



Framing messages for priority interventions to reduce household food waste in Australia



**FIGHT FOOD WASTE**  
Cooperative Research Centre  
REDUCE - TRANSFORM - ENGAGE



Australian Government  
Department of Industry, Science,  
Energy and Resources

**AusIndustry**  
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## Prioritising Messages

This research was commissioned by the Project Steering Group for the Designing effective interventions to reduce household food waste project within Fight Food Waste Cooperative Research Centre. Project Steering Group members are:



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## Contents

List of Tables .....	ii
List of Figures.....	iiv
1 Executive Summary .....	1
2 Introduction .....	3
3 Methodology.....	5
4 Findings .....	10
Message development .....	10
Implications for communication .....	14
Findings from quantitative study.....	14
Methodology overview.....	14
Stated message behavioural intent .....	15
Derived message cut through .....	18
Summary .....	24
5 Recommendations .....	25
Strongest performing messages.....	25
Areas for message optimisation .....	25
Stated triggers or encouragement.....	26
Stated barriers to engagement .....	27
Ideal message channels & message channel trust .....	28
6 Message analysis based on demographics.....	29
Differences by gender, life stage and age.....	29
Stated message cut through.....	29
Juster Scale.....	31
Pre-post reported behaviour shift.....	32
EAST Framework results for other messages .....	35
Results by age group .....	37
Juster Scale.....	40
Pre-post reported behaviour shift.....	41
Further focus group findings.....	43
Behaviours explored relating to food waste .....	43
Context insight.....	44
7 References .....	46
8 Appendix.....	47

## List of Tables

<a href="#">Table 1. Interventions and behaviours used in phase six framing workshop</a>	6
<a href="#">Table 2. 8 messages and corresponding codes</a>	8
<a href="#">Table 3. Interventions and corresponding behaviours</a>	9
<a href="#">Table 4. EAST Framework results per message</a>	16
<a href="#">Table 5. Juster’s 11 Point Probability Scale</a>	17
<a href="#">Table 6. Message effectiveness on Intervention I behaviours</a>	19
<a href="#">Table 7. Message effectiveness on Intervention II behaviours</a>	19
<a href="#">Table 8. Message effectiveness on Intervention III behaviours</a>	20
<a href="#">Table 9. Message effectiveness on Intervention IV behaviours</a>	21
<a href="#">Table 10. Message effectiveness on Intervention V behaviours</a>	22
<a href="#">Table 11. Message combination effectiveness across all interventions</a>	23
<a href="#">Table 12. Message diagnostic performance</a>	25
<a href="#">Table 13. EAST by demographic for Message 1 Saving Money %</a>	29
<a href="#">Table 14. EAST by demographic for Message 2. Saving Money \$</a>	30
<a href="#">Table 15. EAST by demographic for Message 4. Loss aversion</a>	30
<a href="#">Table 16. EAST by demographic for Message 5. Environment</a>	31
<a href="#">Table 17. Juster Scale averages by demographic per message</a>	32
<a href="#">Table 18. Net SINK pre-post message test % by demographic</a>	32
<a href="#">Table 19. Net DINK pre-post message test % by demographic</a>	33
<a href="#">Table 20. Net Family pre-post message test % by demographic</a>	33
<a href="#">Table 21. Net Empty Nesters pre-post message test % by demographic</a>	33
<a href="#">Table 22. Net Male pre-post message test % by demographic</a>	34
<a href="#">Table 23. Net Female pre-post message test % by demographic</a>	34
<a href="#">Table 24. EAST by demographic for Message 3. Save for something special</a>	35
<a href="#">Table 25. EAST by demographic for Message 6. Feed another family</a>	35
<a href="#">Table 26. EAST by demographic for Message 7. Setting a good example</a>	36
<a href="#">Table 27. EAST by demographic for Message 8. Saving time and money</a>	36
<a href="#">Table 28. EAST by age for Message 1 Saving Money %</a>	37
<a href="#">Table 29. EAST by age for Message 2 Saving Money \$</a>	37
<a href="#">Table 30. EAST by age for Message 3 Save for something special</a>	38
<a href="#">Table 31. EAST by age for Message 4 Loss Aversion</a>	38

## Prioritising Messages

<a href="#">Table 32. EAST by age for Message 5 Environment</a>	38
<a href="#">Table 33. EAST by age for Message 6 Feed another family</a>	39
<a href="#">Table 34. EAST by age for Message 7 Setting a good example</a>	39
<a href="#">Table 35. EAST by age for Message 8 Saving time and money</a>	39
<a href="#">Table 36. Juster Scale averages by age per message</a>	40
<a href="#">Table 37. Message effectiveness on behaviours for Interventions I-V by 18-34 year old</a>	41
<a href="#">Table 38. Message effectiveness on behaviours for Interventions I-V by 35-44 year old</a>	41
<a href="#">Table 39. Message effectiveness on behaviours for Interventions I-V by 45-55 year old</a>	42
<a href="#">Table 40. Message effectiveness on behaviours for Interventions I-V by 55-64 year old</a>	42
<a href="#">Table 41. Message effectiveness on behaviours for Interventions I-V by 65+</a>	43

## List of Figures

<a href="#">Figure 1. Values Map, a framework of universal values</a> .....	7
<a href="#">Figure 2. Juster Scale % averages by message</a> .....	18
<a href="#">Figure 3. Message perception as boring or inappropriate</a> .....	26

# 1 Executive Summary

This research project is part of the Australian Fight Food Waste Cooperative Research Centre's (FFW CRC) *Engage program* and focuses on the problem of household food waste. The project delivers an evidence base for framing messages for priority interventions to reduce household food waste.

A three-stage methodology was utilised to co-design, refine and test message frames:

1. *Co-design workshop* with the FFW WP6 working group and Pollinate that used existing data and research conducted by the FFW CRC and other sources as a launching pad to co-design and optimise potential message frames. These message frames were focused on specific interventions as identified by FFW CRC as being critical to driving behaviour change.
2. *Qualitative focus groups* with individuals representing the three segments identified by FFW CRC to test, explore and refine the message frames.
3. *Quantitative online survey* with a robust national sample to test the message frames utilising a pre-post experimental design format prior to and after exposure to the message frames, along with message frame testing and diagnostics for optimisation.

Eight message frames were developed for testing and seven of the eight were shown to be effective at shifting behavioural intent related to priority interventions. However, three message frames were particularly effective across all metrics and have been identified as having a statistically significant impact at the 95% confidence level on shifting behaviours related to priority interventions:

1. *Save money: Reduce your grocery bill by 10% and have more money in your bank account each week/ Reduce your grocery bill by at least \$20 each week and save more than \$1000 a year on your grocery bills.*
2. *Loss aversion: Throwing out your food is throwing your money in the bin.*
3. *Environment: When you throw out food, you also waste the water, energy, labour and packaging used in its production.*

A fourth message frame was identified as effective – *Setting a good example: Reducing your food waste is an important life skill and sets a good example for your children and others around you.* This message was particularly effective among people with children.

Based on the findings from the qualitative research, it was hypothesised the message frames may not just work in isolation and analysis of the message frame combinations found the top four message combinations (out of a possible forty message combinations) all contained a 'save money' message.

## Prioritising Messages

Based on impact analysis of message frames we recommend 'the hook' of *saving money* be the lead message frame, supported with a message frame of *Loss aversion* or *Environmental* to maximise potential to drive behaviour change, and members of the FFW CRC progress into creative communications development with a dual message frame approach.

When asked how trustworthy different sources are regarding the messages tested, the health industry is rated as the most trusted communications source, yet there is nuance around which channels i.e., health professionals are significantly more trusted than health organisations. This is also the case for industry, where food products and packaging are a significantly more trusted communications source than companies producing food products.

We recommend the message frames be optimised in the following ways:

1. *Save money messaging*: This frame would benefit from clear, real-world examples – providing people with strategies to reduce waste that they can adopt.
2. *Loss aversion message frame*: a visual prompt of this message that could be seen in the home – such as a sticker on the kitchen bin – would assist in reminding people to try and use their leftovers rather than throw them out. Also, a visualisation of throwing money into the bin was mentioned as a possible creative expression of this message frame.
3. *Environment message frame*: this message frame brought a new (for some) perspective to food waste – bringing the wider process of the whole supply chain into the picture created greater emphasis on the importance of not wasting food. This included the water that went into producing the food, the energy from production and transport and packaging material used. Such waste of resources would more greatly contribute to the issue already of concern for most Australians, climate change. A balance between communicating the impact of this consumer action versus this being too big a problem to handle must be struck.

# 2 Introduction

The Fight Food Waste Cooperative Research Centre (FFW CRC) aims to tackle the global food waste challenge by reducing food waste throughout the food value chain, transforming unavoidable waste into innovative high-value co-products, and engaging with industry and consumers to deliver behaviour change. As part of the CRC's initiative focusing on household food waste, there are three programs under FFW CRC to address this problem – Reduce, Transform, and Engage. This is the sixth Work Package undertaken by the “Designing effective interventions to reduce household food waste” research project (the Household Project) within the “Engage” program at Fight Food Waste Cooperative Research Centre (FFW CRC).

The seven Work Packages (WP) are:

- WP1 - Australian household attitudes and behaviours national benchmarking study
- WP2 - Australian household food waste behaviours, attitudes and perceived and actual food waste
- WP3 - Profiles of Australian households for food waste reduction interventions
- WP4 - Global best practice for designing interventions to reduce household food waste
- WP5 - Priority behaviours for interventions to reduce household food waste in Australia
- WP6 - Framing food waste reduction messages
- WP7 - Methodologies to measure impact of priority interventions to reduce household food waste in Australia

The sixth phase delivers an evidence base for framing messages for priority interventions to reduce household food waste. The messages developed will be used by other stakeholders to facilitate improving the effectiveness of priority household food waste interventions, targeting specific consumer segments and specific behaviours.

Previous phases of the project included a data-driven segmentation analysis and qualitative interviews with individuals from each of the three segments identified to benchmark and understand Australian householders' attitudes, perceptions, and behaviours in relation to producing and managing food waste (Karunasena, Pearson, Borg, & Boulet, 2021).

While previous phases worked at a segmentation level, the sixth phase focuses on message framing for priority interventions of household food waste among Australians who are primary food buying and disposal decision makers. The research consisted of a three-step approach; 1. framing messages workshop with FFW CRC team and stakeholder, 2. qualitative evaluation with consumers and 3. quantitative message testing with the wider population.

## Prioritising Messages

This report presents the project outcomes and is divided into the following sections:

1. A description of the food waste messages, how they were developed through a co-design workshop and qualitative research, and quantitatively tested to deliver both stated and derived message cut through.
2. Recommendations for message use, triggers of encouragement, barriers to engagement and trusted information sources for the top 3 messages.
3. Outlined differences of both stated and derived message cut through for the top 3 messages by life stage.
4. A detailed discussion of the message analysis including the methods used and results.
5. A detailed discussion of the focus group process including the methods and results.
6. Appendices for the more technical details of the message analysis, the focus group process and participant recruitment criteria.

### 3 Methodology

Development of messages involved two steps: (1) a message development workshop with Pollinate, the FFW CRC team and relevant stakeholders to develop framing messages; and (2) qualitative evaluation of 3 one-hour online focus groups with consumers. Framing messages were developed in step 1 and then narrowed down and optimised in step 2, prior to step 3, quantitative testing where they were tested in conjunction with the interventions and corresponding behaviours.

#### Workshop

The first step of the research was a message development framing workshop with FFW CRC team (household project steering committee) and relevant stakeholders. The purpose of the workshop was to generate messages or “ways in” to start a dialogue with consumers about how to reduce food waste and most likely to encourage behaviour change.

Five motivation frames were used when framing each message. Motivation were taken from Work Package one Australian household food waste: A summary of behaviours, attitudes, perceived and actual food waste (Karunasena & Pearson, 2021) research:

1. Saving money (from the cost of food not eaten)
2. Saving the planet (scarce water, energy and other resources are used up in the food not eaten)
3. Doing the right thing (providing benefits for others in society)
4. Creating habits (based on upbringing/culture/spiritual beliefs)
5. Setting a good example (for family and friends)

For each frame, participants were asked to generate messages that target each of the interventions identified in Work Package 5 Priority behaviours for interventions to reduce household food waste in Australia (Ananda, Karunasena & Pearson, 2021) (shown in the table below) e.g., What are all of the ways that we can articulate ‘saving money’ that can change consumer behaviour around eating leftovers?

