

Soft Plastic Packaging Scheme

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on behalf of
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Sustaining Australia

Intro to National Plastics Recycling Scheme (NPRS)

- What is NPRS and what's been done to date
- Trials of what and where
- MRF audit results
- Household survey results
- Who's involved
- Next steps

What is the NPRS?

A product stewardship scheme to stimulate soft plastic recycling where a market failure exists

Brand and retailer levy directly invested into the recycling value chain, to drive:

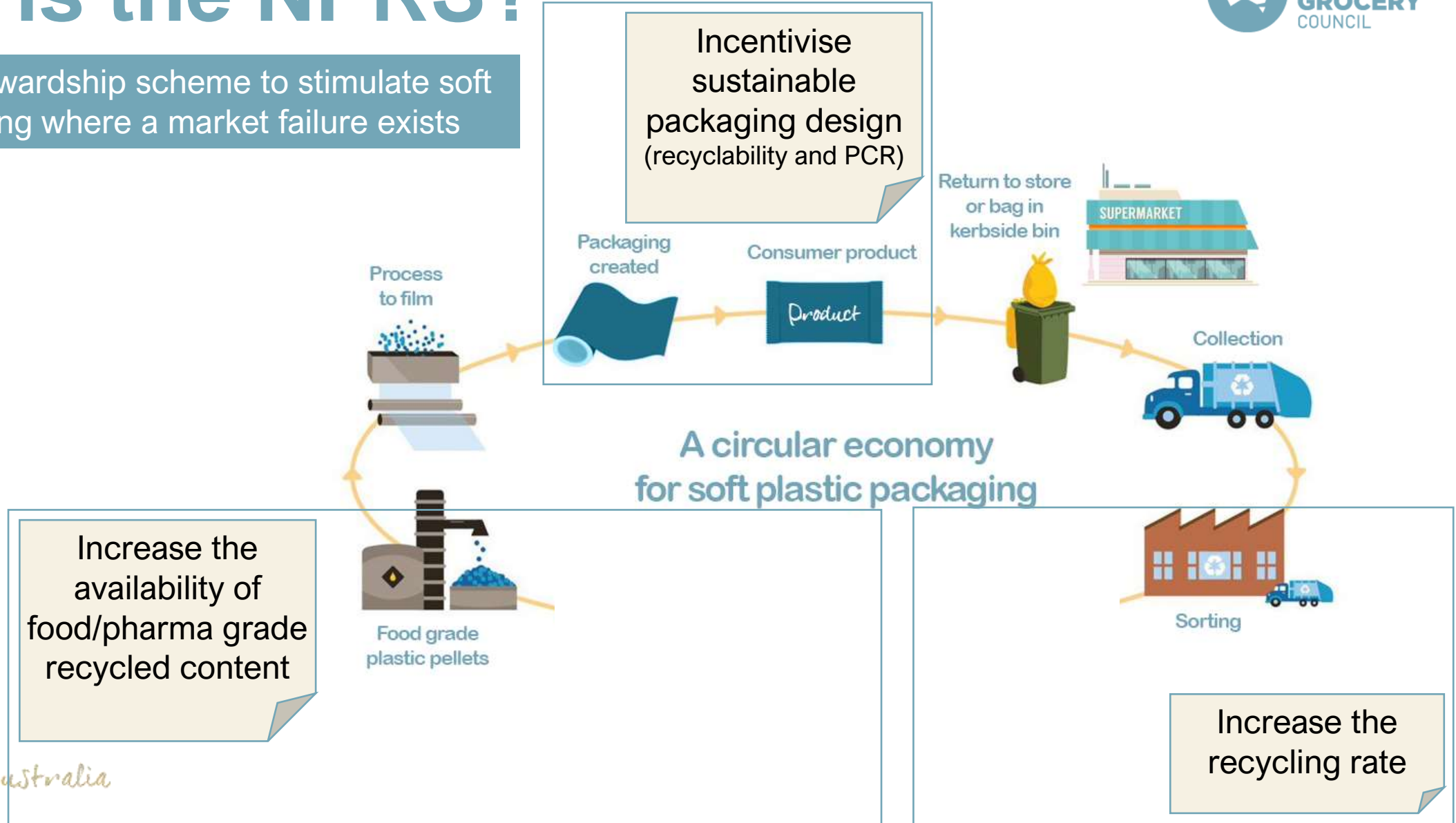
- ✓ robust end markets
- ✓ trust and transparency
- ✓ sustainable packaging design through eco-modulation
- ✓ circular economy



