Soft Plastic

Collection & Sortation Trial Results

AUSTRALIAN FOOD & GROCERY COUNCIL

Executive Summary

In 2020, the Australian Food and Grocery Council launched a sustainable initiative to foster a circular economy for soft plastic packaging in Australia. The National Plastic Recycling Scheme (NPRS) project aims to:

- Identify market failures in the soft plastic recycling supply chain.
- Develop a product stewardship scheme for better product design and increased investment in recycling infrastructure.
- Boost the soft plastics recycling rate.
- Enhance access to recycled content, meeting global food grade standards.

Backed by the Government's Product Stewardship Investment Fund and industry support, a draft stewardship framework emerged, guided by a cost-benefit analysis and global best practices. A consortium of brands, councils, MRFs, recyclers, and resin producers collaborated on a collection and sortation trial in 2022/2023, signaling a collective commitment to sustainable practices in addressing soft plastic waste challenges.

Trials and Results

Trials were undertaken across six councils in New South Wales, South Australia, and Victoria. The trial involved households using distinctive bags for separating soft plastics in their commingled recycling bins.

Survey results showed a positive community response, with 52% participating fortnightly and 70% expressing high satisfaction for the service. Bag-in-a-bin was clearly the preferred collection method (92.4%). Participation ranged from 24% to 38%, and bag weight increased over time, emphasising the need for future designs to maximise volume and account for user preferences.

Contamination within the bags was minimal (<2%), mainly consisting of rigid plastic and paper/cardboard. An audit of polymer composition revealed 80-85% suitability for advanced recycling, while unsuitable polymers (PVC, PVDC, PET films) were present in low quantities and required pre-treatment or redesign.

Bag conditions were assessed, favouring a thicker gauge (50uM) for structural integrity with less than 1% spilling. The impact on inbound recycling quality varied across councils, with no statistical variation in soft plastic contamination. MRF audits indicated high capture rates of 95% at pre-sort stations without additional staff.

Outbound contamination on paper/cardboard recycling commodities had negligible impact, and risk can be further reduced by increasing bag thickness and refining community education.

Stakeholder consultations highlighted support for a national scheme, preference for multiple collection methods, and concerns about transparency in end markets. Education consistency and design solutions upstream were emphasised.

Recommendations from the trial include community surveys, optimising bag design, initiating phase 2 trials to assess multiple collection options, education campaigns, kerbside audits, developing contract clauses, and auditing MRF’s to validate contamination rates over a longer time period.

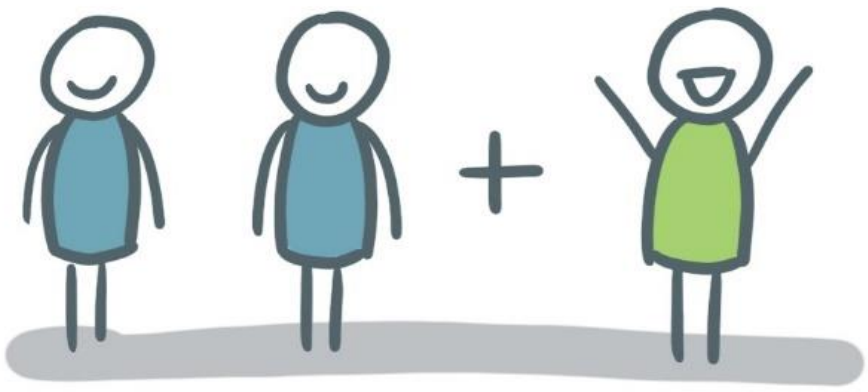
SUMMARY OF TRIAL RESULTS

Community engagement & participation

92.4% of households prefer
KERBSIDE COLLECTION

Participation rates peaked between **34%** and **38%** within 3 months

50% more users than Red Cycle



Top 3 likes

- ☑ Circular plastics
- ☑ Government & industry collaboration
- ☑ Convenience

What's in the bag & the bin?

