

# HAPPY RETURNS

## Version 2

An optimum model for New Zealand's  
Container Recycling Scheme (CRS)

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with support from the Entrust Foundation  
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## Why New Zealand needs a Beverage Container Return Scheme (CRS)

New Zealanders use more than 2.23 billion beverage containers every year. This equates to 6.1 million containers each day or 1.36 containers per person per day. Under the current voluntary system only an estimated 30 - 35% of these containers are recycled<sup>1</sup>. As a result, over 830,000 cubic metres (by loose volume) of beverage containers are discarded into the litter stream and landfills annually - equivalent to 700 Boeing 747 airplanes filled with containers.

A well-designed CRS will ensure over 85% of these containers are recovered to be recycled or washed and reused (like the old days), with the potential to create hundreds of new businesses, and up to 2,000 quality new jobs. Additionally, a CRS will create significant CO<sub>2</sub> reductions<sup>2</sup> and reductions in plastics entering our waterways and oceans.

Local authorities have been calling for relief from the costs of managing the beverage industry's litter and waste since the first voluntary Packaging Accord in 1996 and the second in 2004. A well-designed CRS could save them between \$23 and \$40 million each year<sup>3</sup>.

This report acknowledges new interest and support by the beverage industry for a CRS in New Zealand but warns against adopting an industry promoted 'refund' model. Instead, it supports the more effective 'deposit' model. Both are outlined in more detail in the main body of the document.

Changes from the first edition of this report (Happy Returns 2020) include:

- The deposit refund amount should be 20-cents to achieve the best outcomes and to future proof the scheme for many years to come.
- New Zealand's CRS should not be run by the beverage industry

If the final drafters of New Zealand's CRS take full consideration of the work of the multi-stakeholder design committee and the content of this report, they can present the Minister for the Environment with a shovel-ready scheme<sup>4</sup>, that will strengthen and empower the social enterprise movement in New Zealand and achieve benefits to local authorities, communities and the environment.

There is no need for further consultation on whether the public want a CRS or not. This is well established<sup>5</sup>. New Zealanders want to be able to take their bottles to a depot or Reverse Vending Machine for a refund. What is required is to ensure the final design arrived at is in the best interest of all New Zealanders. To get confidence in this, it's recommended that once Cabinet has approved the implementation of a CRS, the final design parameters are subject to a select committee process. This will give certainty that the public and key stakeholders have been listened to and represented.

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<sup>1</sup> Refer, '[Bottled Up](#)', The Container Recycling Institute, 2013. Average recycling rate for non-deposit states in the US – 30-35%

<sup>2</sup> See [page 19 The Incentive to Recycle](#), Envision 2015

<sup>3</sup> See page 9, [The Incentive to Recycle](#), Envision, 2015

<sup>4</sup> For more information on the potential of Social Enterprise in New Zealand see [A Roadmap for Impact](#), Akina 2021

<sup>5</sup> <http://www.wasteminz.org.nz/wp-content/uploads/2017/12/Container-Deposit-Scheme-Summary-Report-Final.pdf>

## Why New Zealand doesn't already have a CRS

For more than 20 years, industry players have run an 'eco-system' of initiatives, events, programmes, research, and public relations to ensure product stewardship for packaging and beverages remains voluntary.

But after receiving many millions of dollars<sup>6</sup> in public funding, voluntary measures by industry have failed to solve the problems of beverage and packaging waste. In fact, each year the problems have increased.

Community recycling and environmental groups haven't had the resources to combat the industry narrative until November 2019 when then Associate Minister for the Environment, Eugenie Sage funded a Waste Minimisation Fund application to design a container return scheme for New Zealand.

As part of delivering this work, a CRS scheme design working group was established representing a diverse range of stakeholders. The final design from the team was delivered to the MFE in October 2020.

We are in danger once again of the pros and cons of CRS being debated endlessly as they have been for over 25 years. This indecisiveness suits beverage and packaging lobby groups because it means that we stick with the status quo where they are not required to pay for the costs of recovering and cleaning up of their waste products.

For example, as shown in this document, the Glass Packaging Forum's members only contribute around 1% of the costs that councils pay to collect and recycle glass.

To finally address this problem, leadership from central government is needed, to not only make a CRS happen – but also to ensure it isn't controlled by the beverage industry.

CRS is internationally successful at achieving high return rates for beverage containers at little or no cost to governments. New Zealand can no longer let industry lobby groups influence how we deal with packaging and beverage waste.

