

FOOD PRODUCTION AND SUPPLY IN NSW

Organisation: OzHarvest

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NSW LEADING THE WAY

**TACKLING FOOD WASTE AND
FOOD INSECURITY TOGETHER**



Inquiry into food production and supply in NSW
Submission by OzHarvest



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THE TIME TO ACT IS NOW

There has never been a more critical time to bring together the key players in NSW to create the change that is urgently needed, to protect our people and our planet. The statistics for both food waste and food insecurity are shocking, coupled with the recent need for emergency food relief resulting from the pandemic, bushfires, drought and floods. Australia wastes 7.6 million tonnes of food every year¹. If this was rescued, it would be enough to feed everyone in Australia for six months.

The problems are both huge and inherently connected, but both are invisible and have social, economic and environmental implications. Whilst NSW has set targets to halve food waste and emissions by 2030, progress has been slow. We believe NSW should spearhead action towards these goals, seizing the incredible opportunity for innovation and economic growth.

NSW citizens want real action on climate change, with 67% of voters saying this is an important part of their vote at the next election². It is a booming state, underpinned by great resources, but a society and its leaders are judged by how they treat their most vulnerable, and by the legacy they leave for future generations.

We need your leadership, and we need it now.

– Ronni Kahn AO, OzHarvest Founder & CEO

The Opportunity: NSW can be a global leader in tackling food waste and food insecurity together

There are many social, economic and environmental benefits of addressing food waste and turning it into a source of growth and productivity:

- new sectors and food waste technology developed
- businesses become more efficient and profitable
- residents save billions of dollars
- hungry people get increased access to good food
- social and economic outcomes improve as a result of greater food security
- reduced waste management costs for local government
- substantially reduced environmental impact of food production and waste management

¹ FIAL, 2021. National Food Waste Strategy Feasibility Study

² Australian Conservation Foundation 2021, Australia's Biggest Climate Poll

RECOMMENDED ACTION

New South Wales can become a global leader in tackling food waste and improving food security with four action areas:

1.

Ensuring surplus food feeds people, not landfill

- › Support the sector to increase both the volume of food rescued and type of food donated
- › Build, deliver and invest in cross-sector collaboration initiatives, food rescue commitment programs and pilots
- › Support voluntary commitment programs that engage business to reduce food waste

2.

Inspiring citizen behavioural change

- › Target behaviour change campaigns and activities that will have the most impact to prevent food waste at home
- › Fund the expansion of school-based education programs to reduce food waste, to reach every school in NSW
- › Embed the value of food and food waste education in the school curriculum

3.

Helping farmers get food off the land and onto plates

- › Advocate incentives and support for reliable, consistent sources of seasonal labour for fruit and vegetable picking
- › Drive federal tax reforms to incentivise farmers and logistics companies to donate and transport surplus food
- › Commission a review of NSW's cold chain
- › Invest in regional food hubs to capture and redistribute surplus food locally
- › Develop a platform to share real-time data about food surpluses across the supply chain

4.

Putting an end to hunger in NSW

- › Develop a Food Security and Food Systems Plan to address the related problems of food insecurity and food waste
- › Support the food rescue sector to scale up to redistribute more good food to charities
- › Establish stand-by funding for rapidly scalable emergency food relief in times of crisis and natural disaster

WHAT WE KNOW

The Problem:

Food waste is a national issue ³



7.6 million tonnes of food is wasted each year.



\$36.6 billion is the annual cost to the economy.



312kg of food is wasted per person each year. ⁴



NSW wastes over 1.5 million tonnes per year (20% of national total). ⁵

Food waste feeds climate change



17.5 million tonnes of CO₂ come from the food wasted in Australia (3% annual emissions). ⁶



8-10% of global greenhouse gas emissions come from wasted food. ⁷

Food insecurity is not going away ⁸



1 in 6 adults do not have enough to eat.



43% of severely food insecure parents say their children go an entire day without eating at least once a week. ⁹



In NSW & ACT 371,000 children have gone hungry in the past year.

The Solution:

Scaling up food rescue

- Only 0.2% of Australia's wasted food is currently rescued. ¹⁰
- 10% of Australia's target to halve food waste by 2039 could be achieved by a ten-fold increase in the food rescue and relief sector. ¹¹
- A proven and cost-effective solution to reducing food waste and improving food security, which could provide enough food for the entire NSW charity sector at low cost.
- Increase food rescue across the supply chain, especially rescuing surplus food from farms.

