

Driving recovery and proposed scope of containers within a New Zealand Container Return Scheme

Date Submitted:	13 August 2021	Tracking #: BRF-202	
Security Level	Policy and Privacy In-Confidence	MfE Priority:	Not Urgent

	Action sought:	Response by:
Hon David PARKER, Minister for the Environment	Agree to lodge the attached Cabinet papers <i>Driving recovery within a New Zealand Container Return Scheme; Proposed scope of containers within a New Zealand Container Return Scheme</i> ; by 2 September for consideration at Cabinet Environment, Energy and Climate Committee on 9 September.	2 September 2021

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments # 3	<ol style="list-style-type: none"> 1. Draft CRS Cabinet paper 2a – Driving recovery within a New Zealand Container Return Scheme 2. Draft CRS Cabinet paper 2b – Proposed scope of containers within a New Zealand Container Return Scheme) 3. Additional information regarding niche beverage products and bioplastics

Key contacts

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Driving recovery and proposed scope of containers within a New Zealand container return scheme

Key Messages

1. The purpose of this briefing is to provide you with two draft Cabinet papers on proposed design considerations for an Aotearoa New Zealand Container Return Scheme (NZ CRS).
2. On 12 May you met with officials to discuss advice to date on a NZ CRS. You directed officials to prepare advice for Cabinet on key design considerations for a NZ CRS, ahead of further advice to Cabinet on the option of public consultation. In August, Cabinet made an in principle decision to proceed to consultation on a NZ CRS and invited you to prepare further advice on the design considerations for a NZ CRS [CAB-21-MIN-0300].
3. The draft Cabinet papers titled *Driving recovery within a New Zealand Container Return Scheme* (Appendix 1) and *Proposed scope of containers within a New Zealand Container Return Scheme* (Appendix 2) are the second and third in a suite of four papers (outlined in Table 1 below).
4. Cabinet paper 2a (Appendix 1) seeks Cabinet's direction on proposed design considerations that drive the recovery of beverage containers within a NZ CRS design, including the key aspects of:
 - the deposit level for consultation
 - retail participation in a scheme.
5. Cabinet paper 2b (Appendix 2) seeks Cabinet direction on the proposed scope of containers to be included in a consultation document on a NZ CRS, including options for fresh milk.
6. Officials recommend that the Cabinet papers are considered by the Cabinet Environment, Energy and Climate Committee (ENV) on 9 September 2021.
7. The attached draft Cabinet papers do not have an accompanying Regulatory Impact Analysis (RIA) attached. Officials will provide a full RIA along with Cabinet paper 3 and the draft consultation document, in line with Cabinet direction on proposed design considerations. Officials have spoken to the Department of Prime Minister and Cabinet who are comfortable with this approach.
8. Note that to provide Cabinet with sufficient analysis (including financial modelling) to support their direction on key design considerations, both Cabinet papers are longer than 10 pages. If you wish to reduce the length of the papers, some of the modelling material could be provided in appendices.
9. Officials have provided you with advice covered in these Cabinet papers in previous briefings [refer 2021-B-07615, 2021-B-07754 and 2021-B-07928]. Additional advice on updated financial modelling, the network design (mandatory return-to-retail), the deposit level, scheme fees and options for fresh milk is included in the analysis section of this briefing.



10. Officials consider there would be benefit in meeting to discuss these Cabinet papers ahead of the ENV meeting, particularly to discuss the possibility of meeting with retailers, and the updated modelling. Officials will work with your office to arrange a suitable time.
11. The final Cabinet paper in this series will support Cabinet decisions on whether to proceed with public consultation on a NZ CRS, including the proposed NZ CRS design for public consultation (Cabinet paper 3).
12. The timeline below shows indicative dates for upcoming advice, although this is subject to timeframes for receiving updated financial and GIS modelling and Cabinet timeframes.

Table 1: Indicative timeline for suite of CRS Cabinet papers

CRS Cabinet paper scope	Indicative dates
Paper 1: Problem definition and overview of a CRS	[CAB-21-MIN-0300 refers]
Paper 2a: Design considerations: driving recovery	To Minister – 12 August; Lodge – 2 September; Cabinet (ENV) – 9 September
Paper 2b: Design considerations: scope of containers	To Minister – 12 August; Lodge – 2 September; Cabinet (ENV) – 9 September
Paper 3: Agreement to consult on a proposed CRS for New Zealand	To Minister – 28 October; Lodge – 18 November; Cabinet (TBC) – 24 November


Recommendations

We recommend that you:

- a. **Note** that you directed officials to seek Cabinet direction on proposed key design considerations that drive recovery rates within a NZ CRS, before inclusion in a possible consultation document
- b. **Note** that Cabinet paper 2a (Appendix 1) seeks Cabinet’s direction on proposed key design considerations that drive recovery rates within a NZ CRS, specifically:
 - the proposed deposit level for consultation
 - proposed retail participation in a scheme
- c. **Note** the scope of containers included in a scheme is fundamental to the proposed design of a NZ CRS. Most schemes include a broad scope of beverage containers including those made from glass, plastic and metal. Some schemes also include liquid paperboard (LPB), and some exclude certain product types irrespective of packaging material (eg, fresh milk).
- d. **Note** that you directed officials to seek Cabinet direction on the proposed scope of containers within a NZ CRS, particularly options for fresh milk, before inclusion in a possible consultation document
- e. **Note** that Cabinet paper 2b (Appendix 2) seeks Cabinet’s direction on the proposed scope of containers within a NZ CRS, particularly options for fresh milk
- f. **Review** and consider the draft Cabinet papers attached to this briefing
- g. **Provide** feedback to officials regarding any changes to the draft Cabinet papers