### Links to reports cited in this document:

- [The Incentive to Recycle, Envision 2015](#)
- [Cost Benefit Analysis of a Container Deposit Scheme, Sapere Group, 2017](#)
- [Summary of Sapere Group Cost Benefit Analysis prepared by the Waste Management Institute of NZ](#)
- [Environment Select Committee report in favour of a national CRS, February 2021<sup>7</sup>](#)
- [A Roadmap for Impact, Akina Foundation, April 2021](#)

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<sup>6</sup> Estimated at around \$15 million between 2008 and 2021

## SECTION ONE

### INTRODUCTION

*The first edition of this document was issued in 2019. This updated version reflects progress since then and outlines an equitable effective model for a New Zealand Container Return Scheme (CRS) It covers:*

- *All aspects of an effective CRS, and how a ‘Managing Agency’ would operate the scheme.*
- *Why an industry promoted ‘refund’ model (as operated in Australia) will result in poor outcomes compared to the Happy Returns ‘deposit’ model.*
- *Why all materials must be included in the scheme.*

### Progress since 2019

*Since 2019, much progress toward a national CRS has been made. The Government funded a scheme design process, which included a working group of representatives from communities, local government, tangata whenua, youth and the beverage industry.*

*A year later, this group produced a proposed scheme design that has been given to David Parker, the Minister for the Environment to consider. We are waiting to see whether the Government will move forward with a CRS and if so, which model will be adopted.*

*In the meantime, at the beginning of March 2021, the Parliamentary Environment Select Committee released its report on the [Kiwi Bottle Drive’s](#) petition calling for a mandatory nationwide container deposit scheme for New Zealand.*

*A majority of the select committee supported the petition and felt there was a clear mandate for Government to set up a bottle deposit scheme in New Zealand.*

### What’s the problem?

Beverage packaging waste and litter is a consequence of the beverage industry’s business model. But the industry has not been

held responsible for the costs and impacts of this waste and litter since single-use packaging was introduced in the early 1980s.

### Do the producers pay at present?

No, they don’t. At present the costs of making sure their waste products are recycled is paid by everyone.

Large beverage companies complain a CRS will cost them too much, but then seem to defend the poor families who will have to bear the costs of a CRS. They can’t have it both ways.

In fact, low-income consumers are precisely those that are motivated to return their containers for a refund and therefore do not pay any extra.

### Is there wide support for a CRS?

Yes. CRS now enjoys widespread support with Councils, Local Government New Zealand, the Waste Management Institute of New Zealand, recyclers and many non-profit environmental groups including the Zero Waste Network and Greenpeace to name but two. And as shown earlier, the public have shown over 83% support.

### Does Industry support a CRS?

After actively opposing for more than 25 years, CRS Coca Cola Amatil is now actively involved in Australia’s various CRS’s and has a ‘Group Head of CRS Implementation’.

Other industry players are also ‘reading the tea leaves’ and considering supporting CRS. For example, the Glass Packaging Forum, long a firm opponent of CRS, now seems to be somewhat in support but advocating for glass to be removed.

Industry interest in a NZ CRS is refreshing, but we must ensure that New Zealand’s scheme is not developed or operated by special interests, primarily to meet their corporate needs and not those of the wider community.

**The introduction of New Zealand’s first mandatory CRS will mark a shift away from nearly thirty years of unsuccessful voluntary schemes, towards more effective mandatory measures that apply to all producers.**

## Who should run the scheme?

The CRS should be run by a not for profit Managing Agency, with a Board made up of key stakeholders including, grocery retailers, local authorities, recyclers and bottle washers, environmental and community groups and Government.

There is a role for the beverage industry (as the sector that creates the problem of beverage waste/litter), but they must not be able to control the design or operation of the collection network (where they are hugely conflicted).

The packaging and beverage industries are very powerful and have undermined the political will for change in New Zealand for over 25 years. If it wasn't for this influence, common sense would have prevailed, and New Zealand would have had a CRS many years ago.

There is no reason to think industry wouldn't exert influence over the management of the CRS to best suit their corporate needs if they had a major role in the decision-making processes of the Managing Agency.

## Should glass be included in NZ's CRS?

Industry group, the Glass Packaging Forum (GPF) wants glass excluded from New Zealand's CRS. This attempt to remove glass, may have more to do with the fact that GPF members only contribute just under 1% (\$3.90<sup>8</sup> per tonne) towards the actual \$382 per tonne that it costs Councils to collect glass, than any logical or practical reason. Apart from Norway, there are no CRS's around the world that exclude glass. It just doesn't make sense.

But in Tauranga which has initiated a separate glass collection for glass, using publicly available data, it's possible to calculate the cost to ratepayers of collecting glass separately at the kerbside at over \$500 per tonne<sup>9</sup>. This means the

Glass Packaging forum's contribution to glass recycling in Tauranga represents only 0.78 percent of the costs. Once again, it's understandable, they prefer glass being out of a CRS.