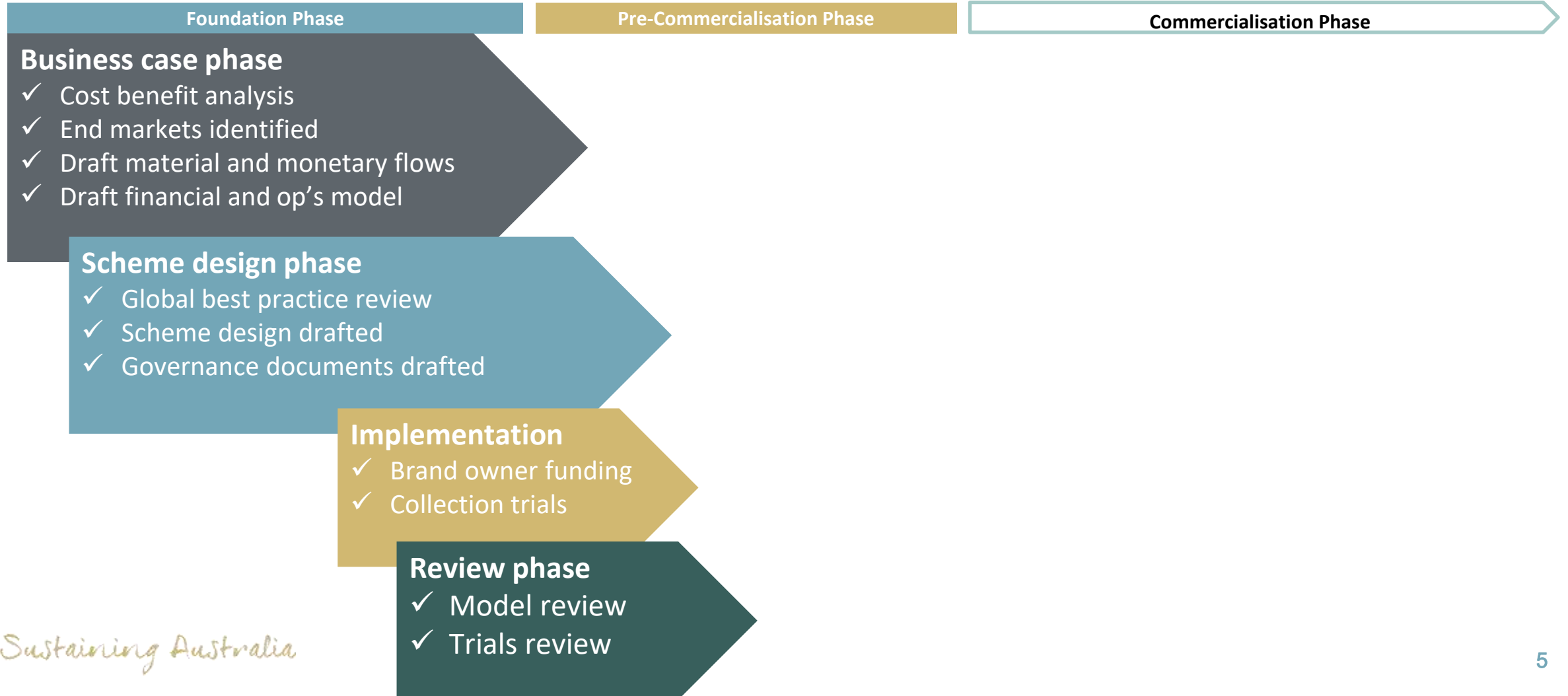
What is the NPRS?

