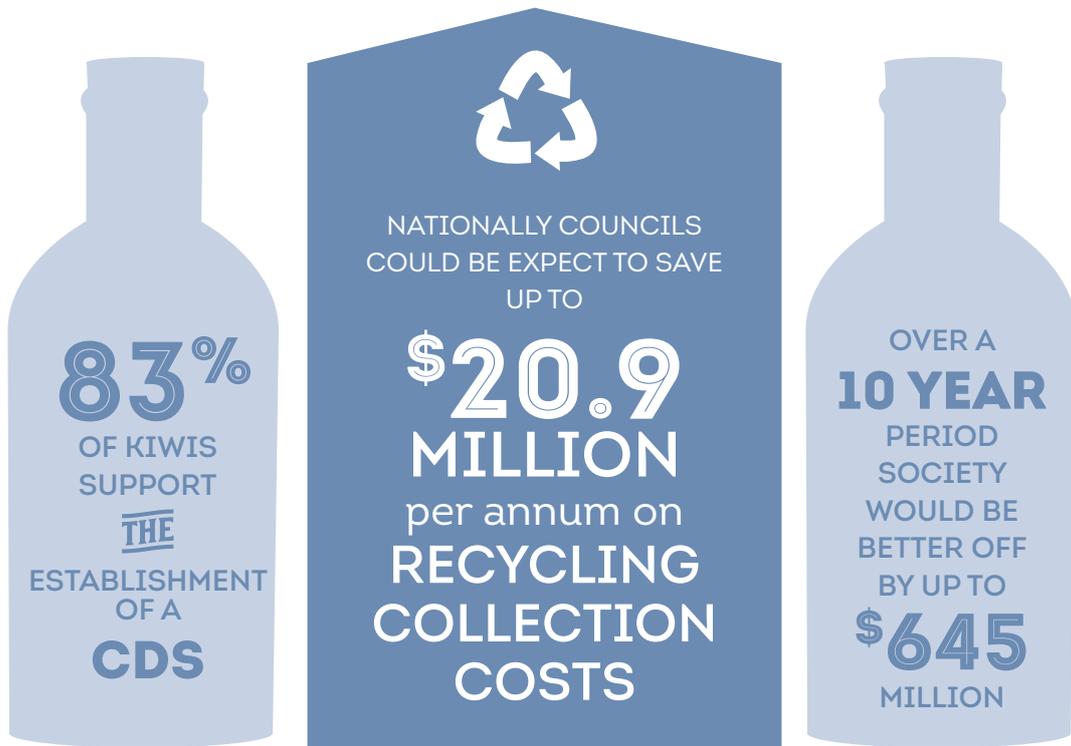


**COST-  
BENEFIT  
ANALYSIS**  
*of a*  
**CONTAINER  
DEPOSIT  
SCHEME**

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SUMMARY REPORT  
& FAQs





BEVERAGE CONTAINER RECYCLING RATES COULD INCREASE FROM AS LOW AS

45% UP TO 82%

This summary report has been developed for WasteMINZ's Territorial Authority Forum (TA Forum) to provide the background, context and summarise the key findings of the full report: *Cost-Benefit Analysis of a Container Deposit Scheme*.

**About the TA Forum**

The TA Forum is a Sector Group of the Waste Management Institute New Zealand (WasteMINZ).

The TA Forum was established to create consistency and efficiency of service amongst territorial authorities through sharing knowledge and best practice.

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# Introduction

As part of its mandate to minimise waste in Auckland Council has commissioned an independent cost-benefit analysis (CBA) to assess the impacts of a mandatory, national container deposit scheme. The report finds that the national benefits of such a scheme far outweigh the costs. For councils throughout the country, a scheme would bring operational savings in recycling collections and also help to address other issues such as litter and marine pollution.

This summary report has been developed for WasteMINZ's TA Forum to provide the background, context and summarise the key findings of the full report: *Cost-Benefit Analysis of a Container Deposit Scheme*.

You can view the full report here:

**[bit.ly/ContainerDeposits](https://bit.ly/ContainerDeposits)**

It introduces container deposit schemes and sets out the potential benefits to councils if such a scheme were to be implemented in New Zealand.

