



# The InCENTive to Recycle

## A Container Deposit System for New Zealand



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Auckland City Council, Auckland Regional Council, Central Otago District Council, Far North District Council, Kaipara District Council, Manukau City Council, Northland Regional Council, Rodney District Council, Waitakere City Council, Wellington City Council, Whangarei District Council and the Entrust Foundation.

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## **EXECUTIVE SUMMARY**

New Zealanders consume at least 1.92 billion beverages a year and throw more than half the empty containers (nearly one billion) into landfills. This depressing statistic is a direct result of 10 years of ineffective voluntary Packaging Accords that have allowed industry to pass the problem and cost of beverage container disposal onto ratepayers and local authorities.

Container Deposit Legislation (CDL) is a market-based instrument that puts a minimum refundable deposit on beverage containers to ensure they are recovered and recycled. Government sets the parameters of the collection system and industry designs and implements it

New Zealand's current recovery rate of 30-40% is near the bottom of the international scale compared to countries that have CDL, where recovery rates of 80-90%+ are common.

CDL is effective because:

- a) It provides a financial incentive for consumers to return containers for recycling
- b) It captures beverage containers consumed away from home (over 50% of the total) which kerbside collections do not address.
- c) It transfers the cost of recycling beverage containers from ratepayers and local authorities to producers and consumers (in keeping with the principles of Extended Producer Responsibility and Product Stewardship)

### **Key Features**

Envision has developed a CDL model for New Zealand based on international best-practice in association with twelve international Product Stewardship experts. Key features of the model are:

- Government would set the key parameters of the system through legislation
- Industry would establish a Managing Agency to design and operate the system within the set parameters
- A minimum refundable 10 cent deposit would apply to all beverage containers
- A combined 'return-to-retail' and 'return-to-depot' collection system would be developed based, to some extent, on existing infrastructure. The 'return-to-retail' component would be voluntary.

### **Benefits**

The predicted benefits of the model include:

- At least 84% of all beverage containers recovered and recycled
- \$14 million saved annually from a conservatively estimated 67,000 tonnes of containers diverted from landfill
- Greater quantities of recovered materials which will increase incomes for recyclers
- Financial support for kerbside recycling which will reduce costs to councils
- Reduced litter and litter control costs
- 1,000-2,000 new, entry-level to managerial-level jobs spread throughout the country
- A new income stream for recyclers (community and private sector) who can operate collection depots
- A new income stream for voluntary and social service groups who can collect containers for refunds and also operate collection depots

- High public approval ratings

## **Costs**

Industry would pay collection points a handling fee of around 3 cents per container to collect and sort containers.

The majority of costs incurred to operate the system would be covered by unredeemed deposits, interest on deposits held by the Managing Agency and income from the sale of recovered materials.

The *net* cost to industry to operate the system would be an estimated \$6.6 million annually or one third of a cent (0.3 cent) per container. This cost could either be absorbed by industry or passed on to consumers in beverage prices.

The cost to establish collection points would be largely borne by entrepreneurs seeking to maximise the commercial opportunities offered by CDL. The system would build on and optimise existing facilities operated by councils, recyclers, social sector groups and local businesses. Retailers could establish collection facilities if they chose to do so but their participation would not be mandatory.

## **Conclusions**

CDL is an economically viable solution to New Zealand's beverage container waste problem - one that also has significant environmental and social benefits.

The Waste Minimisation Bill provides the focus and opportunity for Government to lead on an issue that is of high public concern. There is no need to wait until a complete Product Stewardship framework is in place before introducing CDL, as this could take years, resulting in more debate and further delays.

Instead, as it is proven and highly popular, CDL could be implemented now as the first mandatory Product Stewardship programme under the new Waste Minimisation Bill, and a forerunner for other programmes that may be more difficult to introduce.

## 1. INTRODUCTION

### 1.1 Reason for the Study

This study is an investigation into how Container Deposit Legislation (CDL) could be implemented in New Zealand.

The main purposes of the study are to:

- a) Develop a best-practice model for New Zealand
- b) Determine how it could be implemented within current infrastructural and organisational frameworks
- c) Assess the likely impacts on key stakeholders
- d) Assess costs and benefits

There are many successful CDL programmes operating around the world<sup>1</sup>. This report draws on the expertise of key personnel involved with two of the most applicable examples in British Columbia and South Australia<sup>2</sup>, as well as Product Stewardship policy advisors and CDL advocates from other parts of Canada, Europe, Australia and the Pacific.

The study also aims to balance biased information disseminated by interests opposed to the introduction of CDL. A recent report commissioned by the Packaging Council<sup>3</sup>, makes a number of claims that lead to the conclusion that CDL is too costly to implement in New Zealand. While it is common for industry bodies to support their objectives by commissioning such reports, it is important that the other side of the story is told, and that the interests of stakeholders other than the beverage and packaging industries are also made known and protected.

For simplicity we refer to container deposit systems and the legislation that supports them as CDL (or Container Deposit Legislation) in this report. Elsewhere they are referred to as DRS (Deposit Refund Systems), CD (Container Deposits), CDS (Container Deposit Systems) and CDR (Container Deposit Regulation).

### 1.2 Container Deposit Legislation and the Waste Minimisation Bill

This study coincides with the Green Party's Waste Minimisation Bill which is currently before the Local Government and Environment Select Committee. The Bill provides for Extended Producer Responsibility and Product Stewardship programmes for certain products, including packaging waste.

It was suggested that this study on CDL should not proceed until the Select Committee had completed its task of reviewing the wider-ranging proposals of the Bill. This advice was not followed for two reasons.

1. Beverage container waste is generated by a large, international industry that is highly experienced at fighting legislation that could affect its operations. It is already lobbying and disseminating information (such as the Covec report) that could

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<sup>1</sup> Summaries of these can be found on the Container Recycling Institute's website [www.bottlebill.org](http://www.bottlebill.org) and in the Western Australian report, "Stakeholder Advisory Group Investigation into Best Practice Container Deposit Systems for Western Australia". January 2007

<sup>2</sup> Case studies included in Appendix 1

<sup>3</sup> 'Impacts of the Waste Minimisation (Solids) Bill', prepared for the Packaging Council of New Zealand by Covec Ltd, October 2006. [http://www.packaging.org.nz/documents/covec\\_waste\\_bill\\_final\\_report.pdf](http://www.packaging.org.nz/documents/covec_waste_bill_final_report.pdf)

influence the Select Committee's findings. To provide balance, the Select Committee needs information that has been informed by broader community and environmental considerations.

2. The packaging industry asserts that packaging waste is only a small fraction of the waste stream, but by its own admission it represents nearly 12% by weight of the municipal waste stream<sup>4</sup> (or as high as 18% by volume, which is what really counts in landfills). Beverage container waste makes up about half of this – or 6% by weight. The problem of beverage container waste is therefore a significant and growing<sup>5</sup> problem – but one for which a readily implemented solution already exists.

CDL is a proven, effective solution to the problem of beverage container waste that meets the Waste Bill's Product Stewardship objectives, transferring costs and responsibilities from local authorities and ratepayers to those responsible for creating waste - manufacturers and consumers.

CDL is popular with the public wherever it operates. For example, over 95% of South Australians contacted in a 1993 telephone survey supported refundable deposits on beverage containers. More recently a survey in Western Australia (which does not yet have CDL) showed 94% support for a government initiative to bring in CDL<sup>6</sup>, and a nation-wide Newspoll survey found that 88% of Australians want container deposits<sup>7</sup>. In British Columbia a 1998 study found that 96% of British Columbians thought that container deposits were a good idea<sup>8</sup>. CDL is likely to be just as popular in New Zealand. The loss of refundable container deposits in the 1970s is still lamented by those who remember them.

It would be difficult for policy makers to find a more popular or proven policy that would give credibility to the Government's sustainability and climate change goals.

### 1.3 The Packaging Accord

While many other countries have been making significant inroads into packaging waste by implementing legislation and mandatory targets, New Zealand has lagged behind for the last ten years, hoping that voluntary accords will have an impact. Unfortunately voluntary measures have been shown around the world to be ineffective and subject to industry capture. They don't provide the incentives for businesses to set aside their natural commercial objectives to address environmental and social concerns. Freeloading, where some producers gain the benefits of voluntary agreements but do nothing to support them, is a typical feature of voluntary codes such as the New Zealand Packaging Accord. Without clear rules and a level playing field, the New Zealand packaging industry has, naturally, made full use of the voluntary approach to avoid change.

The main purpose of the packaging industry's representative body, the Packaging Council of New Zealand Council, is to oppose any legislative action relating to packaging waste. As stated on their website: *"The Council strives to ensure that the*

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<sup>4</sup> Packaging Council website - [www.packaging.org.nz/packaging\\_info/packaging\\_info.php](http://www.packaging.org.nz/packaging_info/packaging_info.php)

<sup>5</sup> "Carbonated beverage consumption in New Zealand has increased by about 45% in the last five years and we are now the 11th highest consumers per capita worldwide" From "Replacing sugar-based drinks with sugar-free alternatives could slow the progress of the obesity epidemic: Have your Coke and drink it too." New Zealand Medical Journal Vol 116, No 1184

<sup>6</sup> [www.bringitback.org.au/condepsys/](http://www.bringitback.org.au/condepsys/)

<sup>7</sup> ABC Newsonline - [www.abc.net.au/news/newsitems/200702/s1856098.htm](http://www.abc.net.au/news/newsitems/200702/s1856098.htm)

<sup>8</sup> 'The Deposit Program in BC: Attitudes and Behaviour'. 1998 Angus Reid for McConnell Weaver –

*New Zealand packaged goods industry addresses on a voluntary basis, those issues relating to packaging usage and waste which have, in many other countries, resulted in legislative actions with costs to both producers and consumers<sup>9</sup>.*

By its own admission then, the packaging industry wants producers and consumers to avoid paying for the costs of their waste. By default these costs are transferred to local government who are encouraged by the Packaging Council to establish municipal kerbside recycling schemes. Any improvements in recycling volumes over the last few years can be attributed, not to the packaging industry, but to the concerted efforts of local governments and recyclers – many of whom feel they are fighting a losing battle against a rising tide of packaging waste.

The current Packaging Accord is now into its third<sup>10</sup> year and is widely recognised as having not succeeding in reducing packaging waste. The Packaging Council recently admitted that things are not going that well in a media release<sup>11</sup> which stated; “*Over the past year packaging recovery rates are up by 3%, however production and consumption rates have also increased. Recovery as a percentage of consumption stands at 52%.*”

The following table from the Packaging Council’s website charts progress by packaging type against the Accord targets:

**Table 1: Packaging Council Recycling Data**

| Material  | Produced (tonnes) | Consumed (tonnes) | Recovered (tonnes) | 2003 (%) | 2004 (%) | 2005 (%) | 2008 Target |
|-----------|-------------------|-------------------|--------------------|----------|----------|----------|-------------|
| Aluminium | 8,910             | 5,655             | 3,460              | 62       | 61       | 61       | 65          |
| Glass     | 128,905           | 189,005           | 92,825             | 48       | 50       | 49       | 55          |
| Paper     | 520,090           | 293,315           | 209,925            | 69       | 72       | 72       | 70          |
| Plastic   | 171,365           | 145,650           | 31,310             | 19       | 20       | 21       | 23          |
| Steel     | 42,115            | 39,465            | 12,120             | 36       | 35       | 31       | 43          |
| Total     | 871,385           | 673,090           | 349,640            | 51       | 53       | 52       |             |

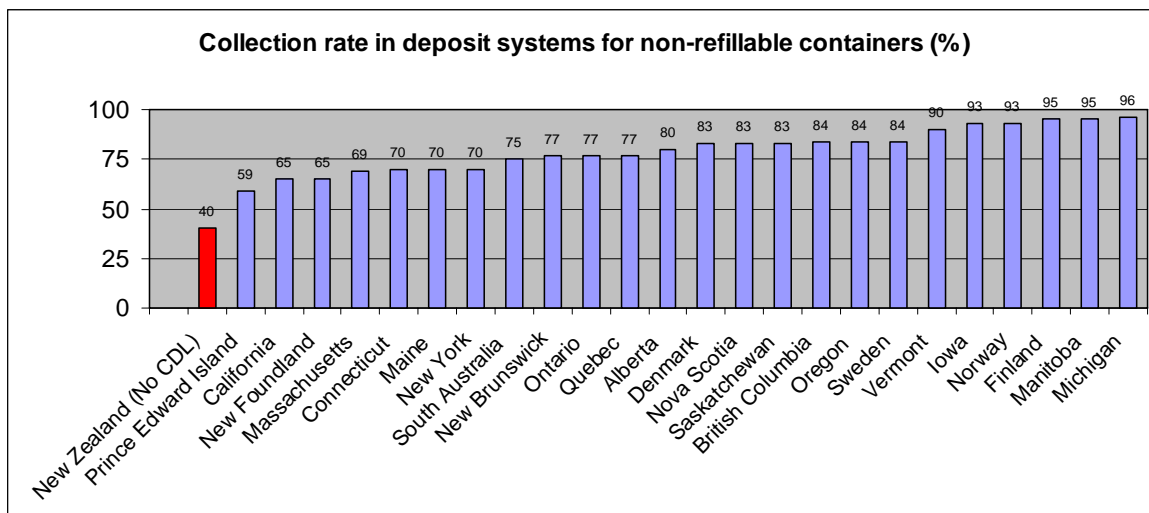
Recovery rates for beverage containers are not provided by the Packaging Council but if paper, steel and plastic wrap (the only materials not collected as beverage containers) tonnages are deducted from the figures above, the beverage container recovery rate stands at around 45%. This figure does not include aseptic, gable-top and other beverage containers that are not accepted in kerbside collections – so the real recovery rate is likely to be much lower than this - probably around 30-40%.

This result compares very unfavourably with countries that have CDL programmes, such as South Australia (75% recovery) and British Columbia (84% recovery).

<sup>9</sup> The New Zealand Packaging Council website [www.packaging.org.nz](http://www.packaging.org.nz)

<sup>10</sup> The duration of the current agreement is for five years with an option for renewal subject to agreement between the parties

<sup>11</sup> September 2006 “3% More packaging recovered but market changes continually move the goalposts” [www.packaging.org.nz](http://www.packaging.org.nz)



There are no penalties for non-performance although the Packaging Accord states that, “If a voluntary approach does not provide sufficient gains in design, packaging waste reduction and demonstrable adoption of product stewardship, the Government is prepared to consider mandatory regulation measures”. This is more or less what the Government promised in the first Accord – yet its performance was not evaluated before the second Accord was introduced.

#### 1.4 Declaration of Interest

No commercial interests are represented by this study. Envision supports the introduction of Container Deposit Legislation in New Zealand because of the many positive impacts it will have on local communities, the environment and the social sector.

In June 2004 Envision released a report called ‘Getting Serious About Packaging Waste’<sup>12</sup> in an effort to delay the signing of the second voluntary Packaging Accord. At the same time we brought the former President of the Australian Local Government Association, Peter Woods, and the Environmental Strategy Manager for the Local Government Association of NSW, Robert Verhey, to New Zealand to run seminars in Auckland and Wellington. More recently we have investigated glass recycling issues for the Community Recyclers of Otago and the Otago Regional Council in a report called, ‘Glass Mountains: Options for Glass Recycling in Otago’<sup>13</sup> which recommends the introduction of CDL. We have also taken three study tours to South Australia to look at the CDL system operating there.

Envision also made a submission to the Local Government and Environment Select Committee on CDL and provided the Committee with a report on the most recent Envision study tour to South Australia.

#### 1.5 How this Study Came About

On 7<sup>th</sup> September 2006 Envision addressed the Zone One meeting of Local Government New Zealand (local authorities from Auckland to the Far North) on CDL

<sup>12</sup> [www.envision-nz.com](http://www.envision-nz.com)

<sup>13</sup> [www.envision-nz.com](http://www.envision-nz.com)

and put a proposal to the group that Envision carry out a study to develop a best-practice CDL model for New Zealand. The meeting resolved:

- A. "That Zone One recommends to its constituent authorities that they support container deposit legislation in New Zealand.
- B. That in order to facilitate this legislation Zone One requests each constituent council to sympathetically consider a financial contribution towards the \$27,000 required to enable a report to be produced by Envision New Zealand on how container deposit legislation might be implemented in New Zealand".

Most of the councils represented at this meeting subsequently provided support for the study. Several other councils that were known to have an interest in CDL were approached and also provided support.

## **1.6 Acknowledgements**

Envision thanks the following councils and supporters who provided funds to enable this study to be undertaken:

Auckland City Council, Auckland Regional Council, Central Otago District Council, Far North District Council, Kaipara District Council, Manukau City Council, Northland Regional Council, Rodney District Council, Waitakere City Council, Wellington City Council, Whangarei District Council and the Entrust Foundation.