## Prioritising Messages

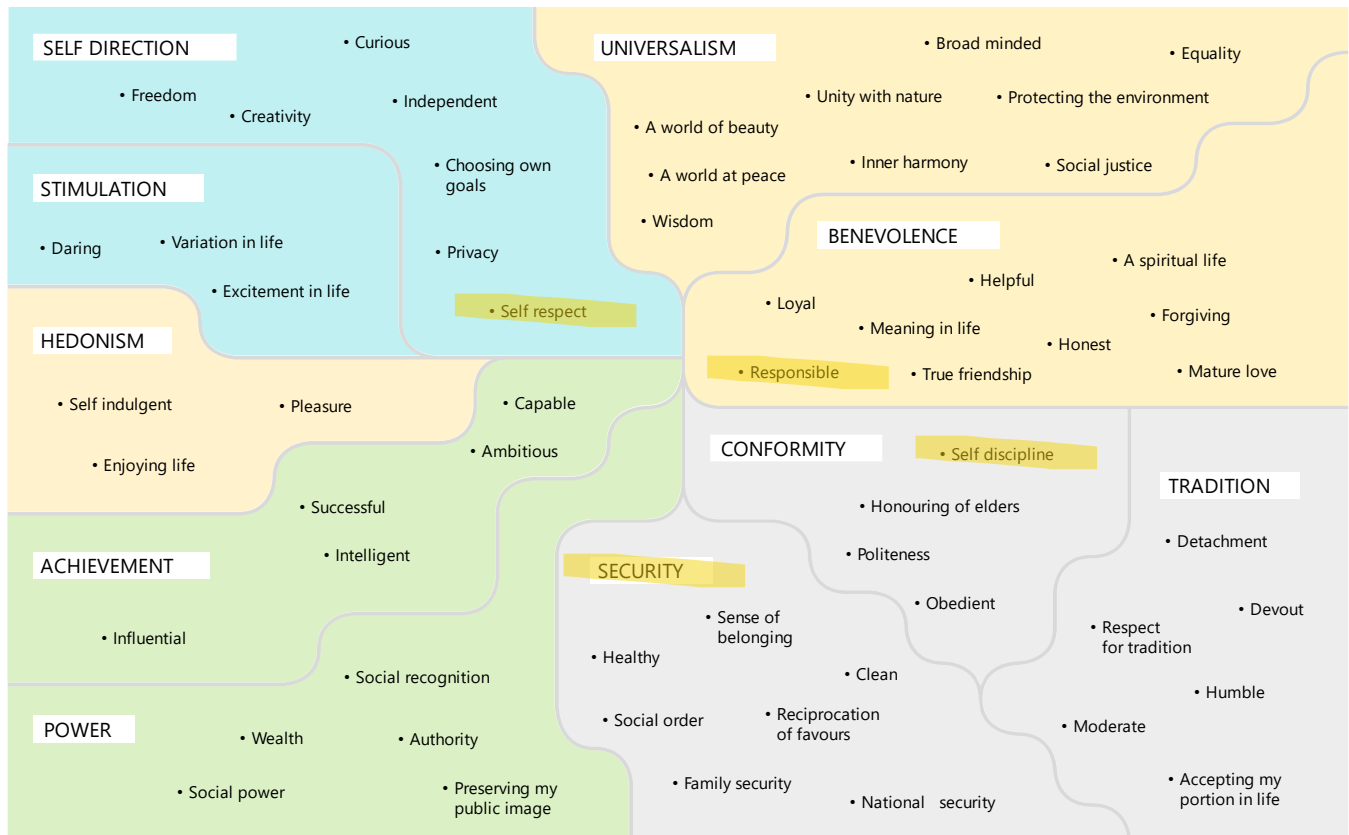
Table 1. Interventions and behaviours used in phase six framing workshop

#	Interventions	Examples of specific behaviours
1	General awareness raising about amounts, significance of household and impact of food waste	*Ensuring consumers see themselves as able to reduce food waste and currently contributing to the food waste issue
2	Purchase appropriate amount using shopping list	<ul style="list-style-type: none"> <li>• Look, plan meals, write list, shop based on the list</li> <li>• Plan for changes in plans</li> </ul>
3	Appropriate storage in fridge/freezer	<ul style="list-style-type: none"> <li>• Store products correctly to optimise life</li> <li>• Ensure products are visible when stored in fridge/freezer/cupboard</li> </ul>
4	Eat leftovers	<ul style="list-style-type: none"> <li>• Encourage storage of leftovers and eat them before they go off</li> </ul>
5	Eat oldest items first	<ul style="list-style-type: none"> <li>• Label a shelf within the fridge as "Use me first" and store items on this shelf that need to be eaten sooner</li> </ul>
6	Prepare appropriate amount	<ul style="list-style-type: none"> <li>• Based on anticipated number of people and their appetite</li> </ul>
7	Encourage small servings	<ul style="list-style-type: none"> <li>• Encourage small serving with opportunity to have second helping</li> </ul>

Messages were then captured, collated, and voted upon by the group to be taken into the qualitative evaluation phase. When looking at the messages that were to be taken forward, it was ensured they aligned with core human values and provided breadth to see where the 'heat' sits with consumers (see Figure 1, below).

## Prioritising Messages

Figure 1. Common Cause Values Map: a framework of universal values to develop compelling brand. (Holmes, T., Blackmore, E., Hawkins, R., Wakeford T. (2011).



### Qualitative evaluation

Step 2, Qualitative Evaluation, consisted of 3 one-hour online focus groups with 4 to 6 six participants in each group. Participants were recruited and grouped based on their life stage and food purchasing and waste behaviours to align with previously identified segments (Karunasena, Pearson, Borg, & Boulet, 2021) – Considered Planners, Over Providers, Under Planners.

Within each session participants were shown 9 hypothesised motivations for reducing food waste with a number of statements attached to each. They then explored and discussed and optimised each in turn.

### Quantitative test

Eight messages (Table 2) were tested among n=1000 Australians who were influential food decision makers within their household. Previous research outlined five stages for a household in acquiring, managing and disposing of food. These stages were, *planning for food shopping, doing the food shopping, unpacking and storing the food, food preparation including cooking and disposing of food not eaten*. It was decided that the quantitative phase would have respondents who were mainly or equally responsible for minimum three out of five stages. This was to ensure the sample was representative of primary food buying and disposal influencers and decision makers in the home.

## Prioritising Messages

Due to this sample screening requirement for the sample, a nationally representative sample was not possible. This sample skewed female with males and less young adult Australians than would be expected with a nationally representation The sample location, however, were reflective of the national population.

Table 2. Eight messages and corresponding codes

Message #	Message theme	Message shown
1	Save Money %	Reduce your grocery bill by 10% and have more money in your bank account each week
2	Save Money \$	Reduce your grocery bill by at least \$20 each week and save more than \$1000 a year on your grocery bills.
3	Save for something special	Have more money in your bank account each week to save for something special
4	Loss aversion	Throwing out your food is throwing your money in the bin
5	Environment	When you throw out food, you also waste the water, energy, labour and packaging used in its production
6	Feed another family	The food your household throws away every month, could feed another family for three days
7	Setting a good example	Reducing your food waste is an important life skill and sets a good example for your children and others around you
8	Saving time and stress	Planning your meals and shopping make life easier by saving you time and stress

Each respondent was shown 3 messages with the possibility of seeing 1 of 40 message combinations. Possible message combinations are shown in the grid below and order of messages shown within allocated combination was randomised. For example, participant allocated combination 157 would see messages 1, 5 and 7, with nine potential order combinations.

145	157	245	257	345	357	456	478
146	158	246	258	346	358	457	567
147	167	247	267	347	367	458	567
148	168	248	268	348	368	467	578
156	178	256	278	356	378	468	678

Message were tested against the 19 behaviours outlined in table 3 for pre-post analysis. Each behaviour corresponds to one of 5 interventions identified in previous FFW CRC. Interventions were not explicitly outlined in the quant survey, rather used as a guide for quantitative analysis.

## Prioritising Messages

Table 3. Interventions and corresponding behaviours

Intervention #	Intervention type	Behaviour codes	Behaviour
I	Shop for the appropriate amount	A	Check what food is in the cupboard before going shopping
		B	Plan the meals to be cooked before grocery shopping
		C	Create a shopping list based on meal plan
		D	Only buy what is on the shopping list
II	Cook meals planned	E	Consider how many meals need to be cooked that week
		F	Check how many people will be home/away that week
		G	Meal plan for three to four days, leaving flexibility for unexpected events
		H	Cook meals that were planned
III	Prepare appropriate amount	I	Think carefully about quantities needed to meal plan
		J	Measure ingredients necessary for the meal
		K	Aim not to have any leftovers
IV	Small plate serves	L	Check hunger levels before cooking
		M	Check hunger levels before serving
		N	Encourage small serving sizes with the opportunity for seconds
		O	Encourage leaving nothing on the plate
VI	Store and eat up leftovers	P	Use up the oldest food first
		Q	Have a 'use up food in kitchen day' each week
		R	Store leftovers correctly
		S	Eat leftovers so they don't go to waste

# 4 Findings

### Message development

#### *Saving money*

In the focus groups seven different ways of expressing saving money were explored:

- i. Average Australian household throws away \$30 of edible food in the bin each week
- ii. Reduce your grocery bill by ¼ each week
- iii. Save \$50 a week on lunch
- iv. More money in your bank account each week
- v. More money for your family
- vi. Save money to spend on something special
- vii. In one year, you could save enough for a holiday

As an overall theme, *Saving Money* was by far the strongest and most compelling motivation for people to reassess their habits regarding food, shopping, planning, and preparation.

Consumer discussion around the strengths and weakness of each of the seven statements determined how to optimise these messages for quantitative testing.

Statements which outlined tangible dollar (\$) amounts of money highlight the idea of wasted money and these were more compelling. 'Reducing your grocery bill by a quarter each week' or 'saving \$30' offered an immediate and tangible benefit each week and an immediate pay off. The weekly amount that added up was a reminder of the difference small changes could make over time.

*"Well, hang on, \$30 a week, \$30 x 52 that is a friggin lot a s\*\*load of money and then they can lead their own decision or thought process on what is most important to them to spend that money on. Not everybody is focused on family, not everyone is on holidays but \$30 a week that resonates to anybody because that is money in your pocket" (Under planners)*

Saving money was a reminder of how throwing food away was "like money down the drain". And this in turn was motivating not really because of how much money they saved (although for some people this was meaningful) but a reminder that it was wasted money (and resource) and that loss aversion is more motivating than gains for many people.

Message statements such as *More money in your bank account each week, more money for your family* while positive, were considered too general and did not denote real money.

The idea of saving enough for a holiday /something special conveyed the idea of money adding up over time.

Given the response to these statements they were further refined and developed into messages 1,2 and 4 in the quantitative phase.

## Prioritising Messages

### *Reducing impact on the planet*

Four different statements were explored under this theme:

- i. Water, energy, labour and packaging used in preparing your food is also wasted when food is thrown away
- ii. Australians throw out more food per household than any other country in the world (other than US)
- iii. When food is thrown out, it emits as much carbon as the packaging it comes in
- iv. If 'food waste' were a country, it would be the third highest global emitter

Overall, reducing impact on the planet is a secondary and supporting motivation for reducing food waste as reducing harm to the planet is so front of mind for people. However, in talking about the impact of food waste it is important to remain specific about food waste and not get lost in the bigger "wicked" problem of carbon emission and climate change.

*"I always think about how much water they used to make it, what is the environmental impact as well – that is a lot of carbon emissions, that is a lot of water that has gone to waste and also it does come down to money and 'how I had to work and it was just thrown that away'." (Considerate Planners)*

*Water, energy, labour and packaging used in preparing your food is also wasted when food is thrown away* made people think about **how** food waste is a problem for the planet. And was news in in the context of food waste.

*Australians throw out more food per household than any other country in the world.* This comparison only served to put people in judgement mode, talking about others and not self, and therefore less likely to look at their own behaviours.

*When food is thrown out, it emits as much carbon as the packaging it comes in, and if 'food waste' were a country, it would be the third highest global emitter* gets lost in the bigger carbon emission discussion which is confusing and disengaging for many people. Reducing food waste gets lost as an issue that starts in the home and disempowers people to do anything about it.

*"When it talks about the technicalities of the water, the energy, the labour and the plastic and carbon so I get it but when you put it in comparison to, America and China are two biggest contributors of carbon emissions and gasses you think what on earth are we doing, why are we doing that." (Over providers)*

*"It takes the responsibility out of my hands a bit and doesn't really hit home for me because there are too many variables in it." (Under planners)*

*"I think people get confused with the whole carbon debt issue these days, what does it mean. Carbon emissions, our requirement as part of the carbon processes in the globe and I just think it doesn't have as much impact because people just don't understand it." (Considerate planners)*

## Prioritising Messages

### *Doing the right thing*

Six different statements were explored under this theme:

- i. The food your family bins every month, could feed another family for three days
- ii. The food your family bins in a week, could feed a homeless person for two days
- iii. We have enough food for everybody, yet some people in Australia still go hungry
- iv. The average Australian household throws away five shopping trolleys of food every year
- v. Consider the time, effort and care that has gone into preparing your food, think again before you throw it in the bin
- vi. Looks are only skin deep, 'imperfect' fruits and vegetables are just as tasty and nutritious

While consumers agree with this sentiment as a reason to reduce food waste, overt communication taking the 'moral high ground' only serves to trigger guilt rather than encourage behaviour change.

*The food your family bins every month could feed another family for three days, The food your family bins in a week could feed a homeless person for two days, and We have enough food for everybody, yet some people in Australia still go hungry* while somewhat shocking and guilt inducing get conflated with and lost in the bigger problem of poverty and inequity. Thus, losing effectiveness.

*The average Australian household throws away five shopping trolleys of food every year* was seen to carry the same message a throwing away/ wasting money or resources.

*"It is like Australians want to feel proud of their country and what they do and to see that we are only second behind the US is like a little bit of a slap in the face." (Under planner)*

*"I don't know if the comparison is helpful." (Under planner)*

*Consider the time, effort and care that has gone into preparing your food think again before you throw it in the bin, and Looks are only skin deep, 'imperfect' fruits and vegetables are just as tasty and nutritious* lacked motivation or relevance in the context of encouraging behaviour change.

