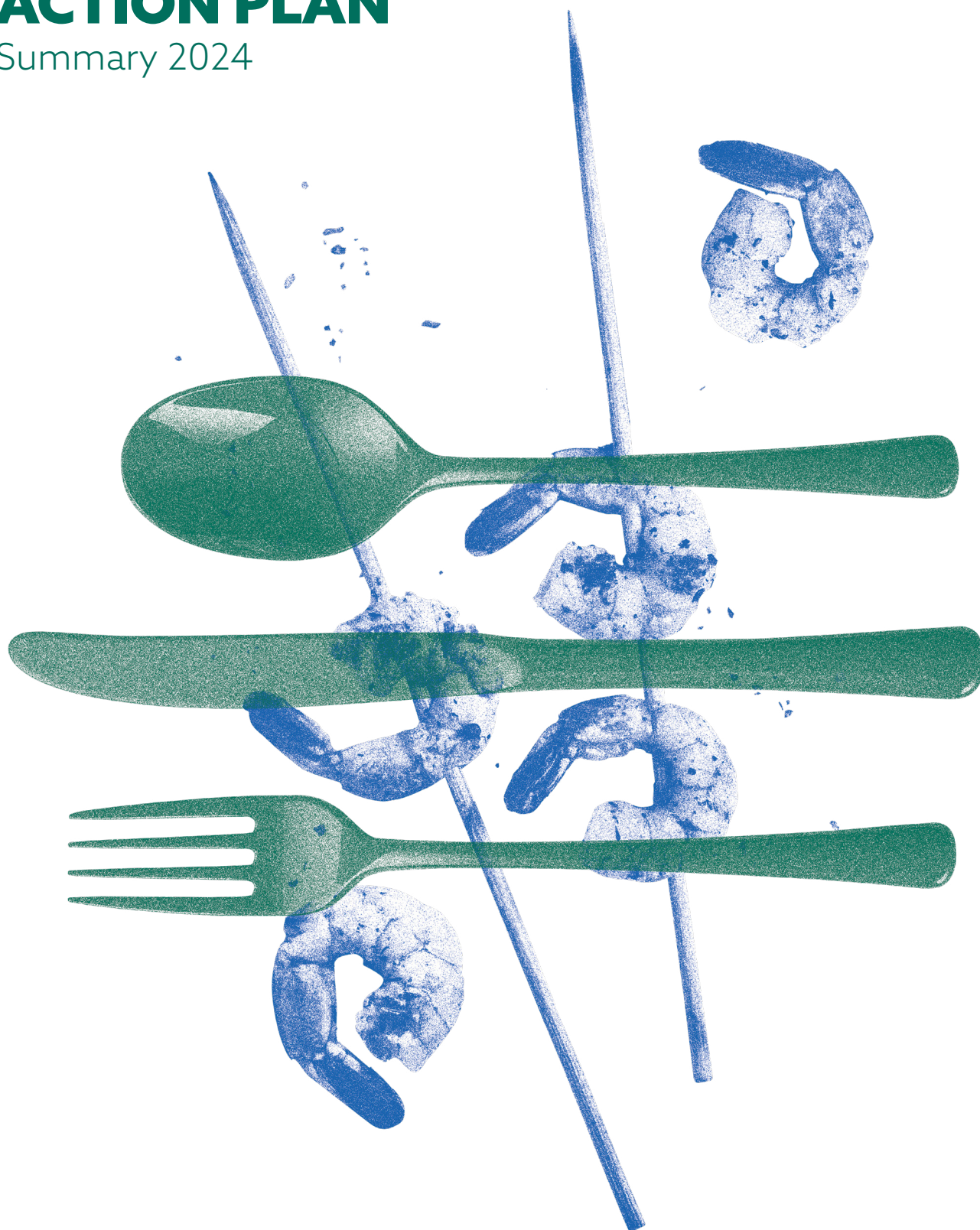


CATERING FOOD WASTE ACTION PLAN

Summary 2024





WHY END FOOD WASTE?

When we talk about food waste, we're talking about food.

Australia produces high-quality food that the world wants, yet one third still goes to waste.¹

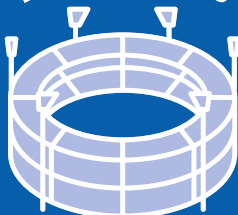
In catering, 20% of the food served is never eaten² with real costs for businesses, for people and the planet.