A product stewardship scheme to stimulate soft plastic recycling where a market failure exists

3 Aims:

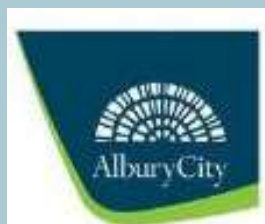


What has been achieved to date?



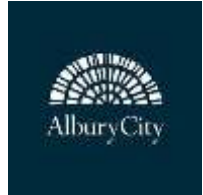
The first Trials | what we did

- Program trials collected soft plastics in 8,250 households, 6 councils, 3 states
- 4 different bag types, different colours and designs
- November 2022 - to March 2023 (data and reporting point) and through 2023
- Household participant survey to measure lived experience



SUPPORTERS OF SOFT PLASTIC RECYCLING

Trial Partners



NPRS Collection Trial Review

A review of audits and data

25th September 2023



The specialists in recycling, waste and planning



Background

NPRS Collection Trial



- November 2022 - September 2023
- ~32,000 households

Ongoing program

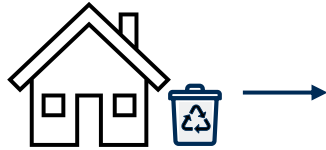
Councils	Albury	Wodonga	Macedon Ranges	Charles Sturt	Port Adelaide Enfield	City of Adelaide	Newcastle	Central Coast
Opt-in or designated	Designated	Designated	Designated	Designated	Designated	Opt-in	Opt-in	Opt-in
# of hhlds	1,000	1,000	2,250	2,000	1,000	<1,000	16,202	8,060
Participation	27%	24%	21%	13%	16%	(100%)	(100%)	(100%)
Bag	60uM Satchel Orange	60uM Satchel Orange	45uM Singlet Orange	45uM Singlet Orange	37uM Singlet Yellow	37uM Singlet Yellow	Any with QR tag	Any with QR tag
MRF	<u>Cleanaway MRF Albury, NSW</u>		<u>APR MRF Truganina, VIC</u>	CAWRA MRF Kilburn, SA			<u>iQ Renew MRF Somersby, NSW</u>	

- MRA scope:
 - Audited 3 MRF process flows
 - Bag conditions from 4 MRFs
 - Reviewed other data from EC Sustainable, Qenos and multiple Councils.

NPRS Trial Data

Scope: operations involving material coming into and out of MRFs

Households in
Trial Councils



- Household surveys – Councils

A) Inbound



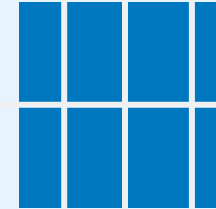
- Bin audits (inbound contamination) – Councils
- Bag weights – Councils, Qenos, EC Sustainable

B) Sorting



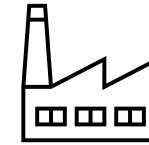
- Bag condition audits – MRA, EC Sustainable
- MRF sorting audits – MRA, EC Sustainable

C) Outbound



- Bale audits – EC Sustainable

Re-processors
of soft plastics



- Bag composition audits – Qenos

Material flows

B) Sorting capacity



Material flows

B) Sorting – where else do the bags go in the MRF?



If you don't have a pre-sort, 75% of bags travel over the ballistic separator to cardboard, 17% roll back to plastic, 2% fall through to paper

NPRS Collection Trial Review – Questions to answer

Scope: operations involving material coming into and out of MRFs

Households in participating Councils



Household survey

A) Inbound



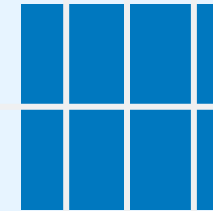
1. How many households participated?
2. How much did they put in the bin (kg)?
3. How much contamination was in the bags (%)?
4. Did the bags break (%)?
5. Did glass in the bin impact the bags?
6. Was inbound material contaminated?

B) Sorting



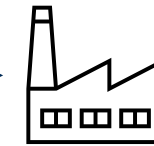
7. How effectively were the bags sorted in the MRF?
8. What happens when participation increases?
9. Where do missed bags go and do they burst?
10. Can bags be extracted at these locations?