### *Setting a good example*

Four different statements were explored under this theme:

- i. Involving children in food planning, shopping and preparation teaches them important life skills
- ii. Children taught to plan, shop and prepare meals before they move out of home make better housemates
- iii. Good food planning, shopping and preparation sets a good example for others around you
- iv. Children do what you do, not what you say - so set a good example in planning, your food shopping and preparation

## Prioritising Messages

Consumers felt this theme worked as an extension and/ or consequence of 'doing the right thing' to reduce food waste - it was not a motivation in and of itself. That said, they thought getting children involved in food planning, and preparation was a good thing in life generally but not specifically just about reducing food waste.

### *Five additional themes explored*

In addition to the 5 key frames, an additional 4 were identified as having merit in exploring further. These were:

- Habits
- Health
- Taste
- Time saving
- Creativity

#### *a. Habits*

One message was tested here: Make a habit of using all the food you have in the fridge before you buy

This statement lacked specificity, did not offer any new ideas and therefore sounded "preachy" so was not taken through to quantitative phase.

#### *b. Health*

Message tested was: Smaller serving sizes are better for you, your children, and the planet

This idea was confusing and rejected by most people because food waste message got lost in the broader debate about health, nutrition, and obesity.

#### *c. Taste*

Message tested was: Foods like Bolognese tastes even better the next day

This was a statement of personal preference and not seen as an opportunity to change behaviour.

#### *d. Time*

Message tested was: Good food planning, shopping and preparation helps you save time and stress in preparing meals for the week

This is a core idea and at the heart of reducing food waste for those who are more conscious. However, this requires considerable time and effort upfront, which is a barrier for many people."

*"I was going to say I think for a lot of people it is sometimes just a skill that they don't have they are just not that way inclined and they really need to be lead by the hand and shown how to do it and it is all well and good to say" (Over providers)*

*"You need to do a meal plan and a shopping list' but for some people, that is so foreign that they wouldn't know where to start with it." (Considerate Planners)*

## Prioritising Messages

### *Creativity*

Message tested was: It is rewarding to create a meal out of food left in the fridge

The idea of food waste, the idea of using food in the fridge to make a meal is more akin to resourcefulness than creativity.

In summary a money-focused message frame appeared to resonate the most from the qualitative research phase. As summed up by one focus groups participant:

*"I think with most people it would still be [driven by] money even though we are still worried about all those bigger picture things which are incredibly important, I think the bottom line in getting people across is the money." (Considerate Planners)*

### *Implications for communication*

Communication should be anchored in the individual level, what each person can do, to avoid making the problem too big or some else's responsibility. Communication needs to provide a way for people to feel less guilty about food waste, not tapping into their guilt, by giving them easy, practical behaviours they can adopt themselves.

### *Findings from quantitative study*

#### *Methodology overview*

Message impact was measured via stated message behavioural intent utilising the EAST Framework and the Juster scale and derived message behavioural shift using a pre-post methodology.

The EAST Framework, utilised across the world as a straightforward framework to encourage a behaviour by making it Easy, Accessible, Social and Timely (*Four Simple Ways to Apply Behavioural Insights* <https://www.bi.team/publications/east-four-simple-ways-to-apply-behavioural-insights/>) was used to assess message likelihood to drive behaviour change.

The Juster scale was used to measure stated behavioural influence. The Juster scale is an 11-point probability scale used to estimate the average probability a population will perform a behaviour by a future time.

Noting the potential for a self-reporting bias i.e., the likelihood of respondents to over-report intent to perform a behaviour in a survey, a pre-post methodology was the core of the quantitative research design, to derive rather than directly ask, message impact.

The pre-post methodology involved a list of food waste related behaviours being prior to showing respondents any messages, as *How often do you, or another member of your household, do the following?* After seeing the messages respondents were then asked *After seeing these messages today, **how often will you**, or other members of your household, do the following?*

To determine message effectiveness, the shift between the percentage of respondents who said they *Almost all the time (over 90%)* performed a behaviour in the pre-measure was compared to the percentage of respondents who said they *Almost all the time (over 90%)* will perform a

## Prioritising Messages

behaviour in the post-measure. The % shift in pre-post behaviour for five interventions and the specific behaviours related to each intervention was then analysed to determine the message impact.

### *Stated message behavioural intent*

#### *EAST Framework*

Using the EAST framework, participants were asked to rate each message shown on how easy, attractive, social and timely the message was to them on a 5-point scale from *1 Strongly Disagree* to *5 Strongly Agree*. Reported percentages are those who selected 4 or 5 out of 5 (Agree and Strongly agree).

The first principal, Easy refers to the simplicity of the process required for behavioural change. Participants were asked to state whether they agree with the statement, *Is easy to understand what the message is saying* in reference to the message shown. Attractive refers to drawing attention to the communication where participants were asked, *I can see the benefit to me*. Social refers to collective action such as describing how other people perform desired behaviours and were asked *Would resonate with others (i.e, Family, and friends)*. Lastly, Timely refers to timeliness of costs and benefits where participants were asked to state whether they agree of the message *Motivates me to act differently*.

Message 2. Save Money \$ consistently recorded highest agreement for all four principals with an agreement average of 74%. Message 1. Save money % was second most likely to drive behaviour change with an agreement average of 67%. The additional 6 messages were less effective in driving behaviour change, all reporting agreement average of less than 50% as shown in Table 4.

*Easy* was consistently the highest reported metric of all four EAST framework principals. *Attractive* recorded the second highest score across all messages. This suggests that out of all four metrics, the food waste messages are mostly easy to understand and indicate the benefit to the individual. There is still opportunity for improvement with messages 5,7, 6, 8 and 3 scoring close to half agreement. Other areas for improvement are both the social and timely elements of the message, with all but message 2 and 1 reporting less than 41% agreement scores for these metrics.

# Prioritising Messages

Table 4. EAST Framework results per message

#	Message	Statements					Average across all four principles	Shown message
		Easy Is easy to understand what the message is saying	Attractive I can see the benefit to me	Social Would resonate with others (i.e. Family and friends)	Timely Motivates me to act differently	n=		
2	Save Money \$	82%	80%	71%	66%	74%	250	
1	Save Money %	78%	71%	59%	61%	67%	251	
4	Loss aversion	58%	49%	38%	41%	47%	451	
5	Environment	53%	42%	32%	37%	41%	449	
7	Setting a good example	52%	41%	32%	33%	40%	248	
6	Feed another family	51%	35%	29%	30%	36%	451	
8	Saving time and stress	47%	41%	28%	26%	36%	450	
3	Save for something special	48%	38%	26%	28%	35%	248	

## Prioritising Messages

### *Juster Scale*

The Juster scale was used to identify the top performing messages based on stated behavioural influence. The Juster scale is an 11-point probability scale used to estimate the average probability a population will do something by a future time.

Participants were asked: "how likely is this message to influence your behaviour to reduce the amount of food you throw away?". They had to rate this on an 11-point scale outlined in Table 5. The average response was translated into a probability for the wider Australian population, to determine the percentage likely to reduce the amount of food thrown away after seeing the message.

Table 5. Juster's 11 Point Probability Scale

Score	Verbal equivalent
0	No chance, almost no chance (1 in 100)
1	Very slight possibility (1 chance in 10)
2	Slight possibility (2 chances in 10)
3	Some possibility (3 chances in 10)
4	Fair possibility (4 chances in 10)
5	Fairly good possibility (5 chances in 10)
6	Good possibility (6 chances in 10)
7	Probable (7 chances in 10)
8	Very probably (8 chances in 10)
9	Almost sure (9 chances in 10)
10	Certain, practically certain (99 chances in 100)

All eight messages recorded strong probability to influence food wastage behaviour with greater than 65% probability for all messages. Message 2. *Save Money \$* and message 4. *Loss aversion* both recorded the largest probability for influence with 74% likely to reduce the amount of food you throw away. This was closely followed by 5. *Environment* and 7. *Setting a good example* with 71% and 70% probability for behaviour influence respectively.

## Prioritising Messages

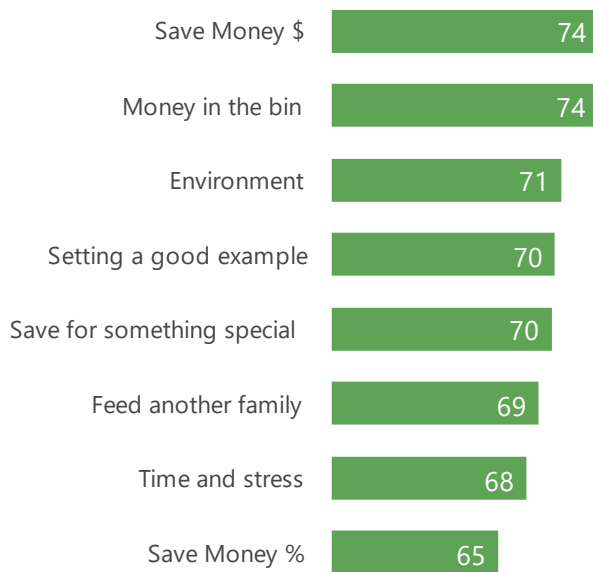


Figure 2. Juster Scale: % averages of the population to report they would reduce the amount of food thrown away in response to message shown

### *Derived message cut through*

The frequency of nineteen behaviours relating to the top five food waste interventions (identified by FFW CRC in previous research) was measured using a pre-post methodology, as outlined above in the Methodology overview. The following outlines the % shift in pre-post behaviour for five interventions and the specific behaviours related to each intervention by message shown to respondent.

#### *Intervention I: Shop for the appropriate amount – message effectiveness*

Seven of the eight messages recorded a significant shift in current vs. future reported behaviour for the behaviours related to Intervention I. Message 8. *Saving time and stress* recorded the largest shift on behaviours related to Intervention I, particularly for the % shift in current vs. future reported behaviour for *Create a shopping list based on meal plan* – a pre-post +12% shift, as shown in the table below.

## Prioritising Messages

Table 6. Message effectiveness on behaviours for Intervention I: Shop for the appropriate amount

#	Message Shown	% pre-post shift in reported Almost all the time (over 90%)					Shown message (n=)
		NET Intervention 1 behaviours	Check what food is in the cupboard before going shopping	Plan the meals to be cooked before grocery shopping	Create a shopping list based on meal plan	Only buy what is on the shopping list	
8	Saving time and stress	10%	13%	14%	15%	14%	450
1	Save Money %	9%	10%	15%	15%	14%	251
2	Save Money \$	8%	13%	10%	15%	15%	250
4	Loss aversion	8%	10%	12%	12%	18%	451
5	Environment	8%	9%	13%	13%	16%	449
6	Feed another family	7%	12%	13%	12%	17%	451
7	Setting a good example	6%	10%	11%	10%	15%	450
3	Save for something special	4%	8%	13%	9%	18%	248

### *Intervention II: Cook meals planned – message effectiveness*

Only one of the eight messages recorded a significant shift in current vs. future reported behaviour for the behaviours related to Intervention II. Message 1. *Saving money %* recorded the largest shift on behaviours related to Intervention II, particularly for the % shift in current vs. future reported behaviour for *Meal plan for three to four days, leaving flexibility for unexpected events* – a pre-post +14% shift.

Table 7. Message effectiveness on behaviours for Intervention II: Cook meals planned

#	Message Shown	% pre-post shift in reported Almost all the time (over 90%)					Shown message (n=)
		NET Intervention 2 behaviours	Consider how many meals need to be cooked that week	Check how many people will be home/away that week	Meal plan for three to four days, leaving flexibility for unexpected events	Cook meals that were planned	
1	Save Money %	8%	13%	2%	14%	16%	250
7	Setting a good example	4%	13%	6%	17%	12%	450
4	Loss aversion	3%	12%	2%	13%	9%	451
5	Environment	2%	11%	5%	16%	11%	449
6	Feed another family	2%	14%	4%	14%	11%	451
8	Saving time and stress	1%	11%	10%	15%	12%	450
2	Save Money \$	0%	8%	9%	16%	8%	251
3	Save for something special	-3%	11%	0%	17%	9%	248

## Prioritising Messages

### *Intervention III: Prepare appropriate amount – message effectiveness*

All eight messages recorded a significant shift in current vs. future reported behaviour for the behaviours related to Intervention III. Message 1. *Saving money %* recorded the largest shift on behaviours related to Intervention III, particularly for the % shift in current vs. future reported behaviour for *Aim not to have any leftovers* – a pre-post +19% shift.

Table 8. Message effectiveness on behaviours for Intervention III: Prepare appropriate amount

#	Message Shown	% pre-post shift in reported Almost all the time (over 90%)				Shown message (n=)
		NET Intervention 3 behaviours	Think carefully about quantities needed to meal plan	Measure ingredients necessary for the meal	Aim not to have any leftovers	
1	Save Money %	16%	12%	12%	19%	251
8	Saving time and stress	13%	14%	16%	17%	450
6	Feed another family	13%	13%	14%	17%	451
7	Setting a good example	12%	9%	15%	14%	450
3	Save for something special	12%	13%	12%	14%	248
4	Loss aversion	12%	12%	12%	14%	451
5	Environment	11%	13%	11%	16%	449
2	Save Money \$	8%	12%	15%	13%	250

## Prioritising Messages

### *Intervention IV: Small plate serves – message effectiveness*

All eight messages again recorded a significant shift in current vs. future reported behaviour for the behaviours related to Intervention IV, with all messages being effective for this intervention. Again, Message 1. *Saving money %* recorded the largest shift on behaviours related to Intervention IV, particularly for the % shift in current vs. future reported behaviour for *Check hunger levels before cooking* – a pre-post +19% shift.

