

HALVING HOUSEHOLD FOOD WASTE

WHICH BEHAVIOURS MATTER?



HALVING HOUSEHOLD FOOD WASTE – WHICH BEHAVIOURS MATTER?

© OzHarvest 2021

Published by OzHarvest,

Warehouse G3/G4, 46-62 Maddox St, Alexandria. 2015. NSW. Australia.

Email: fightfoodwaste@ozharvest.org

All rights reserved. Except as provided in the Copyright Act 1968, this work may not be used, reproduced, adapted or communicated without the written consent of the copyright owner.

Halving Household Food Waste – Which Behaviours Matter? was delivered by OzHarvest in partnership with BehaviourWorks Australia, within the Monash Sustainable Development Institute at Monash University. OzHarvest would like to acknowledge and thank Research Fellow, Mark Boulet, for his role in leading the research and report.



MONASH SUSTAINABLE DEVELOPMENT INSTITUTE



While OzHarvest has taken all due care to ensure that the information contained in this work is accurate at the time of publication, it provides no express or implied warranties or makes any representations in relation to this work or any content. The information contained in this work is provided 'as is' and without any guarantees as to its accuracy, currency, completeness or reliability. To the extent permitted by law, OzHarvest excludes all liability for any loss or damage occasioned by use of this work or information contained in this work. OzHarvest is not responsible for decisions or actions taken on the basis of the content of this work and you use the information in this work at your own discretion and risk.

This project was funded by the Australian Government, under the Environment Restoration Fund. OzHarvest would like to thank the Australian Government for making this research possible.



Australian Government

Department of Agriculture, Water and the Environment

CONTENTS

Executive Summary	4
About the Team	5
The Food Waste Problem	6
Research Goals and Objectives	8
Project Method	9
Food Waste Reduction Behaviours	10
Prioritising Behaviours	14
Diagnosing Target Behaviours	19
Recommendations for Campaigns	24
Conclusion	26
Acknowledgments	27
Appendix	29

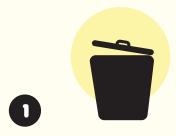
3

EXECUTIVE SUMMARY

OzHarvest is committed to the goal of halving food waste in Australia by 2030 and identified an exciting opportunity to create a national behavioural change campaign to tackle food waste in Australian homes. To support an effective campaign, new research was required to better understand the complex nature of household food waste.

Collaborating with BehaviourWorks Australia, this research represents an innovative and pioneering approach to tackling the food waste challenge in Australia, using evidence-based decision-making to prioritise and diagnose consumer behaviours.

THIS RESEARCH PROJECT HAD TWO GOALS:



To identify the most impactful behaviours to tackle household food waste in Australia.



To explore the factors that influence Australians to change their behaviour in order to reduce food waste at home.

The methodology involved analysing behaviours with a panel of experts, understanding current behaviour through a national consumer survey, pioneering the use of an Impact-Likelihood Matrix to help prioritise target behaviours and a deep dive to explore behavioural influences through surveys and focus groups.

By using a new and ground-breaking approach, not previously applied to the issue of household food waste, the project thoroughly investigates consumer behaviour and motivations, without making assumptions. The results inform recommendations for the design of a targeted national campaign and can be used to shape future campaigns, educational material and relevant activities that help reduce household food waste. Furthermore, the report provides a decision-making tool for other food waste practitioners and policy makers.

OzHarvest and BehaviourWorks Australia hope this research provides valuable insights to fast track Australia's efforts to halve household food waste by 2030 in line with United Nations Sustainable Development Goal 12.3 (UN SDGs) and informs long-term behavioural change interventions into the future.

ABOUT THE TEAM

OZHARVEST

Founded by Ronni Kahn AO in 2004 after noticing the huge volume of food going to waste, OzHarvest has quickly grown to become Australia's leading food rescue organisation. Food is at the heart of everything we do, by feeding people in need, creating positive change through education programs and empowering others to fight food waste. Our work aligns with five United Nations Sustainable Development Goals and we're committed to the national target of 'halving food waste by 2030'. With a passionate team of staff, volunteers and partners, OzHarvest is dedicated to 'Nourishing our Country' and protecting our planet.