Additionally, the Glass Packaging Forum's claim that 73% of glass is recycled is false. Two independent reports<sup>10</sup> have each shown that in fact less than 50% of beverage glass is recycled back into bottles in New Zealand.

## What about reusables/refillables?

A CRS must be designed to anticipate and enable a shift towards more reusable beverage containers.

From an environmental perspective, refilling bottles is better than single-use (a bottle designed to be filled just once by the beverage producer is still single-use, even if it gets recycled). Our current beverage packaging system is stacked against reuse, due to cost, infrastructure, retail models and a range of other issues.

A CRS won't change these barriers to reuse overnight, but it is a necessary precondition. A CRS helps to level the uneven playing field between single-use and reuse, and thus paves the way for responsible beverage companies to introduce refillable bottles. However, there are extra features we can add to our optimum CRS design to help reuse to fly.

For a fuller understanding of how CRS and reusable beverage containers fit together, see the discussion document on reusable beverage packaging commissioned by Greenpeace Aotearoa in 2020<sup>11</sup>.

Note: The case for a CRS, as well as the rationale for quantities of beverage containers recycled and/or wasted quoted in this document is more extensively outlined and referenced in the 2015 Envision document, "[The Incentive to Recycle](#)".

<sup>8</sup> The Forum's response to Wellington Regional Waste Management and Minimisation Plan, January 2013

<sup>9</sup> [https://www.nzherald.co.nz/bay-of-plenty-times/news/article.cfm?c\\_id=1503343&objectid=12281014](https://www.nzherald.co.nz/bay-of-plenty-times/news/article.cfm?c_id=1503343&objectid=12281014)

<sup>10</sup> [Responses to The Packaging Forum's arguments against a CRS \(Container Deposit Scheme\) for New Zealand](#)

<sup>11</sup> Hannah Blumhardt (2020) [Reusable Beverage Packaging and Refillable Beverage Delivery Systems in New Zealand: Discussion Document](#) (Commissioned by Greenpeace Aotearoa).

## New Zealand is ready for a CRS

In contrast to international trends, New Zealand has continued to rely on voluntary measures that have failed to address packaging and beverage waste. Numerous factors now support the introduction of a mandatory national CRS across New Zealand:

- International evidence shows that CRS schemes can achieve high return rates and significantly reduce the CO<sub>2</sub> impacts of beverage containers
- The recommendation of the Environment Select Committee in March 2021 that New Zealand proceed with introduction of a CRS.
- A public highly concerned about issues of waste, plastics and packaging, as demonstrated by successive Colmar Brunton *Better Future* surveys over the past years.
- Increased public and political support for measures to reduce beverage containers entering and impacting the marine environment
- An existing network of recycling centres that could operate as return locations, plus RVM (reverse vending machine) operators ready to help develop the collection network
- Public demand for political parties to develop and implement effective environmental policy
- The potential for social service groups to generate funds for their work by collecting bottles and/or by operating return locations
- An older generation who fondly remember New Zealand's popular bottle deposit systems in place until the 1970s<sup>12</sup>
- Increased roll out of CRS in Australia with all States progressively joining South Australia's scheme (which has operated for over 40 years).

## Principles for developing NZ's CRS

The following principles are proposed as key criteria for a CRS model for New Zealand.

- **Self-governing:** The scheme should be self-governing and self-funding, requiring minimum government (or other) support or intervention to keep it working
- **Democracy:** Control of the scheme should be

vested to a body or bodies which represent the widest public interest and are incentivised to achieve the community's objectives"

- **Te Tiriti:** The scheme's governance and managing agency must also be designed to uphold Te Tiriti o Waitangi
- **Diversity:** The scheme should involve and benefit as many sectors of society as possible and aim to maximise the 'public good'
- **Proximity:** Distribution of the network of return points should aim to maximise accessibility and to optimise drop-off (and servicing) travel
- **Convenience:** Returning empty containers should be as easy and user friendly as buying them
- **Efficiency:** The scheme should run efficiently to minimise (scheme) costs
- **Transparency:** All aspects of the scheme should be open and accountable to public scrutiny
- **Simplicity:** The scheme should be easy to operate and understand
- **Costs:** The scheme's costs should be borne by producers and consumers who purchase the products, not the wider community, or local government.