Inspiring citizen action

- 1/3 of national food waste comes from households. ³
- United Nations research cites citizen education programs and behavioural change campaigns as a crucial way to achieve global targets. ⁷
- 2.5 million tonnes of food waste comes from the home. ³
- 70% of food wasted from households is perfectly edible.
- In NSW it costs an average household between \$2,000-2,500 each year.

³ FIAL, 2021. National Food Waste Strategy Feasibility Study
⁴ FIAL, 2021. National Food Waste Strategy Feasibility Study – Final Report
⁵ Arcadis, 2019. National Food Waste Baseline: Final Assessment Report
⁶ FIAL, 2021. National Food Waste Strategy Feasibility Study – Final Report
⁷ United Nations Environment Program, 2021. Food Waste Index Report 2021

⁸ Foodbank, 2021. Foodbank Hunger Report 2021
⁹ Foodbank, 2021. Foodbank Hunger Report 2021
¹⁰ FIAL, 2021. National Food Waste Strategy Feasibility Study – Final Report
¹¹ FIAL, 2019. A Roadmap for Reducing Australia's Food Waste by Half by 2030

TAKING ACTION

Action area 1: Make sure food feeds people, not landfill

There is a huge opportunity to rescue more food

OzHarvest food rescue impact in NSW 2021



4.1 million kg of good food rescued



1,116 NSW food donor businesses



8.2 million meals delivered people in need

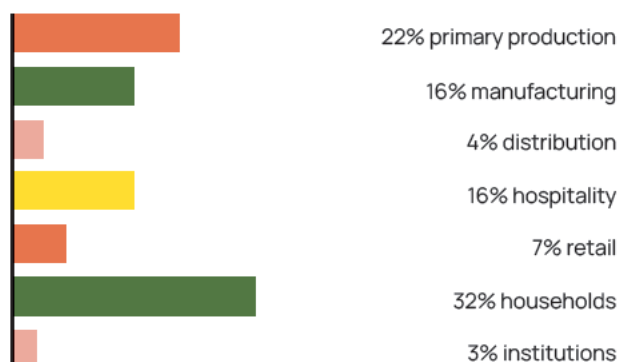


27 million kg of CO2 saved ¹²

OzHarvest rescues around 250 tonnes of food each week from a network of 3,000 national food donors. The bulk of donated food comes from supermarkets, restaurants, and supermarket fulfillment centres. OzHarvest uses agile, just-in-time logistics to target end-of-the-day fresh and short life food, preventing it from landfill. This food is distributed on the same day, directly and free of charge to charities. Every 1kg rescued saves up to 6.6kg of greenhouse gas (CO2e) emissions.¹³

Current volumes are just the tip of the iceberg

Food rescue is a proven solution, but our current volumes are just the tip of the iceberg. Only 0.2% of Australia's surplus food is donated – the bulk goes to landfill. Food rescue operations are currently focused on retail collection and mainly in major metropolitan areas. There are huge opportunities to rescue greater volumes of food across the supply chain, and closer to the source across all regions of NSW.



Food waste across the supply chain

Source: 2021 National Food Waste Baseline

This requires investment in sector capacity and incentives for participating businesses. If unlocked, a 10-fold increase in the food rescue and relief sector could deliver 10% of Australia's target to halve food waste by 2030 ¹⁶ and provide multi-faceted benefits for the economy, people and the planet:

- Economic: innovation, employment, savings for business
- Social: improved food security
- Environment: reduced greenhouse gas emissions

Action needed:

- Support the food rescue sector to develop their capacity to accept greater volumes and types of donations
- Build, deliver and invest in cross-sector collaboration initiatives, commitment programs and pilots
- Support voluntary commitment programs that engage business to reduce food waste, including partnering with food rescue organisations and signing up to the Australian Food Pact established by Stop Food Waste Australia.

¹² OzHarvest data

¹³ Sustainability Victoria, 2020. The Path to Half

¹⁴ Fight Food Waste Cooperative Research Centre website

¹⁶ FIAL, 2019. A Roadmap for Reducing Australia's Food Waste by Half by 2030

Target action 2: Help farmers get food off the land and onto plates

Agriculture is largely untapped for food rescue

Food waste costs Australian farmers billions per year.



