



2023 LEGATUS WASTE MANAGEMENT FORUM

Support for Sustainability



Acknowledgement of
Ngadjuri Country

Welcome

RUTH WHITTLE (OAM)

District Council of
Peterborough



Rodney Reid

Mayor: Wakefield
Regional Council &
Chair of the Legatus
group



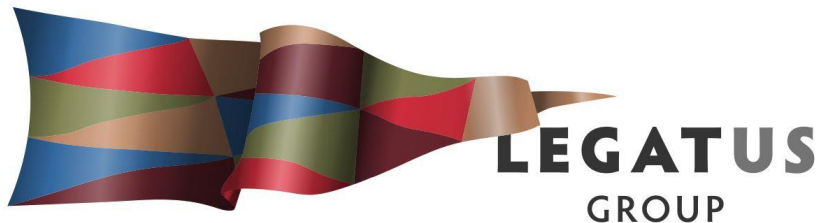
Agenda

- Legatus Group
- Kerbside bin audits info
- Food waste behaviour
- Regional Waste Management Authorities
- LUNCH
- Focus on organics
- Case studies & discussion
- Collective brainstorming
- Pilot organics processing plant
- Site visit



Legatus Group

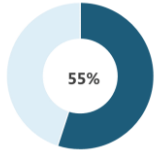

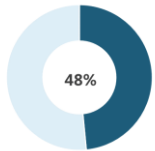
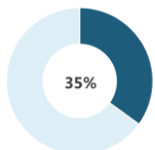
Waste & Resource Recovery Strategy and Action Plan 2021 - 2026

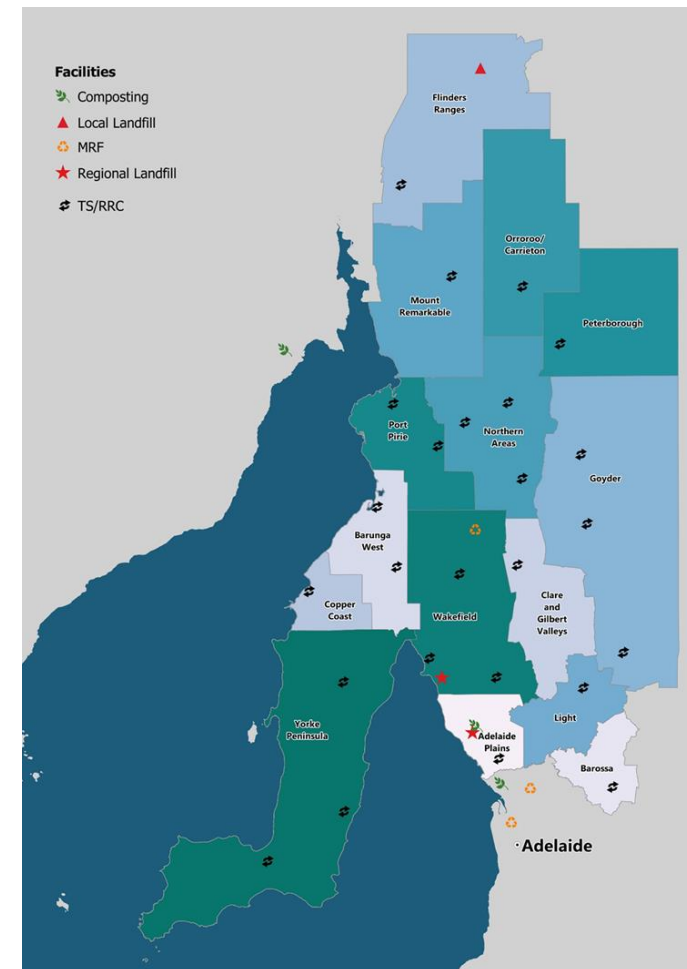


“Legatus Group - Regional Local Government
ambassador and advocate”

Strategic - Advocate - Support

- Legatus Group Strategic Plan – Waste
- Waste Management Advisory Committee
- Regional Alliance
- Workshops and Forums