We would also like to thank the Product Stewardship experts who provided advice and recommendations for this study. They include: Marcus Fraval (Revive Recycling, Victoria, Australia), Tom Galimberti (Global Environmental Management Systems Ltd, British Columbia, Canada), Robbie Kelman (Ecos Corporation, Australia), Alice Loney (Pacific Reef Savers Ltd, New Zealand), Vaughan Levitzke (Zero Waste South Australia), Clarissa Morawski (CM Consulting, Ontario, Canada), Aleksander Mortensen (TOMRA Systems ASA, Norway), John Sinclair (Product Policy Institute, Manitoba, Canada), Robert Slater (Coleman Bright and Assoc, Ontario, Canada), Helen Spiegelman (Product Policy Institute, British Columbia, Canada), May Lou Van Deventer (Urban Ore, California, USA), Robert Verhey (Local Government Association of NSW and Shires Associations of NSW, Australia) and Peter Woods (former President, Local Government Association of Australia).

## **1.7 Disclaimer**

Opinions and recommendations in this study are those of Envision and do not necessarily represent those of the organisations that provided support.

## **1.8 Methodology**

This report draws on three years of research and investigation into CDL systems by Envision. It also draws on the expertise of the above-mentioned Product Stewardship experts who were sent a questionnaire<sup>14</sup> asking how they would design a CDL system for New Zealand. A draft version of the ensuing model was presented for discussion and input at public seminars held in Auckland, Wellington, Christchurch and Dunedin in March 2007.

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<sup>14</sup> Appendix 2

## 2. CONTAINER DEPOSIT LEGISLATION

### 2.1 What it is and How it Works

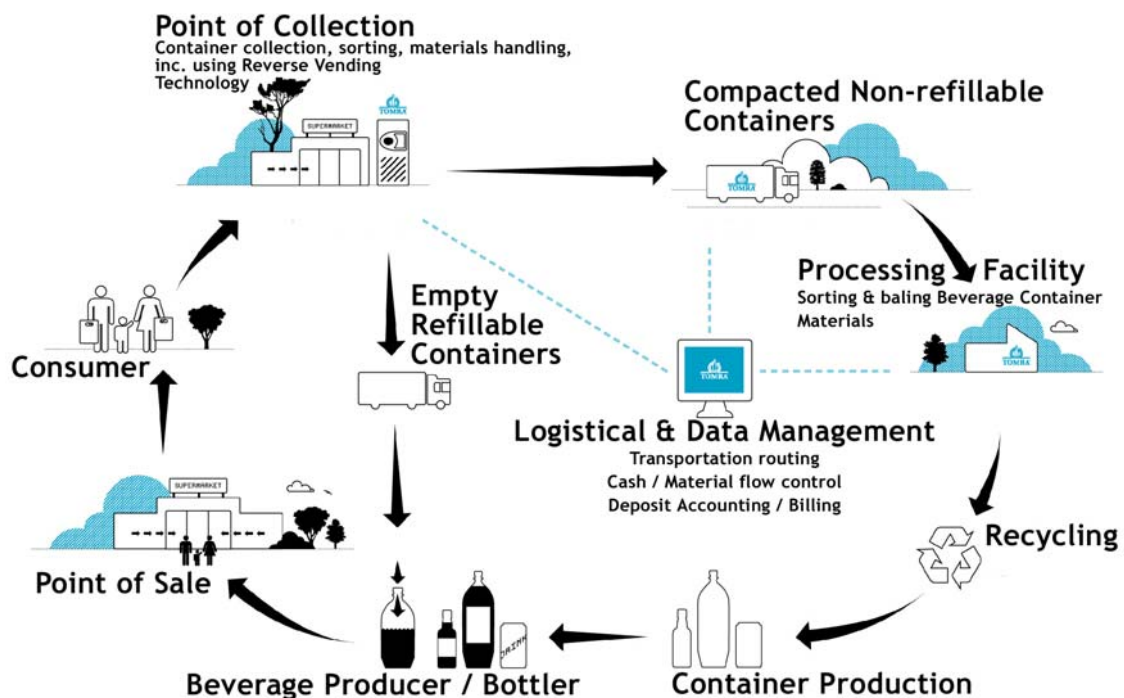
Container Deposit Legislation (CDL) is legislation enacted by Government that requires a minimum refundable deposit to be placed on beverage containers to ensure they're recycled.

The US-based Container Recycling Institute<sup>15</sup> describes the general mechanics of CDL (or bottle bills as they are known in the US) as follows:

“When a retailer buys beverages from a distributor, a deposit is paid to the distributor for each can or bottle purchased. The consumer pays the deposit to the retailer when buying the beverage. When the consumer returns the empty beverage container to the retail store, to a redemption centre, or to a reverse vending machine, the deposit is refunded. The retailer recoups the deposit from the distributor, plus an additional handling fee in most U.S. states. The handling fee, which generally ranges from 1-3 cents, helps cover the cost of handling the containers.

The costs to distributors and bottlers are offset by the sale of scrap cans and bottles and by short-term investments made on the deposits that are collected from retailers. In addition to this income, distributors and bottlers realise windfall profits on beverage containers that consumers fail to return for the refund.”

The deposit-refund process at a glance...<sup>16</sup>



<sup>15</sup> [www.bottlebill.org](http://www.bottlebill.org)

<sup>16</sup> Graphic courtesy of Tomra Systems ASA

## 2.2 Container Deposit Legislation and Product Stewardship

The concept of Product Stewardship is increasingly being adopted by governments and proactive industries to ensure that producers and consumers take greater responsibility for the whole life cycle of the products they produce. Container Deposit systems are a form of Product Stewardship, but have been around a lot longer and are well proven. CDL is therefore a good Product Stewardship model to trial as the 'first cab off the rank' when New Zealand enacts its new waste legislation.

The term, Extended Producer Responsibility (EPR), is sometimes used in place of Product Stewardship and the terms have become more or less interchangeable.

## 2.3 Impacts of Container Deposit Systems

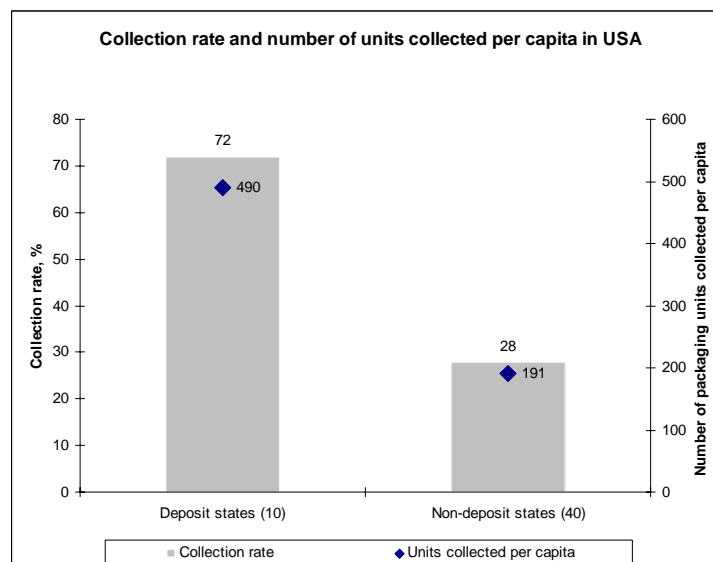
### Environmental:

- **Higher Recovery Rates / Better Resource Conservation**

Countries and states that run CDL programmes routinely achieve beverage container recovery rates of 80%-90% – more than double that of New Zealand through kerbside collections and a voluntary Packaging Accord. The difference between New Zealand's recycling performance and that of places with CDL is actually greater because most CDL programmes recycle a wider range of beverage containers than we collect in kerbside collections. Higher recycling rates, particularly for materials like aluminium and PET, translate into significant savings in energy and green house gas emissions – which are directly linked to climate change<sup>17</sup>.

The following graph shows how in the USA (where average CDL recovery rates are low compared to places like Canada and Scandinavia), States with CDL routinely achieve more than twice the beverage container recovery rate of than those without:

### Deposit systems deliver the highest collection rates<sup>18</sup>



The 11 states in the U.S. with deposit-refund legislation have an average collection rate of 72 % with an average of 490 containers collected per capita. The 39 remaining

<sup>17</sup> Environmental Benefits from reusing and recycling beverage containers. 'Who Pays What- An Analysis of Beverage Container Recovery and Costs in Canada' CM Consulting 2006

<sup>18</sup> Graphic courtesy of Tomra Systems ASA

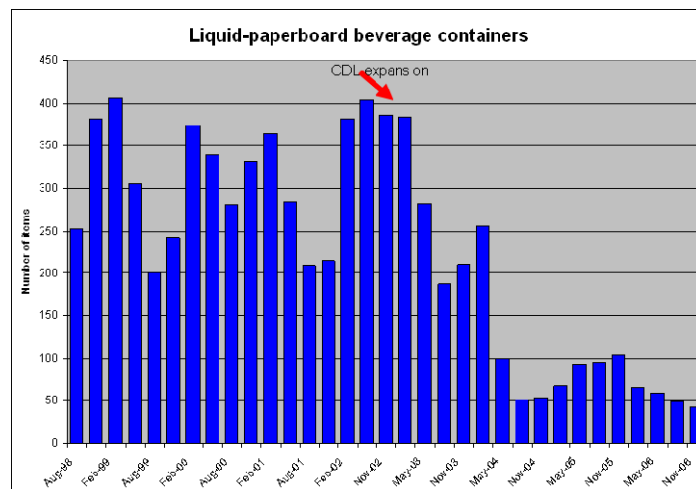
states have an average collection rate of 28 % and an average of 191 containers collected per capita.

- **Less Litter**

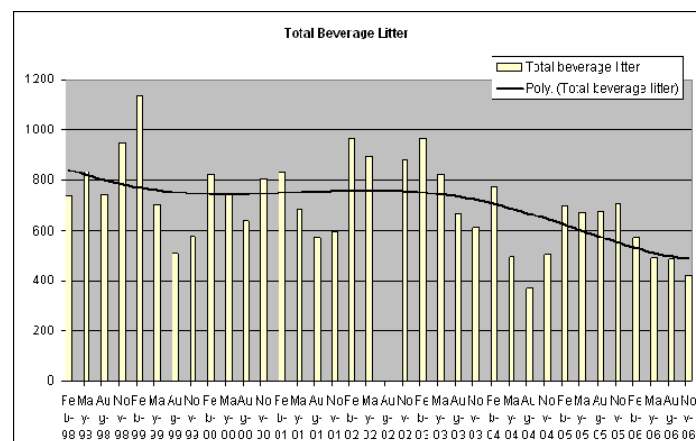
CDL programmes significantly reduce litter, which reduces cleanup costs to councils and is better for tourism, with roadsides and scenic locations much less littered with containers.

South Australia is the only Australian State that has kept consistent quarterly litter counts since 1998. The following graphs show how litter decreased in 2003 when South Australia's CDL programme expanded to include new container types, including one of the most prevalent litter items - iced coffee containers.

Liquid paperboard litter<sup>19</sup>:



Total beverage litter over the same period:



- **Infrastructure for Other Product Stewardship Programmes**

Collection depots can form the basis of a return system for more than just containers. Once established they can also act as a national collection network for other Product Stewardship programmes - for fridges, tyres, batteries etc.

<sup>19</sup> Following two tables courtesy of Zero Waste South Australia

## **Economic:**

- **Less Bureaucracy**

CDL is a market driven mechanism that requires minimal Government involvement. Once the legislation is established, Government's role is simply to monitor and ensure the system is working fairly. Accordingly, there is a small ministry staffing requirement. This is opposed to the ongoing work involved in developing voluntary Product Stewardship programmes which require Government to carry the cost of maintaining an unnecessarily large bureaucracy. An industry-run programme only requires Government staff to review an annual, independently audited report to ensure targets are met and standards maintained.

- **Better Returns for Recycled Material**

Materials recovered through CDL programmes can be sold at higher prices than those recovered from kerbside collections because there is far less contamination. Recycled product from South Australia's CDL programme commands a premium of around 10% over that from non-CDL states. Proceeds from the sale of product are used to help offset system costs.

- **An End to Glass (and Plastic) Stockpiles**

Under CDL, unredeemed deposits, interest on deposits held by the Managing Agency, and the sale of recovered material to end users cover the cost of collecting and recycling containers throughout the country. This means communities don't bear the responsibility and cost of stockpiling recycled material until an end use can be found. In the case of glass in the South Island, this may mean shipping it to Auckland to be remanufactured into glass containers, or it may mean crushing it and using as roading material or for some other use. Either way, CDL provides a consistent revenue stream to pay for re-use and recycling.

- **Reduced Costs to Councils and Ratepayers**

CDL transfers the costs of beverage container recovery from councils and ratepayers to producers and consumers where, under the principles of Extended Producer Responsibility or Product Stewardship, it belongs. Savings to councils and ratepayers include reduced kerbside collection costs (because the recycler can claim the refund on containers put out at the kerbside as well as reducing operational costs due to lower volumes), reduced litter collection and clean-up costs (streets and storm water) and reduced landfill costs. Additionally, reduced landfill volumes mean less pressure to find new landfill sites. CDL also provides an independent source of funding for community and not-for-profit groups who can generate revenue by operating collection depots, thus reducing their reliance on government and local government funding for community programmes.

## **Social:**

- **Local Job Creation**

CDL is a catalyst for job creation, enabling small businesses, councils and not-for-profit groups to set up collection depots and create local jobs. Given that these jobs will involve recycling materials back into the production process, it should be understood that these will be new, value-added jobs – jobs that will replace the current dead-weight-loss jobs of picking up containers from streets to be sent to landfill. They range from entry-level jobs, suitable for those coming off unemployment benefits or seeking part-time or casual work, to a range of skilled and managerial positions. In South Australia (population 1.5 million) CDL has created over 1,600 full and part-time jobs. In British Columbia (population 4.1 million) the industry-owned organisation, Encorp Pacific, which runs the CDL programme for non alcoholic beverage containers, employs 750 people.

- **New Income Stream for Not-for-Profits**

CDL provides not-for-profit groups, environmental groups and social service providers with an income stream that they can use to run community programmes. For instance in South Australia the Scouts run 8 collection depots which turn over about \$9 million per year. In New Zealand social service providers are keen to see CDL introduced to help reduce their reliance on government and private funder grants which are getting increasingly time-consuming to apply for, or gambling-generated funds which create an ethical dilemma for many social sector groups.

- **Less Glass Injuries**

CDL reduces the number of incidences of injuries to children's feet from broken glass<sup>20</sup> on beaches, roadsides and parks. It also improves road safety for cyclists who currently contend not only with punctures from broken glass but also potential accidents from avoiding glass on roads.

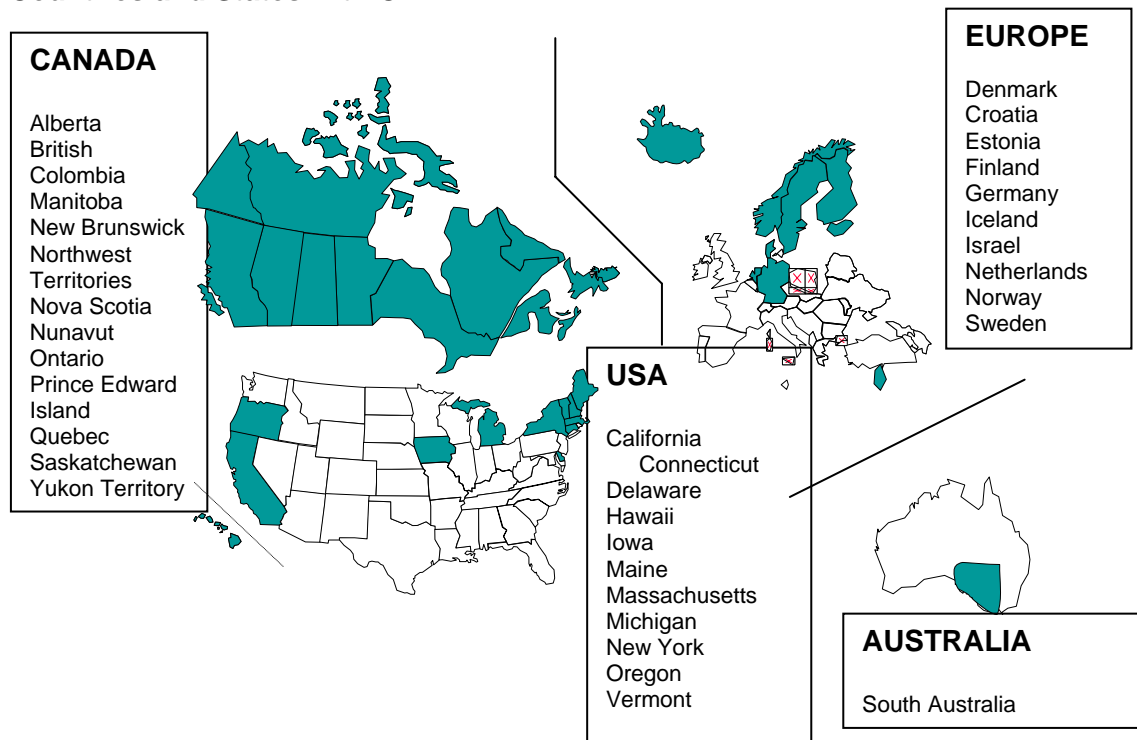
- **Public Awareness**

CDL puts a value on resources and rewards positive behaviour. This translates into better support for other recycling activities such as kerbside collections.