22% of national food waste comes from farms ¹⁷



1.2 million tonnes of food never makes it off the farm ¹⁸



25% of all vegetables grown never leave the farm. ¹⁹

Food Waste In NSW:



392,900 tonnes of food waste is generated by farms/primary production



3,300 tonnes (0.8%) is rescued ²⁰



22-27% of fruit and vegetables are wasted due to poor cold chain infrastructure ²¹

Food waste on farms is a complex issue

Market conditions and constraints imposed further up the supply chain are the cause of many waste issues, largely from harvest-ready produce that is not harvested or ploughed back in, and produce does not even reach the market. ²²

Farmers hate seeing their produce go to waste, but sadly price variation can make it uneconomic to harvest. Sometimes producers are unable to secure seasonal employees for picking. Edible produce is also regularly wasted due to strict cosmetic retail standards. Two independent studies conducted on banana and tomato farms in Queensland found more than two thirds of edible wasted produce was due to failure to meet supermarket product specifications. ²³ A tax incentive scheme for farmers and logistics companies would reduce the financial burden of donating surplus food.

The cold chain causes expensive loss

There are significant logistical restraints to farmers getting edible food off the farm. The cold chain supply is complicated, with multiple links from farmer to consumer and frequent gaps, while the journey is characterised by varying extreme temperatures, long distances, and human error. NSW loses 22-27% of total fruit and vegetable production due to poor cold chain infrastructure and education. This is an expensive loss, that greatly impacts the state's food security.

We need to understand the cold chain better: the interactions between sectors that cross the cold chain, precisely where most food is wasted, barriers to collaboration exist, and inhibiting or enabling policy and legislation.

Unlock food waste through regional hubs and creating local jobs

Investment in regional infrastructure which centralises the collection of surplus or off-specification produce and food waste would unlock significant volumes of rescued food. Regional hubs also offer the opportunity for local employment and alternative revenue streams for primary producers if surplus produce can be sold for repurposing.

Redistributing surplus food close to the source will provide increased and regular access to food relief for regional and remote communities, by allowing food relief organisations to rescue more food. These communities are already extremely vulnerable, often feel forgotten and are highly affected by natural disasters and climate change.

¹⁷ FIAL, 2021. National Food Waste Strategy Feasibility Study – Final Report

¹⁸ FIAL, 2021. National Food Waste Strategy Feasibility Study – Final Report

¹⁹ Commonwealth of Australia, 2017. National Food Waste Strategy

²⁰ Arcadis, 2019. National Food Waste Baseline: Final Assessment Report

²¹ Ambiel et. al., 2019. Mapping of Australian Fruit and Vegetable Losses Pre-retail

²² Arcadis, 2019. National Food Waste Baseline Report

²³ White et. al., 2011. The Impact of Fresh Produce Specifications on the Australian Food and Nutrition System: A Case Study of the North Queensland Banana Industry; McKenzie et. al., 2017. Quantifying Postharvest Loss and the Implication of Market-Based Decisions: A Case Study of Two Commercial Domestic Tomato Supply Chains in Queensland, Australia

Bridge the gap between producers, logistics companies and food rescue

Information-sharing is a major barrier to rescuing more food from primary producers. Government and industry need to work together to build a platform for transparent and real-time data sharing across the food supply chain showing food surplus and demand, so logistics companies can identify opportunities to transport food rescue donations using their existing capacity. Tax incentives for rescuing food will boost participation by farmers and logistics companies.