BEHAVIOURWORKS AUSTRALIA

BehaviourWorks Australia (BWA) is a behaviour change research enterprise at the Monash Sustainable Development Institute, Monash University. Established in 2011, our mission is to be an internationally recognised centre for applied behaviour change research. We bring together interdisciplinary researchers, behaviour change practitioners in government and business, and experts from around the world who share an interest in applied behaviour change research that makes a difference to the sustainability challenges facing society.

Our research and experience combine to inform the question of what behaviour change tools work best, for whom, and in what circumstances. Embedded in this question is the need to understand behaviour to make informed and evidence-based assessments to identify the behaviour change tools that have the greatest likelihood of success.

This project was led by BWA Research Fellow Mark Boulet. OzHarvest would like to thank Mark for his tireless commitment to delivering meaningful research outcomes for food waste practitioners.







THE FOOD WASTE PROBLEM

There is enough food in the world to feed everyone. Yet, every year, approximately one third of all food (nearly one billion tonnes) produced globally is either lost or wasted (FAO, 2011; 2019). From the farm to the plate, every step of the modern-day food chain sees food being lost, spoiled, or thrown away.

ONE THIRD OF ALL FOOD IS WASTED



Food waste has a wide range of negative environmental, social and economic impacts. The Food and Agriculture Organisation (FAO) estimated the direct economic costs of food waste to be around one trillion US dollars annually, (FAO, 2011; 2019) and as much as 10% of global greenhouse gas emissions are associated with food that is not consumed (UNEP, 2021). Food waste is a problem, not just because of the quantities that end up in landfill, but also because of the wasted resources – seeds, land, water, energy, fertiliser and labour that goes into producing, processing, transporting and cooking food that is not eaten. Greenhouse gases are produced at every stage, including methane when food rots in landfill. In fact, food waste generates more than four times as much greenhouse gas emissions as the aviation sector (WRI, 2015). Wasting food feeds climate change.



WASTING FOOD IS A MAJOR CONTRIBUTOR TO CLIMATE CHANGE

But the good news is that tackling food waste at home is the single most powerful thing an individual can do to take climate action. Non-profit Project Drawdown ranks cutting food waste ahead of electric cars and switching to plant-based diets to curb climate change (Hawken, 2017).

TACKLING FOOD WASTE AT HOME IS THE SINGLE MOST POWERFUL THING AN INDIVIDUAL CAN DO TO TAKE CLIMATE ACTION



In Australia, we waste 7.6 million tonnes of food each year, equating to 312kg per person (FIAL, 2021). Food waste costs our economy \$36.6 billion annually, of which household food waste costs \$19.3 billion per year (FIAL, 2021). A staggering 2.5 million tonnes of food waste comes directly from our homes each year. Household food waste is a complex problem, influenced by many factors. It emerges, in part, from our daily behaviours, such as buying more food than required, preparing too much at mealtimes and not reusing leftovers.

The sustainability implications of food waste have been recognised in a number of the UN SDGs, most specifically Goal 12.3 'to halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses by 2030' (UN, 2015). In 2017, the Federal Government announced Australia's National Food Waste Strategy to provide a framework to support collective action towards halving food waste by 2030, in line with UN SDG 12.3¹. With nine years to go, urgent action is required, and change is needed at all levels of society.

OzHarvest is committed to achieving this goal and recognises that changing behaviour at a household level is critical to addressing this national issue.

¹ See https://www.environment.gov.au/protection/waste/publications/national-food-waste-strategy

RESEARCH GOALS AND OBJECTIVES

There are so many different behaviours that lead to wasting perfectly edible food at home, such as buying too much, forgetting about food at the back of your fridge, not eating leftovers, plans changing at the last minute and cooking too much, just to name a few.

Given the large number of behaviours associated with household food waste, practitioners often ask which behaviours should be prioritised for maximum impact and uptake. Therefore, the first goal of the research was:

TO IDENTIFY THE MOST IMPACTFUL BEHAVIOURS TO TACKLE HOUSEHOLD FOOD WASTE IN AUSTRALIA

In addition, a large number of factors can influence consumer behaviour, whether internal to the individual, such as their attitudes, values, knowledge, habits and skills, or external, such as social norms, regulatory frameworks and retail environments (Boulet et al., 2021; Roodhuyzen et al., 2017). These factors need to be fully understood in order to design targeted and effective food waste reduction campaigns. Not all behaviours are influenced by the same factors, so a 'diagnosis' was needed to explore which factors are the most important. This set the second goal:

TO EXPLORE THE FACTORS THAT INFLUENCE AUSTRALIANS TO CHANGE THEIR BEHAVIOUR IN ORDER TO REDUCE FOOD WASTE AT HOME

The research project had three main phases:

- To prioritise household behaviours with the **highest impact** of reducing food waste and identify those with the **greatest likelihood** of uptake by Australians.
- To diagnose target behaviours and explore key influencing factors.
- To identify key insights to help design future food waste campaigns.