C) Outbound



11. What was the impact on the quality of other streams?

Re-processors of soft plastics



Recyclability analysis
Qenos Lab

Conclusions

Can MRFs capture bags efficiently?

A) Inbound



- MRFs are an effective way to collect soft plastics from households.
- Bagged soft plastics had little effect on **inbound quality** (yellow bin) (EC Sustainable data):
 - **Control = 1.82%**
 - **Trial = 1.97%**
- Results are improved with a thicker gauge bag (<50uM)

B) Sorting



- Without pre-sort, majority of bags go to cardboard. Bursting and leakage increases as bags go through MRF equipment.
 - Therefore, pre-sort is preferred.
- Requires upgrades to operations: labour (1-4 people depending on MRF size) or equipment (e.g. robot)

C) Outbound

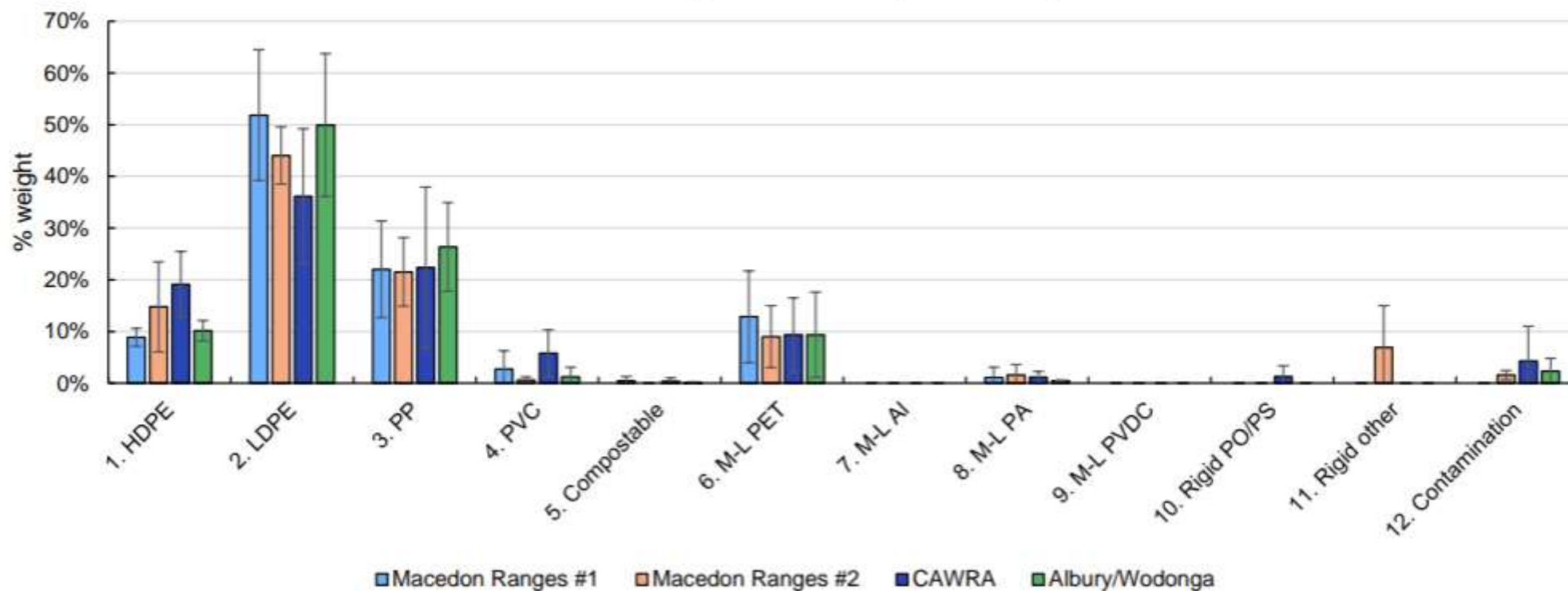


- Bagged soft plastics had little effect on outbound cardboard quality (EC Sustainable data):
 - **Control = 0.2% soft plastic**
 - **Trial = 0.3% soft plastic**