NSW regions with greatest annual food loss

Greater Sydney NSW
89,000 tonnes

Riverina NSW
58,000 tonnes²⁴

Action needed:

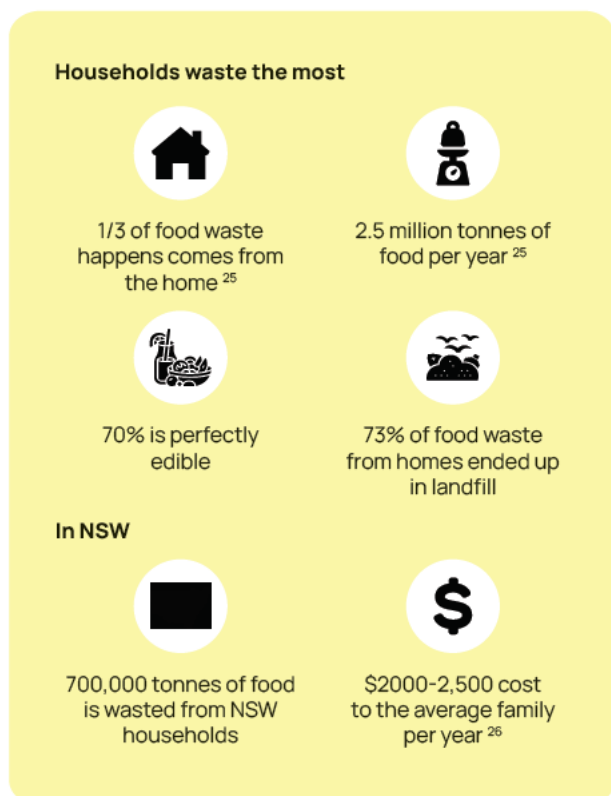
- Drive federal tax reforms to incentivise farmers and logistics companies to donate and transport surplus food
- Advocate incentives and support for reliable, consistent sources of seasonal labour for fruit and vegetable picking
- Commission a review of NSW's cold chain
- Invest in regional food hubs to capture and redistribute surplus food locally
- Develop a platform to share real-time data about food surpluses across the supply chain



²⁴ Ambiel et. al., 2019. Mapping of Australian Fruit and Vegetable Losses Pre-retail

Target action 3: Inspire behavioural change

Tackling household food waste is crucial to halving food waste by 2030.



Consumer campaigns can change behaviour

Australia has a rich history of memorable and generation-defining campaigns that didn't just change the behaviour of individuals, they changed the culture. From sun safety (Slip Slop Slap) to anti-littering (Keep Australia Beautiful), these campaigns combined mass media messaging with school-based education programs that embed long-term, generational change.

Australia needs to Use It Up!

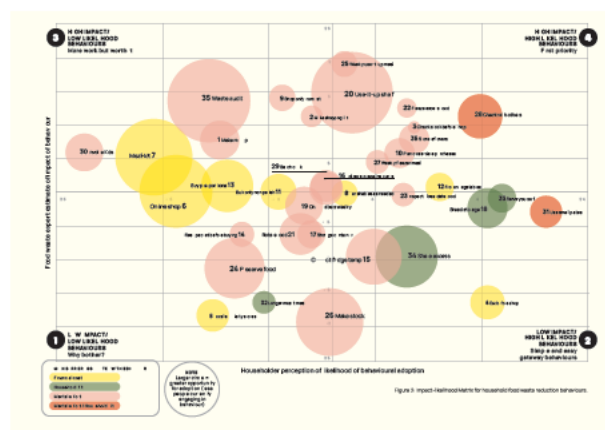
In 2020, OzHarvest commissioned BehaviourWorks Australia to undertake a world-first study to understand which household behaviours have the most impact when it comes to reducing food waste. The published report Halving Household Food Waste: Which Behaviours Matter? identified key behaviours using an Impact Likelihood Matrix:

1. Make a weekly meal that combines food that needs to be used up
2. Implement a use-it-up shelf in the fridge, freezer or pantry
3. Before cooking a meal at home, check how many household members will be eating

From these behavioural insights, OzHarvest launched the Use It Up campaign and pioneered a new product, Use It Up Tape™, to make it easy to waste less at home. The campaign reached over 25 million people through media and households using the tape have reported reducing food waste by 30% a week.

Applying the insights

NSW Government's commitment to Love Food Hate Waste is commendable. Future investment in campaigns should leverage the Impact/Likelihood Matrix to target behaviours that will have the most impact. They should go beyond engaging businesses already inclined to sustainability, to target households and young people who are causing the most food waste to landfill. This is the most effective way to embed long-term behavioural change.



Impact/Likelihood Matrix of Behaviours
– see complete version in Appendix

²⁵ FIAL, 2021. National Food Waste Strategy Feasibility Study

²⁶ FIAL, 2021. National Food Waste Strategy Feasibility Study – Final Report



Inspiring future change-makers

School-based investment is essential to educate young people and inspire generational change.