## SECTION TWO

### THE 'DEPOSIT' MODEL - THE OPTIMUM DESIGN FOR NEW ZEALAND'S CRS -

#### Types of Beverage Containers and the deposit level

##### 1. Scope of the CRS

(range of containers the deposit applies to)

The CRS scope should cover the widest scope of beverage containers possible, without exceptions. The model must consider the beverage types covered (e.g. mineral water, soft drinks, incl. sport drinks, juices, beer & cider, wine & liquors), packaging material types (e.g. PET, aluminium cans, steel cans, glass, liquid paper board), and the beverage container volume range (e.g. 0,1 l to 3 l). All 'ready-to-drink' beverage containers (including milk)

<sup>12</sup> 83 per cent of respondents supported a container deposit scheme being established in New Zealand (WasteMINZ survey 2016)

should carry a deposit, including containers not currently recycled (such as Tetra-Pak), and refillable bottles (such as those currently part of the “Swappa Crate” system). Containers such as pouches and tubed beverages should be restricted if unable to be recycled.

## 2. Value of the deposit

The deposit should be high enough to motivate consumers to return their empty containers after consumption. Until recently, CRS supporters have proposed a 10-cent deposit, but this is now insufficient to achieve a recommended 85-90% + return rate. For this reason, a 20-cent deposit is proposed. The deposit amount should apply to all container sizes.

## 3. Payment of the deposit

When a beverage is placed on the market, the full value of the deposit must be paid upfront by the beverage industry/importer directly to the Managing Agency. Accordingly, the beverage industry pays 100 per cent of the deposits into the CRS, regardless of whether the consumer returns the beverage container. This is necessary to reduce the incentive for the beverage industry to use its influence to keep recycling rates low to reduce costs at the expense of scheme effectiveness. The beverage industry redeems this cost by adding the deposit when it sells the beverage to the retailer.

## 4. The deposit should be charged separately and be fully refundable.

The deposit is given as security for an item (the beverage container) acquired for temporary use. Therefore, the deposit should be displayed and charged as a separate amount on top of the ordinary product sales price. Integration of the deposit in the product price would cause undesirable consumer confusion.

The deposit must be fully refunded when the empty container is returned to a return location. The return location should not be allowed to charge the consumer for its services by only paying out a part of the deposit.

## 5. Identification of containers in the CRS.

All beverage containers must carry a visual logo (and barcode) with the deposit amount clearly shown, to enable consumers to identify containers with a redeemable deposit. The visual marking will also help manual return locations to determine which containers they are required to pay refunds on. The barcode allows easy recognition by automated refund points and detailed data for verification and reporting.

## 6. Recyclability requirements

Producers would be required to demonstrate that their containers are fully recyclable or refillable before they can introduce them into the market. This would ensure that no non-recyclable containers are going to landfill or the litter stream. If producers can't get approval for their existing container type, they will need to change to one that is recyclable.

## Buy-back Centres/Return locations

### 7. Buy-back centre types and locations

A combined return-to-retail (via Reverse Vending Machines) and return-to-depot collection system would achieve optimum consumer convenience and participation. Ideally, consumers should be able to return their empty containers to the original place of purchase on their regular shopping trips. Large grocery retailers and other sales points would be required to set up in-store or car park redemption points (possibly contracted out to a suitable operator).

Smaller stores below 200 m<sup>2</sup> could be exempted from the system on an 'opt-in opt-out' basis<sup>13</sup>. Retailers returning deposit containers should receive payment for their participation via the handling fee (see Point 11 below), as for any other return locations.

Existing recycling and transfer station operators will also be able to apply to operate return locations. This is of benefit in the bigger picture because such locations also have capacity to operate as drop-off points for a wide range of products, meaning that the CRS

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<sup>13</sup> Smaller stores could opt out due to lack of space for storing bottles

drop-off network could become the backbone for a product stewardship drop-off network.

#### **8. Minimum convenience levels**

The Government should determine the number of return locations to create the level of convenience required to achieve the CRS target return rates. As with British Columbia and South Australia, a minimum convenience standard could be developed to ensure that the bulk of the population is within a reasonable distance from a return location.

#### **9. Sorting systems**

The decision on which method to use for sorting containers should be left to the Managing Agency, as long as bottle return targets are met. However, sorting by container type is more efficient than by brand. The latest automated sorting technology enables capture of brand information (via barcode identification) for producers as well as for the Managing Agency. The Managing Agency would work with local authorities to maximise existing infrastructure such as MRFs and kerbside recycling schemes to reap the higher recycling values typical of deposit schemes.

### **Managing Scheme Costs and Finance**

#### **10. CRS Income Streams and ownership of unredeemed deposits**

The CRS generates income streams that should be put towards financing the system. A key income stream is unredeemed deposits. The Managing Agency should retain deposits not reclaimed by consumers. The total income from these unredeemed deposits should be used to finance the CRS.