This report will be shared with the Minister for the Environment and will also be sent to all territorial authority mayors and interested sector associations.



# Key findings

Container deposit schemes operate effectively around the world as a means of encouraging greater recycling of beverage containers and reducing litter.

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International evidence suggests that a New Zealand container deposit scheme could help to reduce the financial burden on councils and ratepayers, through reducing recycling collection costs, reducing the volumes of waste to landfill, and reducing costs of litter collection and public space maintenance.

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There are different opinions about the desirability of introducing a container deposit scheme in New Zealand, and different financial analyses have been put forward by parties with interests on both sides of the debate.

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Auckland Council commissioned an independent CBA to take these different perspectives into account, and quantify the economic value of introducing a national, mandatory container deposit scheme in New Zealand.

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The analysis shows that the national benefits of such a scheme would be three to six times greater than the costs. Furthermore:

- recycling rates of beverage containers would increase from current rates of between 45–58 per cent to between 79 and 82 per cent.
  - society would be between \$184 million and \$645 million better off over a ten-year period.
  - even in a worst-case scenario, the benefits of introducing a container deposit scheme are more than double the costs.
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Detailed modelling shows councils could expect to save in the order of \$12.5 million–\$20.9 million per annum in collection costs nationally once the scheme is fully operational.

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Using figures from previous studies, councils could avoid further costs in the order \$4.2 million–\$8.1 million per annum, through:

- reducing the volumes of waste to landfill (\$1.3 million–\$3.7 million), and
  - reducing costs of litter collection and public space maintenance (\$2.9 million–\$4.4 million).
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Other benefits would accrue to the environment, job creation, and increased public engagement with other council waste minimisation, but have not been included in the quantified analysis.

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# What are container deposit schemes?

A container deposit scheme is a widely-used method to increase recovery of beverage containers. A ten-cent deposit is built into the purchase cost for beverages, defined for example as 'ready to drink' beverages between 300mL and 3 litres, in plastic, cans, glass and tetrapak containers. The deposit can be redeemed when the empty container is returned to a collection point.

Schemes are widely and effectively used in Europe, Canada, and the USA. Most Australian States either have a scheme in place or are currently introducing one. Scotland is in the process of establishing a scheme, and the UK government has just reopened its inquiry into the potential for a scheme.

Introduction of container deposit schemes has typically elicited strong industry resistance, particularly from the larger corporations. Of note, this appears to be changing, with Coca-Cola coming out in support of the Scottish scheme in February 2017.<sup>1</sup>

Places with container deposit schemes achieve very high recycling rates, in the order of 80–90 per cent of all beverage containers. The schemes also help to reduce the impact of litter on the environment, particularly the marine environment. In New Zealand, the recycling rate is currently between 45 and 58 per cent; while litter remains a challenging and expensive issue for councils to manage.

Container deposit schemes help to reduce the financial burden on councils and ratepayers, by putting responsibility for the recovery and recycling of beverage containers onto the producers and consumers of beverages. A newly released study in the UK identifies a container deposit scheme there would save local government £35 million per annum, due to reduced recycling collection costs, reduced volumes going to landfill, and reduced costs of litter collection and public space maintenance.<sup>2</sup>

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<sup>1</sup> BBC News. 22 February 2017. 'Coca-Cola backs Scottish bottle deposit scheme calls'. Available: [bbc.com/news/uk-scotland-scotland-politics-39055909](http://bbc.com/news/uk-scotland-scotland-politics-39055909)

<sup>2</sup> Hogg, D., Elliott, T., Gibbs, A., Grant, A., and C. Sherrington. 11 October 2017. *Impacts of a Deposit Refund System for One-Way Beverage Packaging on Local Authority Waste Services*. Bristol: Eunomia Research & Consulting Ltd.



# Purpose of the CBA report

Two very different views about the costs and benefits of a container deposit scheme in New Zealand have been put forward in research papers commissioned by interested parties.

Envision (a waste minimisation consultancy) prepared a case for a container deposit scheme in 2007 and an updated version in 2015. The 2015 paper argued:

Beverage containers are significantly under-recycled, with more than 45,000 tonnes either landfilled or littered each year.