It is estimated that each year Australian students throw away, 5 million sandwiches, 3 million pieces of whole fruit and 3 million items of packaged food. Schools are a gateway to the nation's households and have the potential to directly influence behaviour when it comes to shopping and food waste.²⁷ Building knowledge and awareness through schools and school children is where the seeds are planted for generational behaviour change, taking action on food waste both at school and at home can have immediate and long-lasting results.

OzHarvest's FEAST program targets schools in low socio-economic areas, with families often experiencing food insecurity. The program uses visual, picture-based content for culturally and linguistically diverse students and those with low literacy.

FEAST **(Food Education and Sustainability Training)**

OzHarvest's curriculum-aligned education program inspires kids to eat healthy food, waste less and become change-makers in their community. The program has been developed using evidence-based behaviour change practices and is aligned to the years 5-8 Australian Curriculum.

Impact in NSW:

212
schools
enrolled

330
teachers
trained

15,500
future
change-makers
inspired

Action needed:

- Target behaviour change campaigns that will have the most impact in reducing household food waste
- Fund the expansion of school-based education programs to reduce food waste, to reach every school in NSW
- Embed the value of food and food waste education in the school curriculum

²⁷ Boulet et. al., 2022. Influencing across multiple levels: The positive effect of a school-based intervention on food waste and household behaviours

Target action 4: Put an end to hunger in NSW

Food waste and food insecurity need addressing together

Food insecurity is a complex issue with economic, social and health causes and results. It affects people from across the community and it's not always who you think. Many people experiencing food insecurity are employed but struggle to make ends meet.

Food waste and insecurity



1 in 6 people do not have enough to eat ²⁸



64% of food insecure people have a job ²⁹



38% had never experienced food insecurity prior to the pandemic ³⁰



371,000 children have gone hungry in NSW & ACT ³¹



1.5 million tonnes of food is wasted in NSW ³²



There is urgent need for a plan

In NSW there is a lack of planning to tackle this issue, with no overarching framework, no forum for collaboration or coordination, and no robust evidence base. Reducing food waste and food insecurity should be tackled together, with opportunities for NSW to prevent food waste at the source and across the supply chain through interventions such as food rescue.

To achieve this, NSW needs a comprehensive food security and food systems plan which addresses the two as inherently related problems. The plan should draw on a broad definition of food security that includes sustainability and diet-related health, and employ a cross-government, multisectoral approach.

The plan should include measurable and time-bound targets to support existing government commitments such as halving the amount of organic waste sent to landfill by 2030 and achieving net zero emissions from organics to landfill by 2030. New targets and programs should also be developed using inclusive, participatory processes engaging industry experts, food rescue organisations and individuals experiencing food insecurity. These targets need to translate into government policy with clear lines of reporting into key government departments.

The entire NSW charity sector can be fed at low cost

Every year 1.5 million tonnes of food is wasted in NSW ³³. This is more than enough to meet the needs of the NSW charity sector. Edible food should always be redirected to feed those who need it most, rather than ending up in landfill.

OzHarvest's food rescue model is proven, cost-effective and scalable. With government investment, the volume of food rescued and distributed could be doubled, eliminating the charity waiting list for food. It already provides:

- Value-for-money: For every \$1 invested, OzHarvest can rescue two meals.
- Efficiencies of scale: Food is delivered directly to charities, removing barriers such as lack of staffing, transport and resourcing.
- Resource gains: Food is provided at no cost and distributed free of charge, allowing agencies to redirect their limited budgets to vital community services.
- Nutrition: 60% of rescued food is fresh produce and 90% is nutritionally valuable; this increases the proportion of fruit and vegetables consumed by food recipients.
- Returns: A Social Return on Investment analysis conducted by Bain & Company in 2019 found that for every \$1 invested in OzHarvest's Food Rescue program, \$7.70 is returned to the community via long-term health benefits, additional agency capacity, decreased landfill and reduced greenhouse emissions.