## 2.4 Countries and States with Container Deposit Legislation

Container Deposit systems operate in many countries and states around the world with at least 34 systems operating for non-refillable, one-way packaging. Many other places operate combined systems for refillable and one-way packaging – or for refillable containers alone.

### Countries and States with CDL<sup>21</sup>



<sup>20</sup> The number of hospitalisations from glass injuries can be reduced by 63 per cent by introducing container deposit legislation – Perth MP, J.N Hyde, WA Legislative Assembly 4th May 2006

<sup>21</sup> Graphic courtesy of TOMRA systems ASA

**Canada** - Alberta, British Columbia, , Manitoba, New Brunswick, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Quebec, Saskatchewan, Yukon Territory

**Europe/Middle East** – Denmark, Estonia, Finland, Germany, Iceland, Israel, Netherlands, Norway, Sweden

**Pacific** – Kiribati

**USA** - California, Connecticut, Delaware, Hawaii, Iowa, Maine, Massachusetts, Michigan, New York, Oregon, Vermont

**Australia** – South Australia

Western Australia is also currently considering the introduction of CDL and the Stakeholder Advisory Group set up by the WA Minister for the Environment has recently released a report strongly recommending its introduction<sup>22</sup>. If WA enacts CDL it is anticipated that other states will follow, potentially resulting in nation-wide CDL. Tasmania has recently conducted a Parliamentary Inquiry into CDL recommending that CDL be adopted subject to a cost/benefit analysis and the Victorian State Liberal Party has announced an election commitment to enact CDL in that State.

### **3. DEVELOPING A CONTAINER DEPOSIT LEGISLATION MODEL FOR NEW ZEALAND**

#### **3.1 Factors that Could Affect CDL in New Zealand**

New Zealand is not unique in the problem it faces with beverage container waste. Like most other developed nations we are dealing with rapidly increasing volumes, new packaging types, more products consumed away from home, and increasingly globalised packaging and manufacturing industries. Where New Zealand is relatively unique, is in its continued reliance on voluntary measures to solve the problem.

Despite this, there are a number of factors that bode well for the introduction of CDL in New Zealand including:

- A new Waste Minimisation Bill under review that will provide the enabling legislation under which a Container Deposit regulation would sit.
- Increased awareness and bipartisan political support for climate change and sustainability issues
- Upcoming elections and the need for political parties to develop effective, popular environmental policies
- Increasing oil prices, and therefore higher returns for recycled plastics
- Increasing public and council frustration at the rise of packaging waste – and the inertia of 10 years of voluntary Packaging Accords
- An existing, vibrant network of community and council-run recycling facilities that could operate as collection depots
- An under-resourced social service sector that could generate funds by setting up and operating depots
- A large proportion of the population that still fondly remembers the bottle deposit system that existed until the 1970s.
- Increasing interest and support for CDL in Australia - which New Zealand is developing increasingly closer retail and business regulatory ties with

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<sup>22</sup> Stakeholder Advisory Group Investigation into Best Practice Container Deposit Systems For Western Australia. January 2007. [www.zerowastewa.com.au/documents/sag\\_cds\\_report.pdf](http://www.zerowastewa.com.au/documents/sag_cds_report.pdf)

### 3.2 Key Principles for Developing a CDL Programme

The following principles have been developed as criteria for developing a CDL model for New Zealand.

- **Systems approach:** We need a self-governing, self-funding system that requires as little government (or other) intervention as possible to keep it working
- **Democracy:** Control of the system needs to remain with the public through the Minister for the Environment
- **Diversity:** As many sectors of society as possible should benefit from the system
- **Proximity:** Drop-off points should be as close to consumers as possible to reduce unnecessary travel
- **Convenience:** It should be as easy to drop off empty containers as it is to buy them in the first place
- **Efficiency:** The system needs to run as efficiently as possible to keep costs to a minimum
- **Transparency:** All aspects of the system should be open to public scrutiny.
- **Simplicity:** The system should be easy to operate and understand

## 4. THE MODEL

### 4.1 How the Model was Developed

The following recommendations for a New Zealand CDL system were developed in conjunction with the following CDL experts from Australia, Canada, Europe, the USA and the Pacific:

- Markus Fraval – Chief Executive Officer, Revive Recycling, Victoria Australia
- Mary Lou Van Deventer, Director, Urban Ore, California
- Tom Galimberti - Principal, Global Environmental Management Systems Ltd, British Columbia, Canada
- Robbie Kelman - Senior Consultant, Ecos Corporation, Australia
- Alice Leney - Consultant, Pacific Reef Savers Ltd, New Zealand
- Vaughan Levitzke – Chief Executive, Zero Waste South Australia
- Clarissa Morawski - Principal, CM Consulting, Ontario, Canada
- Aleksander Mortensen – Vice President Business Development, TOMRA Systems ASA, Norway
- John Sinclair, Natural Resources Institute, Manitoba, Canada
- Robert Slater, Coleman Bright and Associates, Ontario, Canada
- Helen Spiegelman - President, Product Policy Institute, British Columbia, Canada
- Robert Verhey - Strategy Manager, Environment, Local Government Association of NSW and Shires Associations of NSW
- Peter Woods - former President, Australian Local Government Association

These experts were each sent a questionnaire<sup>23</sup> covering key legislative and operational aspects of CDL programmes. They were asked to answer the questions, imagining that they had a blank sheet of paper and could design the optimum system for New Zealand. Supplementary questions were asked to clarify issues that weren't covered in the questionnaire, or that arose from ensuing discussion. The resulting model incorporates the combined knowledge and experience of these experts and the lessons learned from their programmes – one of which has only recently been implemented (Kiribati) and several that have been operating for 20-30+ years (South Australia, British Columbia etc).

In general there was strong consensus amongst the respondents on most issues. Where there were differences of opinion we have drawn our own conclusions based on the key principles outlined above and our understanding of New Zealand conditions.

### 4.2 ADMINISTRATION: *Who should set up and administer a CDL system – Government or Industry?*

This was the most important point on which there was some divergence of opinion amongst respondents. The question is important because it has major philosophical and operational implications. Two respondents favoured the Government-led approach and seven favoured an industry-led approach. Because it is such a pivotal question, all responses are given below:

Government-led:

- *“Government, it should be enshrined in legislation. Administration by Government (as per South Australia) or by a Government-overseen stakeholder committee.” (Robert Verhey)*

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<sup>23</sup> Appendix 2

- “Government, such as the proposed Waste Minimisation Authority should be administrator, with actual handling by licensed operator businesses, perhaps with preference to existing recyclers.” (Alice Leney)

Industry-led:

- “Government must set regulatory parameters, ngos and industry must comply with these. The system can run in an industry environment with NGO involvement, and limited govt oversight.” (Vaughan Levitzke)
- “In British Columbia the design and operation/administration of the system is done by an industry-appointed non-profit organization, while minimal oversight function is performed by government (province). This works well, except that the industry-appointed non-profit is a combine of competing beverage companies and operates monopolistically / monopolistically (that is: it controls who collects & gets paid for any containers and where all collected containers go). The legislation should, as BC’s does, allow the entrance of other programs if & when one or more brand-owners decide to strike out on their own with a competing system.” (Helen Spiegelman)
- “Industry (usually through an Industry Funded Organization (IFO), which is not-for-profit should be responsible for financing and operating the entire program (as per Canada – British Columbia, Alberta and New Brunswick). Industry-run programs are more efficient, have less fraud, and seem to be the ones that come up with many innovations.” (Clarissa Morawski)
- “The system should be set-up and administrated by ‘industry’ (brand owners, retail, packaging manufacturers etc.) in order to ensure an efficient set-up. The example for NZ should be the Scandinavian (industry-owned and operated) systems which now operate at almost no cost to industry whilst ensuring 90% return rate.” (Aleksander Mortensen)
- “Industry/government.” (Robbie Kelman)
- “Industry should set up and administer (as in Extended Producer Responsibility) a CDL under a government level economic playing field regulation. This approach is based on the simple premise that you must make those that are responsible for producing consumer products accountable for ensuring that the residual materials from their products do not end up in municipal landfills. As such, it recognizes that they are the ones in the best position to set up and administer a product stewardship program that will link wealth creation to environmental protection because only they have the vested interest and the essential knowledge and expertise to develop such a program.” (Tom Galimberti)
- “Some of the best systems internationally work by governments setting targets, along with basic system parameters, reporting requirement and accountability arrangements, while leaving the private sector to design and implement the most efficient system within these parameters. This is then fully in line with principles of “polluter pays” and EPR.

Targets are best set based on a triple bottom line analysis, and in setting targets, governments may choose to also introduce CDL or alternatively, simply set significant penalties if these targets are not met (e.g. the Norwegian Pigovan tax system).” (Markus Fraval)

## RECOMMENDATION 1

**Once Government has developed the legislation, including setting the targets, system parameters and reporting/accountability requirements, the private sector should design, establish and operate the system.**

This fits with New Zealand's hand's-off approach to business regulation and the principles of Extended Producer Responsibility/Product Stewardship. However safeguards should be included in legislation to protect the ability of local businesses to play a role within this industry-led framework.

## RECOMMENDATION 2

**Industry should be required to establish a not-for-profit stewardship agency (in this report called the Managing Agency) to design and establish all operational aspects of the system.**

The Managing Agency should also be responsible for promoting the system and providing information for the public, depot operators and retailers. Most overseas Managing Agencies have good websites which provide much of this information.<sup>24</sup>

### 4.3 LEGISLATION: *What should legislation cover?*

Although this question was not included in the questionnaire, our respondents provided the following information in their answers to other questions.

Legislation needs to set the level playing field for industry and to establish the incentives and dis-incentives that drive behaviour and achieve the desired outcomes - with minimal government intervention.

## RECOMMENDATION 3

**CDL legislation should cover the following:**

- **Roles and responsibilities**
- **Recovery targets**
- **The value of the deposit**
- **The range of containers the deposit applies to<sup>25</sup>**
- **Conditions for introducing new packaging types<sup>26</sup>.**
- **Ownership of unredeemed deposits**
- **Prescribed level of convenience for public drop-off**
- **Who can operate depots**
- **Reporting requirements**
- **Penalties**

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<sup>24</sup> Some good examples include the Alberta Beverage Container Marketing Board [www.bcmb.ab.ca](http://www.bcmb.ab.ca), and Encorp Pacific, British Columbia [www.encorp.ca](http://www.encorp.ca)

<sup>25</sup> The legislation will also clearly signal the ability of the Minister to add (or remove) container types without needing to amend the legislation. This is important as it will send a clear signal to all brand-owners that their packaging will eventually be included in the system.

<sup>26</sup> For example, if a container cannot be recycled, then it cannot carry a deposit and therefore cannot be sold. Without this provision in law, brand-owners will have no incentive to pack their products in recyclable containers. A clear definition of the recyclability standards needs to be provided to brand-owners.

#### **4.4 IMPLEMENTATION PERIOD: *How long would it take to implement a CDL system once legislation is in place?***

Respondents' answers to this question were fairly consistent, falling within the range of 6 months to 2 years.

- *"12- 24 months from passage of legislation."* (Vaughan Levitzke)
- *"Once the specific producers of a consumer product have been put on notice by government that a level playing field regulation will be coming into effect, it should not take more than six months to enact the regulation and thereby begin the "roll out" of the program. The setting up of these programs is not rocket science".* (Tom Galimberti)
- *"Maximum two years, one might well be enough".* (Alice Leney)
- *"Once legislated there is no reason a system cannot be introduced within 6-9 months if a further period (say 6-12 months) is provided to roll out the infrastructure."* (Markus Fraval)
- *"It will require development of new infrastructure of return centres, transport systems, processing facilities and information systems. NZ can benefit from others' experience. Government can expedite the process (and prevent stalling) by putting brand-owners in touch with overseas program operators."* (Helen Spiegelman)

#### **RECOMMENDATION 4**

**A New Zealand CDL programme should be rolled out and operational within one year of enacting legislation**

#### **4.5 CONTAINER TYPES: *What container types should be included in a CDL programme?***

The consensus from respondents was that as broad a range of containers as possible (one-way and refillable) should carry a deposit.

A good guide to inclusion, as pointed out by Robert Verhey, is that, *"If a product has the potential to be consumed away from home (and hence become part of the litter stream or end up in a public litter bin) it should be included in the system"*.

Markus Fraval comments that by putting deposits on as broad a range of containers as possible, overall recovery and system efficiency is improved. He recommends setting criteria for collection, *"by key container material types in combination with generic, rather than specific, container contents - e.g. 'all (food and) beverage containers 2L or less made of aluminium, steel, PET, HDPE or glass' rather than 'soft drinks and beer containers of 2L and less'"*

Other important points:

- *"Ensure that all beverage packaging types, including coffee cups, carry a deposit to minimise cross-competition issues and to ensure there is a level playing field."* (Clarissa Morawski).
- *"Each container type should be required to achieve the same return rate – don't aggregate returns so poor performers free ride on good performers."* (Helen Spiegelman)

## RECOMMENDATION 5

### **All beverage containers should be required to carry a deposit.**

This includes those containers that are currently recycled (soft drink, bottled water, PET, aluminium cans, wine bottles etc) as well as those not currently recycled such as tetra pak containers.

## RECOMMENDATION 6

**Legislation should signal that CDL is the first in a series of Product Stewardship initiatives with programmes following that will address wastes such as hazardous waste, electronic waste etc.**

### **4.6 EXPANSION: *Should legislation be drafted so that it's possible for the Minister to add new packaging types?***

The consensus amongst respondents was that the Minister should be able to expand the programme without the need for new legislation.

- *“Yes. Look at BC’s Recycling Regulation. This not only simplifies changes to the program; it also sends a clear policy signal to all product brand-owners that their packaging will eventually be included.” (Helen Spiegelman)*
- *“Yes. As this may be the stick to ensure that industry is working hard to divert the other packaging they produce. Keep it in there as a warning.” (Clarissa Morawski)*
- *“Politicians should provide stable and long-term framework conditions for industry – this means thinking through the requirements to the system before introducing legislation and then not add additional obligations later.” (Aleksander Mortensen)*
- *“Absolutely yes. In Australia the packaging industry has a pretty much unfettered ability to bring new products / packaging types onto the market.” (Robert Verhey)*

## RECOMMENDATION 7

**Legislation should have the flexibility to allow the Minister to include (or exclude) new categories of packaging in response to changes in consumption and packaging trends. Legislation should be clear about this to provide industry with stability and the ability to make long-term plans. Packaging specifications and guidelines will need to be provided.**

As a second phase of implementation, the deposit could be applied to all food and drink products that are consumed mostly away from home.

### **4.7 APPROVAL: *Should new beverage packaging types have to meet recyclability standards before being introduced into the market?***

Again the consensus was a unanimous yes.

- *“Yes, even though this is very challenging to define. Try to arrive at a clear definition of the recyclability standards.” (Helen Spiegelman)*
- *“Legislation should be written that all containers must be recycled (as in British Columbia and New Brunswick). In these cases, all containers are being recycled,*

*and where they are difficult to recycle, brand owners are working with recyclers to improve the recyclability. Without that provision in law, brand owners will not be incented to package their beverage containers in recyclable packaging. This is especially relevant with tetrapaks, coffee cups and pouches.” (Clarissa Morawski)*

- *“It is necessary to provide some guidelines to packaging which should be included. See specs from [www.resirk.no](http://www.resirk.no) and [www.returpack.se](http://www.returpack.se).” (Aleksander Mortensen)*
- *“Existing non-compliant packaging can have a phase-out period.” (Alice Leney)*
- *“Yes. However when faced with an existing non-recyclable product like tetra-packs the solution is to have legislation put a surcharge on the product to level the economic playing field with the other containers.” (Tom Galimberti)*

## **RECOMMENDATION 8**

**All new packaging types should require approval from the Managing Agency (operating within clear packaging guidelines) before being introduced onto the market.**

This recommendation is based firmly on the notion that under EPR/Product Stewardship principles, brand owners should not be able to introduce packaging types that, because of bad design, require the community to pay the economic and environmental costs of disposal to landfill.

When faced with an *existing* product that is not able to be recycled cost effectively, the solution may be to put a surcharge on the product to level the economic playing field with other containers - or a phase out period.