Table 9. Message effectiveness on behaviours for Intervention IV: Small plate serves

#	Message Shown	% pre-post shift in reported Almost all the time (over 90%)					Shown message (n=)
		NET Intervention 4 behaviours	Check hunger levels before cooking	Check hunger levels before serving	Encourage small serving sizes with the opportunity for seconds	Encourage leaving nothing on the plate	
1	Save Money %	16%	19%	14%	14%	12%	251
4	Loss aversion	14%	18%	12%	14%	9%	451
6	Feed another family	13%	15%	11%	14%	12%	451
7	Setting a good example	12%	15%	12%	14%	8%	450
2	Save Money \$	8%	17%	14%	18%	4%	250
3	Save for something special	8%	10%	10%	15%	4%	248
8	Saving time and stress	8%	14%	9%	18%	6%	450
5	Environment	7%	14%	13%	15%	7%	449

## Prioritising Messages

### *Intervention V: Store and eat up leftovers – message effectiveness*

Four of the eight messages recorded a significant shift in current vs. future reported behaviour for the behaviours related to Intervention V. Message 5. *Environment* recorded the largest shift on behaviours related to Intervention V, particularly for the % shift in current vs. future reported behaviours for *Have a 'use up food in kitchen day' each week* and *Eat leftovers so they don't go to waste* – a +16% shift for both.

Table 10. Message effectiveness on behaviours for Intervention V: Store and eat up leftovers

#	Message Shown	% pre-post shift in reported Almost all the time (over 90%)					Shown message (n=)
		NET Intervention 5 behaviours	Check hunger levels before cooking	Check hunger levels before serving	Encourage small serving sizes with the opportunity for seconds	Encourage leaving nothing on the plate	
5	Environment	7%	12%	16%	9%	16%	449
3	Save for something special	6%	15%	17%	11%	15%	248
2	Save Money \$	5%	9%	16%	5%	16%	250
1	Save Money %	5%	14%	16%	10%	11%	251
7	Setting a good example	5%	13%	18%	9%	15%	450
4	Loss aversion	4%	12%	18%	9%	12%	451
8	Saving time and stress	4%	11%	18%	8%	15%	450
6	Feed another family	3%	12%	18%	8%	14%	451

In summary, while most messages were shown to have a significant impact on pre-post metrics across the five interventions, the message most likely to generate an increase in behavioural intent across the majority of food waste behaviours and interventions were Save money, Loss aversion, Environment and Setting a good example.

## Prioritising Messages

Due to the overall sample size of n=1000, comparison of each of the forty different message combinations shown to respondents is limited to being indicative only due to a small sample size of n~25 per message combination. However, analysis of the average % pre-post shift in reported *Almost all the time (over 90%)* across all interventions shows the top four performing message combinations all contained a 'save money' message (Message 1,2 or 3). Message 8: Planning your meals and shopping make life easier by saving you time and stress did not feature in the top 4 message combinations, while all other messages were in the top four combinations.

Table 12. Message combination effectiveness across all interventions

Note – '167' denotes Messages 1, 6 and 7 where show to respondents

Message combination shown to respondent (n~25 per message combination)	% Average shift across all interventions	Message combination shown to respondent (n~25 per message combination)	% Average shift across all interventions
<b>167</b>	20%	<b>268</b>	7%
<b>146</b>	18%	<b>168</b>	7%
<b>347</b>	17%	<b>246</b>	6%
<b>157</b>	16%	<b>356</b>	6%
<b>458</b>	15%	<b>156</b>	6%
<b>578</b>	14%	<b>468</b>	6%
<b>568</b>	13%	<b>248</b>	5%
<b>147</b>	13%	<b>278</b>	5%
<b>567</b>	12%	<b>378</b>	5%
<b>247</b>	11%	<b>245</b>	5%
<b>148</b>	10%	<b>467</b>	4%
<b>158</b>	10%	<b>368</b>	3%
<b>346</b>	9%	<b>457</b>	3%
<b>478</b>	9%	<b>456</b>	2%
<b>348</b>	8%	<b>178</b>	2%
<b>145</b>	8%	<b>678</b>	0%
<b>258</b>	8%	<b>367</b>	0%
<b>267</b>	8%	<b>358</b>	-1%
<b>256</b>	8%	<b>345</b>	-3%
<b>357</b>	7%	<b>257</b>	-3%

### Summary

The Juster scale – the respondent stated behavioural influence metric – reports the messages most likely to drive increased behavioural intent were: 2. Save money \$, 4. Loss aversion, 5. Environment and 7. Setting a good example.

From the pre-post analysis designed to derive message effectiveness, the best performing messages (recording a significant shift in behavioural intent) are similar except for the 'save money' message being percentage focused rather than dollar focused. Messages 1. Save Money %, 4. Loss aversion, 5. Environment and 7. Setting a good example are the strongest performers.

When considering the four metrics within the EAST framework, messages 1 and 2 (Save Money \$ and Save Money % respectively) both showed the highest agreement to encouraging behaviour change for being easy, attractive, social and timely. Again, there was consistency in message performance hierarchy with the third, fourth and fifth best performing messages being 4. Loss aversion, 5. Environment and 7. Setting a good example.

## 5 Recommendations

### Strongest performing messages

Based on stated and derived analysis, as well as likelihood to drive behaviour change as measured by the EAST model, Pollinate recommend the following messages be utilised for creative communications development:

Message 1. Save Money % OR Save Money \$: *Reduce your grocery bill by 10% and have more money in your bank account each week OR Reduce your grocery bill by at least \$20 each week and save more than \$1000 a year on your grocery bills.*

Message 4. Loss aversion: *Throwing out your food is throwing your money in the bin*

Message 5. Environment: *When you throw out food, you also waste the water, energy, labour and packaging used in its production.*

Note that Message 7. Setting a good example (*Reducing your food waste is an important life skill and sets a good example for your children and others around you*) may also have a role to play with specific audiences as it is also a strong performing message.

### Areas for message optimisation

Across all eight messages, message diagnostics analysis shows the relative strength (highest scoring diagnostic) of all messages is that they align with the public’s current values. The relative weakness (lowest scoring diagnostic) of all messages is they tell me something new. This indicates that the creative execution of the messages may resonate well if designed to connect with people’s values and may not resonate as well if designed to tell consumers something new.

Table 12. Message diagnostic performance

	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
Aligns with my current values	71%	79%	65%	<b>80%</b>	75%	67%	75%	70%
Is relevant to me	63%	68%	62%	<b>71%</b>	65%	53%	66%	65%
Makes the point in an engaging way	57%	<b>74%</b>	54%	68%	66%	64%	59%	50%
Really grabs my attention	49%	<b>62%</b>	48%	59%	56%	57%	47%	41%
Makes me think differently	47%	<b>64%</b>	46%	53%	59%	57%	48%	44%
Tells me something new	35%	<b>51%</b>	30%	33%	47%	49%	33%	31%

A minimum of one in ten respondents found all messages boring, with Message 3. Save for something special perceived as the most boring of the messages tested. Similarly, a minimum of one in ten respondents found all messages to be inappropriate, with Message 4. Loss

## Prioritising Messages

aversion perceived as the most inappropriate. Note however that Message 4 was also rated the highest for aligns with my current values and is relevant to me: a somewhat inappropriate message can assist in message resonance and cut through and should not be ruled out.

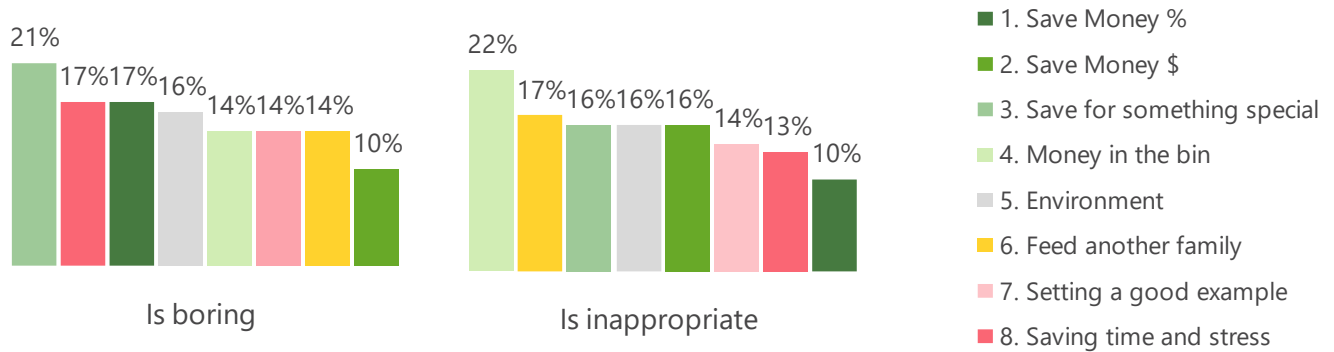


Figure 3. % who perceive messages as boring or inappropriate

### Stated triggers or encouragement

Participants were asked *what would encourage you to act on this message* for one randomly allocated message. The key themes for the top three messages are as follows:

#### Saving Money

In reference to message 1. *Saving money %* and message 2. *Saving money \$* participants felt a need to apply a practical sense and illustrate how one can reduce their grocery bill which is indicated by responses such as *'if they showed me how to reduce it'*, *'strategies to reduce wasted'* and *'steps on how to reduce'*.

Additionally, for message 2. *Save money \$* a second theme was present. Saving for a specific purpose such as a holiday – *'being able to use that extra money for a holiday'* or *'the money that I save each year could be put towards something else around the house and it also saves waste'* – would better encourage behaviour change.

Noting the above respondent comments and that message 3. *Save for something special*, which mentioned a specific goal to save for did not perform as well as Messages 1 and 2 *Saving money %* and *Saving money \$*, landing the specific goal to save for may require further investigation if this is to be used in creative development.

#### Loss aversion

Two themes stand out to improve message action, these are quantitative framing and visual cues. Similar to saving money, applying a dollar amount to the money lost or food wasted would encourage behaviour change – *'I already act on it but it would be good to know an estimated cost of how much we throw out each year equated to a dollar figure'*.

Visual cues are also helpful in applying context and encouraging behaviour change for message 4. Visual cues range from fridge magnet – *'having a sticker or fridge magnet in a prominent*

## Prioritising Messages

place' – to including an image such as 'showing someone throwing leftover food in a bin, but instead of food, money is going into the bin'.

### *Environment*

Message 5. Environment brings to light an issue that consumers are mostly unaware of - 'I never thought of the effort that went into producing the food' – yet when shown message 5, participants realise that it is an issue and something that requires change. Responses such as 'it's a different point of view that supports the fact I don't like to throw away food' or 'the fact that it's not just the product that is wasted, it's also the resources consumed to make the product. It makes you feel differently and makes you more aware of the whole supply chain and food creation process' illustrate a sense of loss aversion and concern for sunk cost. Improving awareness of the greater environmental impact of food waste can help encourage consumers to reduce their waste.

### *Stated barriers to engagement*

Participant were asked what is stopping you acting on this message for one randomly allocated message. The key themes for the top three messages are as follows:

### *Saving Money*

There are two key barriers to action based on message 1. Saving money % and message 2. Saving money \$, these are living situations and mindset/habit. Participants who shop and cook for one felt that product portions are too big and lead to waste – 'it would be nice if smaller portions were available for single people ie half lettuce, smaller bunches of herbs' or 'I live alone and it's difficult cooking for one. I freeze leftovers' – or those who do live with people make note of variation within the household, for example someone may be vegetarian or one's partner likes different food to you.

Participants also noted that grocery shopping is a habit and thinking about only buying what you need isn't top of mind. Participants said that it is difficult 'remembering to do this each week and make it a habit'. Consumers need to be equipped with tactics to deal with cooking for one or variation in households and actively think about reducing their bill to reduce waste.

### *Loss aversion*

Barriers for action are at the planning and preparation phase of the food process. Participants felt that acting on this message 'requires a level of planning [they] don't have' or that 'things not going to plan, unexpected events or situations' and result in food not eaten. Participants also said that 'sometimes we forget what food is in the fridge and forget to use it' suggesting that inability to plan before grocery shopping and allocating time to do so inhibits ability to act on message 4.

### *Environment*

While most say nothing is stopping them from acting on this message, some participants state that being time poor is a barrier – 'sometimes I'm time poor or forget or long working hours with unexpected late finishes' – leading to not cook the meals planned and wasting food. There is potential to outline ease and time efficient tactics to better reduce waste.

## Prioritising Messages

### Ideal message channels & message channel trust

Across all eight messages the location of greatest impact for message communication is a TV ad, and social media is the consistent second most impactful message location. Other channels of relatively high impact are TV shows, Environmental events (zero waste festival, world environment day) and News articles. Tv is often stated as a preferred source for communication in most studies as a default response due to its relevant nature. TV scored may be slightly inflated and may not be the best channel for communication, but is still an effective medium.

Sources for food waste communication
Community information campaigns and flyers
Local radio programs
TV ad
Public transport signage
Paper based advertising (stickers, banners)
Books
TV shows
Social media
School ( <b>ONLY SHOW IF HAVE CHILDREN</b> )
News articles
Government websites
University
Documentaries
Environmental events (zero waste festival, world environment day)
Cultural events (multicultural festival)

Communication channels classified by respondent as being of relatively low impact are paper based advertising (banners), cultural events (multicultural festival), university and books. Trustworthiness of communications source was extremely varied, with Health professionals being the most trusted with 82% stating they are a somewhat trustworthy or extremely trustworthy source and the least trusted being blogs and social media, with only 27% stating they think of this source as being a somewhat trustworthy or extremely trustworthy source.