²⁸ Foodbank, 2021. Foodbank Hunger Report 2021

²⁹ Foodbank, 2021. Foodbank Hunger Report 2021

³⁰ Foodbank, 2021. Foodbank Hunger Report 2021

³¹ Foodbank, 2021. Foodbank Hunger Report 2021

³² Arcadis, 2019. National Food Waste Baseline: Final Assessment Report

³³ Arcadis, 2019. National Food Waste Baseline: Final Assessment Report

Food insecurity skyrockets in times of crisis

The most common reasons why people experience food insecurity are unexpected expenses (35%) or overall low incomes (30%)³⁴. These are exacerbated in times of crisis. Over the past two years, the impact of COVID-19, bushfires, floods, and a mouse plague has battered NSW. The brunt of this has been felt by low-income and culturally and linguistically diverse families, particularly in regional communities and Western Sydney. The pandemic saw the need for food relief hit an all-time high with many people turning to charities for the first time in their lives.

Funding enables emergency rapid response

When Sydney entered lockdown in June 2021, there was a spike in unemployment, charity closures and supermarket supply chain problems. Rapid access to NSW Government funding enabled OzHarvest to immediately start producing emergency food relief hampers for families and cooked meals for vulnerable people in transitional accommodation. This allowed us to meet the demand, delivering 96% more food than pre-pandemic levels.

Food insecurity is not a problem that's going away

Future crises will always occur and will only increase with ongoing effects of climate change. We need to expect, prepare, and plan for these times. The community sector needs the capacity to support people through the toughest times as the most vulnerable in our community are always hit the hardest. This includes the ability to distribute food quickly and efficiently.

2021 OzHarvest Impact in NSW



4.1 million kgs
food rescued



15.7 million
meals delivered



922
charities
supported



307,000
emergency
food hampers



478,000
cooked meals



Actions needed:

- Develop a Food Security and Food Systems Plan to address the related problems of food insecurity and food waste
- Support the food rescue sector to scale up to redistribute more good food to charities
- Establish stand-by funding and plans for rapidly scalable emergency food relief following a crisis or natural disaster

³⁴ Foodbank, 2021. Foodbank Hunger Report 2021

ABOUT OZHARVEST & NSW OPERATIONS

Founded by Ronni Kahn AO in 2004, OzHarvest is a for impact organisation with a driving purpose to 'Nourish our Country' by stopping good food going to waste and delivering it people in need. Ronni started in Sydney with just one van, which now has operations nationally with seven state/city offices and 11 regional locations. Since inception OzHarvest has delivered over 200 million meals, preventing 70,000 tonnes of food from ending up in landfill.

In NSW, OzHarvest has rescued over 30.7 million kilograms of quality, nutritious food from over 5,594 businesses, delivering it directly and free of charge to 1,262 charitable organisations for redistribution. As a result, almost 100 million meals have been made available entirely free of charge to vulnerable NSW families and people in need.

OzHarvest rescues food across Sydney (HQ), Newcastle, Central Coast, Sapphire Coast, Port Macquarie, Coffs Harbour, Southern Highlands and Wagga Wagga. It also delivers emergency food relief in times of crisis to meet the increased need in the most affected communities. The OzHarvest Market in Waterloo provides rescued food with a 'take what you need, give if you can' philosophy and over 750 pop-up markets have ensured vital food relief gets to regional communities via the OzHarvest Mobile Markets.

The latest social impact collaboration - Refettorio OzHarvest Sydney - is a unique community hub in Surry Hills serving those in need a nourishing meal at no cost.

OzHarvest runs three education programs with the aim of creating positive change, by increasing life skills around healthy eating, raising awareness about food waste and strengthening community connections. FEAST is a curriculum-aligned program in 212 NSW schools, NEST teaches adults to cook and eat healthily on a budget and Nourish offers hospitality training and employment pathways for vulnerable youth.

Our advocacy work aims to empower others to fight food waste and promote food security, with a firm commitment to reach the national target of halving food waste by 2030, in line with United Nations Sustainable Development Goal 12.3 and Zero Hunger Goal 2. By working closely with government and stakeholder groups, OzHarvest provides a voice for food insecure Australians and insights on reducing food waste.

Continuous innovation guides our work to tackle food waste and feed hungry people, working closely with our social impact business, ForPurposeCo - known in NSW for their 'Juice for Good' machines repurposing imperfect oranges directly from the farm into fresh orange juice.

For every dollar donated, OzHarvest can provide two meals to someone in need.