Sub-region ¹	Sub-regional target	Individual target	
Barossa, Light, Adelaide Plains		Adelaide Plains	55%
		Barossa	55%
		Light	55%
Barunga West, Copper Coast & Yorke		Barunga West	45%
		Copper Coast	55%
		Yorke Peninsula	45%
Mid North		Clare & Gilbert Valleys	45%
		Goyder	30%
		Northern Areas	45%
		Port Pirie	55%
		Wakefield	50%
Southern Flinders Ranges		Flinders Ranges	35%
		Mount Remarkable	35%
		Orroroo Carrieton	35%
		Peterborough	35%



Initiatives

- Implement alternative kerbside collection services
- Develop regional resource recovery infrastructure
- Increase regional collaboration to achieve financial and service improvements
- Developing the circular economy

Actions to date

- MoU with Lions
- 1 State and 2 Regional Forums
- Support for Peterborough – Compost Trial Site
- KESAB Options paper
- Site visits
- Household Hazardous Waste Collection

Influences

- Supporting the circular economy: SA waste strategy 2020 - 2025
- SA food waste strategy: valuing our food waste
- SA solid waste levy
- Legatus led initiatives - education - sustainability



Kerbside bin audit information

Wendy Bevan

CEO-KESAB Environmental Solutions



**Purpose: “To drive positive
environmental change in industry
& the community”**



- Environmental education
 - Road Watch-Adopt a road program
 - Tidy Towns / Sustainable Communities
- Schools/Community/Business Education and Awareness Raising
- Community Based Social Marketing for sustainable, ongoing behaviour change
- Waste Audits, Management Plans and Education Programs
 - Partnerships



KESAB waste audits show:

Averages	Metro councils	Regional councils
Food organics in landfill	36%	35%
Garden/compostables in landfill	9%	9%
Contamination in organics	3%	3%
Food in organics	13%	5%
Garden/compostables in organics	85%	92%

*Data from 2017-2022 with regional councils having a mix of FOGO (4) & GO (3)



KESAB waste audits show:

Averages	FOGO	GO
Food organics in landfill	12%	14%
Garden/compostables in landfill	8%	9%
Contamination in organics	3%	2%
Food in organics	9%	1%
Garden/compostables in organics	88%	96%

*Data from 2017-2022 regional council data (5 GO & 3 FOGO)



GISA data shows:

- **~40% of landfill bins is food waste**
- **This makes up 22% of total household kerbside collected material**