FOR INDUSTRY PROFITABILITY

EVERY YEAR,
AUSTRALIA WASTES:

7.6 million TONNES OF FOOD, COSTING **\$36 billion**³

1.2M tonnes



The hospitality sector wastes **1.2 million tonnes** of food each year, **16%** of Australia's total food waste.³ This is enough food to fill the MCG to the brim **1.5 times!**

Preventing food waste has cost benefit ratio of more than 6:1, with **80% sites recovering costs within 2 years.**⁴



In catering, average waste is 150g/cover.⁵

FOR PEOPLE

3.7 million 

Australian households (36%) experienced **food insecurity in last 12 months**. That's more than the number of households in Sydney and Melbourne combined.⁶

Fighting food waste is fighting hunger.

FOR THE PLANET



If food waste was a country, it would be the **third largest emitter** of GHG emissions after the USA and China.⁷



Throwing away **one burger** wastes the same amount of water as running a **90-minute shower.**⁸

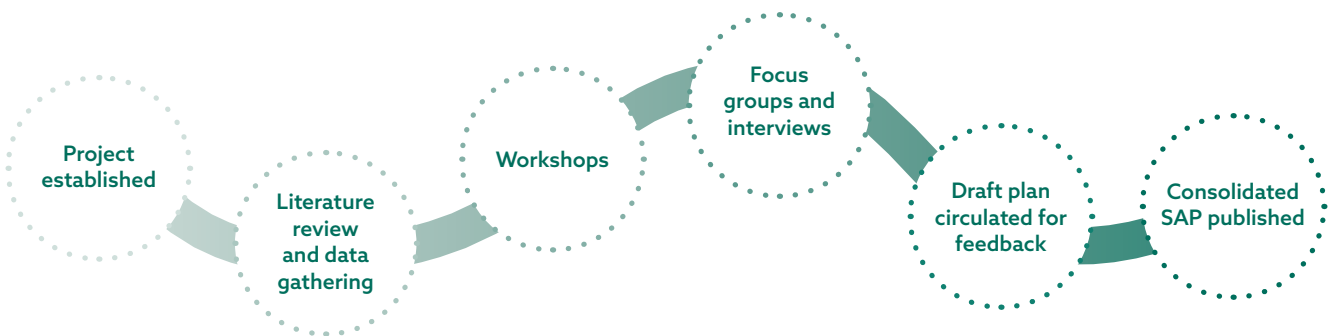
A landmass the size of Victoria is used to grow food that ultimately **goes to waste in Australia.**³



HOW WAS THIS PLAN DEVELOPED?



End Food Waste Australia is leading the development of Sector Action Plans as a key tool to reduce food waste through collaboration across the supply chain. This Sector Action Plan was funded by Green Industries South Australia (GISA) and developed with partners across the supply chain, including catering companies, the Australian Foodservice Advocacy Body, City of Adelaide, OzHarvest, waste contractors and clients of catering companies. Rawtec was engaged to collect data to provide a better understanding of food waste volumes and origins in the Australian catering sector.



Significant engagement occurred through workshops, focus groups and one-to-one interviews. The research team also completed a review of national and international literature and best practice guides for the catering sector.

This Sector Action Plan is part of the broader Foodservice Sector Action Plan. Stakeholders included large catering companies serving the mining, defence and education sectors and event caterers of varying magnitude. Catering for the health sector and institutions will be considered in other Sector Action Plans.

THE AUSTRALIAN CATERING SECTOR.

Catering businesses primarily provide catering services at specified locations or events. The sector is complex with venues including hotels, restaurants, bars, take-away services, cafes, sporting and event stadiums. Large scale food preparation also occurs in establishments such as mining camps, schools, canteens, in-house catering, and flight catering. A wide variety and styles of food are offered such as buffets, finger food, canteens, retail snack bars and menu service. Food may be prepared to be consumed elsewhere, sometimes requiring the involvement of a satellite kitchen.

The catering sector in Australia generated \$9.45 billion in revenue in 2021-22, with 5405 businesses employing 70314 people.⁹ Even small reductions in food waste will have a positive impact and increase profitability.

PACKAGING AND FOOD WASTE

Australians waste FOUR TIMES more food than food packaging.¹⁰

Many people don't realise packaging can play an important role in preventing food waste. In general, the GHG-e associated with manufacturing food packaging is typically small relative to the emissions associated with producing and processing the food itself. Changes in food packaging that lead to a reduction in food waste can result in net reductions in environmental impacts, even if the impacts of the packaging itself increases.¹¹ Choosing sustainable packaging and using more sustainable polymers can help reduce these impacts.