### **4.8 DEPOSITS: How much should the deposit be? Should it be the same for all materials and container sizes or variable?**

#### **Deposit value:**

Seven of respondents specified a minimum deposit level of 10 cents. As one pointed out, New Zealand's smallest coin is 10 cents so it makes sense to make this the deposit value.

The main point raised by respondents is that the deposit needs to be high enough to change behaviour and maximise the rate of return.

- *“In Saskatchewan in the early 1990’s we had the highest priced deposits in North America for pop, juice and liquor containers which resulted in a return rate of 92%.” (Tom Galimberti)*
- *“A value that will encourage high return rates without placing too much ‘up-front’ burden on the consumer – I would suggest 10cents. 25 Euro Cents results in 98% return rates in the Netherlands, but this is very high.”(Robbie Kelman)*
- *“Normally a 5-10 Euro cent deposit is sufficient to reach 80%+ recycling rates.” (Aleksander Mortensen)*
- *“The 5 cent deposit in British Columbia and the USA has been in place since the 1980s but now, due to inflation, appears to be too low as return rates are falling.” (Helen Spiegelman)*

- *“While South Australia’s deposit is still 5 cents, the real value is less than 20% of when it was introduced over 30 years ago. It continues to work because consumer habits have been formed, however any new system will need a higher rate to introduce new consumer habits.” (Markus Fraval)*

The strongest recommendation is from Clarissa Morawski who says, *“NEVER GO BELOW 10-CENTS, or you will simply not get the recovery rates you want.”* This comment is based on her regression analysis study of refund levels.<sup>27</sup>

#### **Number of deposit values:**

There are two schools of thought when it came to the number of recommended deposit values. Of those who commented on this point half recommended one value for all containers and half recommended putting a higher deposit on larger containers.

In favour of one value:

- *“For simplicity of administration it should be the same across the board,” but that, “it’s a moot point since the refund will also be the same – ie same net cost to consumers.” (Robert Verhey)*
- *“One deposit value because it: 1) Makes the system as simple as possible and 2) There’s no need to differentiate large containers since these can actually help reduce the overall amount of packaging consumed (i.e. have effects higher up waste hierarchy) and larger sizes are generally more likely to be consumed at home and hence to be captured in kerbside systems.” (Markus Fraval)*

In favour of two:

- *“It seems to make sense for containers that are harder to handle to bear larger deposits/refunds to ensure that they are not left behind.” (Helen Spiegelman)*
- *“No less than 10-cents on small containers and 20-25-cents on larger containers. Do not have too many deposit levels, as it will impact the levels of sorting at collection points.” (Clarissa Morawski)*

### **RECOMMENDATION 9**

**The deposit should be set at a minimum of 10 cents and this should apply to all container sizes.**

Legislation should give the Minister the flexibility to increase the deposit value on all or some product categories if required to improve efficiency of the system, or to keep up with inflation to maintain the same level of incentive.

#### **4.9 UNCLAIMED DEPOSITS: *Who should keep these and for what purpose?***

There will always be a proportion of containers that aren’t recovered (due to breakages, disposal in waste collections etc) and for which deposit refunds are not paid out. These unclaimed deposits represent a substantial amount of money and who keeps this and for what purpose, has a major impact on system dynamics.

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<sup>27</sup> “Evaluating the Relationship Between Refund Values and Beverage Container Recovery”, Prepared for the Beverage Container Management Board by CM Consulting, April 2003

Although Clarissa Morawski pointed out that in theory unredeemed deposits should go back to the municipalities that have to handle unredeemed containers (via landfilling / litter control etc) she, and all other respondents, recommended that they be retained by the Managing Agency to offset the costs of the system. As Vaughan Levitzke pointed out, if they were retained by Government they would become a tax – which would not be a popular outcome.

The danger in allowing the Managing Agency to retain unredeemed deposits is the potential for creating perverse incentives that encourage under-performance<sup>28</sup> (lower recovery rates translate into higher returns from unredeemed deposits). The solution suggested by several respondents is to allow the Managing Agency to keep unredeemed deposits *ONLY* if they reach the recovery targets stipulated in legislation.

- *“BUT most important – legislation must have binding targets to avoid an incentive for the industry that is running the program to under perform and generate more unredeemed revenue .”* (Clarissa Morawski)
- *“In BC the unclaimed deposits “stay in the system” and result in a built-in incentive to under-perform. I recommend that until and unless the system fully achieves an 85% return & recycling rate, the unclaimed deposits on any containers failing to achieve that rate be returned to the government, which would have a plan for disbursing them to an existing network of qualified grassroots organizations (ideally community based non-profits), which would carry out aggressive advertising campaigns to raise return rates. It might be worth proactively working with those groups to develop a standardized, nationwide set of communications tools that can be rolled out on the ground by the local groups.”* (Helen Spiegelman)
- *“The deposit system should keep unredeemed deposits when the target for collection rate is achieved. If the collection target is 80% then the system should be allowed to keep all deposits above 80%. In this way the true polluter pays – the consumer who doesn’t care about returning the packaging, and the system / industry get a good contribution to fund the system operation.”* (Aleksander Mortensen)
- *“Unredeemed deposits would be used to fund the system with any additional requirements funded by Brand Owners (in line with principles of EPR) and paid to the System Coordinator. In such an arrangement it is realistic to aim for a system that is fully funded by material sales value and unredeemed deposits (+ interest on deposits) alone – i.e. a self-funding system without need for beverage industry funding. In such a case, where there’s a surplus, it is a political and/or legal decision as to whether these are provided to the beverage companies, split between system stakeholders or are diverted to the state (e.g. for other recycling / education initiatives). An alternative is that the crediting of unredeemed deposits to system costs (which has the effect of reducing beverage manufacturers “admin fee” contributions) should be dependent on brands achieving particular recovery targets. This ensures proactive cooperation and prevents reverse incentives (e.g. the lower the recovery rates and the higher the unredeemed deposits, the lower the admin fees required from beverage manufacturers and the less likely they are needed at all).”* (Markus Fraval)

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<sup>28</sup> This happens in South Australia where industry does little to promote the system because of the windfall profits from unredeemed deposits.

## RECOMMENDATION 10

**The Managing Agency should be allowed to retain unredeemed deposits to offset costs of the system – but *ONLY* if recovery targets, stipulated by legislation, are met. If these are not met, unredeemed deposits should revert to the Government for redistribution amongst community groups to run CDL promotion campaigns.**

### **4.10 HANDLING FEES: *How much should these be and should they be visible to consumers?***

The issue of handling fees is where the most confusion about CDL can arise as terminology differs between systems. Basically, however, the handling fee can be split into two components:

1. The fee paid by the Managing Agency to collection points for collecting containers from the public – and, where appropriate, doing some initial processing such as baling
2. The fee paid by beverage manufacturers to cover any shortfall in the operating costs of the system (those not covered by unredeemed deposits, interest earned on deposits, and material sales). This is often called the administration fee (or in British Columbia's case, the Container Recycling Fee) and can be passed on to consumers if it isn't absorbed by manufacturers.

There was some difference in opinion between respondents on how handling fees should be set and by whom. Four favoured an industry approach with the Managing Agency negotiating handling fees with collectors and brand owners - without any Government interference.

Of these, Clarissa Morawski had the strongest view, stating,

- *“Setting handling fees is very dangerous, and I would strongly advise against it. Here's why:*

*Collectors vary in terms of the type of business (retail, multi-business (like a parking lot with automated return machines), stand-alone depots etc.) Some have high throughput while others only small volumes. This is usually related to the location (rural versus urban) and the level of manual labour used (versus automation). Setting one or two handling fee rates will make some collectors very rich, while others will barely scrape by.*

*Unfortunately, most CD systems have set handling fees and in some cases (like Canada) they are extremely high (due to successful lobbying of depot associations) and frankly a rip-off to the very industries that run the program.*

*If I were to design the perfect CDL, I would leave it up to the Managing Agency to negotiate their own set of handling fees based on a case-by-case. Keep it competitive. This is VERY important.*

*But as important is that the legislation MUST prescribe a minimum level of convenience (ie: locations of collection points, like within 5kms of any retailers selling beverages) and a recovery rate, which MUST be enforced – no exceptions.*

*This way, it is in the interest of the managing agency to offer the fairest handling fee to its collectors, because it knows that it must collect a certain percentage of containers. It*

also keeps the collection industry (like depots or retailers) competitive and this will continue to stimulate innovation in collection technologies.

Handling fees should be paid-for by the managing agency and not charged to the consumer. If you allow a consumer fee, there will be no incentive to keep it low by industry or collectors.”

- Helen Spiegelman agreed that handling fees should be negotiated between brand-owners and depots but also pointed out, “that there needs to be robust measures in place to protect small businesses from coercion as this has been a real problem in almost all programmes. It comes down to the problem with monopolistic system - depots have only one company they can do business with if they want to get into the industry.”
- On the other side of the question, two respondents favoured government setting handling fees - at least the portion used to reimburse collection points.
- “Handling fees are set by government in consultation with key stakeholders and are reviewed annually. They should be set to reflect value added by collection centres e.g. to incentivise investment in infrastructure – such as balers or reverse vending machines that reduce overall system costs.” (Markus Fraval)
- “Should be probably set by govt and be transparent. Consumers need not know how much a depot gains nor how much a super collector charges. These need to be transparent between contractors, not consumers per se. There also needs to be a mechanism for negotiating and agreeing the handling fee between parties.” (Vaughan Levitzke)
- None of the respondents thought it was necessary to make the handling fees visible to the public. This could be seen as contrary to the principle of transparency, but the cost of product recovery should be treated like other production costs such as material inputs, transportation and marketing which are all internalised in the product price and not broken out for the public to see.

## RECOMMENDATION 11

**Handling fees paid to operators of the collection points should be negotiated between the Managing Agency and operators on a case by case basis. Government should not be involved in setting handling fees.**

Handling fees should be transparent within the system but do not need to be made visible to the public.

### 4.11 ADMINISTRATION FEES:

The following supplementary statement was put to the respondents for comment:

**“The handling and administration costs should largely be covered by a combination of unredeemed deposits, the sale of recycled product and the interest on the unredeemed deposit funds sitting in the bank at any given time. If the system is run efficiently it can potentially be cost neutral or even run at a surplus. However if it is not cost neutral the maximum cost to industry should be no more than 1 cent per container and it is the net cost to industry that should be absorbed by industry as a product cost and not passed on to the consumer.”**

- *“I have trouble believing that it would even be as much as 1 cent a container - we run a program here for 2 cents just on beverage - not beer etc., which are part of a deposit system. The ‘not passed on to the consumer’ is tricky because it will be passed on - the key is that any cost is integrated into the price and not added on as an eco-fee or tax - or treated as such by industry by adding it on to the retailers bill - who then passes it on or eats the cost. So if the program is not cost neutral those costs should be absorbed by industry as a cost of doing business and integrated with those other costs when a product is marketed.”(John Sinclair)*
- *“I am not sure it is necessary to speculate about the cost to industry. Industry has demonstrated in every jurisdiction where CDL exists that they can deliver good service at a cost that the consumer is willing to bear ~ or let them prove otherwise. From a public policy perspective, the important question is why local councils should be subsidizing the industry in managing its environmental care costs?” (Helen Spiegelman)*
- *I basically agree with the comment. My only comments would be, 1) that a new (modern) system should really be running at a net cost significantly below 1 cent (and more likely a surplus), and 2) not sure that you can or should try to prevent industry passing on any net cost to consumers. Industry pass on costs to consumers all the time which is a standard part of business and is consistent with EPR. The important thing is that industry do not pass on MORE than the net costs to consumers (e.g. by claiming their net costs are the same as the collection point handling fees....)( Markus Fraval)*

## **RECOMMENDATION 12**

**Net costs of operating the system that aren’t covered by unredeemed deposits, interest on deposits and material sales (often called administration fees) should be borne by brand owners and can be passed on to consumers – but only as an integral part of the price – and no more than the actual amount .**

### **4.12 RETURN SYSTEM: *Should containers be returned to depots or to retail stores – or a mixture of both? How many collection points are required?***

The goals for a CDL system in New Zealand include high beverage container return rates and local job and business creation. The return system used to collect containers will have a big impact on both of these goals.

For beverages drunk away from home the two main options are return-to-retail and return-to-depot.

‘Return-to-retail’ is a system whereby consumers can take their empty containers back to stores that sell beverages to get their refund.

‘Return-to-depot’ is a system whereby consumers take empty containers back to stand-alone depots for refunds. These depots can be owned and operated by industry – as in British Columbia, or by a mixture of local entities such as councils, community groups, social sector groups (eg the Scouts) and small businesses – as in South Australia.

Two respondents felt that the design of the return system should be left entirely to the Managing Agency to work out. Of the other respondents, one was in favour of return-to-retail, two were in favour of return-to-depot and four were in favour of a mixture of return-to-retail and return-to-depot.

For those in favour of return-to-retail:

- *“I think it should start as return to retail, giving retailers an “opt-out” option to pass-on their obligation to another retailer nearby or a depot location. California’s system, with their convenience zones is tricky to implement, but a modern, competitive and innovative way to go. I am generally not a big fan of depot-only systems because they are not as convenient, and therefore not fair for many people who may not have cars etc. Return to retail-only systems are probably the best, because they require no additional trips by the consumer when returning containers.” (Clarissa Morawski)*

For those in favour of return-to-depot:

- *“Have a separate refund collection system. Logistically it makes the system much smoother, and will save a huge amount of disgruntlement from the retail sector.” (Alice Leney)*

For those who favour a mixture of return-to-retail and return-to-depot:

- *“Depots primarily. Reverse vending machines could be available at retail outlets.” (Vaughan Levitzke)*
- *“A mixture of both. Voluntary retail participation will occur as retailers see the advantage in encouraging through traffic through their stores – e.g. petrol stations.” (Robbie Kelman)*
- *“My personal view is that a depot based system is more successful and doesn’t make an enemy of the retail sector. Optional retailer involvement is desirable however (eg Westfield may wish to have a depot in their carpark, which would probably attract more customers to backload).” (Robert Verhey)*
- *“Consumer convenience is vital to the success of any system. ‘Return-to-retail’ systems are the most convenient and recognize retailer role in the value chain. They also generally provide higher return rates. However they can also impose unnecessary burdens on small retailers and significant additional logistics costs due to a very large number of redemption points.*

*Traditional ‘return-to-depot’ systems on the other hand (such as South Australia) are logistically more efficient but are less convenient. They are also open to the criticism that the environmental / economic impacts of increased travel to collection points offsets some of the gains from recycling (unlike retail points which consumers are visiting anyway). However depots also offer the ability for broader resource recovery initiatives that are built on the back of CDL (e.g. collection of scrap metal, batteries, mobile phones, e-waste, white goods etc).*

*A “best of both worlds” solution is the idea of convenience zone recyclers – such as those introduced in California - in major retail (shopping centre and supermarket) car parks that are convenient for consumers to access on a day-to-day basis (and can be automated with reverse vending machines), backed up with a small number of larger recovery centres (depots) which accept not only containers but less frequently consumed items (such as e-waste, white goods etc. as above) .” (Markus Fraval)*

## RECOMMENDATION 13

**A New Zealand CDL programme should adopt a combined return-to-retail and return-to-depot collection system to achieve the twin goals of high container return rates and maximum local wealth creation.**

Retailers should be given the option of taking back the containers from beverages they sell - but participation should not be mandatory. The incentives of increasing foot traffic into stores and positive PR should provide sufficient advantage for enough retailers to participate.

Legislation should protect the ability of local entities to set up collection depots in their communities and to ensure that a monopolistic situation does not occur.

A potential draw-back in allowing a wide range of organisations to participate in collection, is a lack of consistent operational and service standards. All operators should therefore be licensed (by the Managing Agency) to ensure they adhere to operational guidelines. Standard signage must also be displayed to assist national promotion of the system and to ensure high visibility.

### **Number of collection points:**

Most respondents thought that the market could determine how many collection points would be required.

Markus Fraval made the point that, *“Collection point density is clearly far higher in return-to-retail systems than in return-to-depot systems. The following provides an indication of this:*

*Average inhabitants per collection point:*

*Return to retail:*

- *Average (European systems): 640*
- *Ranging from 270 (Denmark) to 890 (Sweden)*

*Return to depot:*

- *Average (South Australia, Canada): approx 13,000*
- *Ranging from 8,200 (New Brunswick) to 13,200 (South Australia - approx. 27,000 in Adelaide, 6,500 in regional/rural SA), to 18,300 (British Columbia).”*

In California, which has a combined ‘return to retail’ and ‘return to depot’ system organised in ‘Convenience zones’, about 60% of beverage container recycling occurs at recycling depots, 25% at supermarket-based recyclers and about 20% at kerbside. A network of 1,100 grocery store recycling centres carries the load for all 40,000 retailers who sell beverages.