What's in the bag? Qenos Laboratory, March '23

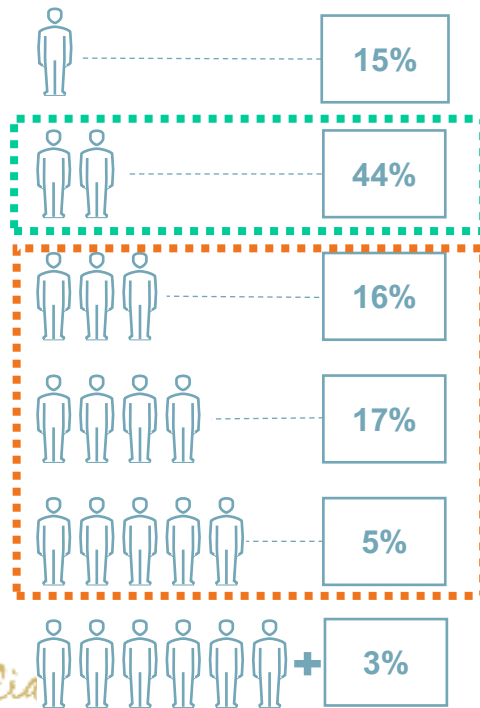
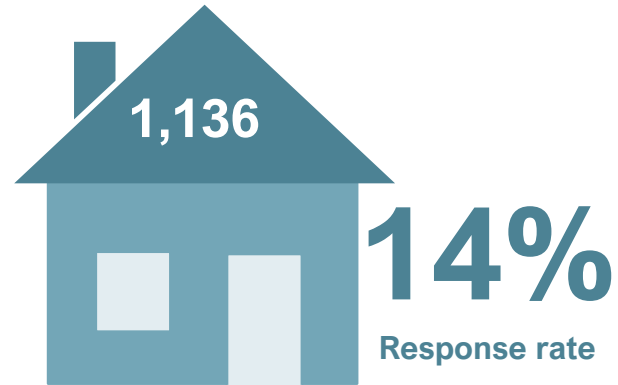
Satisfactory household contents, room for improved design