Food waste behaviour

Dr. Gamithri Karunasena
Fight Food Waste CRC

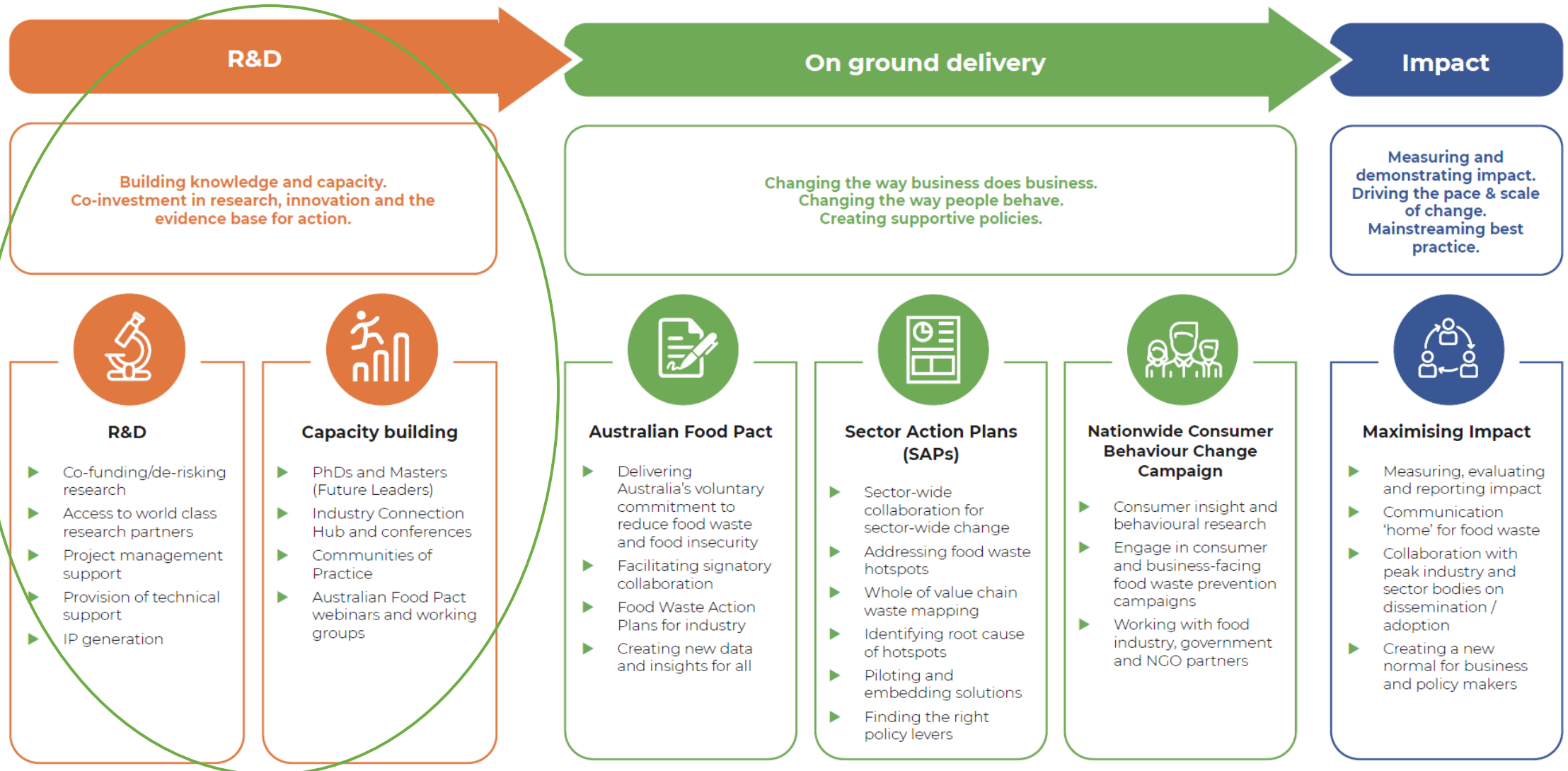
Evaluation of Household Food Waste Interventions

Dr Gami Karunasena
Research Project Manager
Fight Food Waste CRC

Legatus group, 12 May 2023



Fight Food Waste Limited: *Delivery areas*





Fight Food Waste Corporate Research Centre (FFW CRC)

Purpose An Australia without food waste.

Vision By uniting science and industry we will REDUCE food waste across the supply chain, TRANSFORM unavoidable waste into innovate products, and ENGAGE with industry and consumers to deliver behavioral change in Australia without food waste.

Mission The Fight Food Waste CRC will increase industry profitability, address food insecurity and enhance Australia's reputation as a sustainable food producer.