By using a new and ground-breaking research method, not previously applied to the issue of household food waste, this project takes a deep dive into consumer behaviour and motivations, without making assumptions. This final report demonstrates a robust, data-driven, evidence-based approach that highlights key consumer insights and influences to inform targeted and impactful behaviour change campaigns.



PROJECT METHOD

The BWA Method² (Figure 1) provided a systematic framework for the design and delivery of the different research activities that underpinned this project. The Method provides a number of research and decision-making tools used to support the creation of more effective behaviour change campaigns in a range of issues from biodiversity conservation to workplace safety.

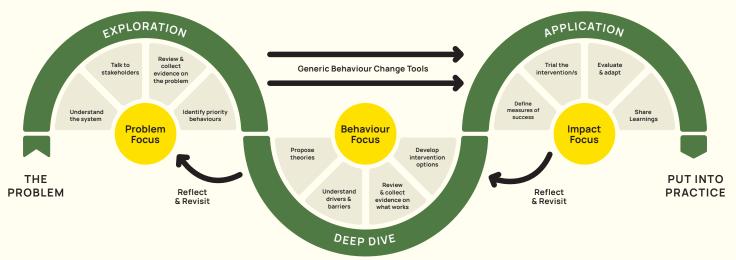


Figure 1: The BWA Method

WORKING ACROSS THE PHASES OF THE METHOD, FOUR SPECIFIC ACTIVITIES WERE UNDERTAKEN:

- Food waste expert workshops to develop a long list of current behaviours that could reduce household food waste in Australia (Exploration).
- Food waste expert and household surveys to provide data for an Impact-Likelihood Matrix to help prioritise and identify target behaviours (Exploration).
- National food waste behaviour survey of householders to identify the key influencing factors of the target behaviours (Deep Dive).
- Household focus groups to gain richer and more detailed insights on influencing factors and to help inform future campaigns (Deep Dive).

The report explores the research outcomes from these activities.

FOOD WASTE REDUCTION BEHAVIOURS



USING FOOD WASTE EXPERTS TO IDENTIFY THE TOP FOOD WASTE REDUCTION BEHAVIOURS IN AUSTRALIAN HOUSEHOLDS



METHOD

A two-part process generated the initial long list of household food waste reduction behaviours:

- A recent systematic review (Boulet et al., 2021) of Australian and international literature was used to create an initial list of 27 consumer behaviours associated with reduced household food waste
- Online workshops with 30 Australian and New Zealand-based food waste practitioners and researchers (from local councils, state government, research organisations, waste education teams and not-for-profits) who reviewed the list and included an additional nine behaviours.

OUTCOMES

Based on this input, a master list was generated of **36 household behaviours** that avoided or reduced food waste at home. Behaviours such as composting or giving leftover food to pets were not included, as these are not considered to reduce household food waste volumes.

The 36 behaviours can be broadly grouped into the following categories:



THE LIST: TOP 36 HOUSEHOLD BEHAVIOURS

This list represents a comprehensive and up-to-date overview of behaviours to reduce household food waste. It is particularly notable how shopping, storage and cooking practices have the largest range of potential behaviours to reduce food waste in Australian homes.