## RECOMMENDATION 14

**The number of collection points should be determined by the Managing Agency who will be mandated to achieve high return rates.**

Legislation should not attempt to set the minimum number of collection points, but it should set levels of prescribed public convenience based on population, proximity to beverage-selling outlets etc. The aim should be to ensure that it is as easy to drop off an empty beverage container as it was to buy the beverage in the first place.

The Managing Agency, through its licensing system, should be responsible for ensuring that territory poaching does not occur.

#### **4.13 RETURN SYSTEM INFRASTRUCTURE: *What infrastructure is required and how would the various parts interact?***

Three respondents thought this should be left for industry to decide.

Of the others:

- *“Existing infrastructure could probably be readily adapted, eg council depots, scout groups, community centres, schools - and new infrastructure could be readily installed in retail car parks. Industry will say that infrastructure will cost megabucks. I disagree. What is the cost of hundreds of diesel trucks circulating our streets every day picking up waste? Consumers back loading containers during their normal activities add no greenhouse gases.” (Robert Verhey)*
- *“Collection depots should act for manufacturers and have the capacity to bale and export.” (Vaughan Levitzke)*
- *“A separate refund collection system makes great sense as this is reverse logistics: it makes the system much smoother and where retail wishes to participate I can see this working well, particularly for rural General Stores to provide coverage to remote populations, giving them a little more income through handling fees..”(Alice Leney)*

“Deposit System Collection infrastructure:

- *Majority of collection points in the form of convenience zone recyclers (in supermarket, shopping centre carparks). Smaller number of large resource recovery centres (set up to redeem containers and for broader resource recovery activities)*

Deposit System Processing infrastructure:

- *One or two central processing facilities per major city (investment in compactors or reverse vending machines at collection points reduces transport costs and allows fewer processing facilities) operated by a single, central System Coordinator*
- *The System Coordinator (or Managing Agency) would pick-up containers from the collection centres, transport them to their own processing facilities and then on-sell the material to recyclers. Benefits in reduced transport costs should be passed on in handling fees to collection centres to encourage them to invest in container compaction technology.*
- *Existing Materials Recovery Facilities (MRFs) could be contracted to perform the processing role in certain areas on behalf of the System Coordinator.*

Interface with Kerbside:

- *Whatever the deposit value, a certain proportion of consumers will continue to put their containers out with their kerbside recyclables. By providing Material Recovery Facilities (MRFs) with the value of deposits on containers put out in the kerbside system a container deposit system can help to underwrite existing kerbside systems. To simplify this it makes sense to allow MRFs to redeem their containers on an average weight basis (as in South Australia, and California).” (Markus Fraval)*

- *“Crucial to success will be a well designed publicity campaign. One great residual area of support is the nostalgia around the bottle return systems of old. There are still enough people in places of influence who made \$\$ as kids collecting bottles. The beauty of the system then still resonates”. (Alice Leney)*

## **RECOMMENDATION 15**

**The Managing Agency, in association with local entities (private sector and community recyclers, councils, retailers etc), would be required to maximise the potential of existing infrastructure when developing the return-to-depot collection network.**

The Managing Agency would develop material consolidation facilities – either on its own or in conjunction with existing recycling operations.

The Managing Agency would be responsible for the transportation of containers from collection points to the material consolidation facilities or, better, would pay a transportation fee to collection points who would then have an incentive to invest in compaction technology to reduce transport costs.

### **4.14 SORTING: How should containers be sorted at the point of return (ie by brand or container type?)**

Several respondents pointed out that it is ultimately industry’s responsibility to work out how containers are sorted to calculate handling fees, return rates etc. However, lessons can be learned from systems such as that in South Australia where, due to the historical concerns of beverage manufacturers (who were concerned about paying for the opposition’s containers), sorting is by brand. Although one respondent thought that sorting by brand is useful for keeping brand owners accountable, the general consensus was that sorting by brand is inefficient and adds unnecessary cost to the system. The general consensus was that sorting should be by container type.

- *“By type. Brand owner costs can be apportioned through market share assessments and audits of sample materials.” (Vaughan Levitzke)*
- *“A significant amount of automation (via reverse vending machines) allows systems to sort by material, but audit by brand. This provides the benefits of brand sorting without the unnecessary inefficiencies and costs.”( Markus Fraval)*

If ever there is a need to sort by hand, new optical sorting technology could be applied.

## **RECOMMENDATION 16**

**The decision on what method to use for sorting containers should be left to the Managing Agency. As long as recovery targets are met and the system is efficient there is no issue with what method is used. However, overseas experience suggests that it is more efficient to sort by container type rather than by brand.**

### **4.15 REVIEW: What review process is required to keep the system on track?**

- *There was strong consensus on the need for the Managing Agency to report regularly and in depth to Government.*

- *“There must be regular reporting on sales and returns, broken down regionally, as well as on the finances if additional fees are charged to consumers (e.g. non-refundable “recycling fees” in addition to refundable deposits, as is the case in BC).” (Helen Spiegelman)*
- *“Must have a Government department dedicated to the program. The industry-run group must report annually – see Encorp Pacific annual reports as a good model for reporting.” (Clarissa Morawski)*
- *In British Columbia we required industry to provide government with an annual report and the key performance indicator (which was embedded in the regulation) was the pollution prevention hierarchy.” (Tom Galimberti)*
- *“Open and transparent reporting on consumption and recovery rates (aggregated by materials) is important to promote continuous improvement as well as public trust and participation.*
- *The ability to raise the value of the deposit, and/or expand collection infrastructure if certain targets not met should be provided within any legislation. Likewise collection point handling fees should be reviewed annually in conjunction with key stakeholders.*
- *Recovery rates by brand are useful to ensure cooperation, accountability and that all are pulling their weight.” (Markus Fraval)*
- *“The South Australian model seems to be a good model. It appears to me that the system is pretty much self-sustaining, given the simple economic forces at work. But the Stakeholder group could have a review role and advisory role to the Minister.” (Robert Verhey)*
- *Transparent auditing of the system can be carried out via programmes such as Alberta’s ‘Mystery Shopper programme.’<sup>29</sup>*
- *Facilities also need monitoring. Vaughan Levitzke suggests audit processes to ensure depots are operating within proper public safety guidelines.*

## **RECOMMENDATION 17**

**The Managing Agency should be required to provide an independently audited annual report to Government. The report should be made publicly available through the Managing Agency’s website.**

### **4.16 PENALTIES: What kind of penalties are required to ensure industry compliance?**

Respondents’ views on penalties were consistent in that all felt strong penalties were required. These ranged from ‘anti-PR’ type penalties to criminal charges.

- *“High and removal from sale.” (Vaughan Levitzke)*
- *“There are two kinds of “compliance.” Brand-owners who comply will be motivated to demand participation by their competitors. A more challenging form of*

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<sup>29</sup> See the Alberta Beverage Container Management Board’s website [www.bcmb.ab.ca](http://www.bcmb.ab.ca)

*compliance is achieving environmental outcomes (return percentages). At a bare minimum, failure to achieve mandated return targets should immediately result in strong negative messaging delivered in local markets across New Zealand and delivered by grass-roots groups and paid for with unclaimed deposits. If this is insufficient, then there should be a significant increase in the refund levels (ideally, with some mechanism to prevent this becoming a windfall for the return system until returns rise).” (Helen Spiegelman)*

- *“For every container not recovered below the recovery target, charge a rate that is equal to the level of the deposit, plus a penalty, which should be at least double what an average handling fee might be. You must create a large financial disincentive if performance targets are not met. THIS IS CRITICAL.” (Clarissa Morawski)*
- *“In British Columbia we had stiff financial penalties for non-compliance (1 million dollars for each offence) as well as jail time and the fact that you could be prevented from selling your product in British Columbia.” (Tom Galimberti)*
- *“Suggest that admin fees (or the application of unredeemed deposits if the system is otherwise operating at a surplus) should take into account individual brand performance in terms of target recovery rates, such that those brands achieving higher recovery levels are charged less*
- *Provides incentives for positive brand owner involvement and rewards good behaviour. Suggest consideration of mechanisms whereby deposit value will be increased if targets are not consistently met.” (Markus Fraval)*
- *“Basically it should be illegal to sell soft drinks that aren’t labelled in accordance with the Act and which can’t be received at refund depots. The penalty level isn’t really an issue, given the volume of sales and profits being made by the beverage industry per minute. Sky’s the limit.” (Robert Verhey)*
- *“There must also be penalties for refunding materials and then dumping them; all refunded materials must be processed or exported. Penalties for selling non-compliant containers could be similar to those involved in selling non-compliant electrical goods or foods etc.” (Alice Leney)*

## **RECOMMENDATION 18**

**There should be strong penalties for selling beverages not labelled in accordance with the system requirements, for dumping recovered materials and for failure to meet system targets**

### **4.17 VOLUNTARY PACKAGING ACCORDS: How effective or otherwise are voluntary measures compared to mandatory Product Stewardship programmes such as CDL?**

- *“Voluntary measures are a complement rather than a substitute for mandatory programmes such as CDL. Voluntary measures are broad-brush policy tools that give the “heads-up” to all brand-owners that their time is coming. Legislation, on the other hand, should be focused on specific, clearly-defined product categories and include explicit performance standards for brand-owners in those categories to meet and timelines for meeting them.” (Helen Spiegelman)*

- *“Voluntary agreements are fine where the industry has only four or fewer players, that can agree to comply with their agreement (for example the newsprint accord in Australia has been a huge success). Complex supply chains and industries with many competing participants’ leads to lowest common denominator or no compliance at all, as it quickly becomes an un-even playing field. I can see no reason why both mechanisms cannot be employed eg voluntary on secondary packaging?” (Vaughan Levitzke)*
- *“THEY NEVER WORK. We’ve had voluntary approaches world-wide for over 25 years. Once CDL is in place it only takes 12 months.” (Clarissa Morawski )*
- *“It’s the “let’s pretend we are doing something when we really aren’t approach” – an “age old” stall tactic by the packaging industry not only in New Zealand and Australia but also here Canada as well.” (Tom Galimberti)*
- *“Unfortunately the evidence has been that while they may result in small incremental improvements, usually based on activities that are already in industry interests (such as light weighting etc.), they do not result in significant outcomes that are otherwise achievable with mandated targets or approaches.” (Markus Fraval)*
- *“Voluntary accords are a smokescreen.” (Robbie Kelman)*
- *“To quote the old sailor’s adage...WOFTAM. NZ’s Accord and Australia’s Covenant have been a waste of time and money”.( Robert Verhey)*
- *“The amount of beverages consumed “away-from home” or “on-the-go” is always increasing (especially for products like bottled water). This is one primary reason that kerbside programs will never be more effective at recovering beverage containers, not to mention the problem of multi-residential dwellings. A recent study<sup>30</sup> suggests that nearly 70% of all PET bottles are NOT consumed in homes where kerbside programs exist. The away-from-home gap is growing. CDLs are the least costly way to recover these containers”. (Clarissa Morawski)*

## **RECOMMENDATION 19**

**The New Zealand CDL programme must be mandatory to achieve full industry participation and high container return rates**

### **4.18 POLICY FRAMEWORK: Can CDL be introduced before an over-arching Product Stewardship framework is in place?**

This question was sent as a supplementary question to the questionnaire and drew responses from additional respondents from California and Victoria.

- *“Our experience is that the Product Stewardship framework in NSW has actually delayed CDL. Because State and National Government have made commitments (formal or otherwise) under voluntary Product Stewardship agreements (such as the National Packaging Covenant) to “see out” those agreements, their hands are effectively tied until the term of those agreements expires. I suggest pursuing the introduction of CDL as a stand-alone solution to littering and low container return*

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<sup>30</sup> ‘Understanding Beverage Container Recovery: A Value Chain Assessment’ - <http://www.globalgreen.org/bear/Projects/ExSummaryFinal.pdf>

*rates under current kerbside arrangements. It's neat, discrete, and the community can get a handle on it."* (Robert Verhey)

- *"Bob Verhey certainly has answered the issues for us. I do emphasise very emphatically that it is no use waiting for the master solution. People overwhelmingly support CDL and industry overwhelmingly oppose CDL. The Governmental bureaucrats have been conned by industry. The politicians have been conned by the bureaucrats. Our experience is to go straight to the politicians in Local Government and they will overwhelmingly support CDL. This has been our experience in Australia. The issue of CDL is a tangible issue that people can relate to."* (Peter Woods)
- *"I agree with Bob Verhey's advice. A "framework" is a big target for the affected industries to gang up and fight, whereas a product-by-product approach such as CDL picks off the problem one manageable piece at a time. It also creates precedents to point to when you push for the next piece."* (Helen Spiegelman)
- *"Overarching stuff usually means every sector needs to agree before anything happens, this could take decades. It will keep policy makers employed along with industry association lobbyists, and beverage containers on the streets. Not an outcome worth contemplating! Beverage containers could be used as a 'pilot' for NZ EPR/ PS because it can be shown to work elsewhere around the world."* (Vaughan Levitzke)
- *My view is that it's important to get CDL in place as quickly as possible and to keep momentum toward Zero Waste. This is a basic product stewardship question with proven solutions internationally."* Mary Lou Van Deventer,)

## **RECOMMENDATION 20**

**That when the Waste Minimisation Bill is passed a regulation enacting CDL is also passed giving industry 12 months to implement it.**

The logic for this approach is that packaging waste is the 'public face of waste and is hugely popular with the public. CDL would in effect be launched as the flag-ship for the Waste Minimisation Bill

### **4.19 THREATS: What do you think the main threats are to the potential success of a CDL programme?**

The responses to this question included:

- *Lobbying or non-cooperation by the beverage and packaging industries*
- *Too much complexity in the system*
- *Lack of political will*
- *Refund set too low to motivate returns*
- *Unredeemed deposits being hypothecated into general treasury funds*
- *Consumers not participating*
- *Local authorities continuing to allow disposal of containers in waste*
- *Lack of promotion*
- *Insufficient collection infrastructure*
- *"Industry will use every tool in the book to fight this and will cite lots of rhetoric. Keep a steady course – look to other smart CDL jurisdictions (like the ones in Canada). Here in Ontario (12 million people) our government announced a new CDL for all alcohol and it is starting in five days. It took them six months, and will*

probably go ahead without much trouble. Deposit levels are 10-cents and 20-cents (for most bottles, like wine.” (Clarissa Morawski)

- *“Industry lobbying the Government in opposition to them having to do anything to solve a problem that is, from a wealth creation perspective, in their own best interest to solve. The alternative is for Government to set up and administer the program as were the first programs (car tires and batteries) here in British Columbia with the result that industry loses out on the wealth creation opportunities and the program is extremely inefficient with most of the monies going to the Government general revenue fund. It is ironic that with strong industry support these two programs are now in the process of being privatized here in British Columbia!” (Tom Galimberti)*
- *“The industry has successfully defined container recycling as a personal responsibility (litter campaigns) and as a municipal responsibility (kerbside recycling). In our willingness as individuals and communities to pick up after the producers – we and our waste officers become vested in publicly funded recycling even though it is costly and ineffective.” (Helen Spiegelman)*
- *“Industry will show you that CDLs are more expensive than kerbside per tonne recovered. YOU CANNOT MAKE THIS COMPARISON BECAUSE CDLS HAVE A DIFFERENT PERFORMANCE (USUALLY DOUBLE) THAN KERBSIDE PROGRAMS. This comparison is analogous to suggesting that a Toyota car is better than a Mercedes car because the price is less. You must ALWAYS ACCOUNT FOR PERFORMANCE.” (Clarissa Morawski)*

#### 4.20 Potential Stakeholders and Roles

The following stakeholders could potentially be involved in a New Zealand CDL system:

| <b>Entity</b>  | <b>Potential Role/s</b>                       |
|--|---|
| <b>Government</b> – Potentially represented by the proposed Waste Minimisation Authority or a separate regulatory unit within MfE (to separate MfE policy and regulatory activities) | Legislation / oversight / regulatory control  |
| <b>Packaging and Beverage Manufacturers</b><br>Potentially represented by the New Zealand Packaging Council  | Managing Agency                               |
| <b>Retailers</b>   | Operators of return-to-retail systems         |
| <b>Local Authorities</b>   | Operators of depots                           |
| <b>Recycling Operators of New Zealand</b>  | Operators of depots and processing facilities |
| <b>Community Recycling Network</b>   | Operators of depots                           |
| <b>Voluntary and social service groups, schools etc</b>  | Operators of depots                           |
| <b>Local businesses</b>  | Operators of depots                           |