Additional income streams include the sale of collected materials (e.g. for recycling) and interest generated on the funds in the Managing Agency's bank at any one time

#### **11. Payment of handling fees to operators of buy-back centres**

All service providers to the scheme should receive adequate compensation. Transparent

handling fees should be determined by the Managing Agency to cover these costs. The fee should be in proportion to the services provided and be attached to each beverage container the return location pays a deposit out for. The fee would be paid by the Managing Agency using the CRS income streams outlined in Point 10 above. The handling fee should be approved by the Government using its regulatory power under s 23(1)(d) of the WMA.

#### **12. Costs to the beverage industry (the Administration/EPR<sup>14</sup> Fee)**

The main costs of a CRS are the handling fees paid by the Managing Agency to return points (estimated at up to 6 cents per container) and logistics and processing. These are significantly offset by the sale of collected materials and unredeemed deposits noted in Point 10.

If, in any given year, these income streams are insufficient to wholly fund the handling fee then the remaining cost should be borne by the beverage industry through a separate, per container, Administration/EPR fee.

The Administration/EPR fee would be determined during the annual budget forecast process and calculated by dividing the total cost of the system by the total number of beverages sold. It would then be allocated to the beverage industry/importers on a pro rata basis based on market share (i.e. the number of beverages each business sold).

Each material stream should be evaluated separately to avoid cross-subsidisation of one material by another.

The Administration/EPR fee would be paid by producers to the Managing Agency at the same time as the deposit.

The Administration/EPR fee may increase or decrease each year depending on the CRS' financial performance. Accordingly, rather than setting a fixed fee, the Government could establish the process by which the fee will be determined under s 23(1)(d) of the WMA.

#### **13. Eco-levy or other financial mechanisms to**

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<sup>14</sup> EPR stands for 'Extended Producer Responsibility', also often described as (and interchangeable with) 'Product Stewardship'



### stimulate reusable beverage containers

The scheme design should incorporate additional financial mechanisms to help turn the dial towards reusable beverage containers. This could include an eco-levy on all single use/one-way containers, or a model in which deposits are only paid back in full on reusable beverage containers.

## Overarching Scheme Design and Objectives

### 14. Scheme Targets

Based on overseas examples, some of which are achieving return rates as high as 95%, the return rate target should initially be set at a minimum of between 85 and 90%. The CRS should also set a reuse target to ensure that the CRS incentivises a shift towards reusable beverage containers.

### 15. Timeframe for roll out of the CRS

A New Zealand CRS could be rolled out and operational within 18 months of the Minister declaring beverage containers a priority product requiring a Mandatory Product Stewardship Scheme. However, a longer period (e.g. up to three years) could be negotiated to reach the target return rate.

### 16. Reporting requirements and Independent system audits

The Managing Agency would be required to produce independently audited annual reports, which include financial records, the recycling rate, refill/reuse rates, operational aspects, and continuous improvement plans. CRS's around the world require full disclosure of industry data<sup>15</sup>; beverage companies cooperate fully within these jurisdictions.

### 17. Penalties for under-performance.

A CRS will need to be backed up by legislation to ensure compliance and prevent fraud. Furthermore, to ensure return rates of 85% or higher are met, binding targets should be established and set out in the regulation/legislation.

Failure to achieve return/recycling/reuse target rates, could be punishable with a fine of up to \$100,000.

**18. Promotion of the CRS** The Managing Agency would be required to run an ongoing public awareness campaign to showcase success stories (e.g. results of the scheme, jobs created, impact on littering, maintenance of scarce resources, etc.). Communication of these good results will also demonstrate environmental and other benefits to voters and consumers.

### 19. Promotion and encouragement of reusable beverage containers

The CRS collection infrastructure must be designed from the outset with the expectation that reusables will increase in prominence. The Managing Agency must also work to identify and resolve infrastructure gaps for reuse as they relate to the overall CRS system, e.g. bottle washing centres, standardised reusables, and reverse logistics. An example of a CRS Managing Agency undertaking this work as part of its CRS responsibilities is the Oregon Beverage Recycling Cooperative.

### 20. Fraud Mitigation

To avoid opportunities for fraudulent collusion, the Managing Agency should ensure that separate operators carry out buy-back, transportation and material consolidation functions. Or that there are adequate third-party checkpoints throughout the chain. The use of barcode scanning technology should also be considered to provide accurate data for payments and reporting, and to minimise fraud.

**Note:** Existing waste facilities might consider acting as CRS return points to supplement their incomes and would be free to offer other recycling facilities for scrap steel, reusable products and other product stewardship items such as e-waste and tyres.