MEAL & SHOPPING PLANNING

- Every three or four days, make a household meal plan
- Before food shopping, make a list
- Before making a shopping list, check what food is in the pantry, fridge and freezer
- Before going shopping, eat a meal or snack (if hungry)

FOOD SHOPPING



- Buying food from local specialty stores (greengrocers, butchers) and markets in preference to large supermarkets
- Food shopping by online ordering and delivery services
- Subscribing to a meal kit or recipe box service
- Shopping for perishable foods any time household stocks run out
- Only buying food on your shopping list
- Only buying discounted, close-to-date food if you have a plan to use it immediately
- Only buying bulk amounts or large quantity special offers for non-perishable food
- Buying frozen vegetable options instead of fresh ones
- Buying food with pre-portioned options
- Before deciding to buy food, read packet information



COOKING

- Preserve perishable foods by pickling, saucing or stewing for later use
- Once a week, make a meal that combines any food that needs using up
- Make a stock of any food remains (bones and peels) and freeze for future use
- Once a week, cook a meal at home from food in the freezer
- Before cooking a meal at home, check how many household members will be eating
- When cooking at home, make several portions to keep (in the fridge or freezer) for later
- Involve children in meal preparation and cooking

- Check that refrigerator temperature is between 1-3 degrees C and freezer temperature is below 18 degrees C
- When unpacking after shopping, check and follow the storage instructions on food packets
- Store food in well-sealed, clear and labelled containers in the fridge/freezer and pantry
- Store bread in an airtight bag or bread box

FOOD

STORAGE

- Once a week check the date labels of food in the household fridge, freezer or pantry
- Have a 'use it up' shelf in the fridge and/or pantry for any food (including leftovers) that needs to be eaten
- Once a week, arrange the household fridge and pantry so that food that needs using up is visible and at the front
- Freeze food (made or purchased) that won't be eaten within the next three to four days
- If food at home is nearing its date label, inspect and smell it before deciding to use or dispose

EATING



- Use small plates and bowls during mealtimes at home
- **32** Allow more time for children to eat during mealtimes
- Allow household members to serve themselves during mealtimes

OTHER BEHAVIOURS



- If excess food at home cannot be frozen or preserved, share it with extended family and friends
- Measure household food waste and set goals with household members to reduce current amounts
- Store leftovers in sealed, clear and labelled containers in the fridge or freezer



PIONEERING A NEW RESEARCH APPROACH TO CONSUMER FOOD WASTE, THE IMPACT-LIKELIHOOD MATRIX PRIORITISES TARGET FOOD WASTE BEHAVIOURS



METHOD

To prioritise the list of behaviours, based on **potential impact** for reducing food waste and the **likelihood and opportunity for uptake** by consumers, the following methods were applied:

- Food waste experts estimated the impact of each behaviour in reducing household food waste and the **average impact scores** were then calculated for all behaviours in the list.
- A national survey of 1,600 consumers across all states and territories, representing a range of socio-demographic characteristics, assessed the **likelihood and opportunity for uptake** of each behaviour. Participants were asked about the effort required (mental³, financial⁴ and household 'fit'⁵) to create an average likelihood uptake score, and how often they typically performed each behaviour to identify the opportunity for uptake score.
- The Impact-Likelihood Matrix (Kneebone et al., 2017) compares consumer behaviours based on their scores for impact, likelihood of uptake (perceived effort) and opportunity for uptake. Used for the first time in food waste research, this matrix is a visual decision-making tool to help prioritise and target behaviours for campaigns and policy development to reduce household food waste in Australia.