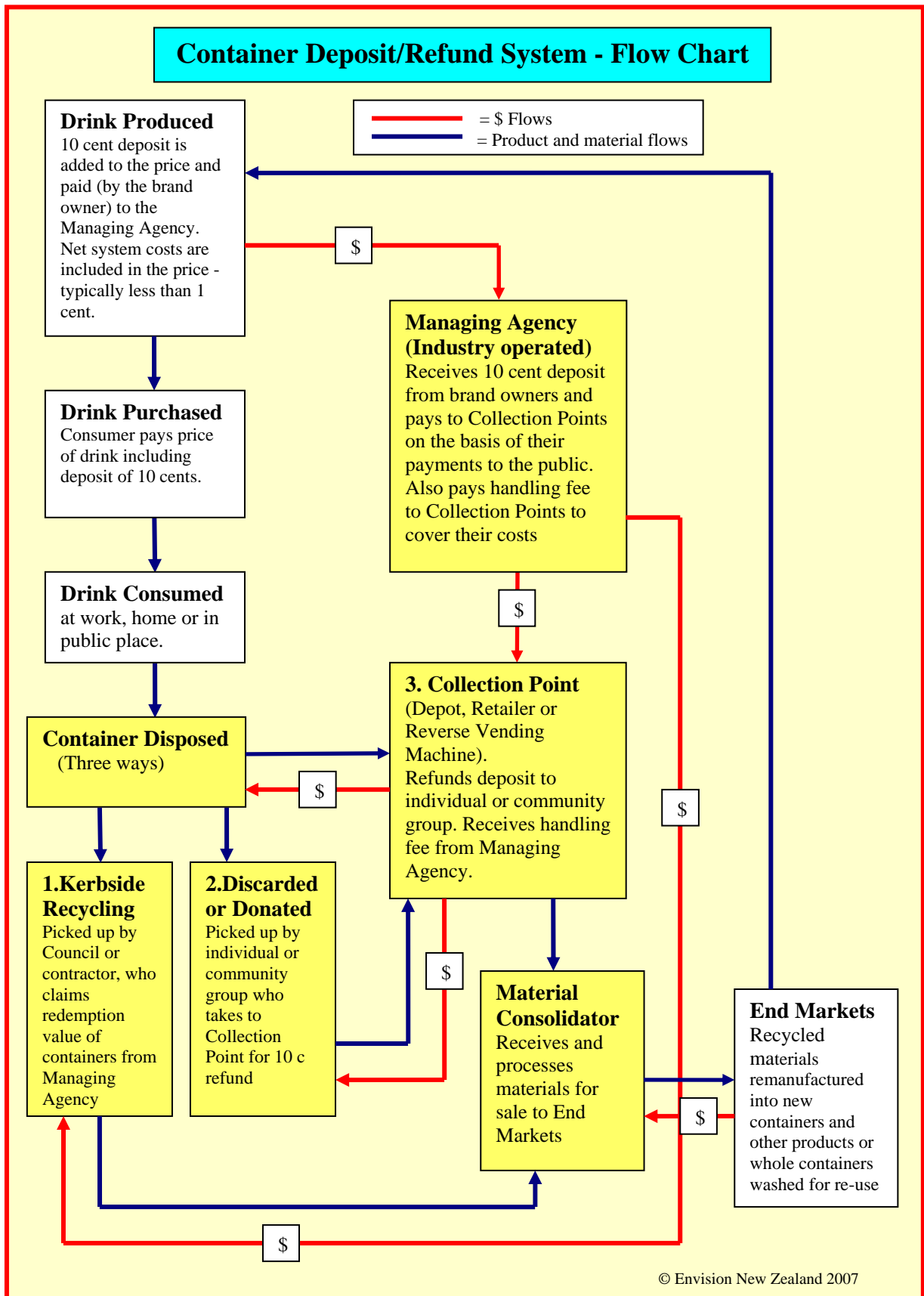
#### 4.21 Summary of Recommendations

1. Once Government has developed the legislation, including setting the targets, system parameters and reporting/accountability requirements, the private sector should design, establish and operate the system.
2. Industry should be required to establish a not-for-profit stewardship agency (in this report called a Managing Agency) to design and establish all operational aspects of the system.
3. CDL legislation should cover the following:
  - Roles and responsibilities
  - Recovery targets
  - The value of the deposit
  - The range of containers the deposit applies to
  - Conditions for introducing new packaging types
  - Ownership of unredeemed deposits
  - Prescribed level of convenience for public drop-off
  - Who can operate depots
  - Reporting requirements
  - Penalties
4. A CDL programme should be rolled out and operational within one year of enacting legislation
5. All beverage containers should be required to carry a deposit.
6. Legislation should signal that CDL is the first in a series of Product Stewardship initiatives with programmes following that will address wastes such as hazardous waste, electronic waste etc.
7. Legislation should have the flexibility to allow the Minister to include (or exclude) new categories of packaging in response to changes in consumption and packaging trends. But legislation should be clear about this from the start to provide industry with stability and the ability to make long-term plans. Packaging specifications and guidelines will need to be provided.
8. All new packaging types should require approval from the Managing Agency (operating within clear packaging guidelines) before being introduced onto the market.
9. The deposit should be set at a minimum of 10 cents and this should apply to all container sizes.
10. The Managing Agency should be allowed to retain unredeemed deposits to offset costs of the system – but *ONLY* if recovery targets, stipulated by legislation, are met. If these are not met, unredeemed deposits should revert to the Government for redistribution amongst community groups to run CDL promotion campaigns.
12. Net costs of operating the system that aren't covered by unredeemed deposits, interest on deposits and material sales (often called administration fees) should

be borne by brand owners and can be passed on to consumers – but only as an integral part of the price – and no more than the actual amount .

13. A New Zealand CDL programme should adopt a combined return-to-retail and return-to-depot collection system to achieve the twin goals of high container return rates and maximum local wealth creation.
14. The number of collection points should be determined by the Managing Agency who will be mandated to achieve high return rates.
15. The Managing Agency, in association with local entities (private sector and community recyclers, councils, retailers etc), would be required to maximise the potential of existing infrastructure when developing the return-to-depot collection network. The Managing Agency would develop material consolidation facilities – either on its own or in conjunction with existing recycling operations.
16. The decision on what method to use for sorting containers should be left to the Managing Agency. As long as recovery targets are met and the system is efficient there is no issue with what method is used. However overseas experience suggests that it is more efficient to sort by container type rather than by brand.
17. The Managing Agency should be required to provide an independently audited annual report to Government. The report should be made publicly available through the Managing Agency's website.
18. There should be strong penalties for selling beverages not labelled in accordance with the system requirements, for dumping recovered materials and for failure to meet system targets
19. The programme must be mandatory to achieve full industry participation and high container return rates
20. That when the Waste Minimisation Bill is passed a regulation enacting CDL is also passed giving industry 12 months to implement it.

## 4.22 Flow Diagram



## 4.23 Who Does What

### **Beverage Wholesaler:**

- Adds 10 cents to the cost of the beverage
- Pays 10 cents, plus a small administration<sup>31</sup> fee (per container) to the Managing Agency

### **Retailer:**

- Passes the 10 cent deposit on to the consumer as part of the cost of the beverage.

### **Consumer:**

- Pays 10 cents extra for the beverage
- Takes empty container back for 10 cent refund to either a collection depot or a participating retailer, or gives it to a local charity to redeem, or puts it out in the kerbside collection

### **Collection Point (Depot and Participating Retailer):**

- Pays 10 cent refund back to consumer
- Invoices Managing Agency for 10 cent deposit plus handling fee<sup>32</sup>
- Sorts containers and, by arrangement with Managing Agency, may do some initial processing (baling etc)

### **Kerbside Operator or Contractor:**

- Picks up and sorts deposit-bearing containers from kerbside
- Delivers containers to Material Consolidation Facility
- Invoices Managing Agency for 10 cent deposit plus handling fee or forgoes handling fee and markets materials directly

### **Material Consolidation Facility (under contract to Managing Agency):**

- Picks up or receives containers from Collection Points
- Processes and sells materials (glass, plastics, aluminium, steel etc) to container manufacturer or other end user

### **Managing Agency:**

- Administers the system
- Collects administration fee (0.3 cents per container) from members
- Pays out handling fees to Collection Points
- Manages the flow and marketing of materials
- Promotes and advertises the system
- Gathers system performance data and reports back to Government

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<sup>31</sup> The administration fee represents the net cost of the system which in the model proposed in this report is 0.3 cents per container

<sup>32</sup> In this model 3 cents per container

## 5. COSTS AND BENEFITS

It could be assumed that the jury is out on the merits of CDL based on current data being circulated on its costs and benefits. However if data produced by the anti-CDL lobby is screened out from data sourced from actual CDL programmes, there is a high degree of unanimity on the cost effectiveness of CDL.

### 5.1 Opposition to CDL – the Covec Report

The New Zealand Packaging Council which has been strident in its opposition to CDL commissioned a report by Covec in 2006<sup>33</sup> which concluded that although CDL would increase recycling and reduce waste by 90,000 tonnes per annum, it would cost between \$61 million and \$121 million per annum – equivalent to an additional annual cost per household of \$65.

The Covec report's claim of 90,000 additional tonnes recycled with CDL is a reasonable, if conservative, estimate (even though this report uses an even more conservative estimate of 67,000 tonnes). However the annual cost estimate of between \$61 million and \$121 million does not reflect the costs of any of the overseas models studied for this report. The Covec report selectively includes costs and excludes (or ignores) benefits in the following ways:

- By putting a value on the time spent by householders returning packaging material to retailers and including this as a cost
- By basing costs on the most expensive model of CDL (Return to Retail only) which totally ignores existing infrastructure in New Zealand
- By adding the cost of retail floor space and staff time without including the income retailers would receive from handling fees that would justify any such (theoretical) allocation of floor space and staff time. Also ignored is the potential for the existing recycling industry to service or operate these functions, significantly reducing any such costs.
- By ignoring funds retained by the Managing Agency from unredeemed deposits which substantially offset the costs of the CDL systems.
- By significantly understating the cost of waste disposal to householders by using bulk disposal rates based on tonnages rather than volume-based rates which more accurately reflect what householders pay.
- By not including income from the sale of recycled product – a major factor in reducing the costs of CDL programmes elsewhere and which is significant.
- By citing employment creation as a cost to both the CDL system and New Zealand because of the current low employment rate. This ignores one of the main categories of employment that would be created - low skilled entry-level positions. For example the Saskatchewan system is run and operated by people with disabilities. The creation of this type of employment is of very high social and economic value as it moves people from sickness benefits into paid long-term employment.
- By ignoring other economic benefits such as:
  - Reduced costs to councils for servicing public litter bins and illegal dumping
  - Reduced costs of kerbside collection services
  - The potential for new businesses from increased quantities and guaranteed supply of recovered materials.

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<sup>33</sup> 'Impacts of the Waste Minimisation (Solids) Bill', prepared for the Packaging Council of New Zealand by Covec Ltd, October 2006. [http://www.packaging.org.nz/documents/covec\\_waste\\_bill\\_final\\_report.pdf](http://www.packaging.org.nz/documents/covec_waste_bill_final_report.pdf)



**2. An estimated 1.92 billion beverages are sold and consumed annually in New Zealand**

**Rationale:** Information on the number of beverages produced/consumed in New Zealand is not readily available. In British Columbia (with a similar population to New Zealand) 1.89 billion beverages are produced/consumed each year. This equates to 460<sup>35</sup> containers per person per annum – or 1.26 containers per person per day. New Zealand’s population (4,178,616) consuming on average 1.26 beverages per day equates to just over 1.92 billion beverages consumed annually.

Data from Western Australia, which is currently looking at introducing CDL, provides a higher consumption rate of an estimated 1.1 billion containers produced/consumed for a population of 2 million – or 1.5 containers per person per day. This consumption rate would translate to 2.29 billion containers produced/consumed in New Zealand annually.

**Table 3: Estimated Number of Containers Produced/Sold in New Zealand (using Comparative Australian data)**

| <b>Packaging Type</b> | <b>Australia Tonnes</b> | <b>New Zealand Equivalent Tonnes</b> | <b>Containers Per Tonne<sup>36</sup></b> | <b>Total NZ Containers (000,000)</b> |
|-----------------------|-------------------------|--------------------------------------|--|--------------------------------------|
| Glass                 | 850,000                 | 175,326                              | 4,784                                    | 839                                  |
| Aluminium Cans        | 45,741                  | 9,435                                | 66,821                                   | 630                                  |
| Plastic PET           | 117,930                 | 24,326                               | 29,205                                   | 710                                  |
| Plastic HDPE          | 160,842                 | 33,178                               | 20,008                                   | 664                                  |
| <b>Total</b>          | <b>1,174,513</b>        | <b>242,275</b>                       |  | <b>2,844</b>                         |

Using Australian comparative data, potentially 2.844 billion beverage containers are sold in New Zealand annually. However the conservative estimate of 1.92 billion containers (47% lower) has been used to arrive at an estimate of the number of containers consumed in New Zealand (using the same packaging type ratios as the Australian NPC data).

**Table 4: Estimated Number of Beverage Containers Consumed in New Zealand**

| <b>Packaging Type</b> | <b>Consumed Containers (Tonnes)</b> | <b>Consumed Containers (Number 000,000s)</b> |
|-----------------------|-------------------------------------|--|
| Glass                 | 118,388                             | 566  |
| Aluminium Cans        | 6,371                               | 426  |
| Plastic PET           | 16,425                              | 480  |
| Plastic HDPE          | 22,402                              | 448  |
| <b>Total</b>          | <b>163,587</b>                      | <b>1,920</b>                                 |

**3. A CDL system (with a 10 cent deposit/refund) will achieve a recovery rate of approximately 84% - 1.613 billion beverage containers per year.**

<sup>35</sup> This compares with US consumption of 800 beverage containers per annum in the BEAR report

<sup>36</sup> ISF independent Review of CDL in NSW Volume II – Nov 2001

**Rationale:** Overseas examples provide clear evidence that CDL will substantially achieve its primary goal of increasing recovery rates for beverage containers. These examples also show a strong correlation between the level of the deposit and the recovery rate – ranging from as low as 65% with deposits of 5 cents (eg California) to 85-95% with deposit values of 20-40 cents (eg Saskatchewan). The British Columbian rate of 84% has been used, which translates to the potential recovery of 1.613 billion containers annually in New Zealand.

The table below shows the potential number of beverage containers that will be recovered and recycled under CDL (1.92 billion x 84%) broken down into current recycling categories but excluding new packaging types that could be recovered with CDL such as aseptic and gable-top packaging.

**Table 5: Estimated Number of Beverage Containers Recycled in New Zealand with CDL**

| <b>Packaging Type</b> | <b>Recovered Containers (Tonnes) @ 84%</b> | <b>Recovered Containers (Number – 000,000s) @ 84%</b> |
|-----------------------|--|---|
| Glass                 | 99,446                                     | 476   |
| Aluminium Cans        | 5,351                                      | 358   |
| Plastic PET           | 13,797                                     | 403   |
| Plastic HDPE          | 18,818                                     | 377   |
| <b>Total</b>          | <b>137,413</b>                             | <b>1,613</b>  |

**4. Approximately 80% of recycled containers (1.290 billion) will be recovered through Collection Points and 20% (323 million) via existing kerbside collection schemes.**

**Rationale:** This aligns with data from California showing that 20% of beverage containers are returned via kerbside collections. In Western Australia, an investigation<sup>37</sup> into best practice CDL systems anticipates that 37.5% of containers would be recycled at home via kerbside collections.

**5. The average handling fee paid to Collection Points would be in the order of 3 cents per container.**

**Rationale:** This figure is an estimate based on fees found in CDL programmes overseas. The handling fee is paid to Collection Points to cover handling costs. The final figure will be arrived at through negotiation between the Managing Agency and Collection Points and may vary depending on factors such as distance from processing centres ie rural and remote centres would negotiate a different rate compared to urban collectors. The handling fee is not passed on in full to the beverage industry (or consumers) as it does not reflect income generated by the system that offset the cost to industry.

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<sup>37</sup> Stakeholder Advisory Group Investigation into Best Practice Container Deposit Systems for Western Australia. January 2002

## **6. The cost of householders' time to take containers to Collection Points should not be factored in**

**Rationale:** A retailer doesn't factor in the cost of customers' time to drive to their store when assessing the viability of the business, and neither should the beverage industry when assessing CDL. CDL provides a strong financial incentive for people to make the effort to stop off at a Collection Point on their way to or from another activity. Evidence from CDL programmes overseas confirms what the Covec report states, that, "*people are prepared to incur additional costs to obtain additional recycling*"<sup>38</sup>.