NPRS trials composition analysis in weight %



Household participant survey | key stats March '23

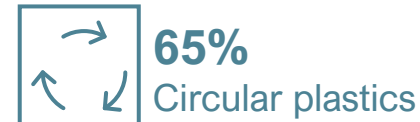
WHO



HOW



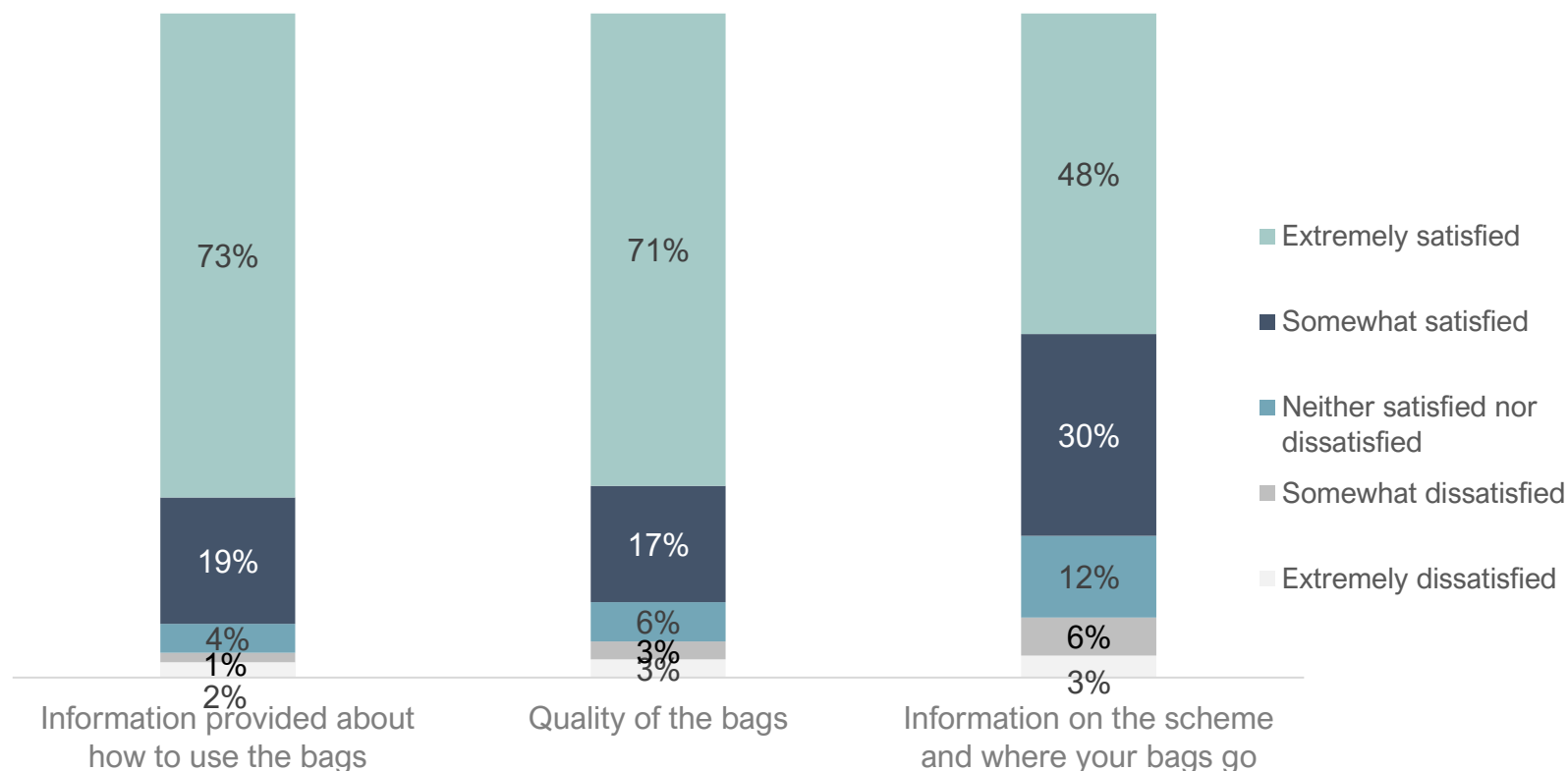
WHY



The Household User Experience

+90% user satisfaction drives individual engagement & altruistic ambition for the program to go broader & make a bigger impact

% satisfied or dissatisfied with the following aspects of the kerbside plastic scheme



The Key Insight

Recruitment of non-recyclers is proven

Convenience of at-home solution drives adoption & satisfaction

50%

were REDCycle
frequents

10%

were REDCycle
infrequents

1 in 3

were REDCycle
non users

50%

increase in household
penetration achieved

Next Steps

Foundation Phase

Completed:

- ✓ Business case
- ✓ Cost benefit analysis
- ✓ Global best practice review
- ✓ Scheme design drafted
- ✓ Governance arrangements drafted
- ✓ Collection trials
- ✓ End markets identified
- ✓ Draft material and monetary flows
- ✓ Brand funding
- ✓ Initial financial and operational modelling complete
- ✓ Critical review of progress to date complete

Pre-Commercialisation Phase

NFP entity establishment and recruitment

Return to store end markets, pilots and scale up

Behavioural research

Bag design standards

Traceability pilot

Refined collection and MRF pilot

RFI and model finalisation

Tenders & contracting*

Construction

Collections

Scheme design features

Bringing global best practice stewardship to Australia

- ✓ Independent NFP entity
- ✓ Representative board
- ✓ Advisory board – Whole of supply chain

- ✓ **Brand owner levy:**
 - ✓ **Reduce:** \$/T placed on market
 - ✓ **Recyclability:** Ecomodulated fee on packaging design - APCO/Ceflex guidelines
 - ✓ \$Incentive for **post-consumer recycled content** %)

 - ✓ Invested in end market development and gaps in supply chain (**hypothecation**)