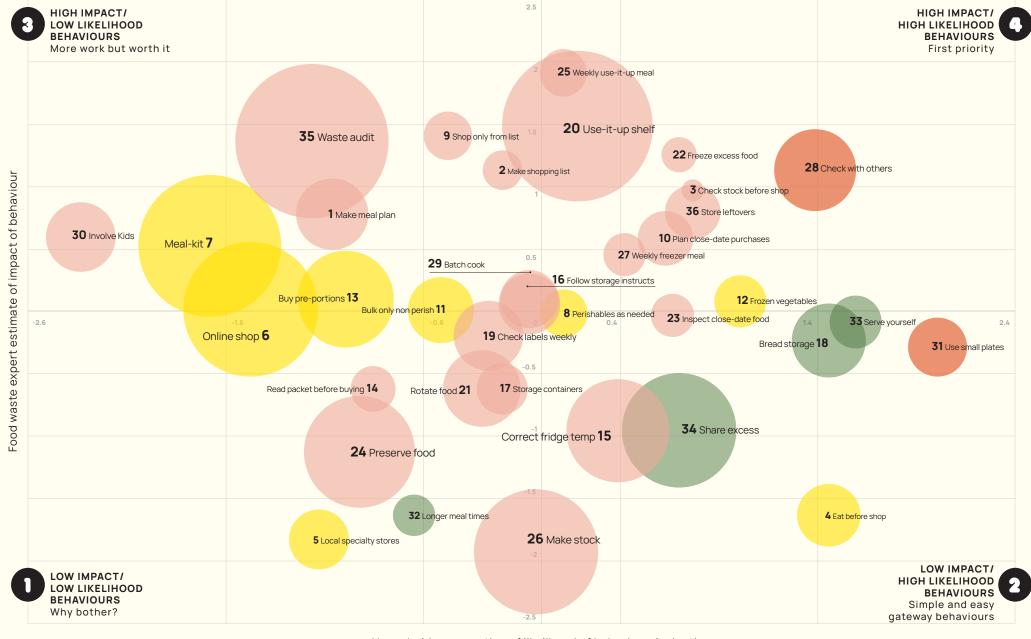
OUTCOMES

The different scores from the food waste experts and national consumer survey were plotted into an Impact-Likelihood Matrix to visually compare the different behaviours based on their impact, likelihood and opportunity for uptake (see Figure 2).

³ The amount of thinking and planning involved.

⁴ How much it costs to undertake the behaviour.

⁵ Effort involved in adopting the behaviour based on different schedules and food preferences in the household.



MAIN BARRIER ASSOCIATED WITH BEHAVIOUR
Financial cost

Household 'fit'

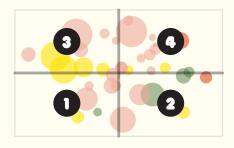
Mental effort

Mental effort / Household 'fit'

NOTE:
Larger circle =
greater opportunity
for adoption (less
people currently
engaging in
behaviour)

Householder perception of likelihood of behavioural adoption

BEHAVIOURS CAN BE PRIORITISED USING THE GROUPS SHOWN IN THE DIFFERENT QUADRANTS:



- Low impact and low likelihood behaviours (bottom left quadrant) are both difficult for consumers to adopt and have the lowest food waste reduction outcomes.
- 2 Low impact behaviours that have high likelihood of adoption (bottom right quadrant) have a lower impact, but are relatively easy for consumers and could help to normalise food waste reduction at home.
- High impact behaviours that are less likely to be adopted (top left quadrant) also have significant food waste reduction outcomes, but may be harder for consumers to engage with or require more support/time.
- Behaviours that are high impact and have high likelihood of adoption (top right quadrant) represent the priority behaviours and 'low hanging fruit' for food waste reduction campaigns.

The matrix shows the relative proportion of Australian consumers that are already engaging in different behaviours. Large circles show good opportunities to promote key actions as fewer consumers are currently engaged in that behaviour.

The colour of each circle represents the type of potential effort 'barrier' most relevant to each behaviour based on its total scores calculated for mental effort, financial cost and household 'fit' from the survey.

A NUMBER OF KEY THEMES EMERGE FROM THE MATRIX:

- Many of the high impact and high likelihood behaviours, such as making a shopping list have already been adopted as they are relatively easy and commonly used.
- The exception is having a 'use it up' shelf in the fridge or pantry which currently has a low uptake, followed by checking how many household members will be eating before cooking a meal.
- There are a number of high impact behaviours with lower perceived likelihood of uptake that are yet to be adopted by many consumers. These include measuring food waste and setting goals (audit) and subscribing to a meal kit or recipe box service. The perceived difficulty probably accounts for their low current uptake and would require more sustained campaign efforts to help tackle the barriers.
- A weekly use-it up meal was considered to be the most impactful behaviour by experts, with many respondents reporting they already did this at home. Due to its high impact and close overlap with the behaviour having a 'use it up' shelf in the fridge or pantry, it's valuable to continue promoting its uptake and importance.
- The most common barrier identified by consumers was 'mental' effort, namely the amount of thinking and planning needed to carry out the behaviour.
 This suggests that making it easier for consumers to include these food waste behaviours in their thinking and planning would increase uptake.