## **7. Although the number of beverage containers in kerbside collections will reduce with CDL, kerbside recycling revenues will increase considerably (see table 7).**

### **Rationale:**

- a. The value of material per tonne, collected under CDL is significantly higher than the value of material collected under the current kerbside system. For example one tonne of PET plastic is valued at around \$350 per tonne currently (1.2 cents per container). Under the proposed CDL system one tonne of PET plastic would be valued at \$3,472 (11.9 cents<sup>39</sup> per container) increasing the value per container by 892%.
- b. The revenue Collectors receive per container under CDL will be made up as follows:
  - The deposit value (10 cents) on containers put out at kerbside
  - The handling fee of 3 cents per container (the same as what Collection Points receive) or alternatively, material can be sold directly to end users and the handling fee forfeited.
- c. Table 7 shows that up to 80% of CDL containers could be removed from the kerbside system before there is a negative impact on the Collector's revenue. Reductions of less than 80% would result in the costs of collection being reduced to both Collectors and councils.

## **5.3 Costs and Benefits to Industry**

### **Costs to Industry:**

A central proposition of the model proposed in this report is that the net costs of the system will be covered by administration fees levied to beverage manufacturers by the Managing Agency after all incomes and expenditures have been taken into account.

The net costs of the system can be arrived at by factoring in:

1. All costs of operation including the costs of running Collection Points, administration, staff training, transport, processing, marketing etc.
2. All incomes generated by the system including income from the sale of recycled materials, unredeemed deposits and interest received on deposits.

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<sup>38</sup> Page 1, footnote 2

<sup>39</sup> 11.9 cents is made up of the 10 cent refund less gst, plus 3 cents handling fee

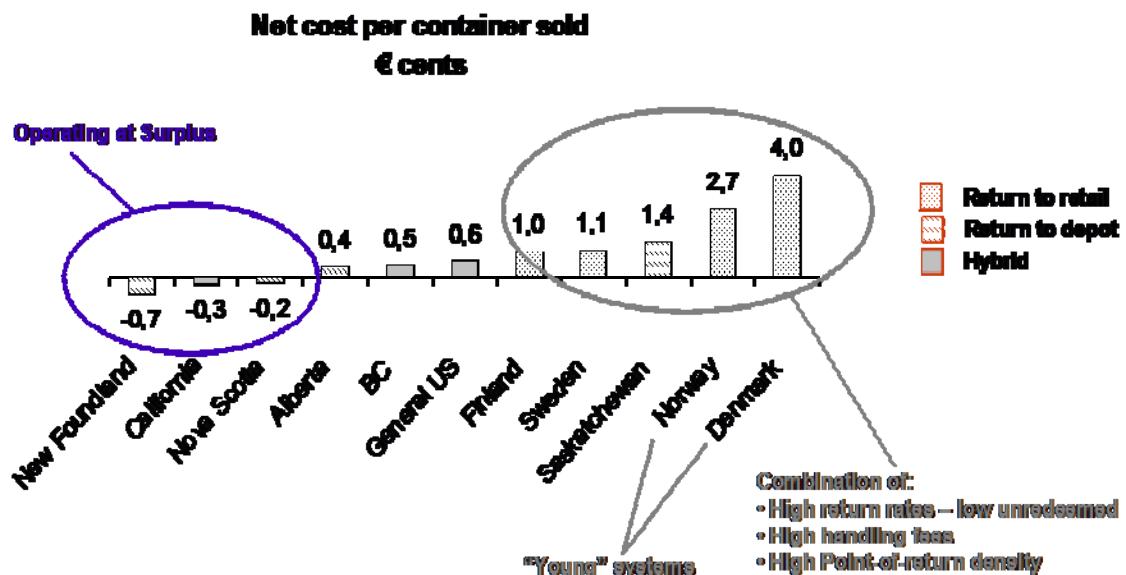
**Table 6: Net Cost of CDL to Industry (not including infrastructure development<sup>40</sup>)**

| <b>Costs</b>                              |  |                     |
|---|--|---------------------|
| Handling fees (paid to Collection Points) | 1.63 billion containers @ 3 cents                                  | \$48,900,000        |
| Administration                            |  | \$2,000,000         |
| Promotion                                 |  | \$1,000,000         |
| <b>Total Costs</b>                        |  | <b>\$51,900,000</b> |
| <b>Income</b>                             |  |                     |
| Sale of recycled materials <sup>1</sup>   | 137,413 tonnes @ \$130 tonne                                       | \$18,000,000        |
| Unredeemed deposits                       | 307 million containers (16% of 1.92 billion) x 10 cents (less GST) | \$27,307,000        |
| <b>Total Income<sup>2</sup></b>           |  | <b>\$45,307,000</b> |
| <b>Net System Cost</b>                    |  | <b>\$6,593,000</b>  |
| <b>Net Cost Per Unit</b>                  | \$6,593,000 / 1.92 billion   | <b>0.34 cents</b>   |

Note 1: Sale of recycled materials is net of an assumed, conservative freight cost of \$70 per tonne.

Note 2: Interest on deposits held by the Managing Agency has not been included in income. Although potentially significant they are difficult to determine.

Additional confirmation on the accuracy of net costs can be found in the following graph derived from information from the 'BEAR report'<sup>41</sup>. The cost per container of the system proposed for New Zealand falls below the mid-range of other programmes around the world.



Source: CM Consulting, BEAR report – R.W. Beck, Tomra estimates

<sup>40</sup> As explained in Section 5, there will be a strong reliance on utilising existing facilities (council, recyclers, social service groups, local businesses etc) for Collection Points. Development of these facilities and construction of new facilities could potentially utilise funds generated by the proposed landfill levy.

<sup>41</sup> Understanding Beverage Container Recycling. A Value Chain Assessment Prepared for the Multi-Stakeholder Recovery Project. R W Beck January 2002

Further confirmation can be found in the 'Hudson report' on the South Australian CDL system commissioned by the South Australian EPA<sup>42</sup> which calculates that the net cost of South Australia's CDL system is \$1.14 per person. This figure, applied to New Zealand's population, comes to \$4.76 million – not far off the total net system cost estimate arrived at in this report of \$6,593,000.

### **Benefits to Industry:**

The proposed CDL system will ensure beverage and packaging industries maintain control (within defined parameters) of their products throughout their whole lifecycle and in doing so, protect the quality and supply of raw materials for re-manufacturing containers. Recent controversies over the introduction of co-mingled recycling in Auckland highlight the problems for industry of not maintaining control of all manufacturing inputs.

As Daniel Steen, Vice President of Government Affairs for OI Canada said in a recent letter<sup>43</sup>, *"...glass recycling in Ontario is failing and failing badly. 'Single-stream' blue box collection of recyclables means that more glass is being sent to landfill than a year ago. Ironically, as Ontario ships millions of tonnes of garbage to Michigan each year for disposal, OI Canada is importing cullet derived from Michigan's deposit-refund based recovery system."*

Additionally, significant surpluses can be accumulated in well-run systems. Encorp Pacific, the Managing Agency for non-alcoholic containers in British Columbia recorded a net surplus of \$5,087,318 or 0.63 cents per unit sold in 2000<sup>44</sup> and is now contemplating returning funds to its member beverage companies.

There are also significant public relations benefits for the beverage industry that could prove particularly useful at a time when environmental and health-related issues are taking their toll on the industry's reputation. Not all beverage producers are resisting positive change. Diageo, the world's largest marketer of alcoholic beverages recently produced a report for the Western Australian Government's enquiry into CDL<sup>45</sup> saying, *"The government of Western Australia wants to reduce the beverage containers in waste and litter. Research suggests that, of the range of interventions available, container deposit / refund systems are consistently the best option both in terms of recovery rates and cost of operation and Diageo supports their introduction."*

## **5.4 Costs and Benefits to Local Government**

Local governments would not incur additional costs through the introduction of CDL. However they would benefit in the following ways:

- Protected landfill space with 67,028 fewer tonnes of beverage waste (or 890 million beverage containers) going to the landfill
- Potential savings on refuse disposal of \$14 million.
- Reduced kerbside collection costs (see table 7)
- Reduced litter control costs (including reduced frequency of emptying public litter bins)

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<sup>42</sup> "Container Deposit Legislation : Economic and Environmental Impacts" Prepared for the South Australian EPA by Phillip Hudson Consulting Pty, Ltd, March 2000

<sup>43</sup> To the Stewardship Ontario Blue Box Funding Review Committee, January 31 2006

<sup>44</sup> Clarissa Morawski, "An Analysis of the Costs and Benefits of Beverage Container Recovery in Canada" January 2002

<sup>45</sup> Diageo Australia Ltd submission to the Western Australia Government, August 2006

- New, largely self-funding recycling facilities (collection depots) which could collect materials in addition to beverage containers.
- Less need to fund community recycling programmes (due to the new income stream derived from handling fees)
- New local jobs and businesses

#### **Kerbside Collections:**

The biggest myth propagated by Industry is that Councils' investment in kerbside recycling programmes will be threatened by CDL. The facts show the opposite is true. Kerbside recycling becomes considerably more cost effective with CDL and costs reduce to councils and ratepayers. As the Hudson report points out, "*Councils benefit from ratepayers forgoing redemption of their container deposits.*"

The following table shows that 80% of CDL material could be lost from kerbside recycling schemes without causing a negative financial impact on the viability of the service. If less than 80% is lost CDL will have a positive financial effect on the overall cost of the service.

**Table 7: Estimated Financial Impacts of CDL on Material Sales from Kerbside Collections**

| Reduction in CDL containers put out at kerbside | <b>60%</b> | <b>70%</b> | <b>80%</b> |
|---|------------|------------|------------|
| Change in revenue per household per annum       | +\$29.47   | +\$17.54   | +\$5.60    |

As well as direct savings in kerbside recycling costs, there will be additional savings to councils and Collectors through reduced operational costs of kerbside collections. The Covec report correctly states that, "*...we assume efficiency benefits associated with reduction in volumes collected; a halving in volume is assumed to improve efficiency by 1.5, i.e. it increases the number of houses that can be visited by 50%.*"

#### **5.5 Costs and Benefits to Central Government**

There would be no significant fiscal implications for Central Government. In fact there would likely be savings through less need for the Ministry for the Environment to be involved in negotiating and establishing time-consuming voluntary initiatives. Overseas advice is that a CDL programme such as the one proposed may only require one staff member to monitor and review an independent, third party report annually to ensure legislative requirements, including targets, are met.

Government could, however, assist in the establishment of the collection infrastructure by allocating funds generated from the proposed landfill levy via a Government-appointed body as grants or loans.

#### **5.6 Costs and Benefits to Recyclers**

Recyclers will generate higher incomes by redeeming the deposit value of each container collected at the kerbside and by either claiming the handling fee or marketing the recycled materials independently.

Recyclers will also reduce operational costs because they will be able to carry out collections faster. This could impact favourably on their ability to collect during off peak

times when there is less traffic congestion. They will also have less glass breakages because of the way CDL alters the glass/plastic ratio (or if paper is included the glass/paper/plastic ratio) resulting in reduced contamination and higher incomes. Recyclers in South Australia are some of the strongest proponents of CDL in that State and are keen to refute the myth that CDL negatively affects recyclers<sup>46</sup>.

In addition, higher prices would be received for kerbside and CDL-sourced recycled materials due to reduced contamination<sup>47</sup>. Recyclers in South Australia report an increase in income of at least 10% for CDL-sourced materials.

The recycling industry will become a significant wealth creator for New Zealand generating jobs, manufacturing products and increasing exports or substituting imports from the extra 67,028 extra tonnes of quality recovered materials available on the market.

### **5.7 Costs and Benefits to Retailers**

No costs are attributed to retailers for storage space or labour in this report because in the proposed model there is no compulsion for retailers to participate. It is therefore their decision whether or not they act as collection centres. If they do decide to set up collection facilities, this is simply a cost of business. There are significant advantages in joining the programme such as increased customer loyalty, image protection etc. Handling fees would cover the labour costs of collection.

Although in South Australia less than 1% of the collection centres are operated by retailers, the Hudson report indicates that participating retailers, *"Identified costs of no significance in complying with CDL"*.<sup>48</sup>

### **5.8 Costs and Benefits to Consumers**

Ultimately the consumer pays for the costs of the system through:

- a) Choosing not to return containers for a refund – thus creating a pool of unredeemed deposits which in turn help pay system costs
- b) Paying the administration fee in the cost of the beverage (if they choose to pass it on)

At an estimated net cost of 0.3 cents per container, the impact of administration fees on consumers would be negligible if industry chose to pass it on in the cost of beverages. There are however significant potential benefits to consumers including:

- A network of collection depots that could accept other reusable and recyclable products
- The potential to donate containers to charity
- The potential to collect containers to earn money
- Increased recycling options – not just kerbside collections
- Cleaner streets through less litter
- Less injuries and less bike tyre punctures from broken glass
- More opportunity to do the right thing

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<sup>46</sup> See Recyclers of South Australia website - [www.recyclesa.com.au/](http://www.recyclesa.com.au/)

<sup>47</sup> Edward Nixon, State Manager of Statewide Recycling, a processor and marketer of recycled materials owned by Coca Cola and Schweppes, reports price premium of at least 10% for CDL sourced materials over non CDL sourced materials

<sup>48</sup> "Container Deposit Legislation : Economic and Environmental Impacts" Prepared for the South Australian EPA by Phillip Hudson Consulting Pty, Ltd, March 2000

## **5.9 Costs and Benefits to Voluntary and Social Services Sectors**

The voluntary and social services sector will benefit significantly from the introduction of CDL. There are very few sources of 'no-strings-attached' funding for these groups in New Zealand. Funding is generally either linked to corporate sponsorships or must be sought from gambling-related sources which many groups are uncomfortable with, or from Government departments with onerous application processes. CDL provides voluntary and social services groups with a reliable source of income from running collection depots that is neither a hand-out nor corporate sponsorship. Additionally some people will save up containers and give them to these groups as a way of donating to local causes – much as they used to in the old 'bottle drives'.

## **6 CONCLUSIONS**

CDL is an economically viable solution to New Zealand's beverage container waste problem - one that also has significant environmental and social benefits.

The Waste Minimisation Bill provides the focus and opportunity for Government to lead on an issue that is of high public concern. There is no need to wait until a complete Product Stewardship framework is in place before introducing CDL, as this could take years, resulting in more debate and further delays.

Instead, as it is proven and highly popular, CDL could be implemented now as the first mandatory Product Stewardship programme under the new Waste Minimisation Bill, and a forerunner for other programmes that may be more difficult to introduce.

## 7 APPENDICES

### Appendix 1: TWO CDL CASE STUDIES

Although CDL systems operate on similar principles, they are influenced by local policy, infrastructure, industry and demographics. The most important difference between CDL programmes is probably that of who is responsible for running them - government or industry.

Two examples of high-performing government-overseen and industry-run CDL programmes that have application to New Zealand follow:

#### South Australia

- A Government-overseen programme
- Similar legislative and cultural environment to New Zealand
- Similar urban population density and demographics
- Similar 'tyranny of distance' issues
- CDL operating alongside the (voluntary) National Packaging Covenant

#### British Columbia

- An Industry-run, government audited programme
- Similar population size (4.1 million)
- Similar legislative and cultural environment to New Zealand
- Similar urban (eg Vancouver-Auckland) and physical environments
- Similar 'tyranny of distance' issues
- CDL operating within an overarching Product Stewardship framework

Summaries of other CDL programmes operating around the world can be found on the Container Recycling Institute's website, [www.bottlebill.org](http://www.bottlebill.org).

#### SOUTH AUSTRALIA<sup>49</sup>

**Law/Regulation:** Container Deposit Legislation was first implemented in 1975 and was later integrated into the Environment Protection Act of 1993. Under this Act a wide range of beverage containers sold in South Australia are required to carry both a refundable deposit and approved refund markings

**Purpose:** To reduce beverage litter, achieve higher resource recovery rates, and educate the community on recycling.

**Administration:** The return system is administered by the South Australian Environmental Protection Agency (EPA). The EPA manages the approval process for manufacturers and distributors whose beverage containers are subject to CDL. Refund markings, commonly referred to as the deposit statement, carried on beverage containers are also approved by the EPA. In the CDL approval process, beverage manufacturers and distributors must demonstrate that they have made funds available to ensure a satisfactory collection system for their containers. This includes the payment of refunds to consumers, payments to collection depots, and the administrative costs associated with the collection arrangements

#### Beverages covered by CDL: Non-alcoholic

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<sup>49</sup> Information from [www.epa.sa.gov.au](http://www.epa.sa.gov.au), [www.recyclesa.com.au](http://www.recyclesa.com.au) and [www.zerowaste.sa.gov.au](http://www.zerowaste.sa.gov.au)

In all container types up to and including 3 litres:

- Carbonated soft drinks
- Non-carbonated soft drinks
- Water (plain/still/carbonated)

In all container types of less than 1 litre:

- Pure fruit juice (at least 90% of which is fruit or vegetable juice or a mixture of both)
- Flavoured milk

### **Alcoholic**

In all container types up to and including 3 litres:

- Beers/ales/stout
- Wine based beverages (wine cooler and similar beverages)
- Spirit-based beverages
- Alcoholic beverages (derived from the fermentation of fruit)

**Amount of Deposit:** 5 cents for containers that are refundable at collection depots, 10 cents for containers which are refundable at retailers (very few companies choose the return-to-retail option; 99.9% of all container redemption in SA is done at collection depots).