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<sup>15</sup> The Managing Agency would not be permitted to use or disclose industry data externally. Only consolidated data could be made public.

## SECTION THREE

### STAKEHOLDERS AND THEIR ROLES

The table below shows how stakeholders would be involved in implementing the model outlined above. For more detail on each entity's roles, see Appendix Three.

ENTITY	POTENTIAL ROLE/S
Government – Potentially represented by the Environmental Protection Agency or a separate regulatory unit within MfE.	Legislation / oversight / regulatory control
Packaging and Beverage Manufacturers	Minimal representation on the managing agency for control of the CRS or reasons mentioned earlier
Grocery Retailers	Operators of return-to-retail systems, On Managing Agency Board
Local Authorities	Operators of return locations. On Managing Agency Board
Tangata Whenua and Maori Enterprises	On the Managing Agency Board and at operations level
Private Recycling Operators (return points, processors etc.)	Operators of return locations and processing facilities, represented on Managing Agency Board
Community Recycling Groups (many of whom belong to the Zero Waste Network) and bottle washers	Operators of return locations, represented on Managing Agency Board
Voluntary and social service groups, schools etc.	Operators of return locations, represented on Managing Agency Board

## SECTION FOUR

### New interest in CRS from the beverage industry

After actively opposing CRS for many years (directly or through industry bodies), Coca Cola Amatil in Australia has for some years embraced the concept and has a senior executive charged with managing their involvement in CRS titled 'Group Head of CRS Implementation'.

This shift in attitude has followed the rapid uptake of deposit schemes across Australia over the last decade. Where CRS is inevitable, it is in the beverage industry's interest to move from actively opposing CRS to being involved in developing them.

Clearly, Coca Cola Amatil, which operates in New Zealand and Australia, is serious about CRS. Local executives are well aware of the trend towards CRS schemes in Australia. It is likely that Coca

Cola, along with companies like Lion Nathan, will want to play a major part in designing New Zealand's CRS. However, their commercial objectives are in direct conflict with the core objectives of any effective scheme – namely high return rates.

Like South Australia, New Zealand is unique in having a significant number of small businesses and non-profits operating local recycling centres, usually on contract to their local councils. Any New Zealand CRS model must not override or bypass the interests of these well-established groups who are embedded within the social and cultural fabric of their respective communities.

### Key differences between the CRS proposed in this document (Deposit Model) and an industry preferred Refund Model

Both models are based on the consumer paying a deposit and being able to redeem it at a return location, but the similarities mostly end there.

## Deposit Model

The CRS proposed in this document is based on the beverage industry paying 20 cents directly into the Managing Agency for 100% of all beverages they sell to retailers. If the CRS achieves an 85% redemption rate, then 15% or approximately 230 million containers will not have been redeemed. This means that the Managing Agency will have retained around \$46 million in unredeemed deposits to help underwrite the costs of the scheme. Additionally, between the time that the deposits are banked and their redemption, the Managing Agency can accrue interest on the deposit funds.

Both these income streams (as well as sale of recycled materials) will be used to help fund the CRS, which in turn reduces any final (net) cost that the beverage industry would need to pay through the administration/EPR fee. This is the fairest system for all stakeholders.

## Industry preferred 'refund' model

The key problem with the industry preferred 'refund' model is that the deposit is not paid to the Managing Agency at the time of sale on all containers sold; instead, it is only paid on containers returned for recycling.

First, the oversight role of the Managing Agency is diluted as it would not benefit from and manage 100% of the deposits from the outset. In this case, industry is only paying out on containers returned, which creates a 'perverse incentive' to keep their own costs low by finding ways to suppress recycling rates.

And as total deposits are not pooled with the Managing Agency from the outset, the scheme misses the key funding stream of unredeemed deposits, which are instead effectively transformed into potential profit for the beverage industry (that has charged retailers 100% of deposits yet needs only pay out on returned containers). Connected to this is that neither the beverage industry or the Managing Agency (if run or dominated by the beverage industry) are adequately incentivised to increase return rates, because less returns will mean less cost and greater windfall for the beverage industry.

Recent discussions with Coca Cola, suggest that

industry would accept a high target container return rate set by government with stiff penalties if the target is not achieved.

This would depend on Government's willingness to ensure the beverage industry meets its targets and is prepared to impose sufficiently large penalties (in the order of millions per annum) to ensure target rates are met. This sort of interference in the scheme by government will likely be contested by industry leading to unnecessary conflict.

The fact is that under a refund scheme there is a stronger incentive for the beverage industry to manipulate return rates to ensure they don't need to contribute financially to its operation.