- h. **Note** the proposed next steps, including that the intended date for Cabinet Environment, Energy and Climate Committee consideration of the attached papers is 9 September 2021
- i. **Agree** to circulate the attached draft Cabinet papers for ministerial consultation
Yes/No
- j. **Agree** to meet with officials to discuss the Cabinet papers and in particular the option to meet with retailers to discuss the network design of a CRS
Yes/No
- k. **Agree** to withhold this briefing and appendices from proactive release until final decisions have been made on the option of a Container Return Scheme for New Zealand.
Yes/No

Signature

Shaun Lewis	
Director – Waste and Resource Efficiency	

Hon David PARKER, Minister for the Environment	
Date	



Purpose

1. The purpose of this briefing is to provide you with two draft Cabinet papers on a Container Return Scheme for Aotearoa New Zealand (NZ CRS).
2. The draft Cabinet papers titled *Driving recovery within a New Zealand Container Return Scheme* (Appendix 1) and *Proposed scope of containers within a New Zealand Container Return Scheme* (Appendix 2) are the second and third in a suite of four papers to support Cabinet's upcoming decisions regarding the option of public consultation on a NZ CRS (outlined in table 1 below).
3. Cabinet paper 2a (Appendix 1) seeks Cabinet's direction on proposed design considerations that drive the recovery of beverage containers within a NZ CRS design, including key aspects such as:
 - the proposed deposit level for consultation
 - proposed retail participation in a scheme.
4. Cabinet paper 2b (Appendix 2) seeks Cabinet direction on the proposed scope of containers to be included in a consultation document on a New Zealand Container Return Scheme (NZ CRS), including options for fresh milk.
5. Subject to Cabinet's in principle direction on proposed scheme design, Cabinet Paper 3 will outline the proposed design for a NZ CRS and seek Cabinet's agreement to publicly consult on the option of a NZ CRS.

Table 1: Indicative timeline for suite of CRS Cabinet papers

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Paper 1: Problem definition and overview of a CRS	[CAB-21-MIN-0300 refers]
Paper 2a: Design considerations: driving recovery	To Minister – 12 August; Lodge – 2 September; Cabinet (ENV) – 9 September
Paper 2b: Design considerations: scope of containers	To Minister – 12 August; Lodge – 2 September; Cabinet (ENV) – 9 September
Paper 3: Agreement to consult on a proposed CRS for New Zealand	To Minister – 28 October; Lodge – 18 November; Cabinet (TBC) – 24 November

Context

6. A CRS is a recycling scheme and form of product stewardship that incentivises consumers and business to return beverage containers for recycling or refilling in exchange for a refundable deposit [2020-B-07314].
7. In New Zealand, beverage container recovery rates remain low and litter rates are high compared to many countries with return schemes in place, across all material types. Our current recovery by count is estimated at 55 per cent by weight and at least 47 per cent by count (noting that glass is heavy and skews the overall weight recovered upwards). A NZ CRS could increase recovery to 80 to 85 per cent.
8. Officials have provided you with advice covered in these Cabinet papers in previous briefings [refer 2021-B-07615, 2021-B-07754 and 2021-B-07928], a high-level overview of key points can

be found in Appendices 3 and 4. Additional advice on updated financial modelling, the network design (mandatory return-to-retail), the deposit level, scheme fees and options for fresh milk is included in the analysis section of this briefing.

9. On 12 May you met with officials to discuss advice to date on a NZ CRS. You directed officials to prepare advice for Cabinet on proposed key design considerations for a NZ CRS, ahead of further advice to Cabinet on the option of public consultation.
10. For the purpose of public consultation, you indicated that your preference was to:
 - seek feedback on a range of proposed deposit levels (NZD 15 cent and 20 cent)
 - consult on the proposed option of a return network that required retailers to take back eligible beverage containers
 - consult on the deposit model for the proposed scheme financial arrangements
 - consult on a proposed industry-led scheme (based on decisions to have a well-regulated CRS)
 - include a broad scope of beverage containers (glass, plastic, metal, liquid paperboard).
11. You also indicated that you would like to seek Cabinet direction on key design considerations and asked officials for further advice on:
 - the degree of retail participation in a mandatory return-to-retail model
 - the impact of and options for excluding fresh milk in a NZ CRS.
12. Officials have undertaken further analysis and financial modelling on these design considerations.
13. The attached draft Cabinet papers do not have an accompanying Regulatory Impact Analysis (RIA) attached. Officials consider that given the large number of possible variables in a CRS design, more clarity on the indicative direction would be appropriate before completing a RIA. Officials will provide a full RIA along with Cabinet paper 3 and the draft consultation document, in line with Cabinet direction on proposed design considerations. Officials have spoken to the Department of Prime Minister and Cabinet who are comfortable with this approach.
14. The final Cabinet paper in this series will support Cabinet decisions on whether to proceed with public consultation on a NZ CRS, including the proposed NZ CRS design for public consultation (Cabinet paper 3).

Analysis and Advice

Additional financial and data modelling

15. Between December 2019 and August 2020, PricewaterhouseCoopers Consulting (PwC) developed a financial model (the Model) for the Container Return Scheme Project Team¹ to help

¹ In 2020 the Project Team (Marlborough District Council and Auckland Council) led a co-design project to design a CRS for New Zealand [2020-B-07314 refers].

inform the development of a NZ CRS. The purpose of the Model was to understand the cash flows (revenues and costs) of operating a CRS in New Zealand (Phase 1 Modelling).

