



Full Circle: Best Practice Extended Producer Responsibility (EPR) for Container Glass

The Glass Packaging Forum (GPF) engaged Grant Thornton to design a best practice EPR scheme for container glass that supports New Zealand's ambitions to become a more circular, low emission economy. Their design is a roadmap to achieving better outcomes for container glass with the cost fairly distributed among all container glass producers.

Grant Thornton began by interviewing stakeholders in New Zealand and other countries, including waste management experts, large beverage producing companies, end users, councils, social and community organisations, waste minimisation peak bodies and the Ministry for the Environment.

Grant Thornton then built a digital model that allowed them to compare variables across two different solutions and the status quo. The resulting report:

- Considers the entire glass life cycle
- Incorporates principles of the circular economy and the waste hierarchy
- Focuses on the levers that will create a fully circular system
- Compares collection systems across a range of inputs and criteria, including cost effectiveness, emissions profile, recovery and recycling rates

Collection method has a direct impact recovery and bottle-to-bottle recycling rates

The EPR would collect colour-sorted glass at kerbside, maximising the percentage of recovered glass able to be used in the furnace. This is because colour sorting reduces contamination. This is one of the reasons many European countries are moving to EPR models for glass. Grant Thornton found that focusing on glass quality by standardising best practice kerbside collection would lead to increased recovery and bottle-to-bottle recycling rates.

An EPR could deliver a recovery rate of 90% and a bottle-to-bottle recycling rate of 87% by year five.

EPR's focus on glass quality would minimise emissions

The ability to use more recycled glass in the furnace, brought about by colour-sorted collections, reduces emissions from energy and the use of virgin materials.

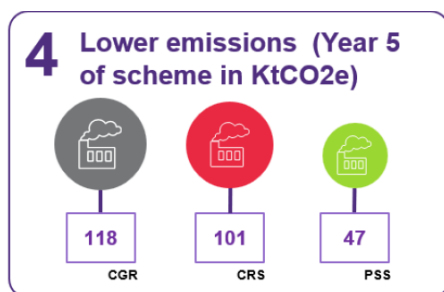


Figure 1 from the executive summary of the full report

The EPR model would produce less emissions than both the status quo and the CRS (half the emissions of a CRS).



EPR incentivises the circular economy and distributes cost fairly

A weight-based levy ensures transparency and fairness throughout the supply chain and encourages the reduction of glass to market through light-weighting and other innovations.

	Business impact (20c deposit)			Net consumer impact (84% return)		
	CRS	EPR	Difference	CRS Net	EPR	Difference
Average weight wine bottle	23-25c +GST	8.8c-10.5c +GST	-59.8%	9.7-12c	10.1-12c	1.84%
Average weight 12 pack beer	\$2.75-\$3.00 +GST	49-58.9c +GST	-81%	\$1.16-\$1.43	56.3-67.7c	-52%

The weight-based levy is a fairer way of treating glass than a per container charge – for consumers and industry - that reflects the volume of material to be processed and recovered.

An optimised hub and spoke model supports circular outcomes and is cost effective

Optimising collection through Grant Thornton’s hub and spoke design would increase efficiency by improving coverage where needed and preserving glass quality for circular outcomes. It eliminates the need to build a costly reverse vending machine network.

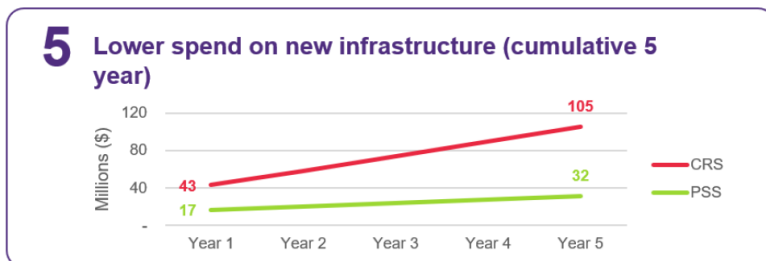


Figure 2 from the executive summary of full report

EPR model shows strong cost benefit ratio

A strong cost benefit ratio of 1.53 excludes the most uncertain and intangible benefit - litter and welfare.