commissioned reports assuming very large costs (20cents per drink[8]) and impacts which they deployed in key electorates and in lobbying. Environmental groups claimed a maximum impact of 1-2cents; also pointing to other influences on prices including market competition and discount practises.

A review has now been undertaken by IPART and its findings are that prices have on average risen less than 10cents, including the 10cent deposit.

We found that on average, prices of all eligible container beverages increased by 7.5 cents per container due to the introduction of the CDS over the nine months from November 2017 to July 2018 (Figure 1.1). The average price increase varied across beverage categories. However, in each category, it was consistent with or less than the direct cost of the scheme, which was 9.2 cents per container (including GST) on average over the same period…

[Further]…there is no evidence that the total beverage supply in NSW has changed since the introduction of the CDS, or that the scheme has impacted on market shares differently for larger and smaller suppliers. In addition, there is no evidence that the CDS has resulted in a reduction in product choice or information available to consumers[9].

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[7] Exchange for Change support application of arrears invoicing and have proposed a 'cost and revenue' model. See: https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-section-12-publications-container-deposit-scheme/transcript-nsw-container-deposit-scheme-public-hearing-sydney-23-october-2018.pdf - p12

[8] 'Impacts of a beverage container deposit scheme – Implications for the average New South Wales household shopping basket' ACIL Tasman for Packaging Stewardship Forum, Australian Food and Grocery Council July 2012.

[9] https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-section-12-publications-container-deposit-scheme/draft-report-nsw-container-deposit-scheme-september-2018-[w182537].pdf pp2-3

Consequently consumers that return their containers are benefitting financially (the ten cent refund is higher than the cost). Those that do not, are making the choice to forgo the refund or donating to a charity. Nevertheless the lack of the preferred RVM collection infrastructure currently in some parts of Sydney cannot be discounted as an unwelcome deterrent to redeem containers.

Rather than jobs being adversely impacted as alleged by the beverage sector - according to industry, there has been a growth in new jobs, with some 500 direct jobs created. There have been no reported job losses from the beverage sector resulting from the introduction of CD schemes in NSW or elsewhere.

Many tens of millions of dollars has been invested by the Tomra-Cleanaway consortium in the building of collection facilities, consolidation and processing hubs, specifically designed trucking fleets and other logistics infrastructure. Additional millions of dollars of investment by third party collection point operators in NSW has also occurred.

This funding has helped to invigorate the recycling sector more broadly. Victoria and Tasmania would expect to be similarly serviced by private sector contributions in the event the appropriate legislative frameworks are established.

Over 500 direct jobs have been generated by the NSW scheme

3.5 Governance

A variety of governance models have been adopted in Australia, with the main difference being the body that sets up and manages the collection network. In NSW, the Network Operator (a private company) is separate to the Coordinator, which is dominated by the beverage companies. The rationale behind this was to remove any conflict of interest between drink company interests in a low cost and a potentially inconvenient collection point model, which is the easiest way for them to reduce the costs of the scheme that they bear versus the need for an adequate regime of collection points.

Other states have combined the roles with bottlers developing the system (with a product stewardship entity), under government convenience requirements and ministerial sign-off of key contracts and business plan. In NSW a larger number of reverse vending machines and total number of collection points have been established, compared to Queensland which has an alternative focus on bag drop points. The critical consideration is whether government has sufficient control to ensure the public interest is protected.

Boomerang strongly supported the separation model and it appears to be working well. It is associated with strong government oversight. Whether the less regulatory models in other states (ie, Qld which only commenced on 1 November 2018) deliver the same results, remains to be seen and will only become apparent a few months into the QLD scheme.

3.6 Collection network

It is widely acknowledged that the four months allowed for rollout of the NSW network was too short. This led to some loud adverse media coverage, but negative media has now very largely abated with an increasing number of articles about the community, charity, litter and recycling benefits appearing. Initial issues of noise from and litter around some RVM kiosks are being resolved.

Tomra Australia, which is responsible for the RVMs has efficiently supplied more than it was contracted to provide, with over 1,220 in 319 sites now in place. They are taking 80% of the volume in the new network. They have an agreement with Woolworths, Coles and other independent supermarkets to honour vouchers from the RVM. Originally Boomerang supported mandated RVMs at major shopping centres but retailer opposition prevented this. Where practical RVM sites should be further developed in shopping centre carparks.

Some RVMs are very popular and report large throughputs. There are also queues with people inserting many hundreds of containers at a time. It was intended that the automated depots (currently 20) should take this load, but these are still being developed in key suburban regions.

Over the Counter (OTC) sites were accelerated close to the launch date of 1 December last year, but they have proved less useful (with a relatively high turnover) and will always be a small part of the Network volume. Their main purpose is providing convenience in high density metro areas, and an immediate cash service in small regional towns. There are 320 currently.