16. The Ministry commissioned additional financial modelling in December 2020 (Phase 2 Modelling) to enable further functionality in the model including variable deposit fees, ability to edit the proportion of costs a producer may pass on to a consumer and the link between return rate, deposit level and number of return facilities.
17. In response to your request for further advice on mandatory retail participation and the inclusion or exclusion of fresh milk in a scheme, the Ministry commissioned PwC to undertake further modelling (Phase 3 Modelling) including:
 - impacts of mandatory return-to-retail participation in a scheme
 - options for fresh milk including functionality and costs of excluding fresh milk from a scheme
 - functionality to categorise plastic beverages as PET or HDPE.
18. During the Phase 3 Modelling, it was also identified that GS1 had made an error in the provision of its 'containers sold' count data for 2019 in one key category, fresh milk. This does not affect the tonnes of material sold/recovered for this category, which is the evidence base for the wider proposal. It has affected the number of overall containers estimated to be sold in 2019, revised down to 2.04 billion. Following investigation of this error, the Ministry has also undertaken to update the GS1 analysis and sales data for the 2020/21 financial year. Officials can discuss this further with you at an upcoming policy session (to be arranged with your office).

Provisional geo-spatial analysis supports mandatory return-to-retail for major supermarkets

19. You have indicated that your preference is for a NZ CRS that requires retailers to take-back eligible beverage containers (mandatory return-to-retail).
20. The degree of retail participation in a scheme that includes mandatory return-to-retail requirements is an additional network design consideration. For example, should:
 - all retailers that sell beverages for take-away consumption be required to take back empty beverage containers, or
 - the degree of retail participation be determined based on the size of the population that the retailer services, floor size, or another consideration.
21. Globally, schemes that include mandatory return-to-retail requirements often also set floor size specifications. For example, in Lithuania all retailers over 300m² are required to take back containers. If you are a rural retailer the requirement applies to stores over 60m². In Germany, retailers over 200m² are mandated to take back containers.
22. The Ministry has undertaken provisional geo-spatial analysis to identify accessibility and convenience for New Zealanders if all major supermarkets were required through regulation to take back beverage containers. Using data for large supermarket chains in New Zealand²

² Countdown, Four Square, Fresh Choice, New World, Pak'n Save, Super Value.

(approximately 680 stores) officials found the following drive times for New Zealanders (figure 1):

- 80 per cent live within a 5-minute drive
- 90 per cent live within a 10-minute drive
- 95 per cent live within a 20-minute drive.

23. This means that only five per cent of the New Zealand population live further than 20 minutes from a major supermarket.
24. By distance³ approximately 89 per cent of New Zealanders live within 5km of a supermarket, and 95 per cent live within 10km of a supermarket.
25. A NZ CRS with retail take back requirements for major supermarkets would create significant accessibility and convenience for the majority of the population. In turn enabling consumers to return their used beverage containers to places they likely visit frequently.

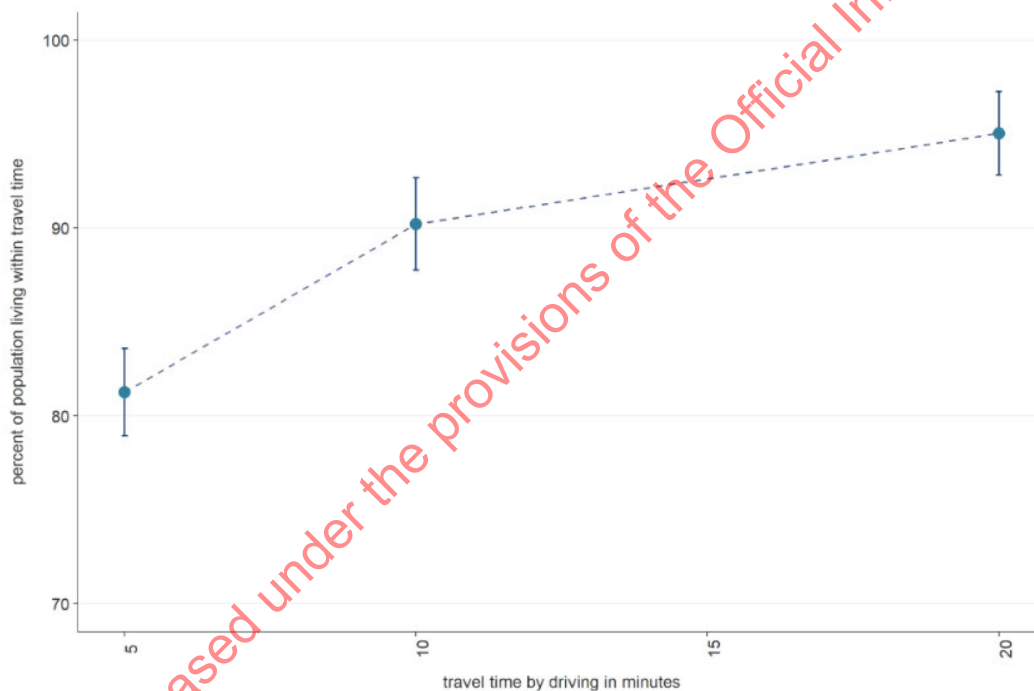


Figure 1: Percent of New Zealand population within drive-time of supermarket.

26. Additional return points for those not near a supermarket could include:
- depot return points (eg, run by recyclers, community groups and/or individuals)
 - voluntary retail participation (eg, through dairies, petrol stations and bottle stores).
27. Additional return points would close gaps in the network and provide opportunities for other businesses, community organisations, and charities to participate in a scheme.

³ Based on shortest path and not taking into account distance travelled on roads.

28. A mandatory return-to-retail network of approximately 680 stores (and approximately 50 additional voluntary return points) would equate to at least one return point per 7,223 people (1:7,223).
29. International evidence suggests that a return point ratio lower than 1:12,500 people would not significantly improve return rates and that the deposit rate has the greatest impact on returns.