UNDERSTANDING FOOD WASTE IN CATERING.

Food waste is defined as any food intended for human consumption which is thrown away, including food recycled to make compost.

Food waste in the catering sector may be classified by where it occurs in the process.

Rawtec conducted two surveys with participants to develop a catering food waste account to understand food waste in the Australian catering sector.

The first survey gathered information about the type of catering business and the sites included, management of food waste and a visual breakdown by food type.

The second involved measuring the weight of food waste for a one-week period. Participants were asked to select a week that was typical for that site.

Sources of food waste in Australian Catering (Rawtec)

28%

PLATE WASTE

Food that is wasted after reaching the consumer i.e. food taken or served, but not eaten.

30%

SERVING WASTE

Food that is wasted after being prepared and offered to the consumer but is not taken eg. bain marie waste and table bread rolls.

17%

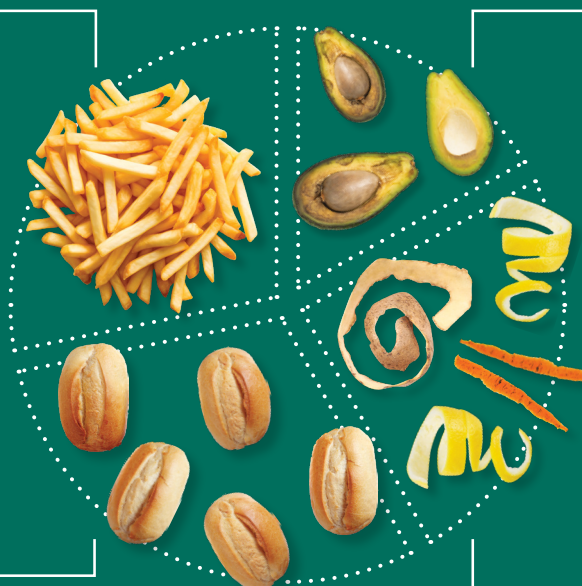
SPOILAGE WASTE

Food that is wasted prior to kitchen preparation e.g., due to overordering, exceeding use by date, and damaged products etc.

25%

PREPARATION WASTE

Food that is wasted during the preparation stage. This may include items such as excess trim from meat and vegetables, and unused portions of perishable ingredients.



THE AUSTRALIAN CATERING FOOD WASTE ACCOUNT

	METRIC	UNITS	MINING	EDUCATION & OTHER	EVENTS	TOTAL
MEALS	Estimated meals served	Meals/yr. (millions)	63.0	28.6	15.3	106.9
VOLUMES	Total potential food loss & waste	Tonnes/yr.	10,700	3,400	3,800	17,900
SOURCE	Spoilage	% weight	22%	11%	7%	17%
	Prep	% weight	24%	13%	39%	25%
	Served	% weight	35%	42%	7%	30%
	Plate	% weight	19%	34%	48%	28%
FOOD TYPES	Top 3 wasted foods (excl. not identified)	List	1. Fruit 2. Complex* 3. Vegetables	1. Fruit 2. Meat 3. Bread & bakery	1. Vegetables 2. Meat 3. Fruit	1. Fruit 2. Complex 3. Vegetables
DESTINATION	Food repurposed**	Tonnes/yr. (%)	<100 (1%)	<100 (2%)	<100 (0%)	100 (1%)
	Food to waste destination	Tonnes/yr. (%)	10,700 (99%)	3,300 (98%)	3,800 (100%)	17,800 (99%)