17

SUMMARY

The purpose of this project was to identify the most impactful behaviours to tackle household food waste. The identified target behaviours that combine the highest impact, likelihood and opportunity factors are:



ONCE A WEEK, MAKE A MEAL THAT COMBINES FOOD THAT NEEDS USING UP



IMPLEMENT A USE-IT-UP SHELF
IN THE FRIDGE, FREEZER OR PANTRY



BEFORE COOKING, CHECK HOW MANY HOUSEHOLD MEMBERS WILL BE EATING

The results of the Impact-Likelihood Matrix provide evidence-based prioritisation of target behaviours to tackle household food waste.

DIAGNOSING TARGET BEHAVIOURS



EXPLORING THE RELEVANT INFLUENCES ON THE TARGET BEHAVIOURS

The *design* of any behavioural change campaign should be evidence-based; namely, it should apply relevant influencing factors of a target behaviour that have been identified through research, rather than assumptions of what will motivate change. This directed the second phase of the research:

TO EXPLORE THE FACTORS THAT INFLUENCE AUSTRALIANS TO CHANGE THEIR BEHAVIOUR TO REDUCE FOOD WASTE AT HOME



The two behaviours selected to explore influencing factors were:

- Make a weekly meal that combines food that needs using up, and
- Before cooking a meal at home, check how many household members will be eating.

METHOD

To fully diagnose the target behaviours identified previously, gain deep consumer insights and understand barriers, a two-staged research process was applied:

- A nationwide survey of over 500 people tested the influence of different factors and sought to identify the most relevant.
- Two focus groups were conducted to unpack the key influencing factors identified in the survey and gather rich detail to provide more nuanced direction for campaigns.

OUTCOMES

Two key influencing factors from the survey emerged for both of the target behaviours:

- The attitudes of household members defined as the overall evaluation that a person makes about a behaviour (Ajzen, 1991). In this case, the more positive the attitude of household members was towards the target behaviour, the more likely they were to occur.
- The perceived behavioural control (PBC) of the person responsible for cooking and shopping specifically the skills, resources, knowledge and autonomy that a person perceives they have (Ajzen, 1991). In this case, the more skills and knowledge the responsible person felt they had for the target behaviour, the more likely they were to occur.

The hour-long focus group sessions enabled deeper exploration of these influencing factors for each of the target behaviours:

TARGET BEHAVIOUR

Making a weekly meal that combines food that needs to be used up.



What shapes a positive attitude towards this behaviour?

- **◆** The potential reduction in food waste.
- ◆ The enjoyable challenge of being creative with food that was left over.
- ◆ Not wasting money spent on food.
- **◆** Saving time by having meals already made.
- ◆ The satisfaction of knowing families ate healthy, homemade meals rather than unhealthier takeaway options.
- ◆ Not feeling guilty about wasting food.

What shapes a more negative attitude towards this behaviour?

- The perception that extra time is required to make a meal from food that needs to be used up.
- The feeling that leftovers are second-rate foods and not as good as 'fresh' meals.
- The feeling that using up food was boring and only done out of responsibility.

What increases someone's perceived behavioural control over the behaviour?

- ▲ Cooking skills and experiences.
- ▲ Meal planning skills and sense of autonomy to make decisions about what is cooked.
- ▲ Knowledge and access to available resources (mainly websites and cookbooks) that give ideas of what to do with food to be used up.
- ▲ Access to extended families (especially mothers) for advice and ideas.
- ▲ Getting children involved in making decisions and making meals with food that needs to be used up.

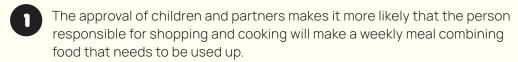
What decreases someone's perceived behavioural control over the behaviour?

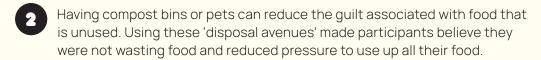
▼ Missing key ingredients to make meals that use up food.

"I think the advantage is having a meal that's ready to go, that I know is relatively healthy as it's all been homemade... especially with the kids, you want to try and make sure everyone's eating healthy.

I use mum... being Italian she can make an entire meal out of one carrot.

Two additional factors that influenced this target behaviour were identified through the focus groups:





TARGET BEHAVIOUR:

Before cooking a meal at home, check how many household members will be eating.



What shapes a positive attitude towards this behaviour?

- ★ Knowing that cooking the amount of food that is actually needed avoids wasting food and money.
- ◆ Checking in with household members creates greater awareness of changes to schedules and whether additional people might be present at a meal. Knowing this makes meal planning and preparation easier.
- → Saving time, sometimes resulting in a 'night off', if there was no need to cook for multiple household members.