Figure 2: Estimated return rate for a given deposit rate and return facility concentration

30. However, at lower deposit levels (NZD 12-21 cents), there is a cluster of seven schemes globally that do achieve over 85 per cent recovery, largely through having a lower ratio of mandatory retail CRFs to population (figure 4, page 12)⁴. This shows that there is nonetheless an important relationship between higher performing schemes, lower deposit levels and return-to-retail requirements.
31. While the relationship between high performance and return to retail requirements is clear, officials do not consider that mandatory retail participation for all beverage retailers is necessary to ensure an accessible, convenient scheme. As noted above, a return network of approximately 680 stores would provide convenient return points for 95 per cent of the population.
32. In addition, as return facilities are compensated by receiving a handling fee per container returned (modelled at NZD 6.3 cents per container), the higher the number of return points, the lower the revenue opportunity for those facilities. For example, revenue potential for over-the-counter (OTC) return facilities where all major supermarkets are mandated return points⁵ is modelled to be between \$41,000 - \$57,000 per annum. In comparison, a scheme with very low return point ratios⁶ (modelled on EU schemes) estimates potential revenue for OTC return facilities of between \$6,000 - \$8,000 per annum.

⁴ For example: Lithuania – 92 per cent recovery, 1:1,118. Estonia – 90 per cent recovery, 1:1,614.

⁵ Scenario 1 assumes the following proportions of containers returned: 5% OTC, 10% automated depot, 85% RVM.

⁶ Scenario 2 assumes 1,431 additional voluntary return facilities and the following proportion of containers returned: 10% OTC, 10% automated depot, 80% RVM.

Scheme coverage:	Type of return facility	Handling fees paid to return facilities (\$m pa)	Number of return facilities	Average revenue per return facility (pa)
1. Major supermarkets + zero waste centres	OTC	\$4m-6m	104-107	\$41,000 - \$57,000
	Automated depot	\$9m-12m	52-54	\$165,000 - \$228,000
	RVM	\$73m-104m	668-692	\$109,000 - \$150,000
2. Scenario 1 + additional voluntary return facilities	OTC	\$9m-12m	1,517-1,571	\$6,000 - \$8,000
	Automated depot	\$9m-12m	52-54	\$167,000 - \$230,000
	RVM	\$69m-99m	668-692	\$103,000 - \$143,000

Figure 3: Average revenue per return facility in first five years of scheme (per annum) – 20 cent deposit

33. Officials recommend a “mixed model” that includes a combination of mandatory and voluntary participation in a CRS network to ensure convenience and accessibility without needing to require all retailers to take back containers. Some level of voluntary participation would provide an opportunity for depots and small retailers to participate where there are gaps in the regulated retailer network. This is reflected in the Cabinet paper, which also recommends that the Ministry seeks feedback during public consultation on the level of retail participation (eg, retailer size).
34. Given the potential impact of a mandatory return-to-retail scheme on retailers, officials also recommend meeting with key retailers/retail organisations (eg, Foodstuffs, Woolworths) to discuss a NZ CRS. This would also provide an opportunity to discuss the possible degree of retail participation ahead of public consultation.

Deposit level options

35. During your meeting with officials on 12 May, you raised the option of a NZD 15 cent deposit as a possible middle ground between NZD 10 cent and NZD 20 cent deposits.
36. There are various ways to receive the deposit refund in a CRS including via cash, e-voucher or app payment.
37. In New Zealand, 5 cent is no longer a legal form of tender. There is a risk that if a NZD 15 cent deposit was applied to eligible containers, were a consumer to return only one container they may not be able to receive their full refund if they wanted a cash refund.
38. This would particularly affect those consumers who purchased one beverage (eg, from a supermarket, dairy or petrol station), and wanted to return it on the same trip for a cash refund. An unintended consequence may be consumers not returning single containers and instead throwing them away or littering them.
39. While consumers could return multiple bottles, the same cash refund limitation applies to returns of any uneven number of containers.
40. Feedback from the Inland Revenue Department noted that a NZD 15 cent would not be possible if cash was a refund option. Based on international schemes officials understand that cash is the most preferred refund option.

		Deposit refund level		
		10c	15c	20c
CRS scheme fees	Fee per container (deposit model)	3c	2-3c	2-3c
	Total cost per container	13c	17-18c	22- 23c
Containers recovered / disposed (year 5)	Recovery estimate	71%	75%	79%
	Containers recovered	1.7 billion	1.8 billion	1.9 billion
	Containers landfilled/ litter	691 million	596 million	500 million
PWC Scheme Financial model (all figures upper bound)	Total gross cost	\$341m	\$455m	\$580m
	Deposits refunded	\$169m	\$267m	\$375m
	Scheme net cost	\$172m	\$188m	\$204m
Cost per participating household per annum (all figures upper bound)	Gross cost (CRS fee + GST)	\$188	\$256	\$329
	Deposit refund	\$124	\$185	\$247
	Net cost	\$65	\$70	\$82
	GST component of net cost	\$25	\$33	\$43
Local Government (kerbside impact only, year 5)	Annual savings and revenue	\$57m	\$67m	\$74m
	Annual savings per household	\$29	\$35	\$38
Cost Benefit Analysis* (30 years, all materials)	Total costs (PV)	\$2.0b	Not modelled in current CBA	\$2.2b
	Total benefits	\$2.3b		\$3.3b
	Net benefits	\$0.3b		\$1.1b
	BCR	1.14		1.49
Cost Benefit Analysis* (10 years, all materials)	Total costs (PV)	\$1.0b	Not modelled in current CBA	\$1.1b
	Total benefits	\$1.1b		\$1.6b
	Net benefits	\$32m		\$445m
	BCR	1.03		1.40

*The CBA will be re-run based on design preferences prior to decision. The initial CBA model assumes 6% discount rate, 2.03% growth in consumption and 30 year time horizon. In addition to Local Government kerbside impact listed in the table above, the CBA model includes household participation time cost, scheme capex and opex, labelling cost, export (of additional recyclables); recycling and litter benefits, and emissions (net benefit).