Figure 1 Material flows in Queensland's CRS. The same as most CRS's but money flows are different and make the scheme less effective

## SECTION FIVE

### Recommendations

We recommend that:

1. That the deposit/refund level be set initially at 20 cents per container
2. That the beverage industry plays a very minor if any part in the design or operation of the collection network (where they are conflicted) and this is left either to a party (or parties) completely independent of industry or to legislation (i.e. depot/return to retail hybrid)
3. The 'Deposit' model outlined in this document is the model adopted. That is, a model where 100% of all deposits are passed by producers to the Managing Agency at the point of sale, and

unredeemed deposits are used to offset the costs (to industry) of the scheme as well as to ensure its effectiveness in reaching its targeted goals.

4. The industry preferred 'Refund' model should be viewed with skepticism and put aside, since it creates a perverse incentive which rewards low recycling rates.
5. Any debate over models should not delay the establishment of a CRS. Instead, the Minister can draw on the extensive evidence available and the wide support CRS enjoys, to seek approval from Cabinet for a mandatory product stewardship scheme for all beverage containers, followed by a Select Committee process to allow all affected parties to have their final say
6. To achieve an international best practice return rate (e.g. anywhere above 80% to 90% and Government mandates a 'hybrid' collection system based on high levels of convenience, involving both existing community recycling centres and retail-based return points.

would increase the cost per container to the beverage industry to around one cent per container.

## Contributors

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**Original calculations for The Incentive to Recycle Report,** Gary Kelk, GK Services

Many other people have contributed to the analysis of the potential of a CRS over a number of years, including supportive MP's from all political parties, mayors, councilors and officials from many local authorities, environmental groups, supportive businesses, the Zero Waste Network, many individuals around New Zealand and Local Government New Zealand. Although there are too many to mention here, their contributions are appreciated.

For more detailed information on the case for a CRS, including results of a survey of local authorities on the effectiveness of the public space recycling scheme operated by the Packaging Forum, refer to 'The Incentive to Recycle' report, on Envision New Zealand's website. <https://www.envision.nz/blog/incentive-to-recycle>

**Note:** The CRS model outlined in this document updates the one in the 2015 Envision report, 'The Incentive to Recycle'. Notable recommended changes include raising the deposit from 10-cents to 20-cents per container and an increase in the handling fee from 3 cents to around 6 cents. It's anticipated that this

## APPENDICES

This report focuses on which model CRS will best suit New Zealand. However, the issues of refillables and markets for materials under a CRS are of concern to councils, recyclers, Government and the public, and are briefly covered below.

### APPENDIX ONE: CRS AND REFILLABLES

Environmental groups such as Greenpeace see CRS as a solution for recovering beverage containers and keeping plastic out of the ocean. These groups want a system that can encourage refillable containers to achieve other environmental benefits such as CO<sub>2</sub> reduction.

CRS is a platform that can handle both refillables and single-use bottles. Refillable containers have a number of advantages over single-use bottles including lower energy use, fewer CO<sub>2</sub> emissions, and reduced costs for industry when scaled. This is particularly the case when refillable beverages are produced locally for local or regional markets; the advantage reduces with increased transport distances to refilling stations.

Refillable glass bottles achieve the highest return rates, reaching close to 100% in Germany. They can be refilled as many as 50 times, significantly reducing costs and environmental impacts compared to single use bottles.

In Germany, water in refillable glass bottles produces only half the carbon dioxide (CO<sub>2</sub>) of water in disposable packaging. The reusable bottles will be refilled 50 times or more and are only transported over short distances (50 km on average). In contrast, one-way packaging is transported over longer distances (250 km on average).

In Europe, PET plastic bottles are also refilled up to 20 times. The bottles are made of a harder than usual PET plastic. They are inspected for wear and tear and if no longer suitable are rejected and can then be recycled back into new PET bottles again.

According to refillable container manufacturer, Pertainer, a company using one-way bottles can spend four to five times as much on packaging as a company that bottles the same quantity of beverage in 20 trip refillable bottles and the total material used per bottle use is 90% lower for the refillable container.

According to environmental education group Inform, a refillable glass bottle at 25 trips uses 95.7% fewer containers to deliver 1,000 gallons of beer than an aluminum can.

Refillable bottles can also promote regional economic development. German environmental group DUH states: "The comparison of refillable bottles to the one-way system is not only about the packaging itself, but also about the whole system: Reusable bottles are the livelihood for small, regional and medium sized businesses like breweries, juice and mineral water producers. These companies form the core of the unique diversity of the German drinks market".