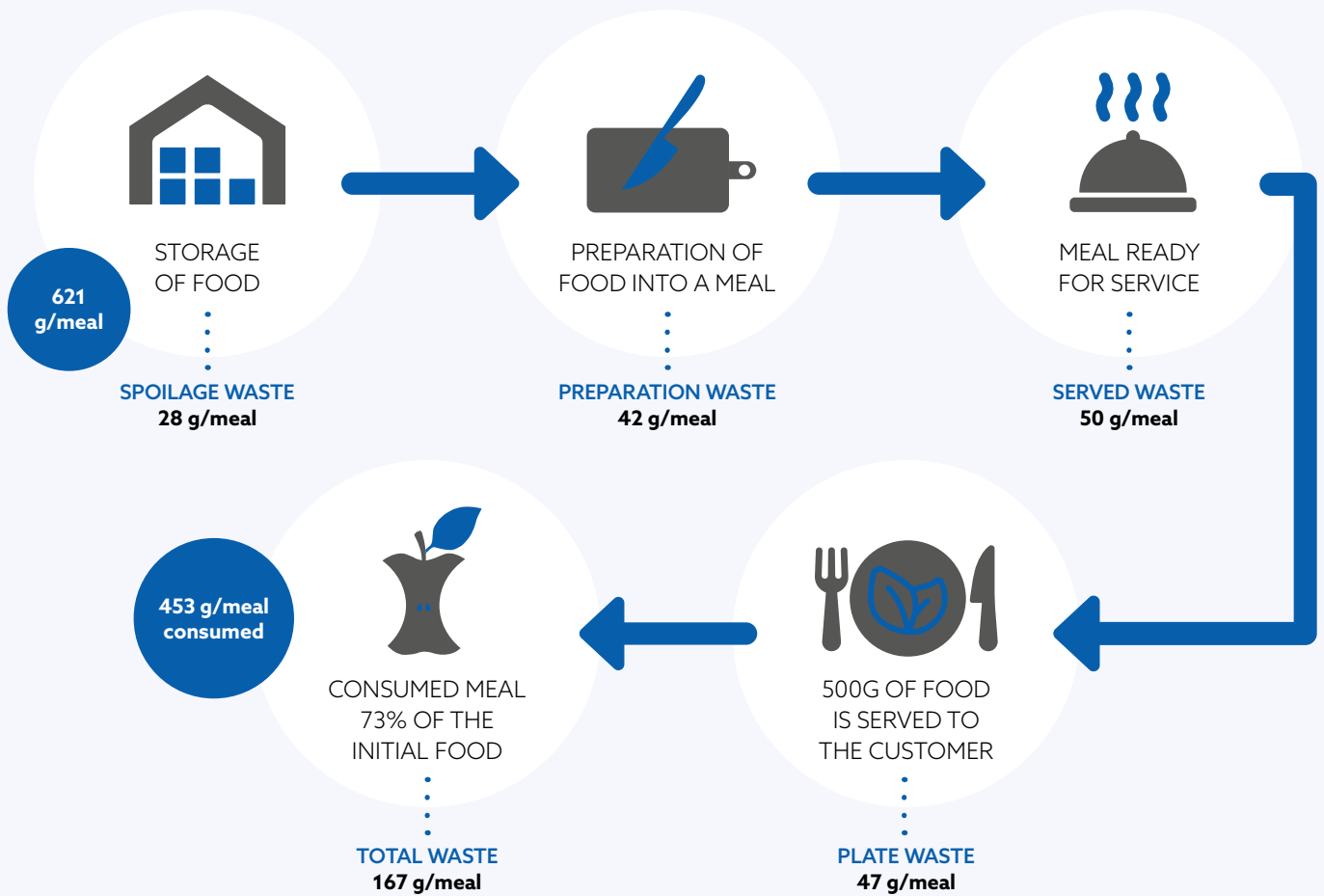
Data provided by Rawtec

*Mixed food products not included elsewhere

**Donation to food rescue/animal feed

KEY CAUSES OF FOOD WASTE IN CATERING.

Where we found food waste occurs:



HOTSPOTS & ROOT CAUSE.

Research-informed insights and extensive sector engagement identified the key hotspots and root causes for food waste in catering leading to solutions and actions that can be grouped across these stages:

CONTRACTS & FORECASTING

PREPARATION & STORAGE

SERVICE

CONSUMER



"FOOD", NOT WASTE

Using terms such as food waste, scraps and leftovers can generate negative images. Perceptions need to be shifted to recognise food as a valuable resource. Food passed its prime can still be edible, safe, and nutritious.

CONTRACTS & FORECASTING

Contracts between caterers and clients are extremely variable, depending on each unique situation. They may be singular transactions, annual events, or ongoing long-term agreements of several years' duration. Contract design and inaccurate forecasting can create spoilage, preparation and serving waste.

ROOT CAUSES

- Requirement to produce agreed volumes of food.
- Requirement for plentiful offerings and multiple choices for the full duration of service.
- Lack of flexibility to substitute menu items.
- Restrictions on using leftovers due to food safety/legislation.
- Catering to contracted number at a site rather than actual number of consumers.
- Producing a set menu offering without consideration of the consumer profile.
- Cut-off times for changing numbers not reflecting delivery lead times.
- Experience of caterer and relationship with client.