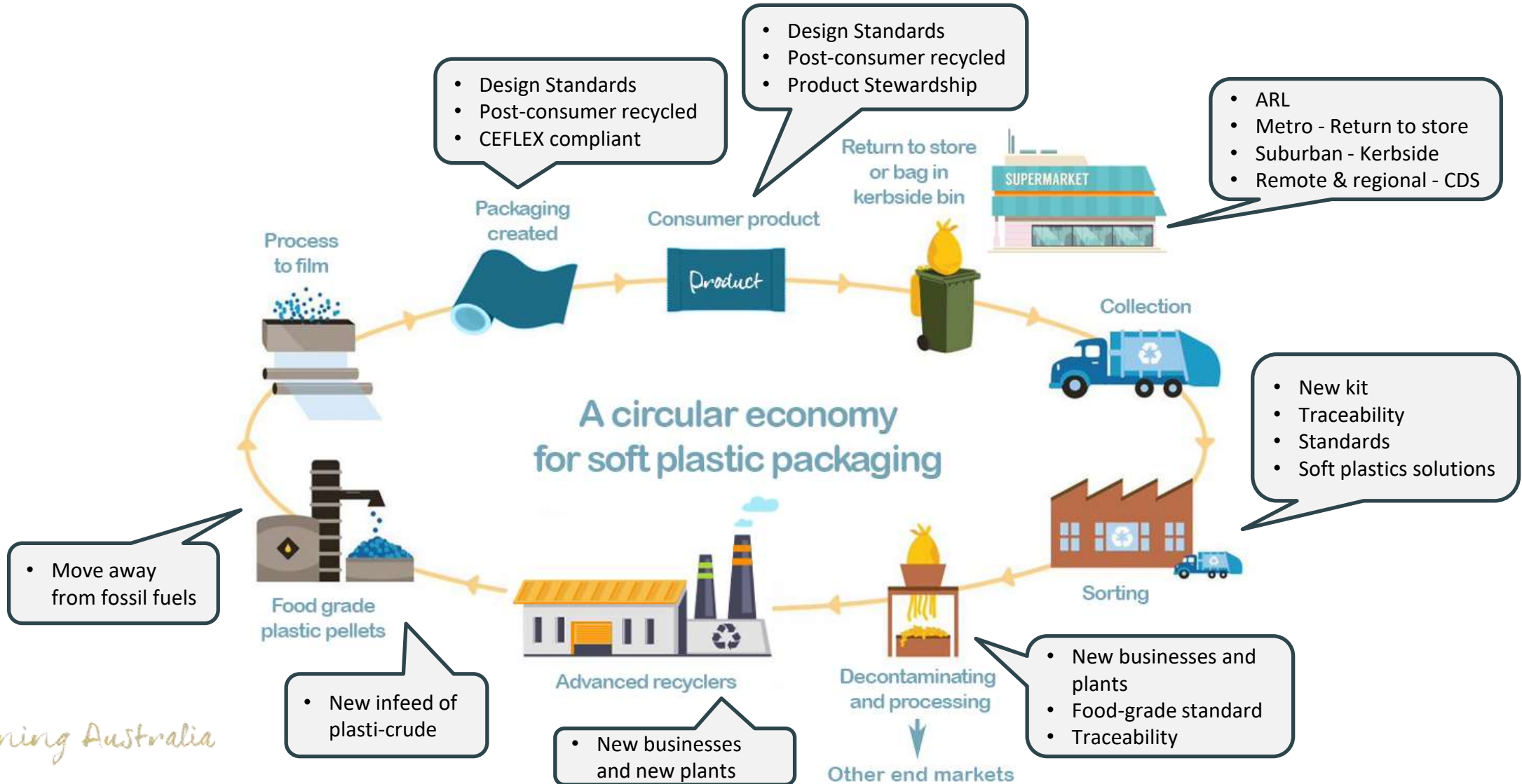
- ✓ Direct investment in infrastructure
- ✓ Brand's levies get invested in the value chain
- ✓ Long term stable governance

- ✓ Trust
 - ✓ Transparency and accountability
 - ✓ Traceability

Completed:

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Australia going circular plastics



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Sustaining Australia



Thank you

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