Figure 5: CRS recovery and costs and benefits

45. While officials consider that a NZD 20 cent deposit would provide the best incentive to encourage the return of containers (alongside other design considerations), public consultation could seek feedback on a range of deposit level options (as outlined in Cabinet paper 2a, Appendix 1). Officials do not recommend consulting on a NZD 10 cent deposit level.

Scheme costs for a NZ CRS

46. The core costs of a CRS are the scheme fees and the refundable deposit. These fees flow through the system to fund the CRS including the cost of recycling an average container, and include:
- the handling fee (paid to container return facilities (CRFs))⁸
 - transport costs
 - scheme material consolidation facility costs
 - scheme administration
 - the deposit.
47. Beverage producers pay the scheme fees and deposit to the scheme's managing agency to manage/distribute. This underpins the 'polluter pays' model embedded in a CRS (shifting the costs of recycling from councils and ratepayers to producers, retailers and consumers).
48. Scheme fees are variable depending on the nature and efficiency of a scheme. For example, a scheme that uses mandatory return-to-retail is likely to be more efficient than a voluntary scheme as retailers can use reverse logistics to transport returned beverage containers to materials consolidation facilities.
49. PwC has modelled the handling fee at a gross cost of NZD 6.3 cents per container based on international schemes (mainly Australia). Additional scheme costs are estimated to be NZD 2.1 cents bringing the total scheme fee to NZD 8.4 cents.
50. Under the deposit model (recommended), revenue from unclaimed deposits becomes available to off-set scheme costs (including the handling fee) to producers and consumers, or for scheme enhancement. Under the deposit model the total scheme fee would likely be as low as NZD 2-3 cents as the unclaimed deposit offsets the scheme costs for all involved.
51. PwC modelling assumes a 100 per cent pass through of scheme costs to the consumer. Under a NZD 20 cent scenario using the deposit model, the additional cost added to the purchase price of beverages would be between NZD 22-23 cents. Consumers would receive the NZD 20 cent refund upon returning the container, leaving the outstanding cost to consumers of NZD 2-3 cents.

A broad scope of containers to be included in public consultation is preferable (including metal, plastic, glass, and liquid paperboard)

52. You directed officials to seek Cabinet direction on the scope of containers within a proposed NZ CRS before inclusion in a possible consultation document. The accompanying Cabinet paper 2b (*Proposed scope of containers within a New Zealand Container Return Scheme*) seeks Cabinet direction on the proposed scope of containers, particularly options for fresh milk.

⁸ A handling fee is paid to CRFs by the scheme managing agency to cover costs of collecting, sorting, storing and packaging empty containers, which are then transported to the material processor or direct to the container manufacturer.

53. Officials have previously provided advice to you on the types of beverage containers that could be included in a NZ CRS [2021-B-07615 refers].
54. Internationally, most schemes (approximately 90 per cent) include beverage containers comprising of glass, plastic and metal. Some schemes do exempt one or more of these main packaging material types or specific product types. For example, all Australian schemes exclude wine in glass (currently under review),⁷ American and European schemes typically exclude LPB, and over half of schemes globally (approximately 58 per cent) exclude fresh milk.
55. A NZ CRS would ideally include recyclable beverage materials that have existing recycling pathways in place, such as metal and plastic. LPB cartons are currently unable to be recycled in New Zealand, but a new plant is expected to be operational by late 2021. The Ministry for the Environment (the Ministry) has identified a range of potential solutions for additional glass captured through a NZ CRS and the scheme would provide a secure pathway for better recycling outcomes for recovered glass.
56. In line with previous advice [2021-B-07615], Cabinet paper 2b proposes a broad scope of beverage containers are included in a NZ CRS for public consultation, including:
- all single-use metal beverage containers, noting that the majority of these are aluminium;
 - all single-use recyclable plastic beverage containers (including PET, HDPE, PP and bio-based HDPE and PET);
 - all single-use glass beverage containers, noting the Ministry has identified a range of potential solutions to address the current oversupply;
 - all single-use LPB containers, noting that the application of targeted eco-modulation fee⁹ could help ensure LPB is successfully recycled whether in New Zealand or abroad.

Fresh milk – options to include or exclude

57. Fresh milk requires further consideration to other beverage container materials such as metal, glass, and LPB, due to the fact that it is not a frequently littered item and households are already recycling most PET and HDPE beverage packaging through kerbside recycling. However, there is limited commercial recovery for fresh milk beverage containers (e.g. for cafes and restaurants). There are opportunities to include or exclude fresh milk from a NZ CRS (in all packaging types).
58. Fresh milk made up a significant proportion (40 per cent) of the total plastic beverages sold in New Zealand in 2019. Fresh milk packaging is predominantly HDPE plastic, which is the most readily recyclable and valuable plastic packaging type¹² with strong market demand. The post-consumer fresh milk plastic resource stream is likely worth between NZD \$6-7 million for HDPE plastic containers.
59. Internationally, many schemes exclude milk in some form, but it is unclear how many explicitly exclude fresh white milk. Publicly available information suggests that most (58 per cent) schemes exclude plain or fresh milk. A commonly cited reason for exclusion is due

⁹ An eco-modulation fee (previously called ‘advanced material recycling fee’) is in line with the ‘polluter pays’ principle – an additional fee is applied to targeted producers to reflect the costs of recycling a given product, even when hard to recycle [Refer 2021-B-07767].

to hygiene risks and odour issues when returned uncleaned. In the context of a NZ CRS, this risk could be partly managed through a 'lids on' requirement and more frequent servicing of RVMs and other return point equipment. Milk is also considered a staple household item by many people, whereas other beverages in scope may be considered non-essential (e.g. soft drinks and alcohol).

60. You indicated that further analysis is needed on options for fresh milk, and directed officials to seek Cabinet direction on these options before inclusion in a possible consultation document. The Ministry has modelled scenarios, presented below (Figure 6).