PREPARATION & STORAGE

Food waste can be a result of staff and skill shortages. Hospitality is experiencing significant staffing challenges currently, with 51% of food businesses struggling to fill jobs¹² and chefs are ranked 8th in the most in demand occupations nationally.¹³ Even with the lack of skilled workers, in-house training remains limited. Nearly 60% of businesses do not have structured or formal staff training.¹⁴

Different sites have varying facilities for storage and preparation, with limitations on the capacity of temperature-controlled storage and poor kitchen layout and flow contributing to food waste.

Some businesses buy preprepared ingredients to reduce the labour on site such as peeled and diced vegetables. While this will result in lower volumes of preparation waste for the individual business, this waste has been pushed further upstream with overall food waste volumes dependent on whether the ingredient supplier practices methods to prevent food waste.

ROOT CAUSES

- Unskilled staff/high staff turnover.
- Not using all parts of an ingredient.
- Lack of systems (e.g. purchasing plan) and standardised procedures.
- Over-purchasing and overproduction.
- Poor kitchen management/organisation.
- Lack of available facilities for storage and preparation.

SERVICE

When presenting food to the consumer, opting for plated meals rather than buffet/self-service can dramatically reduce food waste. When this is not possible, best practice should be adopted. Ensuring customer satisfaction and concerns for reputation also drive food waste generation.

ROOT CAUSES

- Buffets/self-serve generate more food waste than plated meals.
- Food safety regulations means excess food often cannot be reused/donated.
- Client/consumer expectation for plentiful food throughout service.
- Client/consumer expectation for variety, lifestyle choices and dietary requirements.
- Too much presented (oversized serving dishes).

CONSUMER

Satisfying the consumer and maintaining business reputation, can drive practices that generate food waste. With 48% of diners citing portion size as the main reason for leaving food and 63% bothered by wasted food, mainly due to economic reasons¹⁵, there is an opportunity to modify the consumer offering. Chips and salads/garnishes are the foods most likely to be left uneaten.¹⁵ Casual dining venues tend to generate more plate waste than fine-dining restaurants.¹⁶

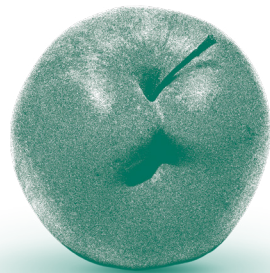
ROOT CAUSES

- Portion sizes too large (served, ordered, or taken from self-serve).
- Consumer wants to be offered abundance, variety, and value for money.
- Consumer does not understand the true cost of plate waste (land and water use, transport costs, GHG emissions).
- Plate waste not factored into cost of business operations.



HOW CAN WE EFFECTIVELY REDUCE FOOD WASTE IN CATERING?

Targeting high impact and most feasible food waste reduction interventions will help businesses reduce more food waste across the board.



Key solutions were identified, shortlisted and prioritised during stakeholder engagement using the following criteria:

IMPACT

- Food waste volume
- Recovery hierarchy
- Replicability

POTENTIAL FEASIBILITY

- Technical
- Financial
- Complexity

The recommended actions either:



ENABLE
food waste prevention



PREVENT
it from happening



REPURPOSE it

Enablers are solutions that consider the overarching actions required to respond directly to root causes of food waste in the catering system and the foundational interventions required to enable change.

These make it easier for businesses to implement food waste solutions in their control from planning, preparation, and plate waste.

ENABLE.

Embed an organisational culture around food waste prevention	Measure and review food waste	Consumer behaviour change campaign	Develop policy
<ul style="list-style-type: none">• Prioritise and drive from top down.• Create food waste champions, rewards, and recognition.• Recognise reducing food waste as an expected part of working in food service, included in job descriptions, with adequate time and resources allocated.• Facilitate effective communication, especially between different departments with different priorities and operating hours, and with clients/consumers.	<ul style="list-style-type: none">• Develop a toolkit to support key activities for measuring food waste. Understanding volumes, where and why it is happening, allows the most impactful interventions to be selected.• Monitor and assess food waste data to determine whether interventions have been effective.• Become an Australian Food Pact Signatory.	<ul style="list-style-type: none">• Change consumer expectations around plentiful food and excessive variety.• Use consumer awareness to encourage catering companies to implement interventions and maintain a sustained focus on reduction of food waste.	<ul style="list-style-type: none">• Support State Government initiatives for source separation of food waste.• Provide tax incentives for food rescue donation.

PREVENT AND REPURPOSE.