What shapes a negative attitude towards this behaviour?

 Due to time constraints, sometimes it's perceived to be easier to just cook what was planned, rather than check with others first.

What increases perceived control over this behaviour?

◆ Using online platforms for shared household timetables (e.g. Google Calendar) or to quickly ask who would be home for dinner (e.g. group texting, WhatsApp).

No specific themes emerged from the focus groups about things that **decreased perceived control** over this behaviour.

Two additional factors that influenced this target behaviour were identified through the focus groups:

- The perception that cooking more food than needed shows love and care for family members, even if they do not actually eat all the food prepared. This belief can create a barrier to the target behaviour.
- This 'checking in' behaviour is more relevant for families with older children who also work or study and have more independent schedules. It is less an issue for families with younger kids who are always home for meals.

Food is a language of love. It's good to have enough food cooked to say, 'Yes, you're still part of the family, even if your work commitments don't allow you to be at home for family sit-down time.

99

SUMMARY

If household members have a positive attitude towards either target behaviour, it is more likely to occur. Similarly, the greater the perceived control of the person responsible for cooking and shopping over either behaviour, the more likely it is to occur in the household.

The focus group results showed deeper insights and uncovered more specific factors that informed both positive and negative attitudes and perceived behavioural control.

While the research methods and outcomes generated are critical to this project, the broader 'lesson' for food waste practitioners and policy makers is the value of first understanding target behaviours from the perspective of Australian householders before designing interventions. The insights generated avoid making assumptions and allow for the design of tailored and appropriate campaigns to change behaviour.



USING BEHAVIOURAL DIAGNOSIS TO INFORM BEHAVIOURAL CHANGE CAMPAIGNS



TO GET MORE PEOPLE TO MAKE A WEEKLY MEAL THAT COMBINES FOOD THAT NEEDS TO BE USED UP:

Increase positive attitudes by:

- ◆ Focusing campaign messages on money saving, food waste reduction, time saving and healthy eating benefits.
- Playing on positive emotional outcomes.
 Reduce guilt around food waste and show creative opportunities.
- + Showing how it's quick and easy.
- ◆ Challenging impressions that leftovers are second-rate food.
- ◆ Targeting the whole family or household with campaign messages, not just the person responsible for cooking and shopping.

Increase perceived behavioural control by:

- ▲ Using 'ingredient-led' websites, cookbooks or apps for recipe ideas.
- ▲ Making it easy to identify food that needs using up, such as a simple explainer of 'use-by dates' that can be stuck to a fridge, or by implementing a use-it-up shelf.
- ◆ Promoting a use-it-up day, as part of the weekly routine.
- ▲ Creating reminders to cook use-it-up meals.
- Ask family members for ideas on using particular ingredients in cooking.
- Engage children through school-based challenges that promote using up food.

TO GET MORE PEOPLE TO CHECK IN WITH OTHERS IN THE HOUSEHOLD BEFORE MAKING A MEAL:

Increase positive attitudes by:

- ◆ Targeting households with older, more independent children.
- ◆ Develop messages that show benefits of checking in:
 - Cooking the right amount saves money and reduces waste.
 - If you know no one will be home for dinner, you get to schedule a 'night off cooking'.
- ◆ Change the perception that cooking more shows love to the belief that cooking the right amount is better.

Increase perceived behavioural control by:

- ▲ Developing a 'who's home for dinner' household calendar or app to keep track of schedules and send prompts.
- Promoting existing platforms to support communication (e.g. WhatsApp or Google Calendar).
- ▲ Engaging children through school-based challenges to promote involvement in food choice and decision-making at home.



CONCLUSION

When it comes to household food waste, there are multiple reasons and influencing factors as to why often perfectly edible food gets thrown away. Recognising the fact that it is mostly avoidable and understanding the most impactful ways to change behaviour are key to tackling this national issue.

The results of this pioneering research reviewed the contributing factors that lead to food waste and analysed current household behaviours, revealing key insights to inform campaigns that tackle food waste at home. Whilst the approach undertaken was in-depth and detailed, the solutions to effect change are relatively simple and can be actioned immediately.