Read our 2021 Impact Report [here](#).

www.ozharvest.org



APPENDIX

Impact/Likelihood Matrix of Behaviours
From the Halving Household Food Waste report by OzHarvest and BehaviourWorks Australia

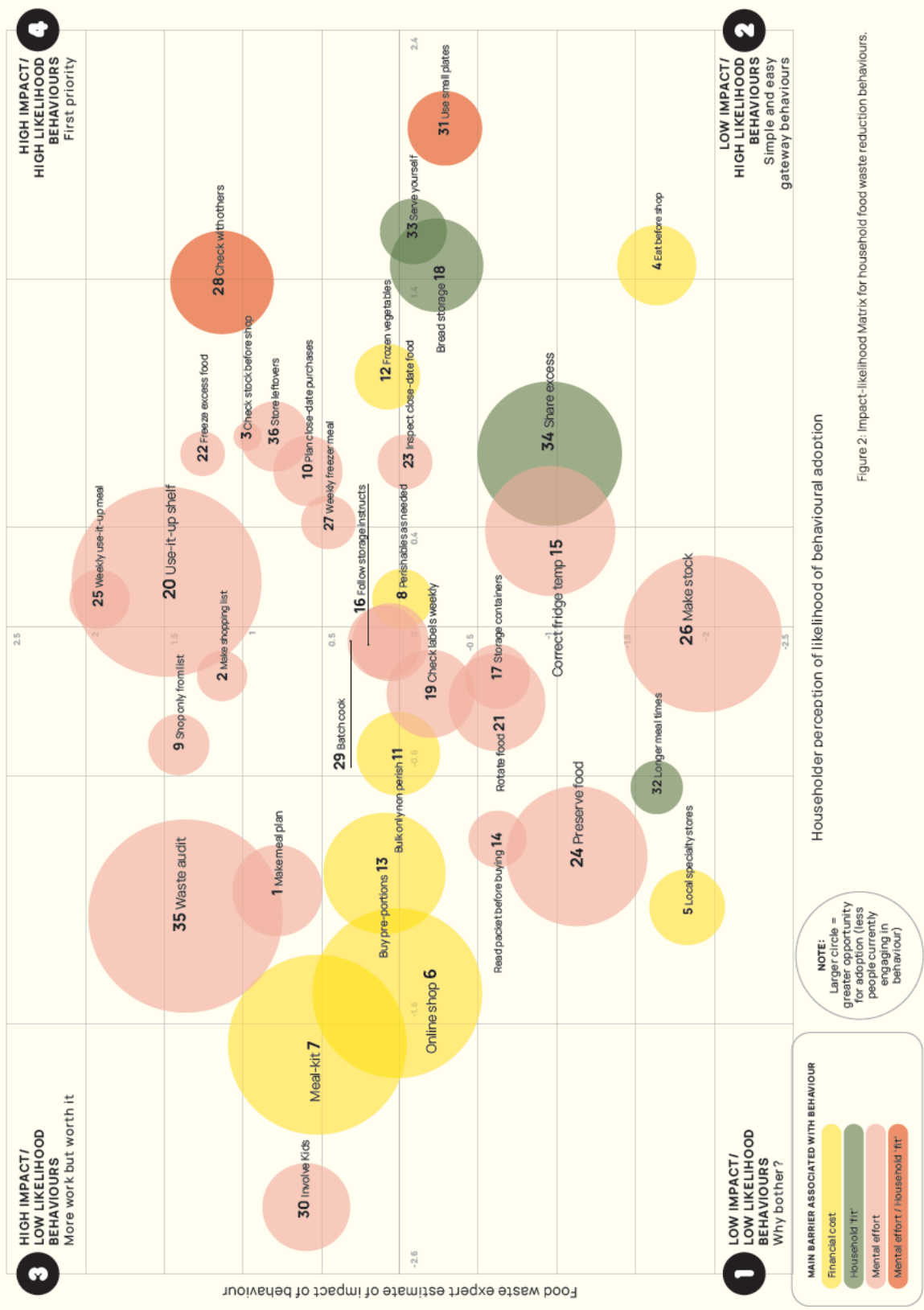


Figure 2: Impact-likelihood Matrix for household food waste reduction behaviours.