CONTRACTS & FORECASTING

Action	How
Build food waste into contract design	<ul style="list-style-type: none"> • Discuss food waste early in contract negotiations to capture opportunities to actively reduce food waste (amounts required, choices offered, plate/portion size). • Develop sample contract specifications for the catering industry aimed at reducing food waste. • Measure a baseline for sites, create goals and food waste reduction targets. • Use food waste data to modify contracts. • Allow menu substitution to use up short-dated stock, excess stock, or supplies delivered in error.
Develop more accurate forecasting systems	<ul style="list-style-type: none"> • Utilise available data to predict consumer numbers more accurately (future rosters/work contracts, previous history, pre-order systems). • Reference historical food waste data to adjust predicted production amounts. • Link forecasting data to purchasing/menu design. • Consider consumer profile – use experience, historical data and communication with client to understand their requirements and expectations.

SERVICE

Action	How
Optimise food service to minimise food waste	<ul style="list-style-type: none"> • Consider plated service where possible to avoid buffets. • Follow best practice guidelines (e.g., offer portioned items, display smaller amounts, reduce top-ups towards end of service, use smaller plates, standardise serving sizes). • Provide takeaway containers at end of events if applicable.
Donation to food rescue	<ul style="list-style-type: none"> • Establish relationships with food rescue organisations.



PREVENT AND REPURPOSE.

PREPARATION & STORAGE

Action	How
Training on food waste prevention	<ul style="list-style-type: none">• Introduce food waste prevention into curriculum at hospitality schools and colleges.• Incorporate training on food waste into staff induction and ongoing development.
Use standardised recipes & procedures	<ul style="list-style-type: none">• Develop SOPs to reduce risks of potential issues created by high staff turnover/skill shortage.• Include yields and purchasing amounts on recipe cards to help prevent overproduction and over-purchasing.
Ensure good inventory management	<ul style="list-style-type: none">• Define and implement sustainability into purchasing guidelines/policies.• Maintain good practice such as checking items on receipt, rotating stock, FIFO (First In, First Out), correct storage of ingredients.

CONSUMER

Action	How
Minimise plate waste	<ul style="list-style-type: none">• Follow best practice guidelines (e.g. offer different portion sizes, optional sides or start with a smaller side and offer free top-ups, remove or minimise garnishes, use of smaller plates).• Measure and monitor plate waste, and report back to customers on a regular basis.• Facilitate feedback from front of house staff and customers to make real time adjustments.
Raise consumer awareness	<ul style="list-style-type: none">• Promote awareness campaigns e.g., plate waste trackers.



TAKE ACTION NOW.

Engage your team and empower staff to reduce food waste.

Start a dedicated food waste bin – separation helps show how much and what foods are going to waste.

Encourage everyone to talk about food waste, create food waste reduction goals and celebrate success.



91% of customers prefer to buy from organisations taking steps to reduce food waste.¹⁹

Start today - small changes can have a big impact on food waste.

TAKE YOUR CUSTOMERS ON THE JOURNEY WITH YOU:

- Communicate about the changes you are making and why.
- Facilitate customer feedback.
- Let them know what they have achieved.

TOP TIPS:

- Purchase right amount.
- Rotate stock.
- Prepare just enough.
- Label and store prepared food correctly.
- Simplify menu.
- Use smaller plates.
- Offer different portion sizes on the menu.
- Use measures to standardise portions when plating.