When it comes to communicating these messages, the specificity of the source is important. Health professionals are a significantly more trustworthy source than health organisations, supermarkets and a local supermarket are a significantly more trustworthy source than a shop assistant at a grocery store, and food products and their packaging are a significantly more trustworthy source than companies producing food products. A hypothesis regarding higher trust in food products and packaging versus the companies producing food products is consumers may believe information displayed on packaging is more regulated and must follow stricter guidelines than company messaging and advertising.

## 6 Message analysis based on demographics

### Differences by gender, life stage and age

#### Stated message cut through

##### EAST Framework

Across all messages that are most likely to create behaviour change and reported highest behavioural intent, females score higher than males on all four pillars of the EAST framework. Given this effect is seen across all messages it is likely to be a respondent effect, with females scoring higher on agreement scales than males.

For the Single income no kids (SINK), Double income no kids (DINK) and Family households, Message 2. Save Money \$ is the strongest performer across the pillars of the EAST Framework, as shown in the tables below. For Empty Nester households, Message 2. Save Money \$ and Message 4. Loss aversion are equally the strongest performers.

All sample sizes by life stage are greater than n=30, meeting the threshold of being sufficiently large enough to expect an analysis based upon the normal distribution (i.e., z test) to be valid.

Table 13. EAST by demographic for Message 1 Saving Money %

Demographics	Statements				Average	Shown message
Message 1. Save Money %	Easy	Attractive	Social	Timely		n=
Male	74%	67%	53%	52%	61%	97
Female	80%	73%	63%	67%	71%	152
SINK	71%	68%	54%	57%	63%	84
DINK	72%	69%	53%	61%	64%	36
Family	84%	75%	64%	68%	73%	81
Empty Nesters	83%	68%	64%	55%	68%	47

## Prioritising Messages

Table 14. EAST by demographic for Message 2. Saving Money \$

Demographics	Statements				Average	Shown message
Message 2. Save Money \$	Easy	Attractive	Social	Timely		n=
Male	75%	74%	65%	63%	85%	104
Female	86%	84%	75%	68%	95%	146
SINK	83%	77%	71%	58%	90%	77
DINK	82%	82%	69%	69%	93%	45
Family	84%	86%	78%	75%	96%	92
Empty Nesters	71%	66%	51%	51%	74%	35

Table 15. EAST by demographic for Message 4. Loss aversion

Demographics	Statements				Average	Shown message
Message 4. Loss aversion	Easy	Attractive	Social	Timely		n=
Male	83%	74%	67%	65%	72%	190
Female	89%	78%	72%	69%	77%	260
SINK	84%	73%	65%	61%	71%	135
DINK	89%	73%	68%	66%	74%	71
Family	87%	81%	76%	76%	80%	161
Empty Nesters	87%	76%	67%	61%	73%	76

Table 16. EAST by demographic for Message 5. Environment

Demographics	Statements				Average	Shown message
Message 5. Environment	Easy	Attractive	Social	Timely		n=
Male	80%	67%	60%	64%	68%	168
Female	84%	73%	64%	65%	72%	278
SINK	78%	67%	59%	60%	66%	133
DINK	91%	76%	68%	76%	77%	74
Family	83%	76%	66%	71%	74%	167
Empty Nesters	80%	62%	55%	46%	61%	71

### *Juster Scale*

Juster scale analysis by gender notes a significant difference only for two messages: 1. Message 1. *Save money %* and Message 6. *Feed another family* – in both situations females score significantly higher than males on the Juster scale. However, males and females are aligned in top scoring messages, with the highest scoring messages for males and females being Message 2. *Save money \$* and Message 4. *Loss aversion*.

Top scoring messages for:

- SINK households are Message 1. *Save money \$* and Message 3. *Save for something special*.
- DINK households are Message 5. *Environment* and Message 1. *Save money \$*.
- Family households are Message 4. *Loss aversion* and Message 7. *Setting a good example*.
- Empty Nester households are Message 1. *Save Money \$* and Message 4. *Loss aversion*

## Prioritising Messages

Table 17. Juster Scale averages by demographic per message

#	Message Shown	Gender		Life Stage				NET
		Male	Female	SINK	DINK	Family	Empty Nesters	NET Score
2	Save Money \$	72%	76%	73%	75%	74%	78%	74%
4	Loss aversion	73%	75%	70%	72%	78%	74%	74%
5	Environment	70%	71%	69%	76%	73%	66%	71%
7	Setting a good example	69%	71%	67%	65%	75%	71%	70%
3	Save for something special	71%	70%	72%	70%	70%	68%	70%
6	Feed another family	61%	74%	70%	70%	71%	63%	69%
8	Saving time and stress	68%	68%	66%	70%	68%	68%	68%
1	Save Money %	61%	68%	63%	67%	66%	67%	65%

### Pre-post reported behaviour shift

The pre-post shift analysis sees some differences by gender and life-stage of household. For example, among males Message 1. *Save money %* is the biggest driver in reported behaviour shift for Interventions 2 and 3, Message 8. *Saving time and stress* is the biggest driver in reported behaviour shift for Intervention I, Message 4. *Loss aversion* is the biggest driver in reported behaviour shift for Intervention IV and Message 3. *Save for something special* is the biggest driver in reported behaviour shift for Interventions 2.

Analysis by household type shows Message 1. *Save money %* delivers the biggest reported behaviour shift among each household, however there is scope to couple this message with other messages, dependent on the intervention being targeted, as outlined in the tables below.

Table 18. Message effectiveness on behaviours for Interventions I-V among single income no kids (SINK) life-stage respondents

SINK	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	4%	10%	10%	10%	9%	10%	8%	11%
NET Intervention 2	6%	-3%	-8%	5%	4%	0%	0%	-2%
NET Intervention 3	19%	6%	-1%	7%	9%	12%	9%	11%
NET Intervention 4	10%	4%	0%	11%	3%	12%	1%	-5%
NET Intervention 5	6%	6%	6%	7%	9%	5%	4%	1%

## Prioritising Messages

Table 19. Message effectiveness on behaviours for Interventions I-V among double income no kids (DINK) life-stage respondents

DINK	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	0%	2%	11%	1%	9%	-1%	4%	8%
NET Intervention 2	8%	-2%	-3%	1%	4%	-7%	10%	6%
NET Intervention 3	15%	10%	12%	14%	14%	8%	22%	20%
NET Intervention 4	14%	-7%	0%	8%	3%	7%	13%	4%
NET Intervention 5	11%	-2%	0%	3%	7%	7%	3%	1%

Table 20. Message effectiveness on behaviours for Interventions I-V among family life-stage respondents

NET Family	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	15%	13%	0%	8%	7%	10%	7%	8%
NET Intervention 2	6%	3%	2%	2%	3%	2%	6%	0%
NET Intervention 3	12%	8%	24%	14%	10%	15%	10%	10%
NET Intervention 4	20%	16%	18%	16%	12%	16%	22%	17%
NET Intervention 5	6%	9%	8%	4%	7%	-1%	10%	6%

Table 21. Message effectiveness on behaviours for Interventions I-V among Empty Nesters life-stage respondents

Empty Nester	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	13%	0%	-8%	7%	3%	2%	1%	12%
NET Intervention 2	15%	-3%	-10%	4%	-1%	11%	-1%	7%
NET Intervention 3	18%	11%	11%	10%	11%	12%	11%	17%
NET Intervention 4	19%	17%	3%	14%	8%	13%	13%	13%
NET Intervention 5	0%	3%	5%	0%	3%	2%	-1%	4%

## Prioritising Messages

Table 22. Message effectiveness on behaviours for Interventions I-V among male respondents

Male	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	4%	1%	0%	5%	2%	1%	6%	7%
NET Intervention 2	11%	1%	-7%	2%	0%	-1%	2%	0%
NET Intervention 3	19%	3%	13%	10%	10%	11%	12%	12%
NET Intervention 4	8%	6%	2%	11%	-3%	7%	6%	4%
NET Intervention 5	2%	4%	11%	4%	7%	3%	4%	1%

Table 23. Message effectiveness on behaviours for Interventions I-V among female respondents

Female	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	12%	14%	7%	10%	11%	11%	6%	11%
NET Intervention 2	7%	-1%	-1%	4%	4%	4%	4%	2%
NET Intervention 3	15%	12%	11%	13%	11%	14%	13%	14%
NET Intervention 4	20%	10%	11%	16%	14%	17%	16%	10%
NET Intervention 5	7%	6%	2%	4%	7%	2%	6%	6%

### EAST Framework results for other messages

Table 24. EAST by demographic for Message 3. Save for something special

Demographics	Statements				Average	Shown message
Message 3. Save for something special	Easy	Attractive	Social	Timely		n=
Male	77%	62%	57%	60%	64%	97
Female	80%	74%	59%	60%	68%	151
SINK	71%	66%	57%	58%	63%	79
DINK	80%	69%	69%	66%	71%	35
Family	84%	74%	61%	63%	70%	92
Empty Nesters	85%	68%	45%	50%	62%	40

Table 25. EAST by demographic for Message 6. Feed another family

Demographics	Statements				Average	Shown message
Message 6. Feed another family	Easy	Attractive	Social	Timely		n=
Male	77%	59%	55%	50%	60%	179
Female	84%	62%	62%	66%	68%	270
SINK	76%	55%	57%	60%	62%	148
DINK	87%	63%	64%	66%	70%	67
Family	83%	69%	68%	67%	72%	139
Empty Nesters	81%	54%	46%	44%	56%	91

## Prioritising Messages

Table 26. EAST by demographic for Message 7. Setting a good example

Demographics	Statements				Average	Shown message
Message 7. Setting a good example	Easy	Attractive	Social	Timely		n=
Male	78%	69%	60%	57%	66%	178
Female	83%	73%	69%	65%	73%	271
SINK	83%	65%	62%	59%	67%	146
DINK	82%	67%	68%	54%	68%	72
Family	80%	81%	70%	71%	75%	157
Empty Nesters	78%	65%	60%	54%	64%	72

Table 27. EAST by demographic for Message 8. Saving time and money

Demographics	Statements				Average	Shown message
Message 8. Saving time and money	Easy	Attractive	Social	Timely		n=
Male	76%	71%	55%	53%	64%	187
Female	83%	75%	66%	59%	71%	260
SINK	76%	69%	59%	51%	64%	140
DINK	78%	73%	64%	56%	68%	77
Family	85%	79%	68%	65%	74%	158
Empty Nesters	78%	67%	48%	45%	59%	69

## Prioritising Messages

### Results by age group

Sample sizes for age group 18-24 is relatively small but shows some interesting indicative findings, so have been analysed separately for the EAST Framework results and Juster scale results. For pre-post analysis the two youngest age groups of 18-24 and 25-34 have been combined to ensure a statistically large enough sample size based upon the normal distribution (i.e., z test) to be valid.

#### *EAST Framework*

Respondents aged 18-24 score the Message 2. *Save Money \$* captured via the EAST framework questions, however this age group also scores the highest of all age groups for messages 1,2,3,5,6 and 7 (tied with 25-34's), finding all messages engaging.

Those aged 25-34 scored Message 7. *Setting a good example* the highest, while age groups 35-44, 45-54 and 65+ all scored Message 4. *Loss aversion* the highest. Those aged 55-64 scored Message 2. *Save Money \$* the highest via the EAST Framework.