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A container deposit scheme would double the recycling rate for beverage containers, generate 2,400 new jobs and bring substantial savings to ratepayers.

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The Packaging Forum commissioned Covec to prepare papers (2008 and 2016) that provided a very different picture than the Envision report, concluding:

69 per cent of beverage containers are recycled.

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Beverage containers make up around 14 per cent of litter so it would be better to find solutions to this more specific issue.

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A container deposit scheme would reduce waste to landfill by 34,000 tonnes, but it would cost New Zealand \$75 million annually. This is due to the cost of establishing infrastructure, and impacts on 'a mature nationwide kerbside collection system.'

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The Packaging Forum has continued to advocate against the introduction of a container deposit scheme, arguing that it is unnecessary and not in New Zealand's or local authorities' best interests.

To some extent, the different conclusions of the two sets of reports can be explained by different methodologies and different underlying data sets.

While there is ample evidence of the benefit of container deposit schemes internationally, it has been difficult to establish the economic value of a New Zealand scheme in a climate of competing claims and an absence of robust, verified data (for example about the proportion of containers that are already recycled, and the incidence and composition of litter).

To independently assess the potential for a national container deposit scheme, Auckland Council commissioned economist Preston Davies of Sapere Research to undertake a cost-benefit analysis, drawing on the assumptions and parameters of both sets of earlier reports.

Council costs have been considered within the CBA, as this is where much of the cost of collection currently lies. Of particular note, the report made extensive use of council data about recycling collections from a broad range of territorial authorities.



### **This CBA report finds that nationally:**

The benefits of introducing a container deposit scheme would outweigh the costs, by between three and six times, due to welfare gains to households from litter reduction and increased value of the materials recovered.

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Conservative estimates of increased recycling rates are between 79 and 82 per cent (up from 45–58 per cent by number of containers). This translates to between 369 million and 857 million additional containers being recycled annually.

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Over a ten-year study period, applying a 6 per cent discount rate, a container deposit scheme would result in society being better off by between \$184 million and \$645 million.

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The cost of infrastructure development is not as high as the Covec reports suggest, as it can be incorporated into existing facilities such as community recycling centres.

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Even in a worst-case scenario, the benefits of introducing a container deposit scheme are more than double the costs.

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Further benefits, not factored into the analysis, include job creation, support for charitable organisations, reductions in greenhouse gas emissions, increases to recycling other materials, and potential changes to charges and revenue associated with processing.

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Council costs have been considered within the CBA, as this is where much of the cost of collection currently lies. Of particular note, the report made extensive use of council data about recycling collections:

The annual average cost savings for Auckland Council's recycling collections (once the CDS is fully operational) are estimated to be \$3.29 million. Fewer trucks will be needed, as they will be able to travel further and make more pickups before needing to return to unload.

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Nationally, this was adjusted with data from other councils to a saving of \$20.9 million for all councils.

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# Alignment with council responsibilities

Councils are responsible for promoting waste management and minimisation in the jurisdictions. Yet, many councils have only limited control over the portion of the waste stream that they directly manage. Councils are doing what they can with the tools available – working in the areas where they can influence waste to landfill, and partnering with communities and businesses to support efforts in other sectors. However, to make significant change, more tools are needed.

Mandatory product stewardship schemes are possible under the Waste Minimisation Act 2008, but they are an as-yet untapped tool, out of reach unless central government agrees to introduce them.

## **A container deposit scheme could help to address a number of issues of direct concern to councils:**

Recycling rates of beverage containers are low, at around 45-58 per cent nationally.

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Beverage containers are a common litter item.

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Public place recycling is difficult to achieve effectively, with high rates of contamination in recycling bins.

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The cost burden falls on council and ratepayers, paying for litter clean-ups, public place recycling, household refuse and recycling collections, and other downstream costs such as in stormwater management and coastal pollution.

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Capturing the value of containers would help to offset council costs. Councils will be able to redeem the deposit on beverage containers which are recycled through council's kerbside recycling collections.

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A container deposit scheme would have the secondary benefit of elevating public awareness of litter and recycling, driving further behaviour change.

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Establishing community recycling facilities and other council infrastructure as collection points would encourage greater use of these facilities – people bringing in their containers could make use of other drop-off services on offer (for example, e-waste and household goods).