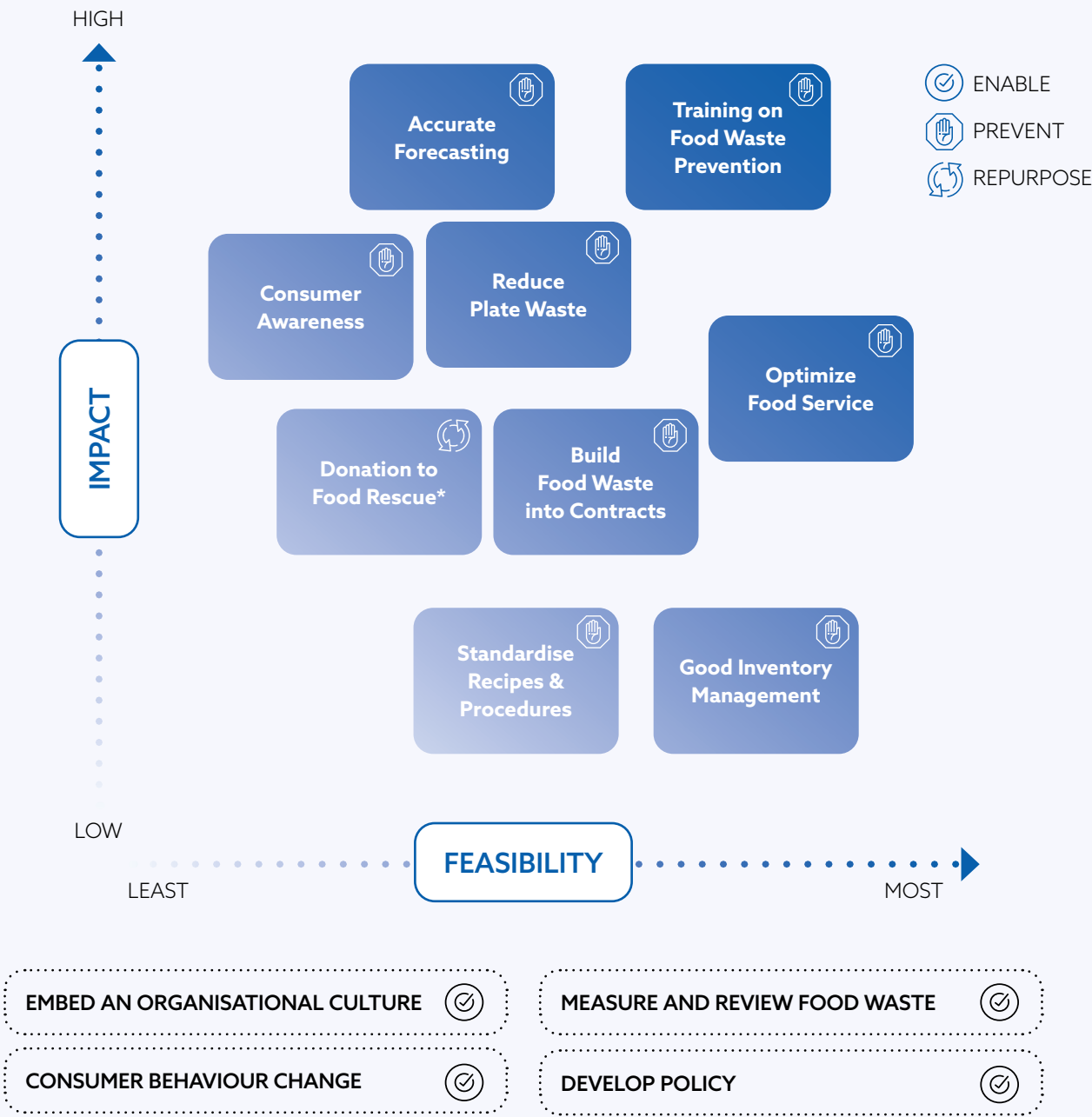
Staff engagement on food waste might include training staff on getting the most out of raw ingredients and sharing why reducing food waste is important.

PRIORITISING ACTIONS.

The short-listed actions have been plotted against the axes of potential impact and feasibility to highlight the most impactful and most feasible actions which fall in the top right. Due to the diverse nature of catering sites, prioritised actions have been presented for events and function catering or remote catering sites.