Table 28. EAST by age for Message 1 Saving Money %

Demographics	Statements				Average	Shown message
Message 1. Save Money %	Easy	Attractive	Social	Timely		n=
18 - 24	73%	82%	55%	73%	71%	11
25 - 34	76%	74%	62%	72%	71%	58
35 - 44	77%	70%	64%	57%	67%	47
45 - 54	80%	74%	54%	66%	69%	50
55 - 64	80%	75%	61%	59%	69%	44
65 or older	80%	56%	54%	44%	59%	41

Table 29. EAST by age for Message 2 Saving Money \$

Demographics	Statements				Average	Shown message
Message 2. Save Money \$	Easy	Attractive	Social	Timely		n=
18 - 24	100%	90%	90%	90%	93%	10
25 - 34	75%	83%	75%	58%	73%	12
35 - 44	90%	90%	80%	50%	78%	10
45 - 54	64%	57%	57%	50%	57%	14
55 - 64	100%	79%	79%	57%	79%	14
65 or older	76%	71%	59%	53%	65%	17

## Prioritising Messages

Table 30. EAST by age for Message 3 Save for something special

Demographics	Statements				Average	Shown message
Message 3. Save for something special	Easy	Attractive	Social	Timely		n=
18 - 24	75%	81%	81%	81%	80%	16
25 - 34	79%	75%	67%	65%	71%	63
35 - 44	75%	65%	57%	53%	62%	51
45 - 54	83%	71%	69%	69%	73%	42
55 - 64	88%	69%	48%	57%	65%	42
65 or older	71%	59%	32%	41%	51%	34

Table 31. EAST by age for Message 4 Loss Aversion

Demographics	Statements				Average	Shown message
Message 4. Loss aversion	Easy	Attractive	Social	Timely		n=
18 - 24	92%	76%	60%	76%	76%	25
25 - 34	80%	70%	72%	70%	73%	93
35 - 44	89%	83%	79%	77%	82%	96
45 - 54	89%	80%	79%	67%	79%	87
55 - 64	88%	75%	60%	64%	72%	72
65 or older	87%	72%	59%	55%	68%	78

Table 32. EAST by age for Message 5 Environment

Demographics	Statements				Average	Shown message
Message 5. Environment	Easy	Attractive	Social	Timely		n=
18 - 24	88%	85%	77%	73%	81%	26
25 - 34	76%	71%	67%	73%	72%	101
35 - 44	85%	72%	64%	68%	72%	100
45 - 54	88%	75%	66%	71%	75%	76
55 - 64	83%	66%	55%	55%	65%	77
65 or older	78%	64%	54%	48%	61%	69

## Prioritising Messages

Table 33. EAST by age for Message 6 Feed another family

Demographics	Statements				Average	Shown message
Message 6. Feed another family	Easy	Attractive	Social	Timely		n=
18 - 24	88%	77%	73%	73%	78%	26
25 - 34	79%	61%	63%	65%	67%	99
35 - 44	81%	67%	69%	70%	72%	88
45 - 54	86%	68%	70%	66%	73%	74
55 - 64	82%	56%	45%	53%	59%	77
65 or older	77%	48%	45%	39%	52%	87

Table 34. EAST by age for Message 7 Setting a good example

Demographics	Statements				Average	Shown message
Message 7. Setting a good example	Easy	Attractive	Social	Timely		n=
18 - 24	90%	76.67%	63.33%	70%	75%	30
25 - 34	81%	78%	71%	67%	75%	101
35 - 44	80%	74%	65%	66%	71%	82
45 - 54	84%	71%	73%	65%	73%	94
55 - 64	72%	53%	52%	52%	57%	64
65 or older	82%	71%	61%	52%	66%	79

Table 35. EAST by age for Message 8 Saving time and money

Demographics	Statements				Average	Shown message
Message 8. Saving time and money	Easy	Attractive	Social	Timely		n=
18 - 24	72%	72%	61%	58%	66%	36
25 - 34	86%	74%	72%	58%	73%	98
35 - 44	81%	73%	64%	61%	70%	90
45 - 54	79%	77%	58%	64%	69%	86
55 - 64	78%	75%	59%	54%	67%	68
65 or older	79%	65%	50%	39%	58%	72

## Prioritising Messages

### *Juster Scale*

Juster scale analysis by age shows little difference in results across age groups for messages 1. *Save Money %*, 4. *Loss aversion* and 5. *Environment*, with less than +/-5% variance for these messages across age groups. The highest level of variance by age is seen for messages 3. *Save for something special* and 8. *Saving time and stress*.

Top scoring messages for:

- 18-24's are Messages 2. *Save money \$* and Message 4. *Loss aversion*
- 25-34's and 65+ is Message 2. *Save money \$*
- 35-44's and 45-54's is Message 4. *Loss aversion*
- 55-64's is Message 3. *Save for something special*

Table 36. Juster Scale averages by age per message

#	Message Shown	Age						NET
		18 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 or older	NET Score
2	Save Money \$	77%	75%	75%	72%	71%	79%	74%
4	Loss aversion	71%	73%	76%	76%	76%	72%	74%
5	Environment	68%	70%	74%	71%	68%	73%	71%
3	Something Special	74%	69%	64%	74%	78%	65%	70%
7	Setting a good example	74%	72%	65%	72%	68%	72%	70%
6	Feed another family	73%	71%	72%	70%	66%	64%	69%
8	Save time and stress	63%	65%	66%	67%	76%	70%	68%
1	Save Money %	65%	65%	67%	64%	67%	64%	65%

## Prioritising Messages

### Pre-post reported behaviour shift

The pre-post shift analysis sees some differences by age. Among younger Australians aged 18-34, Message 7. *Setting a good example* and Message 1. *Save money %* drive the biggest shifts across all interventions, however there are notable differences dependent on which Intervention is being targeted, as shown in Table 37, below.

Table 37. Message effectiveness on behaviours for Interventions I-V by 18-34 year old

18-34 years	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	0%	10%	10%	8%	9%	6%	8%	10%
NET Intervention 2	6%	4%	-1%	2%	5%	-3%	6%	0%
NET Intervention 3	21%	14%	14%	16%	18%	12%	20%	23%
NET Intervention 4	22%	11%	10%	22%	10%	22%	20%	9%
NET Intervention 5	10%	10%	8%	8%	12%	7%	11%	4%

Among 35-44's Message 1. *Save money %* performs the strongest across Interventions 3 and 4 (and is a close second for Intervention 5), while Message 8. *Saving time and stress* is the strongest performing message for Interventions 1 and 2.

Table 38. Message effectiveness on behaviours for Interventions I-V by 35-44 year old

35-44 years	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	15%	15%	10%	15%	11%	14%	11%	16%
NET Intervention 2	6%	8%	0%	7%	7%	6%	7%	9%
NET Intervention 3	23%	17%	12%	23%	8%	20%	22%	16%
NET Intervention 4	19%	10%	12%	15%	13%	16%	12%	16%
NET Intervention 5	15%	5%	16%	9%	9%	6%	11%	12%

## Prioritising Messages

Among 45-54's Message 1. *Save money* % performs the strongest across Interventions 1 and 3, Message 4. *Loss aversion* is strongest for Intervention 2, and Message 7. *Setting a good example* is the strongest performing message for Intervention 4. No message delivered a positive shift for Intervention 5 among this age group.

Table 39. Message effectiveness on behaviours for Interventions I-V by 45-55 year old

45-54 years	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	10%	7%	-2%	8%	3%	9%	0%	7%
NET Intervention 2	4%	-7%	5%	6%	-1%	4%	5%	-3%
NET Intervention 3	13%	2%	3%	8%	3%	5%	6%	4%
NET Intervention 4	8%	0%	5%	7%	1%	3%	10%	0%
NET Intervention 5	-10%	-2%	-5%	-5%	-4%	-5%	-1%	-5%

Among 55-64's Message 1. *Save money* % performs the strongest across Interventions 1 and 2 (and is a close second for Intervention 5), while Message 3. *Save for something special* is the strongest for Intervention 3 and Message 4. *Loss aversion* is strongest for Intervention 4.

Table 40. Message effectiveness on behaviours for Interventions I-V by 55-64 year old

55-64 years	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	16%	6%	-7%	7%	4%	3%	13%	9%
NET Intervention 2	16%	-6%	-12%	1%	-3%	3%	6%	1%
NET Intervention 3	7%	3%	14%	3%	8%	10%	5%	0%
NET Intervention 4	9%	14%	12%	18%	4%	9%	9%	3%
NET Intervention 5	9%	6%	5%	3%	10%	-1%	0%	1%

## Prioritising Messages

Among Australians aged 65+ Message 1. *Save money %* performs the strongest across Interventions 2,3 and 4, while Message 5. *Environment* is the strongest for Intervention 1 and Message 2. *Save money \$* is strongest for Intervention 5.

Table 41. Message effectiveness on behaviours for Interventions I-V by 65+

65+ years	1. Save Money %	2. Save Money \$	3. Save for something special	4. Loss aversion	5. Environment	6. Feed another family	7. Setting a good example	8. Saving time and stress
NET Intervention 1	7%	5%	3%	1%	9%	5%	0%	6%
NET Intervention 2	12%	-2%	-12%	0%	1%	5%	-9%	-1%
NET Intervention 3	16%	3%	16%	6%	13%	15%	5%	14%
NET Intervention 4	17%	10%	-6%	4%	4%	10%	4%	8%
NET Intervention 5	0%	7%	0%	3%	4%	3%	1%	4%

### Further focus group findings

#### *Behaviours explored relating to food waste*

Qualitative research was used to get a high level read on any behaviours that were seen as easier or more relevant for people than others, and to ensure they made sense as we tested them in the quantitative phase.

All consumers were interested in any 'tips and tricks' (behaviours) that might help them reduce food waste. Even if consumers were practicing good habits in shopping, planning, and preparing meals they were still open to new ideas if they thought the idea 'a good one' or 'new news', something they hadn't thought of before.

*I already do a lot of the ones I ticked but some of them like checking the cupboards, it is achievable I am just lazy and thinking carefully about the quantities I already do that. (Over providers)*

Behaviours that people thought were most helpful were those that were easy, practical, or new:

- Meal plan for 3 or 4 days leaving flexible for unexpected events
- Preparing appropriate amounts (however not to be confused with trying to restrict eating/ or having to finish everything on your plate)

*For meal planning for 3 or 4 days, I typically plan for the week and have those last-minute events that happen so I like that 3 or 4 days and leaving flexibility. I never thought about that. (Over providers)*

## Prioritising Messages

It's worth noting many consumers felt that many other people lacked the skills and capability to plan, shop and prepare meals and that this was a major barrier. So, they would require additional interventions and supports to help people adopt this behaviour.

*I think you would have to give them ideas for meals, simple meals that don't need too many ingredients or too much fuss that is still enough variety over say 2 weeks or a month and they can choose from that list and these are the ingredients that you need for them and this is how much you need to buy. It is nearly like leading by the hand of what kind of meals they could prepare, that could be the real stumbling block. (Considerate planners)*

*My wife and I, we both usually go shopping together and we do make a list and generally we just stick to that list but we are more touchy feely people and we like to see our fruit and see our vegetables. (Considerate Planners)*

*I can't see anything here that would be useful that I am not already doing. (Considerate Planners)*

### Context insight

Consumers were asked to discuss thoughts and feelings around food that was 'bought for the household and thrown away'. The idea of 'wasting food' was seen as inherently "wasteful" and I triggered strong emotional responses. Whatever walk of life, tradition or progressive, the idea of food waste was undesirable. People felt it was 'wasteful' and felt guilty about any food they wasted.

*It is a bit of a psychological problem. We grew up simple. I am 58 years old and there is a respect for things. Some people don't have food to eat, or they struggle, and I just feel it is morally wrong just because you can do something or you buy a whole lot of it and you throw it away it just doesn't make sense to me (Considerate Planners)*

*There is a financial concern you have around that but also, I think it is the fact that you are throwing good produce out that could have been used by somebody else and that little bit of a moral issue around food waste and the hungry and that sort of stuff. That little bit of mental feeling around it (Considerate Planners)*

Consumers likened the idea of 'throwing away food' to 'throwing money in the bin/ down the drain'. This was a powerful reminder of the 'inherently wasteful' act of throwing away food.

*Wasted food equals wasted money (Over providers)*

*For me, I see it as just purely wasting money, throwing money in the bin, literally. (Under planners)*

*Spend time making the money so if you are wasting the money, then you are wasting your own time in a way. (Under planners)*

## Prioritising Messages

*Hate the waste of money. Even if it hasn't cost very much, just the whole idea of why waste a time of going out to buy it, I put it away and I have spent that money and then I haven't used it. (Considerate planners)*

At the same time, people believed they did what they could do reduce food waste and thus did not think they as an individual or household wasted a lot of food.

*I probably waste less than most because I have a compost and a dog. (Considerate planners)*  
*Probably 500 g a week. (Under planners)*

Most consumer blame factors outside their control for any food waste such as change of plans during the week, change of household preferences, leaving leftovers too long, people not liking left over etc. which were identified in the previous research streams.

*My parents, my dad will not eat leftovers, he will eat it that day but he will not eat food the next day and my mum has this attitude that if it has been in the fridge for more than 3 days, bin it, it goes in the bin even though it might still be okay to use. (Over Providers)*

# 7 References

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# 8 Appendix

### Qualitative discussion Guide Outline

#### Objective

To explore and optimise alternative messages that will encourage people to reduce food waste for quantitative testing

60 min

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Intro

Introduction

0-2min

Introduce [name of moderator] from Pollinate - independent social research company

Explain how a focus group discussion works – discussion NOT an interview. No right or wrong answers, just honest opinions. Everyone to have a say

The session is being audio/ video recorded and viewed by the Pollinate team – research purposes only

Confidentiality of research process/reporting – research is carried out under the Market and Social Research Guidelines and ethics approval from Central Queensland University. This ensures confidentiality of your information. The results will be aggregated; your individual information will not be able to be identified.

All research data will be stored securely by CQUniversity for a minimum of 15 years, in accordance with CQUniversity policy. If you have any complaints or concerns about the research project, please email [ethics@cqu.edu.au](mailto:ethics@cqu.edu.au) or phone (07) 4923 2603 quoting the following number [INSERT HEC Number] within 24 hours as practicable

Topic

Explore the best way to communicate a 'public good' message ie encourage positive behaviours/ discouraging negative behaviours like smoking.

Topic- issue that affects most households

Confidentiality

Expectations- need a pen & some paper for jotting down notes

Housekeeping

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Warm up –  
breaking the  
ice

GO AROUND ROOM: Name, where you live, who you live with daytime occupation

There are a lot of big things going on in the world now, which we feel we might have little control over.