Implications of varying deposit rates by beverage type (10c milk or milk out, 20c all other products) in first five years of scheme (per annum)

Scenario	Scheme impacts			Average participating household impacts								
	Return rate	CRS fee (deposit + scheme fee per container)	Net cost of CRS (\$m pa)	CRS fees paid (\$ pa)	+	GST (\$ pa)	=	Total cost (\$ pa)	-	Est. deposit refund available (\$ pa)	=	Net cost (\$ pa)
10c	64-71%	13c	\$157-172m	\$148-163		\$22-25		\$170-188		\$116-124		\$54-65
15c	67-75%	17-18c	\$172-188m	\$198-223		\$30-33		\$228-256		\$174-185		\$54-70
20c	71-79%	22-23c	\$188-204m	\$253-286		\$38-43		\$291-329		\$232-247		\$60-82
20c, milk out	67-74%	22-23c	\$172-187m	\$229-259		\$34-39		\$263-298		\$207-221		\$56-77
20c, 10c milk	70-78%	13-24c	\$185-201m	\$249-282		\$37-42		\$286-324		\$219-234		\$67-90

Figure 6: Modelled scenarios for fresh milk and estimated impacts on households

61. While the deposit is refundable upon container return, a small non-refundable increase in price from the scheme fee is unavoidable. If milk is included in a NZ CRS, the net cost per bottle recycled is likely to be NZD 2-3 cents for any scenario *except* for a milk-in no-deposit scenario, whereby the full non-refundable scheme fee would be required to be paid per bottle (approximately NZD 8.4 cents). This small price increase may be an issue for some consumers, particularly given fresh milk is seen by many consumers as an essential grocery item, whereas other beverages may be considered non-essential (eg, soda and alcohol).¹⁰
62. You directed officials to seek Cabinet direction on proposed options for fresh milk before inclusion in a possible consultation document (Table 2).

¹⁰ Officials acknowledge that what may be considered an 'essential' grocery item is unique to different cultures.

Table 2: Overview of options to include/exclude fresh milk

Policy options for fresh milk	Impacts
Include fresh milk (in all packaging types) at the same refundable deposit level as other packaging (modelled at NZD 20 cents).	<p>In this scenario, the refundable deposit for fresh milk was modelled at NZD 20 cents, assuming the same price as other beverage packaging in a NZ CRS.</p> <p>This option would significantly increase recovery across all eligible beverages and has the highest modelled return rate of 71-79 per cent. With a NZD 20 cent deposit, the net cost per annum for participating households was modelled at NZD \$60-\$82 (including NZD \$38-\$43 of GST). The price of milk increases NZD 21-23 cents per container (including the NZD 1-3cents non-refundable scheme fee), however the NZD 20 cents is refundable if the container is redeemed.</p>
Include fresh milk (in all packaging types) at a lower refundable deposit level (modelled at NZD 10 cents).	<p>In this scenario, the refundable deposit for fresh milk was modelled at NZD 10 cents, a lower deposit to other beverage packaging in a NZ CRS (assuming other packaging has a NZD 20 cent deposit).</p> <p>This option would increase recovery to 70-78 per cent return rate across all eligible beverages. The net cost per annum for participating households was modelled at NZD \$67-\$90 (including NZD \$37 - \$42 of GST). The price of milk would increase NZD 12 – 13 cents per container, NZD 10 cents would be refundable if the container is redeemed.</p>
Include fresh milk (in all packaging types) with no refundable deposit , noting there would still be a scheme fee of NZD 8.4 cents per container	<p>In this scenario, while there may be an increase in recovery by allowing fresh milk to be returned at CRS return points, recovery rates would be less certain given the lack of incentive (refundable deposit) would not address the cost barrier for commercial recovery pathways (eg, cost barriers to cafes and restaurants recycling milk bottles). The price of milk would increase by NZD 8.4 cents per container to cover the scheme fees (non-refundable), even with no incentive to return the containers (ie, the refundable deposit).</p>
Exclude fresh milk (in all packaging types) entirely.	<p>A milk-out scenario could see net cost savings for participating households as the price of milk does not increase (NZD\$56-\$77; including \$34 - \$39 of GST), but a lower overall return rate at 67-74 per cent. Recovery is unlikely to change significantly even with commercial recycling targets/regulation (enforcement barriers).</p>
Include fresh milk in principle but delay implementation until after scheme establishment (eg, two years).	<p>This option would allow time after implementation for further consideration on how best to capture and include fresh milk within a scheme.</p>
Apply any of the above options to fresh milk in HDPE containers only	<p>Given HDPE containers are the vast majority of fresh milk containers¹¹, this option would target the exclusion of fresh milk, while enabling other milk to be included in a scheme (eg, milk in PET or other materials). Recent schemes such as the UK are proposing to exclude HDPE as the majority of their HDPE containers (88 per cent) include milk.</p>

¹¹ Some premium brands are now using recycled PET and LPB for fresh milk, which would both be included.

	<p>Excluding fresh milk in HDPE containers from a CRS could represent a missed economic opportunity of approximately NZD \$5-7 million in material commodity value, s 9(2)(b)(ii), s 9(2)(j)</p> <p>_____</p> <p>_____</p> <p>_____ .¹²</p>
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63. Of the options presented in Table 2, including fresh milk at the same deposit as other beverage packaging has the highest modelled return rate of 71-79 per cent, and slightly lower net costs per annum for participating households than the option of including fresh milk at a lower (NZD 10 cents) deposit. This option is preferable for reasons including:

- supporting the primary objective of a CRS to increase the recovery and recycling of beverages and reduce litter, noting that current recovery of beverage plastic in New Zealand is estimated to be as low as 33 per cent
- this option has the highest modelled return rate and the recovered fresh milk packaging material (likely to be mostly HDPE) would help s 9(2)(b)(ii), s 9(2)(j) _____ large and small recyclers
- including fresh milk packaging in a NZ CRS would provide stronger economic incentives for commercial businesses to recycle fresh milk beverage container material. Currently, recycling from commercial premises have limited incentives to recycle [BRF-162 refers]
- a vast majority of recovered fresh milk beverages will be high-quality HDPE, which is a highly recyclable and valuable plastic
- there is industry support for including in a NZ CRS (eg, Fonterra and recycled plastics manufacturers).