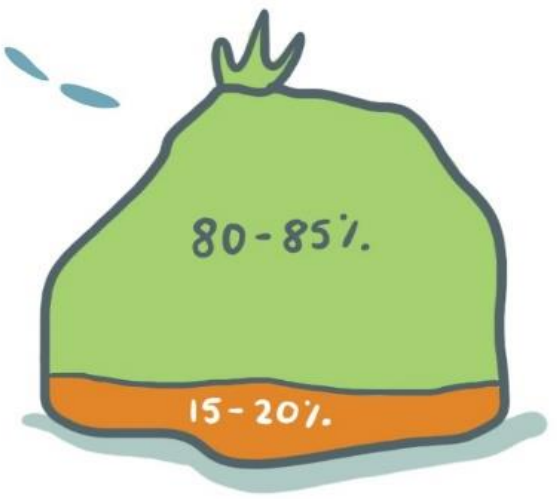
No evidence indicating residents are placing additional loose soft plastic in the bin

No statistical difference between trial and control samples:
→ Control: 1.8% loose soft plastic
→ Trial: 2.0% loose soft plastic

Bags contained less than 2% contamination

This is very low compared to recycling bins that commonly have 10-15% contamination.

80-85% of material is suitable for mechanical or advanced recycling



Detailed results are available in the full report

SUMMARY OF TRIAL RESULTS

Impacts on Recycling

Are bags breaking and spilling into other items?

Less than 1% of thick bags (50uM) tore and spilled into other material

<1%.

Do the 5% missed bags burst in MRF?

Between 83% and 95% of missed bags remained intact as they passed through the MRF, meaning the maximum failure rate is less than 0.8%. (17% of 5%.)

1% maximum failure rate in the MRF

Can the MRF's extract the bags?

95% of bags were captured at presort with no additional staff

5%.

Potentially capture missed bags with additional staff with product stewardship scheme support

Does soft plastic make paper or cardboard unsaleable?

0.3%.

Bagged soft plastics had **negligible impact** on outbound cardboard quality at 0.3% by weight

Paper & cardboard contamination rates by weight

8.0%	5.0%	0.2%	0.3%
MAX LOCAL THRESHOLD	EXPORT STANDARDS	CONTROL	TRIAL

Detailed results are available in the full report

Thanks to all the councils, MRFs and processors for your support throughout the trial period, as well as the Australian Government and NPRS supporter companies for the funding this initiative

SUPPORTERS OF SOFT PLASTIC RECYCLING

HARIBO
Arla
MAYERS
Arnott's Group
SCJohnson
A family company at work for a better world
unicharm
Fonterra
Dairy for life
PEPSICO
Australia & New Zealand
Snackbrands
Australia
L'ORÉAL
GROUPE
LACTALIS
AUSTRALIA
Primo
Kimberly-Clark
COLGATE-PALMOLIVE
FERRERO
Sanitarium
The Health Food Company
Bulla
FAMILY DAIRY
essity
MARS
SunRice Group
reckitt
goodman fielder
Mondelēz International
MASTER BAKER
CRIPPS
TASMANIAN SINCE 1878
Simplot
AUSTRALIA
accord
hygiene, personal care & specialty products industry
Kellanova
Kenvue
Saputo
Dairy Australia
kao
packitin
HALEON
Metcash
Peters
7 ELEVEN
Unilever
McCormick
P&G
PRINGLES
GWF
George Weston Foods Limited
Nestlé
General Mills
Making Food People Love
National Retail Association
AUSTRALIAN FOOD & GROCERY COUNCIL

Macedon Ranges
Shire Council
AlburyCity
CITY OF
Port Adelaide Enfield
Central Coast Council
City of Newcastle
City of Charles Sturt
CITY OF WODONGA VIC
CITY OF ADELAIDE

For more information visit:
www.afgc.org.au/industry-resources/national-plastics-recycling-scheme