The key to building successful behavioural change campaigns is prioritising the behaviours that matter, diagnosing target behaviours to understand them from the perspective of Australian householders, and tailoring key messages and initiatives based on these insights. This evidence-based approach avoids making assumptions and increases the chances for widespread change.

This report has provided the foundations for a new national campaign by OzHarvest to inspire citizen action by making it easy for Aussies to waste less at home, focussing on the high impact and high likelihood behaviour of a 'Use It Up' Shelf. OzHarvest hopes that this report will be used by other practitioners, partners and organisations united in achieving the national target and UN SDG 12.3 of halving food waste in Australia by 2030.

ACKNOWLEDGEMENTS

Report authors

Mark Boulet (BWA), Annika Stott (OzHarvest), Fiona Nearn (OzHarvest)

Project lead

Annika Stott (OzHarvest)

Lead researcher

Mark Boulet (BWA)

Review and editing

Ashley Killeen (OzHarvest)

Other contributors

Ronni Kahn AO (OzHarvest), Nicholas Faulkner (BWA)

Report designer

Theresa McManus (Conbini Design Co)

REFERENCES

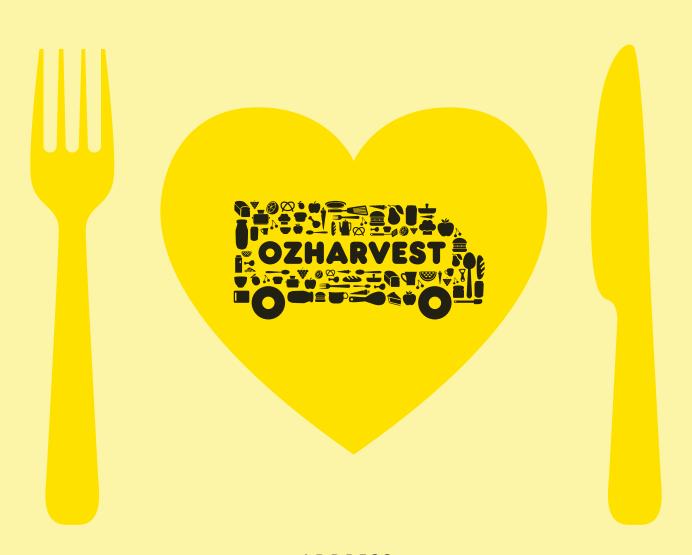
- Ajzen, I. (1991). Theories of Cognitive Self-Regulation The theory of planned behavior. Organizational Behavior and Human Decision Processes 50(2): 179-211.
- Boulet et al. (2021). Towards a multi-level framework of household food waste and consumer behaviour: Untangling spaghetti soup. Appetite 156: 104856.
- FAO (2011). Global food losses and food waste Extent, causes and prevention. Rome, Food and Agriculture Organisation of the United Nations.
- FAO (2019). The State of Food and Agriculture 2019. Moving forward on food loss and waste reduction. Rome, Food and Agriculture Organisation of the United Nations.
- FIAL (2021). National Food Waste Strategy Feasibility Study.
- Graham-Rowe et al. (2015). Predicting household food waste reduction using an extended theory of planned behaviour. *Resources, Conservation and Recycling* **101**: 194-202.
- Kneebone et al. (2017). The Impact-Likelihood Matrix: A policy tool for behaviour prioritisation. Environmental Science & Policy 70: 9-20.
- Hawken, P. (2017) Project Drawdown The Most Comprehensive Plan Ever Proposed to Roll Back Global Warming.
- Roodhuyzen, D. M. A., Luning, P. A., Fogliano, V., & Steenbekkers, L. P. A. (2017). Putting together
 the puzzle of consumer food waste: Towards an integral perspective. *Trends in Food Science*& *Technology*, 68 (Supplement C), 37-50.
- United Nations (UN) (2015). Transforming Our World: The 2030 Agenda for Sustainable Development.
- United Nations Environment Program (UNEP) (2021). Food Waste Index Report 2021. Nairobi.
- World Resources Institute (WRI) (2015). What's Food Loss and Waste Got to Do with Climate Change?
 A Lot, Actually.

Acknowledgements

27







ADDRESS

G3/G4, 46-62 Maddox St, Alexandria, NSW, 2015, Australia.

EMAIL

fightfoodwaste@ozharvest.org