64. Including fresh milk at a lower deposit would have lower returns, and higher costs to households than including fresh milk at the same deposit (in a NZD 20 cent scenario).

65. Officials do not recommend consulting on including fresh milk at no deposit. Under this scenario the price of milk would increase due to the addition of scheme fees while recovery rates would

¹² Fresh milk sales in 2019 included 9,684 tonnes of HDPE plastic containers. At an 85 per cent recovery rate of beverage containers through a CRS, there would be approximately 8,200 tonnes of food grade HDPE recovered. This volume has a commodity value of approximately \$700 per tonne, which would equate to ~\$5.7 million of input materials, supporting the viability of this facility and other commercial recyclers.

be lower than other options due to the lack of incentive to return containers (ie, the refundable deposit).

66. However, should you want to consult on options for excluding fresh milk from a NZ CRS, and noting that many countries (approximately 58 per cent) exclude fresh milk, you may like to consult on the options outlined in the table above.

67. We recommend consulting on a limited range of options, as outlined in Cabinet Paper 2b:

- include fresh milk (in all packaging types) at the **same deposit level** than other beverage containers (modelled at 20 cents);
- include fresh milk (in all packaging types) at a **lower deposit level** (modelled at 10 cents) than all other beverage containers;
- and/or **exclude fresh milk** (in all packaging types) entirely, with a possibility of including in the future.

68. These recommendations acknowledge industry support for fresh milk to be included in a NZ CRS (eg, Fonterra and recycled plastics manufacturers) and the objective to recover more high-quality HDPE plastic to enable our onshore plastics recycling industry, while acknowledging the net household costs per annum.

69. If fresh milk was excluded from a NZ CRS, other options for commercial recovery could be pursued through channels such as the WMA review.

Refillable beverages

70. Officials have previously provided you with high-level context on refillable beverage containers [2021-B-07615]. Officials intend to seek feedback through public consultation on the potential role of refillable beverage containers in a NZ CRS.

71. There are significant environmental and emissions reduction opportunities from refilling. Refill/reuse would also be in line with the draft New Zealand Waste Strategy. However, data and analysis for refillable beverage containers in New Zealand is limited. Cabinet Paper 2b propose a NZ CRS for public consultation would:

- not include refillable beverage containers at this stage
- include provisions to enable refillables/reusables to be incorporated in the future.

72. Incentives and/or reuse targets would be complementary for a NZ CRS (e.g. differential fees and/or targets for refillable bottles as a percentage of beverage container volume sold to market).

Niche beverage containers

73. There will be niche beverage container products (likely a relatively small volume) that may need to be considered for inclusion on a case-by-case basis, which public consultation will help identify. This could include products and packaging such as bio-based plastics (refer to Appendix 3), wine bladders, sachets, pouches, and lids. For example, some Australian schemes include

fermented dairy drinks, some American schemes include drinkable yogurt, and some Canadian schemes include plastic and foil pouches.

74. Cabinet Paper 2b notes that, pending evidence of recyclability, producers could effectively be subject to a phase-out from the scheme's launch date (should a regulated scheme progress). Public consultation would draw out any niche products for further consideration. Further opportunities to define and consult on container scope would exist at the regulation making stage.

Non-beverage containers

75. Cabinet Paper 2b notes that non-beverage containers are proposed to be excluded from the design of a NZ CRS for public consultation. Reasons for this proposal include:

- non-beverage glass (jars and bottles) and metal (cans and tins) are relatively small proportions of the recycling stream by weight and are not commonly found in the litter stream as the products are not commonly consumed away from home;
- non-beverage food grade plastics such as ice cream and margarine tubs are not commonly found in the litter stream (also mainly consumed at home);
- non-food grade plastics such as kitchen, bathroom, laundry, garage and garden products typically contain chemicals. Exclusion ensures NZ CRS materials are of higher (food grade) quality, of higher market value, and therefore more likely to remain in closed-loop recycling systems.

76. In addition, the Government has several key commitments to address non-beverage packaging including:

- phase-out hard-to-recycle packaging plastics;
- standardisation of kerbside recycling which captures most of the “non-beverage” materials already;
- declaration of non-beverage plastic packaging as a priority product for a regulated product stewardship scheme – this will improve recycling outcomes for non-beverage plastics and further shift costs to producers and consumers of these products;
- investment in onshore recycling plant technology, s 9(2)(b)(ii), s 9(2)(j) through the \$124 million Covid-19 Response and Recovery Fund investment;
- the upcoming \$50 million Plastics Innovation Fund.

Single-use cups and coffee cups

77. Cabinet Paper 2b does not provide advice on single-use cups and coffee cups, however, officials recommend they are excluded from the design of a NZ CRS for public consultation. A parallel work programme is planned to coordinate sector experts and inform a plan for single-use cups

including coffee cups. This will inform additional consultation on options for phasing out cups by 2025.¹³

Consultation and Collaboration

78. The following agencies have been consulted on the draft Cabinet papers: The Ministry of Foreign Affairs and Trade, Treasury, Department of Internal Affairs, Ministry for Primary Industries, Treasury, Ministry of Business, Innovation and Employment, Te Puni Kōkiri and the Department of Conservation. The Department of Prime Minister and Cabinet has been informed, and officials have discussed the papers with them.