Beverage manufacturers/distributors are required under the Environment Protection Act to seek Container Labelling Approval from the EPA. This not only ensures consumers are aware a refund is available on the container, but ensures the industry is responsible for the financial underpinning of the entire collection system.

All beverage containers subject to CDL in South Australia must display approved markings that show how to claim the refund:

- '10c refund at points of sale when sold in SA' means that the container must be returned to a retailer who sells the beverage in that container
- '5c refund at collection depots when sold in SA' means that the container must be returned to a collection depot.

### **Recovery Rates:**

- 85% of non refillable glass bottles, compared with 36% nationally.
- 84% of cans compared with 63% nationally.
- 74% for PET compared with 36% nationally
- Liquid Paperboard, a recent inclusion, has a return rate of 40% and increasing.

### **Collection Depots:**

Consumers can drop containers off and pick up their refunds at any of approximately 120 collection depots around South Australia. The depots are run by local authorities, small businesses and community groups such as the Scouts. All collection depots must be approved under the Environment Protection Act<sup>50</sup>.

### **Super Collectors:**

The super collectors act as agents for the beverage industry. They:

- Coordinate the return of empty containers from collection depots
- Reimburse depots for refunds paid to consumers and pay depots a handling fee
- Sell the containers to material recyclers and processors for recycling, reuse or recovery of energy.

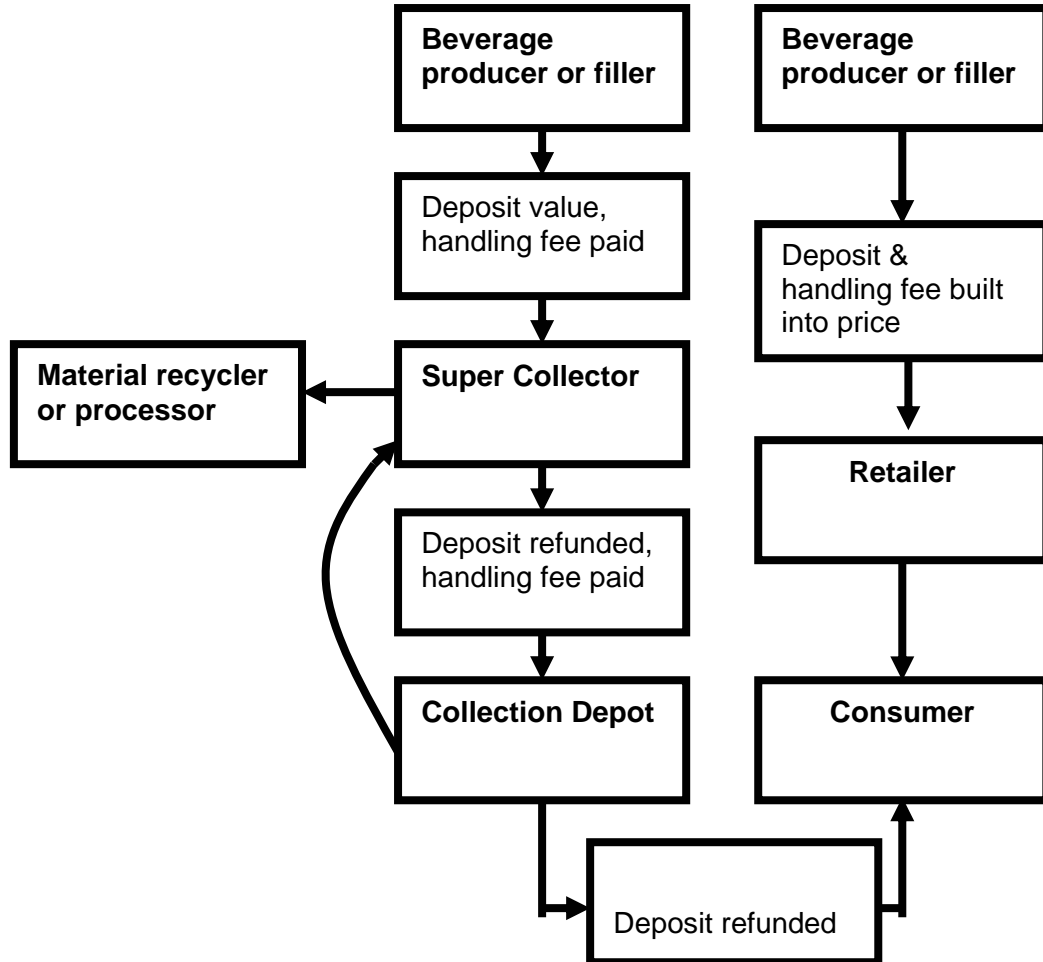
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<sup>50</sup> [www.epa.sa.gov.au/cdl.html](http://www.epa.sa.gov.au/cdl.html)

The super collector in turn claims the deposit and handling fee from the beverage filler.

**Kerbside Programme:** Nearly all of South Australia's population has access to a kerbside collection programme.

**Collection Depot Return System**



**Step 1: Beverage Producer or Filler**

Beverage Producer or Filler supplies beverages to retailers. The 5 cent deposit and an agreed handling fee is included in the wholesale price of the beverage. The deposit and handling fee is retained by the Beverage Producer or Filler or their agent, who operates as the Super Collector. This is held until the deposit containers are returned to them to be recycled.

**Step 2: Retailer**

Retailer supplies consumers. The 5 cent deposit and handling fee is included in the retail price paid by the consumer for the beverage.

**Step 3: Consumer (or community groups)**

Consumer returns containers to collection depot and collects 5 cent deposit.

**Step 4: Collection Depot**

Depot sorts the containers by material and responsible agent (eg glass, aluminium, PET) into containers for return to the Super Collectors.

**Step 5: Super Collectors**

Once containers are sorted, they are sent back to one of the four Super Collectors for the recycling of material and auditing. Super Collectors pay the Collection Depot back

the 5 cent deposits which they paid out to the consumer in step 3, plus an agreed handling fee.

## **BRITISH COLUMBIA**<sup>51</sup>

**Law/Regulation:** CDL was initially enacted in British Columbia in the 1970 Litter Act. In response to ongoing local government concerns at the increase in beverage container waste, the province enacted the Beverage Container Stewardship Program Regulation in 1997. The regulation established the goal of a minimum 85 percent recovery rate and required that redeemed containers be either refilled or recycled and no containers recovered by the system could be landfilled or incinerated. This regulation has now been repealed and most of its provisions are now in Schedule 1 of the Recycling Regulation.<sup>52</sup>

The regulation establishes a system where beverage brand owners are given the responsibility of designing and managing the system and Government the responsibility of setting environmental performance standards, monitoring results, and making changes if performance standards are not met. The programme is part of British Columbia's Industry Product Stewardship management system for product and packaging waste<sup>53</sup>.

**Administration:** Brand-owners are responsible for submitting a plan for recycling their containers which the Environment Ministry must approve. Brand-owners can appoint a third party agency to do this on their behalf - which has been the choice of all beverage brand-owners to date.

The recycling programme for non-alcoholic beverage containers is managed by Encorp Pacific (Canada), the programme for wine, spirit, and import beer containers is managed by the BC Liquor Distribution Branch and the programme for domestic beer containers is managed by Brewers Distributor Ltd. These agencies manage all funds, contracts with depots, transporters and processing centres. They also manage promotion / education, research & development and provide technical assistance. They submit annual reports to the Environment Ministry on deposits charged and refunds paid and recycling rates.

**Oversight:** Public oversight is the responsibility of government. Administration of the regulation is carried out by ministry staff (1/2 FTE) who monitor the performance of the programme (through annual reports from the container recycling agencies) and participate on the Beverage Container Management Board.

The Beverage Container Management Board is an 11 member voluntary board nominated by each stakeholder group and appointed by the Environment Minister to represent the full range of interests and provide advice and recommendations.

The Environment Minister receives recommendations from ministry staff, the Beverage Container Management Board and the public.

**Funding:** The programme is completely industry-funded. Some brand-owners absorb

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<sup>51</sup> Information from [www.bottlebill.org](http://www.bottlebill.org), [www.encorp.ca](http://www.encorp.ca), [www.env.gov.bc.ca/epd/epdpa/ips/bev/index.html](http://www.env.gov.bc.ca/epd/epdpa/ips/bev/index.html) and [www.grrn.org](http://www.grrn.org)

<sup>52</sup> *Recycling Regulation, B.C. Reg. 449/2004, ss. 8(2).*

<sup>53</sup> For an overview of Industry Product Stewardship in BC see: [www.elp.gov.bc.ca/epd/epdpa/ips/index.html](http://www.elp.gov.bc.ca/epd/epdpa/ips/index.html)

the cost of the programme in product prices while others pass the cost on down the supply chain and to the consumer in the form of discrete non-refundable 'recycling fees'.

The programmes are funded from three sources of revenue: unredeemed container deposits, revenue from the sale of recycled container materials and industry recycling fees (if required). All funds are managed by the container recycling agencies.

Minimum deposit/refund amounts are specified in the regulation. Authorised depots must pay consumers the full refund and all unredeemed deposits stay in the programme to offset costs. Local authorities or their contractors return refundable containers from kerbside collections to an authorised depot to receive refunds.

Recycling fees are not established in the regulation. They form part of the non-alcoholic beverage industry's policies and are charged by container type and size to reflect the shortfall between revenue and expenses for managing each particular container. Other beverage sectors have chosen to include recycling fees in the price of the product, rather than require retailers to separately disclose this portion of the product price.

### **Non-Alcoholic Beverage Containers**

The return system for non-alcoholic beverages is managed by Encorp Pacific (Canada), a not-for-profit stewardship corporation established by the soft drink and grocery industries. Encorp Pacific represents over 200 companies and the number of individual product types now listed is over 7,000.

Encorp operates on the basis of several principles:

- To develop and operate a system which provides consumer-friendly and convenient return points throughout the province
- To manage the system in a cost-effective manner that has the lowest impact on consumer shelf prices
- To run a cost-based system in which each container type pays its own costs with no cross-subsidisation
- To divert used products from landfill and incineration
- To find useable end products which maximize the value of the recovered commodities
- To treat all brand owners equitably

It manages the process of setting up the depots and providing the equipment and expertise for collecting containers, paying out deposits, processing containers and marketing the scrap materials. Encorp Pacific keeps unclaimed deposits and revenue from recovered materials to finance the costs of operating the recycling system. A handling fee on certain products is also charged. Depot operators register with Encorp Pacific and are spaced a sufficient distance apart so they do not cannibalize each other's territory. Currently retailers must, by law, take back what they sell, up to 24 containers per person per day.

The programme has been cost-effective. Encorp Pacific reported an operating surplus of \$5 million in 2000.

**Wine and Spirit Containers:** Wine and spirits are sold largely through government liquor stores controlled by the B.C. Liquor Commission (BCLC). Collection depots handling non-alcoholic beverage returns also redeem wine and spirit deposits.

**Beer containers:** An independent, return-to-retail system operates for beer<sup>54</sup>. Refillable bottles are recovered for full deposit at liquor stores. Bottles returned to the collection depots are discounted by the depot operator who then returns the bottles to the brewers.

**Containers covered:** All ready-to-drink beverages except milk, milk substitutes and meal replacements.

#### Amount of deposit

|                   | Non-alcoholic beverage containers | Alcoholic beverage containers |
|-------------------|-----------------------------------|-------------------------------|
| 1 litre and under | 5 cents                           | 10 cents                      |
| Over 1 litre      | 20 cents                          | 20 cents                      |

**Handling fees:** Encorp Pacific charges a handling, or recycling, fee on products which reflects its cost to recycle. The fee was previously included in the purchase price, but is now shown separately to show consumers the price of recycling<sup>55</sup>. Grocers do not receive the handling fees as Encorp Pacific provides container transport.

| Beverage type   | Handling fee |
|---|--------------|
| Aluminium cans, bi-metal < 1L, tetrapak/gable top < 500ml   | 3 cents      |
| Plastic<1L  | 4 cents      |
| Bi-metal>1L, tetra pak/gable top>501ml, glass   | 5 cents      |
| Plastic>1L  | 7 cents      |
| Beer: 5 cents/doz. to Liquor Commission and retailers. 12 cents/doz. to bottle wholesalers plus a 10 cents/doz. sorting fee |              |

**Collection depots:** Beverage containers can be returned either to collection depots or retailers. 332 grocers have agreements with Encorp Pacific to operate depot-like kiosks. Retailers must still take back all containers they sell. Over the past 10 years the percentage of non-alcoholic containers returned to depots (rather than returned to retail) has increased 40% to more than 85%.

#### Recovery rates

Within two years of the programme expansion in 1997 when containers for wine, spirits, water, juice and new-age beverages were introduced, the following recovery rates were reported:

- non-alcoholic beverages: 75% (includes aseptic/polycoat containers which had been in the system only three months)
- wine / spirits: 85%
- beer: 95%

The recycling rate for non-alcoholic beverages is now 83%.

#### Kerbside programme

About 80% of the population has access to multi-material kerbside collections and/or 169 collection depots around the province.

<sup>54</sup> [www.brewers.ca](http://www.brewers.ca)

<sup>55</sup> Encorp's 2005 annual report is available at: [http://www.encorp.ca/temp/200721568418/AR\\_2005\\_MedRezweb.pdf](http://www.encorp.ca/temp/200721568418/AR_2005_MedRezweb.pdf)

## Appendix 2: Questionnaire sent to Product Stewardship Experts



### CDL Questionnaire

**Imagine you have been given a blank sheet to design CDL for a whole country (New Zealand)**

Please type your answers directly after the questions. Where possible, use examples from your own CDL programme if you operate or have one in your location. If you wish to attach documents that might be useful please do so.

**Name:**

**Title:**

**Organisation:**

#### **Background Information:**

- New Zealand is a long and thin country with a population of just over 4 million people. Around 85% of people live in urban centres.
- Bottle deposits operated successfully up until the 1970's when they were phased out.
- 95% of New Zealanders have access to kerbside recycling collections.
- The only refillable containers now are beer bottles. Two of the big breweries operate a successful "Swappa-crate" system for beer bottles.
- New Zealand has adopted a voluntary "Packaging Accord" which has not delivered much more than PR for the packaging industry .
- Packaging Accord targets set in 2004 are: glass 55%, aluminium 68%, steel 43%, plastics 23% by 2008
- Packaging waste is growing
- There is strong support for CDL from local authorities, community groups, consumers and many recyclers. There is strong opposition from the Beverage and Packaging Industries.
- A number of community organisations operate recycling services around the country.
- New Zealand has developed a hands-off approach to regulation of business since deregulation of the economy in the mid 80s

#### **Questions:**

1. **Administration:** Who do you think should set up and administer a CDL system – government, industry, industry ngo etc?
2. **Implementation period:** How long do you think it should take to roll out the CDL programme once legislation is in place?
3. **Container types:** Which container types should be included in the CDL programme?
4. **Expansion:** Should the legislation be drafted so that it's possible for the Minister to add new packaging types?
5. **Approval:** Should new beverage packaging types be required to meet recyclability standards before being introduced into the market?
6. **Deposit:** How much should the deposit be? Should it be the same for all materials and sizes or different?

7. **Handling fee:** How much should this be? Should it be visible or invisible to consumers?
8. **Unclaimed or Unredeemed Deposits:** Who should keep these and for what purpose?
9. **Return System:** Should containers be returned to depots or retail stores or a mixture of both. If your answer is depots, how many do think are required on a per capita basis?
10. **Return System Infrastructure:** What infrastructure is required and how would the various parts interact – ie depots, super collectors etc?
11. **Sorting System:** How should containers be sorted at the point of return (ie by brand or container type)?
12. **Review:** What kind of a review process is required to keep the system on track?
13. **Penalties;** What kind of penalties are required to ensure compliance by industry?
14. **Threats:** What do you think the main threats are to the potential success of a CDL programme?
15. **Benefits:** What do you think are the main advantages of a CDL programme?
16. **Opposition to CDL:** Where is the main source of opposition to CDL coming from – please give examples if possible
17. **Voluntary Approach to reducing Packaging Waste:** Please provide a brief statement on the effectiveness or otherwise of Voluntary measures such as Accords and Covenants between Industry and Governments that aim to reduce packaging waste as opposed to mandatory Product Stewardship programmes such as CDL.
18. **Graphics:** Please attach any graphics or flow charts you might have that show how your Container Deposit system works
19. **Quotes:** Do we have your permission to use your quotes in various reports investigating of promoting CDL?
20. Is there anyone else you think we should send this questionnaire to?

**Other Comments:**

**Thank you very much for your assistance – it's most appreciated. We will keep you informed of progress.**