### New Zealand's existing CRS

Yes, New Zealand already has a CRS, ironically half owned by Lion Nathan – a company that has lobbied extensively against a nationally mandated CRS for many years.

'Swappa Crate' is an existing CRS for refillable beer bottles operated in New Zealand by ABC (The Associated Bottlers Co Ltd.). Formed in 1920, ABC is currently owned jointly by Lion Nathan and Dominion Breweries. Customers pay a \$6.00 (plus GST) deposit when they purchase a 'Swappa Crate' containing 12 bottles of beer. Once consumed, they can return the crate and bottles to the store of purchase and either swap the crate for a new crate of beer, get a discount on another item, or at some liquor stores they can receive a refund. The bottles are washed, refilled with beer and put back on the market under the respective brands.

A similar CRS is operated by Deep Origin, a New Zealand company that provides still and sparkling waters to the restaurant trade and homes. For a 10-cent credit, their unique bottles can also be returned for washing and refilling.

Smaller beverage companies such as Foxtan Fizz and GreenMan Brewery, until a few years ago operated bottle deposit refund systems. Some very small vendors that can be found at local markets still do. However, the logistical and management costs are too great for smaller operators unless part of a national CRS.

### APPENDIX TWO: MARKETS FOR RECYCLED MATERIALS

Materials retrieved through CRS have lower contamination rates and so attract significantly higher prices on recycling markets. Recyclers in South Australia report an increased income of at least 10% and as high as 20% from the sale of CRS sourced materials compared to states (previously) without CRS.

A key player in the New South Wales CRS, recently described to the author (for the first version of this report)

hat not only were they selling all the recycled materials coming out of their CRS, but they were receiving 'phenomenal' prices for those materials.

The Managing Agency would encourage the use of recycled materials within New Zealand and require beverage producers to use minimum recycled content in their bottles (plastic, glass, aluminum) to increase the circular economy in line with the recent EU directive<sup>16</sup> on single-use plastics which mandates that all new plastic bottles must have a minimum of 30% recycled content by 2030. New Zealand could require a shorter timeframe.

Recovered bottles that aren't being reused could be recycled in New Zealand, rather than PET going overseas to recyclers that we can't control in terms of their health, and safety and environmental impacts (to be turned into products that might in themselves be problematic in the environment).

## APPENDIX THREE: MORE DETAIL ON ROLES

### GOVERNMENT:

- Declares beverage containers a priority product requiring a mandatory Product Stewardship scheme, sets guidelines for the scheme, and accredits the scheme.
- Monitors the scheme.

### BEVERAGE WHOLESALER:

- Adds deposit (suggest 20-cents) to the cost of the beverage
- Pays 20-cent deposit, plus an Admin/EPR fee representing the net cost of the system (estimated at less than two cents per container) to the Managing Agency.

### RETAILER:

- Passes the 20-cent deposit on to the consumer as part of the cost of the beverage.

### CONSUMER:

- Pays 20-cents extra for the beverage
- Returns empty container for 20-cent refund to either a collection depot or a participating retailer or gives it to a local charity to redeem.

### RETURN LOCATION (DEPOT AND PARTICIPATING RETAILER):

- Pays 20-cent refund back to consumer

- Sorts containers ready for collection and sending to materials processor (either a recycler or a bottle washer)
- Invoices Managing Agency for 20-cent deposit plus a handling fee for each container.

### TRUCKING COMPANY:

- Provides transportation services under contract to the Managing Agency. Cannot operate a Return location or Consolidation Facility to avoid conflict of interest. Could be existing kerbside collection operator or logistics company

### KERBSIDE RECYCLING CONTRACTOR:

- Picks up and sorts deposit-bearing containers from kerbside
- Delivers containers to accredited return point
- Invoices return point for 20-cent deposit

### MATERIAL CONSOLIDATION FACILITY (UNDER CONTRACT TO MANAGING AGENCY):

- Receives containers from return points
- Processes materials (glass, plastics, aluminium, steel etc.) for sale to re-processors or other end user under contract to Managing Agency

### MANAGING AGENCY:

- Levies and collects Admin/EPR fee (estimated at less than one two cents per container) from beverage producers
- Pays out handling fees to return locations
- Manages the flow and marketing of materials
- Promotes and advertises the system
- Undertakes to promote and encourage an increased market share for reusable beverage containers.
- Applies fraud control across the system
- Gathers schemes performance data and is responsible for fulfilling reporting and information requirements.

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<sup>16</sup> [http://europa.eu/rapid/press-release\\_IP-18-3927\\_en.htm](http://europa.eu/rapid/press-release_IP-18-3927_en.htm)