Risks and mitigations

79. Mandatory return-to-retail requirements will have impacts for a range of retailers (depending on the degree of retail participation). § 9(2)(g)(i) [redacted] Officials recommend meeting with key retail stakeholders ahead of public consultation to test the proposed ideas and seek feedback on elements of the mandatory network (such as the size of retailers who would be required to participate).

Legal issues

80. The Ministry's legal team has reviewed this briefing note and the draft Cabinet papers. Officials will continue to work with the legal team and will seek advice from them on any further legal matters.

Financial, regulatory and legislative implications

81. Introducing a NZ CRS will likely require legislative amendments. The Ministry is progressing a substantive review of the WMA. This presents a timely opportunity for any legislative changes required to implement a NZ CRS.
82. Subject to scheme design direction, Cabinet paper 3 will provide advice on legislative and financial implications of a NZ CRS, along with a Regulatory Impact Statement on the proposed scheme design.

Next Steps

83. Officials consider there would be benefit in meeting to discuss these Cabinet papers ahead of the ENV meeting, particularly to discuss the possibility of meeting with retailers, and the updated modelling. Officials will work with your office to arrange a suitable time.
84. Officials recommend that the accompanying Cabinet papers 2a and 2b are circulated for ministerial consultation. Following circulation, officials intend to lodge both papers by 2 September for consideration at Cabinet Environment, Energy and Climate Committee on 9 September.

¹³ Public consultation in 2020 on proposals to phase out specific hard-to-recycle plastics and single-use plastics showed strong support for phasing out single-use plastic cups. Additionally, around half (49.5%) of the submitters want coffee cups phased-out.



85. Once Cabinet has provided direction on key design considerations in the accompanying Cabinet papers, officials will update the cost benefit analysis and prepare a draft consultation document, Regulatory Impact Statement, and draft Cabinet paper to seek Cabinet's agreement to publicly consult on the proposed NZ CRS design.
86. If Cabinet agrees to publicly consult on the proposed NZ CRS design of, officials envision consultation would likely occur from early December through to mid-late February 2022.

Proactively released under the provisions of the Official Information Act 1982



Appendix 1: Draft Cabinet paper – Driving recovery within a New Zealand Container Return Scheme

Proactively released under the provisions of the Official Information Act 1982



Appendix 2: Draft Cabinet paper – Proposed scope of containers within a NZ CRS

Proactively released under the provisions of the Official Information Act 1982

Appendix 3: Additional information regarding niche beverage products and bioplastics

A NZ CRS could consider niche beverage products on a case-by-case basis

1. The majority of plastic beverage containers in New Zealand are likely to be PET and HDPE⁵, but niche plastics would need to be considered for inclusion within a NZ CRS on a case-by-case basis.
2. Alongside conventional plastics (eg, PET, HDPE, and PP), niche plastic beverages may need to be considered on a case-by-case basis and could include:
 - Bio-based non-biodegradable beverage plastics (top left of Figure 1 below), derived from other sources including microbes and plants. There may be an opportunity for this category, given bio-based non-biodegradable plastics can be highly recyclable (when made into HDPE and PET) and compatible with conventional recycling systems;
 - Bio-based and biodegradable beverage plastics (top right of Figure 2). Strong caution is advised with these materials, as these materials can be hard to recycle or biodegrade in conventional systems (eg, PLA and PHA).
3. Pending evidence of recyclability, producers could effectively be subject to a phase out from the scheme's launch date (should a regulated scheme progress).
4. Public consultation could draw out any niche products for further consideration, noting that further opportunities to define and consult on container scope would exist at the regulation making stage.
5. Other niche products such as wine bladders, sachets, pouches, lids and bio-based recyclable plastics may require consideration on a case-by-case basis. Including these producers would increase consumer ease, however these producers pose unique recycling challenges that require further consideration.

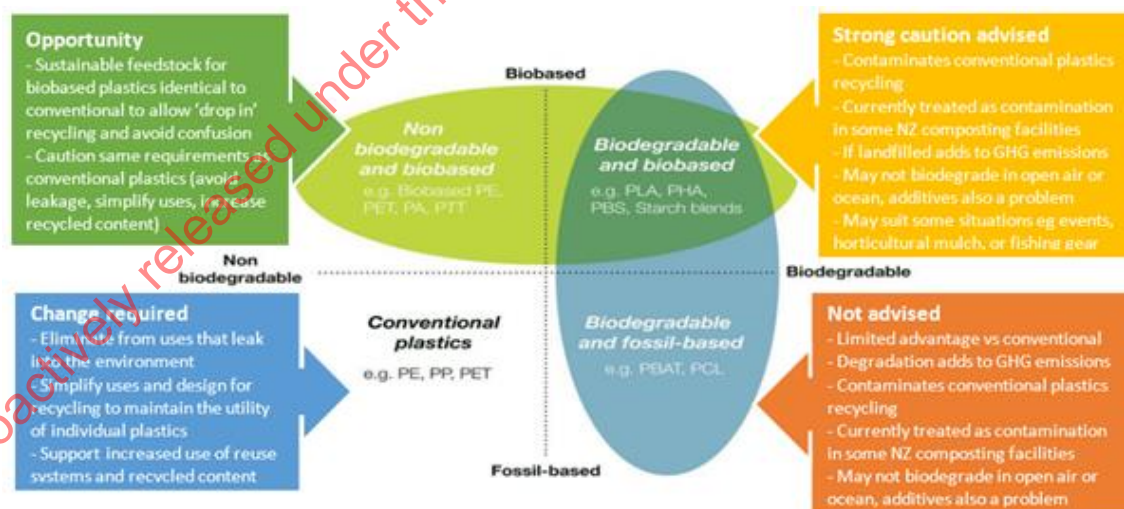


Figure 1: Diagrammatic representation of the differentiation and definition of biodegradable plastics. This is the Ministry's best advice to date, based on the information and system we currently have.