The goal: Maximise circular outcomes for glass, thereby achieving lower carbon emissions

Three Possible Solutions:

1 Current glass recycling method

Currently Councils operate recycling collections, including glass. A voluntary producer responsibility scheme works to influence and improve glass collection and recycling outcomes. NZ has a good glass collection rate, but recycling outcomes have flatlined. Significant improvements are unlikely without a change in approach.

Cost: Maximum of 0.0039c per kg of glass for each transaction by voluntary members (insufficient to cover the cost of recycling activities)

2 Proposed Container Return Scheme (CRS)

MfE have recently undertaken public feedback on a CRS, proposing to include glass containers as a CRS material. The proposed CRS will place value on an item to encourage consumers to stop both littering and stockpiling beverage containers by recouping a monetary refund if they return the beverage container to a drop off point.

Cost: 3 – 5c per bottle levy + 20c per bottle refundable deposit

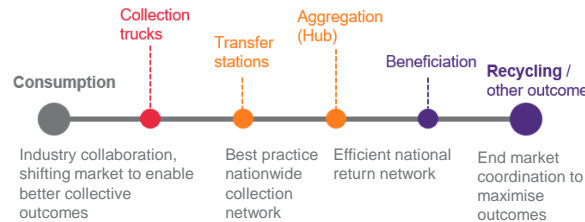**Preferred**

3 Mandatory Product Stewardship Scheme

A product stewardship approach encourages careful use of resources through their life. Reducing waste by design and prioritizing circularity of resource use, schemes reduce waste, litter and other environmental harms by placing responsibility for delivering environmentally friendly outcomes on the producers.

Cost: 18.4 – 22.1c per kilo of glass

Mandatory Product Stewardship Scheme design

Based on physical and environmental fundamentals and enhancing existing infrastructure, advanced analytics was used to design a product stewardship glass system for NZ

Designed using end-to-end system design

Consumption — Industry collaboration, shifting market to enable better collective outcomes

Collection trucks

Transfer stations — Best practice nationwide collection network

Aggregation (Hub) — Efficient national return network

Beneficiation

Recycling / other outcome — End market coordination to maximise outcomes

Design guided by the following principles:

- Encourage solutions higher up the waste hierarchy
- Leverage existing infrastructure
- Increase the collection rate
- Increase use of recycled glass in remanufacture
- Reduce contamination and increase collected glass quality
- Prioritise glass into its highest use at end of life

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The Outcomes: A strong mandatory product stewardship scheme would outperform the CRS in key outcomes

1 Higher bottle to bottle recycling rate

61%	CGR
61%	CRS
87%	PSS
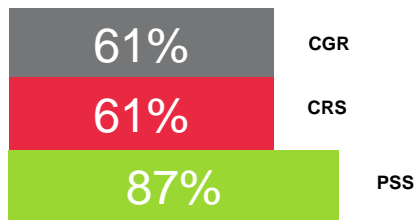
2 Higher collection rate

- 90% PSS
- 75% CGR
- 84% CRS
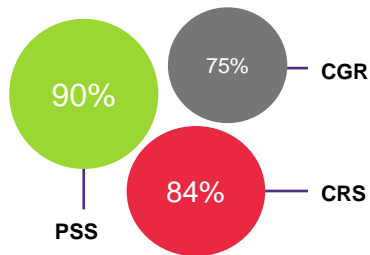
3 Lower price impact (12 pack beer shown)
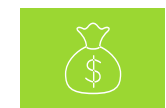
- PSS: 56.3c-67.7c
- CRS: 111.8c-143.4c

4 Lower emissions (Year 5 of scheme in KtCO2e)

118	101	47
CGR	CRS	PSS
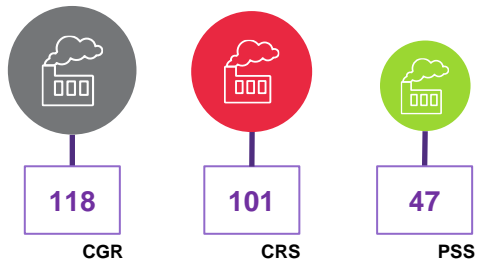
5 Lower spend on new infrastructure (cumulative 5 year)

Millions ($)

CRS: Year 1 = 43, Year 5 = 105
PSS: Year 1 = 17, Year 5 = 32

Y-axis: 120, 80, 40, -
X-axis: Year 1, Year 2, Year 3, Year 4, Year 5

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