## Prioritising Messages

3-5min	Thinking about your world, what keeps you up at night and what do you do about it? CAN BE BIG OR SMALL Pick one thing and let's go around the group ...
Attitude to food	Attitudes to food/meal shopping, planning and preparing? What role does food shopping, preparation have in your life? How do you think and feel about it?
5-10 min	How do you do this? What are your typical strategies? What do you enjoy most? What do you least Like? What do you find most challenging? FOOD WASTE: If the topic doesn't come up: PROBE: Do you end up throwing away food you don't eat? How much a week do you think on average? How much is this a problem?
Spontaneous reactions to Food waste	Food Thrown Away by Households (Individual exercise) Write down everything and anything that comes to mind when you READ statement (Moderator to show stimulus 1) Food you buy for household that does not get eaten and eventually goes in the bin?
10-20min	Write half a page of random thoughts, words. More the better, doesn't have to make sense. 1 MINUTES FOR THIS. I want each person to read out their notes to the group. If someone was listening to use right now, what would they learn about us as a group? And how we think about this issue?
Setting up the problem	Moderator to show stimulus 2: The average Australian household throws away 4.2 kg of food a week that could have been eaten (approx. One bucket full)
20-25 min	What is your gut reaction? What does this make you think and feel? What imagery in your head?
Motivations	Imagine as a group, you are tasked with convincing Australians to reduce their food waste. I am going to share with you all the possible things you could say.
25-50	For the rest of the session, I want you to work with me to make these messages as convincing as possible and choose the ones you think have the best chance of success.  In a few minutes, I am going to show you 6 DOORS, each one contains a few different ways to talk about why people should reduce their food waste. We will look at them all, but when I show you the 6 DOORS, choose which door would you open first?

*Moderator to show stimulus 3:* There are SIX DOORS here that people might be motivated by to reduce their food waste. Moderator read out the 6 doors. Which one do you want to try first, why do you chose that ?

For each motivation follow the next three steps...

**Step 1: INDIVIDUAL** Read through each of these statements that talk about [*insert motivation*].

Mark with a tick TOP 2 messages that are most persuasive and a cross against BOTTOM 2 Statements you think will be least persuasive to for the average Australian.

Why do you think these will be more motivating/ not motivating?

Who do you think will respond most to this messaging?

What do you think people can do in this instance to reduce food waste?

What behaviours?

What might get in the way/stop them?

**Step 2:** Here are 16 different things people can do to reduce food waste at each stage – from shopping to eating.

Pick behaviour at each stage that you think people looking to [*insert top motivation frame*] that fits BEST with this message?

What makes you think that?

**Step 3:** Pulling this altogether, how can this message be improved? How would you rewrite it to be more persuasive?

REPEAT FOR EACH MOTIVATION

---

50-60min

Stimulus summary

You've heard a lot of reasons why people should reduce waste and what they can do about it

Write down the key things you will take away from today's session TAKE A MIN TO JOT DOWN SOME THOUGHTS

Pick the key motivations?

What are the three top behaviours?

What has risen to the top?

What are we missing, what do we need to do to get this on people's agenda?

THANK YOU

## Prioritising Messages

### Recruitment specifications

#	Spec 1	Spec 2	Spec 3	Date	Location
1	Over Providers	3 x males 3 x females	2 x 18 – 24 years 2 x 25 – 34 years 2 x 35 – 45 years	Tuesday 14 <sup>th</sup> September 6pm – 7pm	Online
2	Under Planners	2 x males 4 x females	Younger family 3 x 35 – 44 years 2 x 45 – 54 years 1 x 55 – 64 years	Wednesday 15 <sup>th</sup> September 6pm – 7pm	Online
3	Considerate Planners	2 x males 4 x females	3 x SINK 3 x DINK n=3 45 – 54 years old n=3 55 – 65 years old  Have had children, but none are living at home	Thursday 16 <sup>th</sup> September 6pm – 7pm	Online

## Prioritising Messages

### Recruitment notes

#### Location

Mix of locations across sample (a good spread in each group)

N=5 x Sydney

N=4 x Melbourne

N=3 x Brisbane

N=2 x Adelaide

N=2 x Canberra

N=2 x Perth

#### Group 1 – Over Providers

3 x male, 3 x female

2 x 18 – 24 years, 2 x 25 – 34 years, 2 x 35 – 45 years

Aged between 25 – 45 years must be families with majority of child/children under 12 years

#### Food behaviour

Checks food in cupboards before shopping most of the time

Writes a complete shopping list always to half the time

Prepares too much food always to half the time

Prepares extra but throws away always to half the time

#### Group 2 – Under Planners

2 x male, 4 x female

3 x 35 – 44 years, 2 x 45 – 54 years, 1 x 55 – 65 years

SINK/DINK (spread across age range as best as possible)

#### Food behaviour

Checks food in cupboards before shopping half the time to never

Writes a complete shopping list half the time to never

Never prepares too much food

Prepares extra but throws away sometimes to never

#### Group 3 – Considerate planners

2 x male, 4 x female

3 x 45 – 54 years, 3 x 55 – 65 years

All have children but no children are living at home (flexible for 45 – 54-year-old)

#### Food behaviour

Checks food in cupboards before always to most of the time

Writes a complete shopping list always to most of the time

Never prepares too much food

Prepares extra but throws away sometimes to never

#### Food management

All respondents must be solely or jointly responsible for min 3 food management tasks

#### Visions live

## Prioritising Messages

All groups will be run on the VisiosnLive platform. Respondents will receive a link on the day of the group from [pollinate@visionslive.com](mailto:pollinate@visionslive.com)

Quantitative screening questions

Q1 Do you or anyone in your immediate family work in any of the following industries?

##MULTI##

Market Research or Marketing 1 CLOSE

Advertising 2 CLOSE

The media i.e a newspaper or TV network 3 CLOSE

Aviation 4

Hospitality e.g. a chef 5 CLOSE

Other 6

Q2 When was the last time you participated in a market research group?

##SINGLE##

In the past 6 months 1 CLOSE

7 – 12 months ago 2

More than a year ago 3

Q3 What is your occupation and industry you work in?

##SINGLE##

1 ##OPEN ENDED##

PLEASE CROSS CHECK AGAINST INDUSTRY EXCLUSIONS

Q4 What is the occupation and industry of the main income earner in your household?

##SINGLE##

1 ##OPEN ENDED##

PLEASE CROSS CHECK AGAINST INDUSTRY EXCLUSIONS

Q5 Record gender?

##SINGLE##

Female 1

Male 2

RECRUIT TO SPEC

Q6 How old are you?

##SINGLE##

1 OPEN ENDED

RECRUIT TO SPEC

Q7

Which of the following best describes your living situation?

##SINGLE##

## Prioritising Messages

I live at home with my parents	1	CLOSE
I live alone or sharing with friends	2	SKIP TO Q9
I live with my partner, and we don't have children	3	SKIP TO Q9
I live with my partner and children	4	ASK Q8
I live with my children	5	ASK Q8
I live with my partner, we have children but all have left home	6	SKIP TO Q9
Other	7	CLOSE

GROUP 1 – OVER PROVIDERS

YOUNGER FAMILIES – CONT. TO Q8

GROUP 2 – UNDER PLANNER)

SINK/DINK – SKIP TO Q9

SPEC 3 (CONSIDERATE PLANNER)

ALL KIDS HAVE LEFT HOME – SKIP TO Q9

Q8 How old are your children?

##MULTI##

Child 1	1
Child 2	2
Child 3	3
Child 4	4

SPEC 1: YOUNGER FAMILIES – MAJORITY OF KIDS AGED UNDER 12 YEARS

Q9 Which of the following best describes your working situation?

##SINGLE##

I work full time	1
I work part time/casual	2
I'm studying and working part time/casual	3
Home duties with partner working full time	4
Studying full time	5
Unemployed	6
Retired	7
Other: please record	8

SPEC 1 (OVER PROVIDERS): SKEW FULL TIME

SPEC 2 (UNDER PLANNERS): SKEW FULL TIME

SPEC 3 (CONSIDERATE PLANNERS): NO UNEMPLOYED

Q10 Where do you live?

##SINGLE##

Sydney	1
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## Prioritising Messages

Melbourne	2	
Brisbane	3	
Adelaide	4	
Canberra	5	
Other	6	##CLOSE##

RECRUIT TO SPEC – AIM FOR A SPREAD ACROSS THE SAMPLE, WE DON'T WANT A SKEW TO LOCATION FOR ANY GROUP

### BEHAVIOURS

Q11 How often do you do the following?

##MULTI##

		Almost every time (over 90%)	Most times (about 75%)	Half the time (about 50%)	Sometimes (about 25%)	Rarely / Never (less than 10%)
A	Check what food is already in the cupboard before going shopping	1	2	3	4	5
B	Write a complete list of everything needed before grocery shopping	1	2	3	4	5
C	Prepare extra food, store these leftovers to be eaten later on, but end up disposing of them	1	2	3	4	5

SPEC 1 (OVER PROVIDERS)

MUST CODE 2 AT A

MUST CODE 1, 2 OR 3 AT B

MUST CODE 1, 2 OR 3 AT C

SPEC 2 (UNDER PLANNER)

MUST CODE 3, 4, OR 5 AT A

MUST CODE 3,4 OR 5 AT B

MUST CODE 4 OR 5 AT C

SPEC 3 (CONSIDERATE PLANNER)

MUST CODE 1 OR 2 AT A

MUST CODE 1 OR 2 AT B

MUST CODE 4 OR 5 AT C

## Prioritising Messages

Q12 When it comes to decisions relating to food management activities, which of the following are you jointly or solely responsible for?

##SINGLE##

- |                       |   |       |
|-----------------------|---|-------|
| Planning what to eat  | 1 |       |
| Shopping for the food | 2 |       |
| Storing where it goes | 3 |       |
| Cooking the food      | 4 |       |
| Disposing of scraps   | 5 |       |
| None of the above     | 6 | CLOSE |

ALL MUST CODE AT LEAST 3 ACTIVITIES

Q13 We will be running the group online using a platform called VisionsLive (we'll send you everything you need on the day of the group). Do you have a laptop or desktop computer with a microphone and camera that you are comfortable using?

- |     |   |       |
|-----|---|-------|
| Yes | 1 |       |
| No  | 2 | CLOSE |

Q14 As we only have 1 hour for the group, and we're paying you for your time, we'd like you to be in a room or area by yourself, without distraction, for the duration of the group. Do you agree to this?

- |     |   |       |
|-----|---|-------|
| Yes | 1 |       |
| No  | 2 | CLOSE |

Project	Project Scrap
Design	15-min online survey
Sample	n=1000: MIN. n=300 per segment
Version	V4

### INTRODUCTION

Thank you for agreeing to participate in this survey. It should only take around 15 minutes to complete. This research is being conducted by Pollinate, all Pollinate's research is conducted under the Research Privacy Principles, which ensures confidentiality of your information. The results will be aggregated; your individual information will not be able to be identified.

This research is commissioned by Central Queensland University, and has been reviewed and approved by The Central Queensland University Human Research Ethics Committee. All research data will be stored securely by CQUniversity for a minimum of 15 years, in accordance with CQUniversity policy. If you have any complaints or concerns about the research project, please email [ethics@cqu.edu.au](mailto:ethics@cqu.edu.au) or phone (07) 4923 2603 quoting the following number 0000023233 within 24 hours as practicable. **Click here to review the participant information sheet.**

When you are completing the survey, please ensure that you read all instructions carefully for each question before selecting your answer. At the end of the survey, please ensure that you click 'submit' to ensure your responses are collected.

### SCREENER

<b>A1</b>	Are you...	
<b>SR</b>	Male	<b>49%</b>
	Female	<b>50%</b>
	Other	<b>MAX 1%</b>
	Prefer not to say	

<b>A2</b>	How old are you?		
<b>OE NUM</b>			
	<b>HIDDEN QUESTION CODED IN</b>	<b>Project quotas</b>	Nat rep (for reference)
	17 or younger	<b>CLOSE</b>	CLOSE
	18 - 24	<b>12%</b>	10%
	25 - 34	<b>22%</b>	19%
	35 - 44	<b>19%</b>	18%
	45 - 54	<b>17%</b>	17%
	55 - 64	<b>15%</b>	15%
	65 +	<b>15%</b>	21%

<b>A3</b>	What is your post code where you live? <b>NUMERIC OPEN TEXT BOX. LIMIT TO 4 DIGITS</b>	
<b>OE NUM</b>		
<b>HA3</b>	<b>HIDDEN QUESTION CODED IN</b>	
<b>SR</b>	Sydney metropolitan	<b>20%</b>
	NSW (Not Sydney)	<b>12%</b>
	Melbourne metropolitan	<b>19%</b>
	Victoria (Not Melbourne)	<b>6%</b>
	Brisbane metropolitan	<b>10%</b>
	Queensland (Not Brisbane)	<b>11%</b>
	Adelaide metropolitan	<b>6%</b>
	South Australia (Not Adelaide)	<b>2%</b>
	Perth metropolitan	<b>8%</b>
	Western Australia (Not Perth)	<b>2%</b>
	Darwin metropolitan	<b>1%</b>
	Northern Territory (Not Darwin)	<b>1%</b>

## Prioritising Messages

	Tasmania	<b>1%</b>
	Australian Capital Territory	<b>0%</b>
	Other	<b>CLOSE</b>

<b>A3A</b>	<p>To what extent do you contribute to the following in your household: Please do not include alcohol when answering any of the following questions.</p> <p><i>Please choose one answer that fits best for each stage of the food handling process</i></p> <p><b>RANSOMISE STATEMENTS</b></p>					
		<b>Planning</b> for food shopping	<b>Doing</b> the food shopping	<b>Unpacking and storing</b> the food	Doing the food <b>preparation</b> including <b>cooking</b>	<b>Disposing</b> of food not eaten
<b>SR PER COL</b>	I'm mainly responsible					
	I'm equally responsible					
	I'm partly responsible					
	I'm not responsible/ I'm rarely responsible					