EVENT AND FUNCTION CATERING

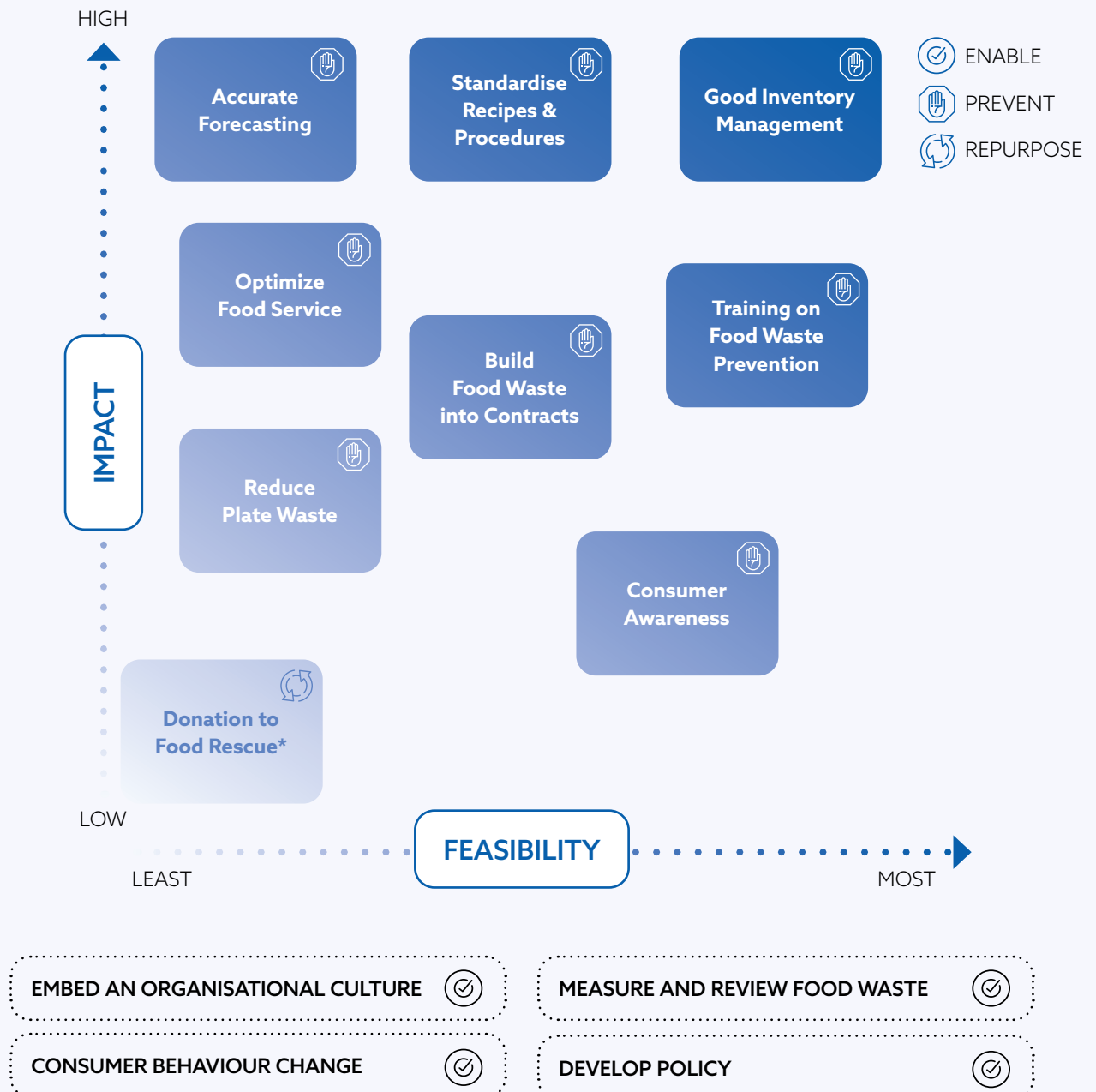


*Depends on location

PLATE SIZE AND COLOUR

It is well established that larger plates lead to more food waste with consumers having a visual plate level fill of around 70%. Education does not appear effective in reducing this bias. A study of 209 health conference attendees revealed that, even after a 60-min interactive, multimedia warning on the dangers of using large plates, they subsequently served nearly twice as much food when given a large buffet plate two hours later.¹⁷ Another study of diners revealed that those eating from warm coloured plates wasted less food, 61.83g per meal compared with the average of 80.21g in the surveyed restaurants.¹⁸

REMOTE CATERING SITES



*Depends on location

LIMITATIONS AND FURTHER OPPORTUNITIES.

UPSTREAM SUPPLY CHAIN SPOILAGE WASTE

Volumes of upstream (offsite) spoilage waste was unable to be quantified by organisations in the project and is excluded from data estimates. No suppliers to catering businesses were involved in workshops or focus groups.

'TAKE AWAY' FOOD WASTE

Anecdotally, consumers often take food outside of the catering company's control (e.g., meal boxes or 'cribs' at mining sites). Volumes of this waste were unable to be quantified in this study and are excluded from estimates.

AVIATION INDUSTRY / INFLIGHT CATERING

Aviation industry / inflight catering was not represented in the project.

INCOMPLETE AND INCOMPATIBLE DATA SETS

Some data sets did not cover the full scope of food waste sources and some food waste volumes appeared low compared with the literature. Gaps were filled based on literature values and averages from other complete data sets.

DIVERSE OPERATIONS

The catering industry has many different sizes and types of businesses providing for a range of circumstances. The recommendations are designed to fit a general model.

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FOODSERVICE
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Government of South Australia
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