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# Council interest

A remit was proposed by Palmerston North City Council at the 2016 Local Government New Zealand (LGNZ) AGM, calling for LGNZ to endorse the concept of a national-mandated beverage container deposit system, and requesting that the government requires industry to develop and implement this within a two-year period. The remit was supported by the Metro councils and passed with 90 per cent of members in favour.



# Public interest

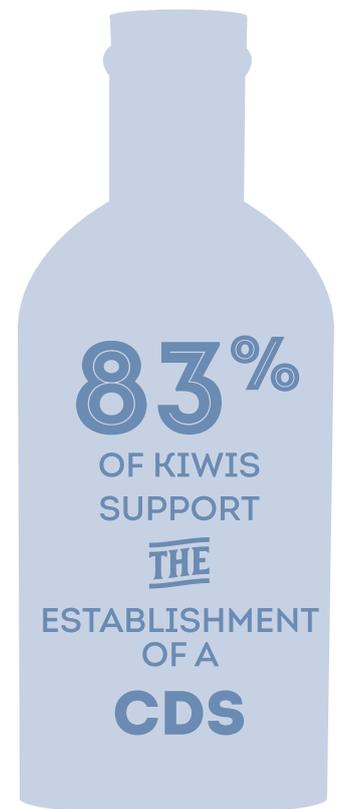
WasteMINZ's TA Forum commissioned nationwide research into public attitudes to a container deposit scheme and found:

83 per cent of respondents were in support of a container deposit scheme being established in New Zealand; 58 per cent were strongly in support.

78 per cent of respondents supported all types of beverage containers being included in the scheme.

84 per cent of respondents recycle beverage containers at home, but when out in public places, 49 per cent are likely to dispose of beverage containers in a rubbish bin.

A public campaign – the Kiwi Bottle Drive – is also underway. This includes running local bottle drives to demonstrate how a national scheme might work.



# Next steps

The full report will be communicated to the new Minister for the Environment, David Parker, and to the Associate Ministers for the Environment, Nanaia Mahuta and Eugenie Sage.

The report will also be sent to all territorial authority mayors and interested sector associations.



# FAQs

## 1

### *What is a container deposit scheme?*

A container deposit scheme is an incentive to encourage people to return empty drink containers to specified collection points. A deposit (e.g. ten cents) is built into the purchase cost for beverages, defined for example as 'ready to drink' beverages between 300mL and 3 litres, in plastic, cans, glass and tetrapak containers. The deposit can be redeemed when the empty container is returned to a collection point.

## 2

### *Why have a scheme?*

International evidence suggests that establishing a New Zealand container deposit scheme could improve recycling rates and reduce litter. It could also help to reduce the financial burden on councils and ratepayers, through reducing recycling collection costs, reducing the volumes of waste to landfill, and reducing costs of litter collection and public space maintenance (see question 7 for more detail).

## 3

### *Where do schemes operate?*

Schemes are effectively used in Europe, Canada, and the USA. Most Australian states either have a scheme in place or are currently introducing one. Scotland is in the process of establishing a scheme, and the UK government has just reopened its inquiry into the potential for a scheme.

## 4

### *Why was the CBA commissioned?*

While there is ample evidence of the benefit of container deposit schemes internationally, it has been difficult to establish the economic value of a New Zealand scheme. Different financial analyses have been put forward by parties in favour of, and against, the introduction of a scheme.

Auckland Council has commissioned a cost-benefit analysis to independently quantify the economic value of introducing a national, mandatory container deposit scheme in New Zealand. By commissioning the cost-benefit analysis, Auckland Council set out to provide more certainty about the economic impacts and to establish a reliable basis for further discussion.



# FAQs

## 5

### *What does the report look at?*

The report compares the costs associated with undertaking a container deposit scheme with the anticipated benefits, relative to a 'base case' of not implementing a scheme. It determines whether the scheme would deliver net benefits or costs to society.

The report draws on detailed information provided by nine councils across New Zealand, to understand the impacts of a container deposit scheme on existing recycling collections. (see question 8). It draws on earlier, differing, reports to set the parameters for analysis.