**RESPONDENT MUST BE MAIN OR EQUALLY RESPONSIBLE FOR AT LEAST 3 OF THE 5 ACTIVITIES AT A3A**

<b>A4</b>	Which of the following best describes your living situation?		
<b>SR</b>	Single person, living alone	1	
	Shared adult household	2	
	Couple with children living at home	3	
	Single parent with children living at home	4	
	Couple with children who have left home	5	
	Single parent with children who have left home	6	
	Couple with no children	7	
	Single/ couple with children living at home part of the time	8	
	Extended family household	9	
	Single person, living with parent(s)	10	

## Prioritising Messages

<b>A5</b>	How many people in each group usually live at your household? Please include them if they live there half the time or more	
	<i>Please insert number of people in each row</i>	
<b>OE NUMERIC</b>	0-4 year olds	
	5-9 year olds	
	10-14 year olds	
	15-19 year olds	
	20-24 year olds	
	25-34 year olds	
	35-44 year olds	
	45-54 year olds	
	55-64 year olds	
	65+ year olds	

**PRE-TEST**

<b>B4</b>		Below are different behaviours relating to how we plan, purchase, prepare and store food to avoid food not being eaten and hence being disposed of.					
		How often do you, or another member of your household, do the following?					
<b>SR PER ROW</b>		<b>RANDOMISE ALL STATEMENTS</b>	Almost all the time (over 90%)	Most of the time (about 75%)	Half the time (about 50%)	Sometimes (about 25%)	Rarely / Never (less than 10%)
<b>[GOAL1 – Shop for the appropriate amount]</b>	A	Check what food is in the cupboard before going shopping	1	2	3	4	5
	B	Plan the meals to be cooked before grocery shopping	1	2	3	4	5
	C	Create a shopping list based on meal plan	1	2	3	4	5
	D	Only buy what is on the shopping list	1	2	3	4	5
<b>[GOAL2- Cook meals planned]</b>	E	Consider how many meals need to be cooked that week	1	2	3	4	5
	F	Check how many people will be home/away that week	1	2	3	4	5
	G	Meal plan for three to four days, leaving flexibility for unexpected events	1	2	3	4	5
	H	Cook meals that were planned	1	2	3	4	5
<b>[GOAL 3 – prepare appropriate amount]</b>	I	Think carefully about quantities needed to meal plan	1	2	3	4	5
	J	Measure ingredients necessary for the meal	1	2	3	4	5
	K	Aim not to have any leftovers	1	2	3	4	5
	L	Check hunger levels before <u>cooking</u>	1	2	3	4	5

## Prioritising Messages

<b>[GOAL 4 – Small plate serves]</b>	M	Check hunger levels before <u>servi</u> ng	1	2	3	4	5
	N	Encourage small serving sizes with the opportunity for seconds	1	2	3	4	5
	O	Encourage leaving nothing on the plate	1	2	3	4	5
<b>[GOAL 5 – Store and eat up leftovers]</b>	P	Use up the oldest food first	1	2	3	4	5
	Q	Have a 'use up food in kitchen day' each week	1	2	3	4	5
	R	Store leftovers correctly	1	2	3	4	5
	S	Eat leftovers so they don't go to waste	1	2	3	4	5

### SEGMENT CODES

	<b>AGE</b>	<b>AND LIFE STAGE</b>	<b>Check</b>	<b>Waste</b>
<b>Over providers</b>	Code 1-4 at A1 (<45)	Code 3, 4, 8, 9 at A4 (Family)	Code 2 at B4a	Code 1-3 at B4f
<b>Under Planners</b>	Code 4-6 at A1 (35-64)	Code 1, 2, 5, 6, 7 or 10 at A4 (SINK/DINK/Empty Nester)	Code 3-5 at B4a	Code 4 or 5 at B4f
<b>Considerate Planners</b>	Code 6 or 7 at A1 (55+)	Code 5 or 6 at A4 (Empty nester)	Code 1 or 2 at B4a	Code 4 or 5 at B4f

**RESPONDENT TO BE ALLOCATED TO SEGMENT WHERE APPLICABLE. DO NOT SCREEN OUT RESPONDENTS I.E. LET THROUGH PEOPLE WHO DO NOT FIT INTO A SEGMENT**

### MESSAGE FRAMING TEST

**8 MESSAGES TO BE TESTED, 3 MESSAGE CONCEPTS TO BE SHOWN PER RESPONDENT.  
MESSAGE COMBINATIONS SHOWN TO BE DETERMINED**

1	Reduce your grocery bill by 10% and have more money in your bank account each week
2	Reduce your grocery bill by at least \$20 each week and save more than \$1000 a year on your grocery bills.
3	Have more money in your bank account each week to save for something special
4	Throwing out your food is throwing your money in the bin
5	When you throw out food, you also waste the water, energy, labour and packaging used in its production
6	The food your household throws away every month, could feed another family for three days
7	Reducing your food waste is an important life skill and sets a good example for your children and others around you
8	Planning your meals and shopping make life easier by saving you time and stress

**MESSAGE ALLOCATION OPTIONS TO BE SHOWN AS 1 OF THE 40 ALLOCATIONS AS BELOW. MESSAGE ORDER WITHIN ALLOCATION TO BE RANDOMISED:**

145	157	245	257	345	357	456	478
146	158	246	258	346	358	457	567
147	167	247	267	347	367	458	567
148	168	248	268	348	368	467	578
156	178	256	278	356	378	468	678

**MESSAGE SHOWN TO BE RANDOMISED. POTENTIAL TO PRIORITISE PARTICULAR MESSAGES TO PARTICULAR SEGMENTS, IF REQUIRED**

<b>D1</b>	Thinking about food you throw away, how much do you agree with the following statements regarding this message?  <b>[INSERT MESSAGE. SHOW MESSAGE IN BOLD]</b>  <b>RANDOMISE STATEMENTS</b>			
	<b>SR PER ROW</b>	1 – Strongly disagree	...	5 – Strongly Agree
<b>[EASY]</b>	Is easy to understand what the message is saying			
<b>[ATTRACTIVE]</b>	I can see the benefit to me			
<b>[SOCIAL]</b>	Would resonate with others (i.e, Family and friends)			

## Prioritising Messages

<b>[TIMELY]</b>	Motivates me to act differently			
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<b>D2</b>	Thinking about food you throw away, please state if you agree or disagree with the following statements regarding this message. <b>[INSERT MESSAGE. SHOW MESSAGE IN BOLD]</b>			
<b>SR PER ROW</b>	<b>RANDOMISE STATEMENTS</b>	Disagree	Neutral	Agree
	Makes the point in an engaging way			
	Tells me something new			
	Is relevant to me			
	Is boring			
	Really grabs my attention			
	Aligns with my current values			
	Is inappropriate			
	Makes me think differently			

<b>D3</b>	How likely is this message to influence your behaviour to <u>reduce</u> the amount of food you throw away? <b>[INSERT MESSAGE. SHOW MESSAGE IN BOLD]</b>		
<b>SR</b>	No chance, almost no chance (1 in 100)		
	Very slight possibility (1 chance in 10)		
	Slight possibility (2 chances in 10)		
	Some possibility (3 chances in 10)		
	Fair possibility (4 chances in 10)		
	Fairly good possibility (5 chances in 10)		
	Good possibility (6 chances in 10)		
	Probable (7 chances in 10)		
	Very probably (8 chances in 10)		
	Almost sure (9 chances in 10)		
	Certain, practically certain (99 chances in 100)		

### RANDOMLY ALLOCATE FOR ONE MESSAGE

<b>D4</b>	<b>[INSERT MESSAGE]</b>
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## Prioritising Messages

	What would encourage you to act on this message?
<b>OE NUM</b>	

### **RANDOMLY ALLOCATE FOR ONE MESSAGE – SAME AS D4**

<b>D5</b>	<b>[INSERT MESSAGE]</b>
	What is stopping you acting on this message?
<b>OE NUM</b>	

### **REPEAT D0, D1, D2 AND D3 FOR EACH SEGMENT MESSAGE**

- **Each respondent to be shown 3 messages and asked D1-D3 FOR EACH MESSAGE SHOWN**
- **D4 AND D5 SHOWN ONCE FOR ONE RANDOMLY ALLOCATED MESSAGE PER RESPONDENT**

### MESSAGE CHANNEL AND SOURCE

<b>D6</b>	Thinking about the messages you just saw...					
	Where would seeing this messages have the <u>greatest impact on you</u> ?					
	<b>RANDOMISE</b>					
		<b>MESSAGE 1</b>	<b>MESSAGE 2</b>	<b>MESSAGE 3</b>	<b>MESSAGE 4</b>	
<b>MR</b>	Community information campaigns and flyers					
	Local radio programs					
	TV ad					
	Public transport signage					
	Paper based advertising (stickers, banners)					
	Books					
	TV shows					
	Social media					
	School ( <b>ONLY SHOW IF HAVE CHILDREN</b> )					
	News articles					
	Government websites					
	University					
	Documentaries					
	Environmental events (zero waste festival, world environment day)					
	Cultural events (multicultural festival)					

<b>D7</b>	How trustworthy are the following sources when thinking about these messages?					
	<b>RANDOMISE</b>					
<b>SR PER ROW</b>		Not at all trustworthy	Somewhat untrustworthy	Neutral	Somewhat trustworthy	Extremely Trustworthy
1	Blogs and social media					
2	Companies producing food products					
3	Butcher					
4	Celebrity chef/cook					
5	Supermarkets (e.g., Coles, Woolworths)					
	Local supermarket (e.g., IGA, corner store)					

## Prioritising Messages

6	Food products and their packaging					
7	Shop assistant at grocery store					
8	Health organisations					
9	Industry bodies					
10	Health professionals					
11	Local Government or Council					
12	Newspapers					
13	TV					

### POST-TEST

<b>E1</b>		Below are different behaviours relating to how we plan, purchase, prepare and store food to avoid food not being eaten and hence being disposed of.					
		After seeing these messages today, <b>how often will you</b> , or other members of your household, do the following?					
<b>SR PER ROW</b>		<b>RANDOMISE ALL STATEMENTS</b>	Almost every time (over 90%)	Most times (about 75%)	Half the time (about 50%)	Sometimes (about 25%)	Rarely / Never (less than 10%)
<b>[GOAL1 – Shop for the appropriate amount]</b>	A	Check what food is in the cupboard before going shopping	1	2	3	4	5
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	F	Check how many people will be home/away that week	1	2	3	4	5
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<b>[GOAL 3 – prepare appropriate amount]</b>	I	Think carefully about quantities needed to meal plan	1	2	3	4	5
	J	Measure ingredients necessary for the meal	1	2	3	4	5
	K	Aim not to have any leftovers	1	2	3	4	5
	L	Check hunger levels before <u>cooking</u>	1	2	3	4	5

## Prioritising Messages

<b>[GOAL 4 – Small plate serves]</b>	M	Check hunger levels before <u>serv</u> ing	1	2	3	4	5
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<b>[GOAL 5 – Store and eat up leftovers]</b>	P	Use up the oldest food first	1	2	3	4	5
	Q	Have a 'use up food in kitchen day' each week	1	2	3	4	5
	R	Store leftovers correctly	1	2	3	4	5
	S	Eat leftovers so they don't go to waste	1	2	3	4	5

ANALYSIS NOTE: MEASURE SHIFT IN PRE-POST METRICS PER MESSAGE

### PROFILING

<b>P2</b>	Which statement best describes your household? <i>Please choose only one of the following?</i>	
<b>SR</b>	I/we do a <b>main food shop</b> and then do <b>'top up'</b> shopping as we need things	
	I/we do a <b>main food shop only</b> . We don't do 'top up' shopping	
	I/we don't do main food shopping. We only <b>shop as we need</b> things	

<b>P3</b>	Finally, just a few questions about you. Are you currently...?	
<b>SR</b>	Studying full/part time (not working)	
	Studying full/part time and working	
	Working part-time (less than 30 hours a week)	
	Working full-time (more than 30 hours a week)	
	Engaged in home duties	
	Unemployed	
	Retired	

<b>P4</b>	How many income earners are there in your household?	
<b>SR</b>	1	
	2	
	3 or more	
	There are no income earners in my household	

<b>P5</b>	What is your <b>household income</b> from all sources <u>before tax pre week</u> ?	
<b>SR</b>	Less than \$500 p/w	
	Between \$500-\$999 p/w	
	Between \$1000-\$1999 p/w	
	Between \$2000-\$2999 p/w	
	\$3000 or more p/w	

<b>P6</b>	Which of these describes the highest level of education you have achieved?	
<b>SR</b>	Year 9 or below	
	Year 10	

## Prioritising Messages

	Year 11 or 12	
	Diploma or certificate from a college or TAFE including an apprenticeship	
	Degree or diploma from a university	
	Postgraduate degree	

<b>P7</b>	Which best describes your residence?	
<b>SR</b>	Detached or stand-alone house	
	Semi-detached, terrace house or townhouse	
	Unit or apartment	
	Other dwelling	
	Other (please specify) _____	
	Prefer not to say	

## Prioritising Messages

<b>P8</b>	And what sources do you get your news from the most? <b>RANDOMISE</b>	
<b>MR</b>	Sydney Morning Herald	9 News
	The Guardian	7 News
	News.com.au	Herald Sun
	Facebook	The Daily Telegraph
	Twitter	Sky News
	The Australian	BBC
	ABC News	CNN
	SBS News	The Courier-Mail
	The Conversation	The Canberra Times
	The Australian Financial Review	Brisbane Times
	The Age	Money Magazine
	Business Review Weekly (BRW)	Other (please specify: _____)

**THANK AND CLOSE**

Thank you

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