Charitable groups are making good use of donated containers and the funds generated

3.7 Fraud control

The use of barcode readers is a central element of fraud control as well as a form at automated depots, signed by customers that they purchased the product (over 1,500 containers) in NSW. We do not have systematic information to evidence if the system is preventing fraud, but are not aware of any anecdotal reports of significant fraud. From overseas experience, however, it is possible there will be attempts at fraud and the key participants will need to maintain a close watch.

3.8 Kerbside collections

Until the inception of the CDS, kerbside collections were the main source of recycled drink containers (with possibly some small amounts from public space bins but these are heavily contaminated). However the rejection by China of comingled waste means that unless sorting techniques at MRFs which receive the kerbside material significantly improve, the drink containers will be landfilled or used for waste to energy – both low or zero value for recycling.

Return and Earn requires councils and kerbside collectors to come to an agreement about sharing the 10cent refund for recycled containers, after applying an audit methodology to assess the average drink container content of a bin. It was postulated that while the CDS would draw containers out of the bin for consumer redemption, the value of the remaining containers with their refund would make up for the lost revenue that had been derived from the sale of the material.

Material Recovery Facilities in NSW collect the deposit but not the handling fee on recovered containers. It's understood volumes through MRF's have reduced by about 10%. Notably the value of the retained material has increased substantially (refund redemption and cleaner materials overall, container as well as paper) increasing MRF revenues.

We are not privy to the resultant negotiations but understand they have been difficult in many cases. Over 30 MRFs are now claiming refunds.

The drink containers left in the kerbside bin are effectively donations by household consumers. We recommend the government release information on the agreements and state of the process.

3.9 Transport of containers

The containers deposited in RVMs, in bags at OTCs and from automated depots are whole and not crushed. This is a basic tenet of the scheme to ensure that the barcodes can be read and numbers checked, so that fraud is minimised. However it does impose additional transport costs as Cleanaway which collects plastic, metal and paper containers, are transporting air[10]. Crushed containers would reduce the number of trips and the cost of the scheme.

We recommend a review should be undertaken and that certain collection points may be allowed to crush containers after their barcode is read, for example at automated depots where the barcode of containers that pass along the singulator are tracked and immediately communicated to the Network Operator.

3.10 Market for collected containers

As expected the cleaner stream of glass, metal, paper and plastic material from the CDS is attracting higher prices on the market for domestic reprocessing and export.

For instance, sorted glass coming through a CDS can attract of premium up to $100/ tonne or greater; sorted LPB has attracted a price of about $340/ tonne for gable top and $280/ tonne for aseptic, while LPB coming through a MRF will typically attract a price of only $10/ tonne for unsorted paper (typically in smaller MRFs) or $180/ tonne if sorted with cardboard. CDS sorted plastics (PET and HDPE) are likely also to attract substantial premiums compared with unsorted 'mixed' plastics. The premium ranges from $265/ tonne for PET to $290-390/ tonne for HDPE.

While market demand fluctuates, CDS material (except LPB) is having little trouble finding markets at good prices. The reliable flow of quality material also creates the opportunity for growth of domestic reprocessing.

[10] Note, crushed glass would still weigh the same so less transport saving.

Automated depots are also being run by third party businesses and social enterprise

3.11 Consumer behaviour

IPART reports: "the Office of the Customer Service Commissioner has undertaken surveys to assess awareness of and support for the scheme as well as satisfaction amongst users. These surveys have indicated that 4 out of 5 users are satisfied with their use of the scheme, with those outside of major cities amongst the most satisfied."

Undoubtedly the government has commissioned further work and this will be released in the near future. We have every expectation that surveys carried out by Boomerang prior to the scheme's introduction showing over 80% support, will be broadly repeated in post introduction surveys. However access to collection points may show up as an ongoing concern.

It is of interest to note the types of consumer behaviour ranging from simple redemption of beverage refunds; children collecting refunds as a way of saving for a new purchase (and learning about recycling); schools collecting to support activities or new equipment; collectors on low incomes supplementing their disposable and saved income; to commercial outlets donating to local charities.

We have no qualms about predicting that redemption and recycling behaviour for drink containers will become entrenched in the NSW community, both as a way of obtaining revenue and the 'feel good' experience.

3.12 Litter

A key goal for the CDS was to reduce the volume of litter – because drink containers are large (bigger than cigarette butts for example, as opposed to using the 'item' litter index) - volume is a better indicator of visual, resource wastage impacts and in the case of plastic, amount of contributed plastic pollution. The EPA projected that without effective intervention, more than 3.1 billion additional beverage containers will have entered the litter stream by the end of 2036[11].

The NSW government reported in December 2018, a 44 per cent drop in Return and Earn eligible drink containers in the litter stream since November 2017[12].

The Environment Protection Authority commissioned pre and post CDS surveys of litter spots around the state. The results are yet to be released. However anecdotal evidence available to the Boomerang Alliance strongly indicates less drink container litter in parks, streets and waterways.

[11] https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/container-deposit/container-deposit-scheme-consultation-regulation-impact-statement-170224.pdf, p3

[12] https://www.epa.nsw.gov.au/news/media-releases/2018/epamedia181202-return-and-earn-a-billion-reasons-to-celebrate