## 6

### *What does the CBA conclude?*

The analysis shows that the national benefits of such a scheme would be three to six times greater than the costs:

Recycling rates of beverage containers would increase from current rates of 45-58 per cent to between 79 and 82 per cent.

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Society would be between \$184 million and \$645 million better off over ten years.

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Even in a worst-case scenario, the benefits of introducing a container deposit scheme are more than double the costs.

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Introducing a container deposit scheme in New Zealand is expected to raise rates of recycling, reduce litter and improve the value of some existing material that is recycled. It would also be expected to involve costs for collection infrastructure and participation by individuals and organisations in the redemption of beverage containers.



# FAQs

## 7

### *What are the impacts for councils?*

A container deposit scheme would help to reduce the financial burden on councils and ratepayers, including the costs of paying for litter clean-ups, public place recycling, household refuse and recycling collections, and other downstream costs such as in stormwater management and coastal pollution.

Detailed modelling shows councils could expect to save in the order of \$12.5 million–\$20.9 million per annum in recycling collection costs nationally once the scheme is fully operational.

Councils would be able to shift to more efficient recycling collection contracts, i.e. commingled collections using larger capacity (35m<sup>3</sup>) trucks. By getting most of the glass out of collections, trucks can compact their loads more tightly and reach more households on each run, lowering operating overheads.

Reducing the volumes of waste to landfill (\$1.3 million–\$3.7 million), and

Reducing costs of litter collection and public space maintenance (\$2.9 million–\$4.4 million).

Other benefits would accrue to the environment, job creation, and increased public engagement with other council waste minimisation initiatives such as community recycling centres, but have not been included in the quantified analysis.

## 8

### *How much could my council save on recycling?*

All nine councils who provided operational data for this report would be able to achieve savings on their recycling costs. The estimated savings vary significantly – from 10 per cent to 70 per cent – depending on the way recycling is currently collected, population size and distribution. Even rural areas, where recycling collections are spread over the greatest distance, will be able to save ten to 25 per cent on their collection costs.

IMPACT OF A CONTAINER DEPOSIT SCHEME ON COUNCIL RECYCLING COLLECTION COSTS		
	Anticipated savings over seven years (\$)	% of current estimated operating costs
Cities	\$7 million – \$23.5 million	20% – 70%
Rural towns	\$2 million – \$4 million	54% – 59%
Rural areas	\$246,000 – \$772,000	10% – 25%
National total	\$87.5 million – \$146 million	28% – 36%

Notes: The analysis assumes a container deposit scheme is in place, and recycling collection contracts are shifted to best practice models, i.e. commingled 240L bin collections and robotic armed collection vehicles with 35m<sup>3</sup> capacity. A seven-year time frame has been used, as that is the standard length of recycling contracts. Inflation has been included in the analysis. Conclusions are preliminary estimates; further detailed analysis is necessary.



# FAQs

## 9

### *Are councils interested in a container deposit scheme?*

Establishing a container deposit scheme was recently established as the number one priority for the Territorial Authority Forum of WasteMINZ.

Local Government New Zealand has also advocated for a scheme. A remit proposed by Palmerston North City Council in 2016 requested that the government require industry to develop and implement a container deposit scheme within a two-year period. The remit achieved 90 per cent support from members.

## 10

### *What do the public think?*

WasteMINZ's TA Forum commissioned nationwide research (with a sample size of 1,000) into public attitudes to a container deposit scheme and found:

83 per cent of respondents were in support of a container deposit scheme being established in New Zealand; 58 per cent were strongly in support.

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78 per cent of respondents supported all types of beverage containers being included in the scheme.

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84 per cent of respondents recycle beverage containers at home, but when out in public places 49 per cent are likely to dispose of beverage containers in a rubbish bin.

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A public campaign – the Kiwi Bottle Drive – is also underway. This includes running local bottle drives to demonstrate how a national scheme might work.



# FAQs

## 11

### *What needs to happen to put a container deposit scheme in place?*

Introducing a container deposit scheme in New Zealand requires a decision from the Minister for the Environment.

The report assumes that central government would have responsibility for initial set-up and subsequent oversight and regulatory control of the system, while administration and management of the system (including performance) would be undertaken by a managing agency with representation from a range of parties.