REDUCE

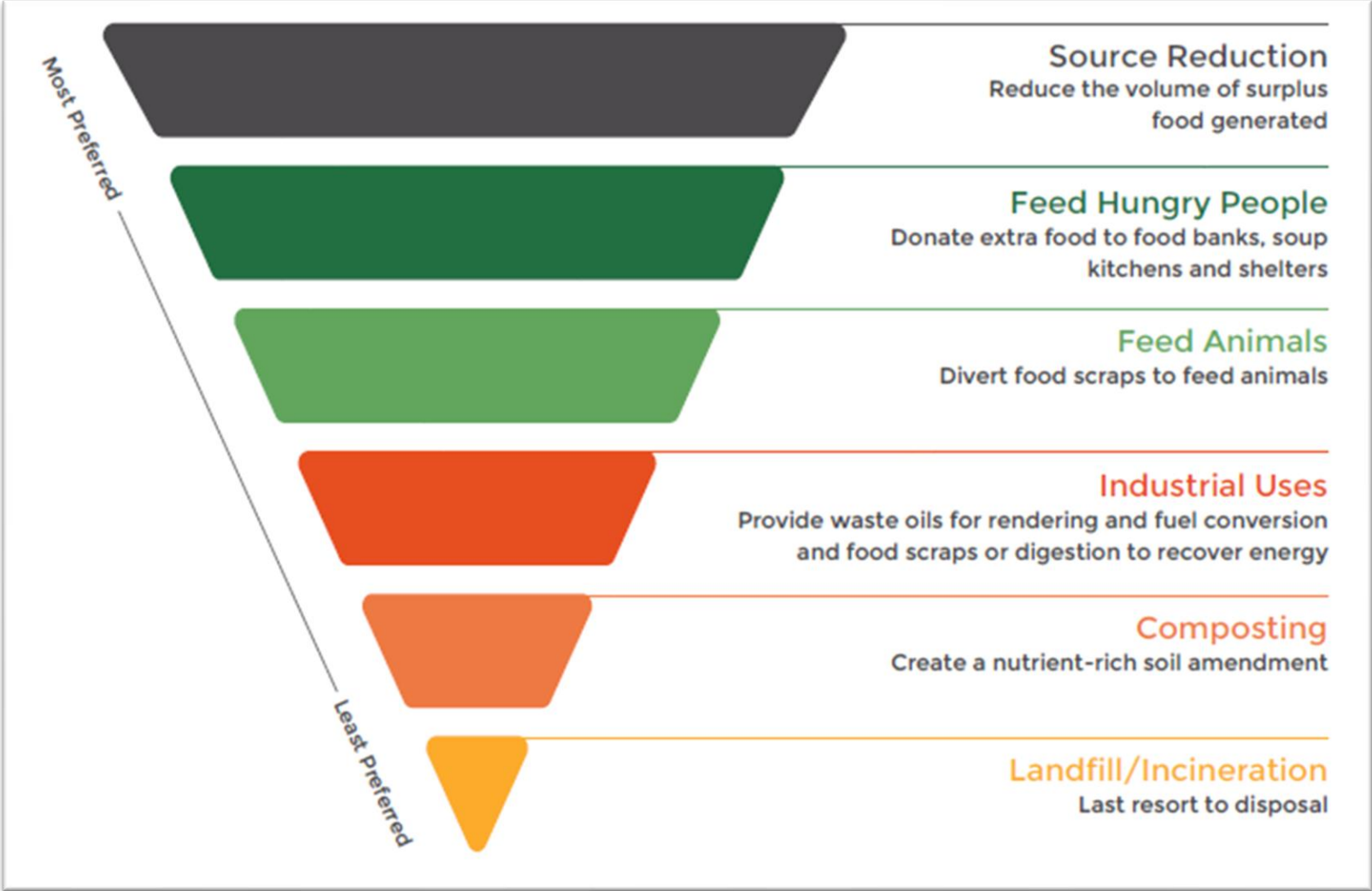


TRANSFORM



ENGAGE

What Impact?



Food Recovery Hierarchy

30 M T of reduced food waste (lower GHGs) 

\$2 B Increase in industry profitability

20 M Kg of rescued food distributed

 **5200** circular economy jobs

40 Future Leaders graduated

250 industry people trained p.a.

FFW CRC Impact Areas

Evaluating Interventions Project



Australian Government
Department of Climate Change, Energy,
the Environment and Water



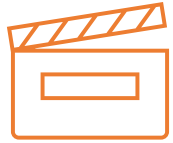
1 Develop a tool kit to help design, implement and evaluate household food waste reduction interventions

2 Evaluate household food waste reduction interventions

- Three stakeholders
- Three interventions
- Three evaluations







Interventions

- Three face-to-face workshops
- Food waste reduction tips shared via Email
- Cornersmith free food waste reduction course



Target behaviours

- Meal planning
- Leftovers
- Storage



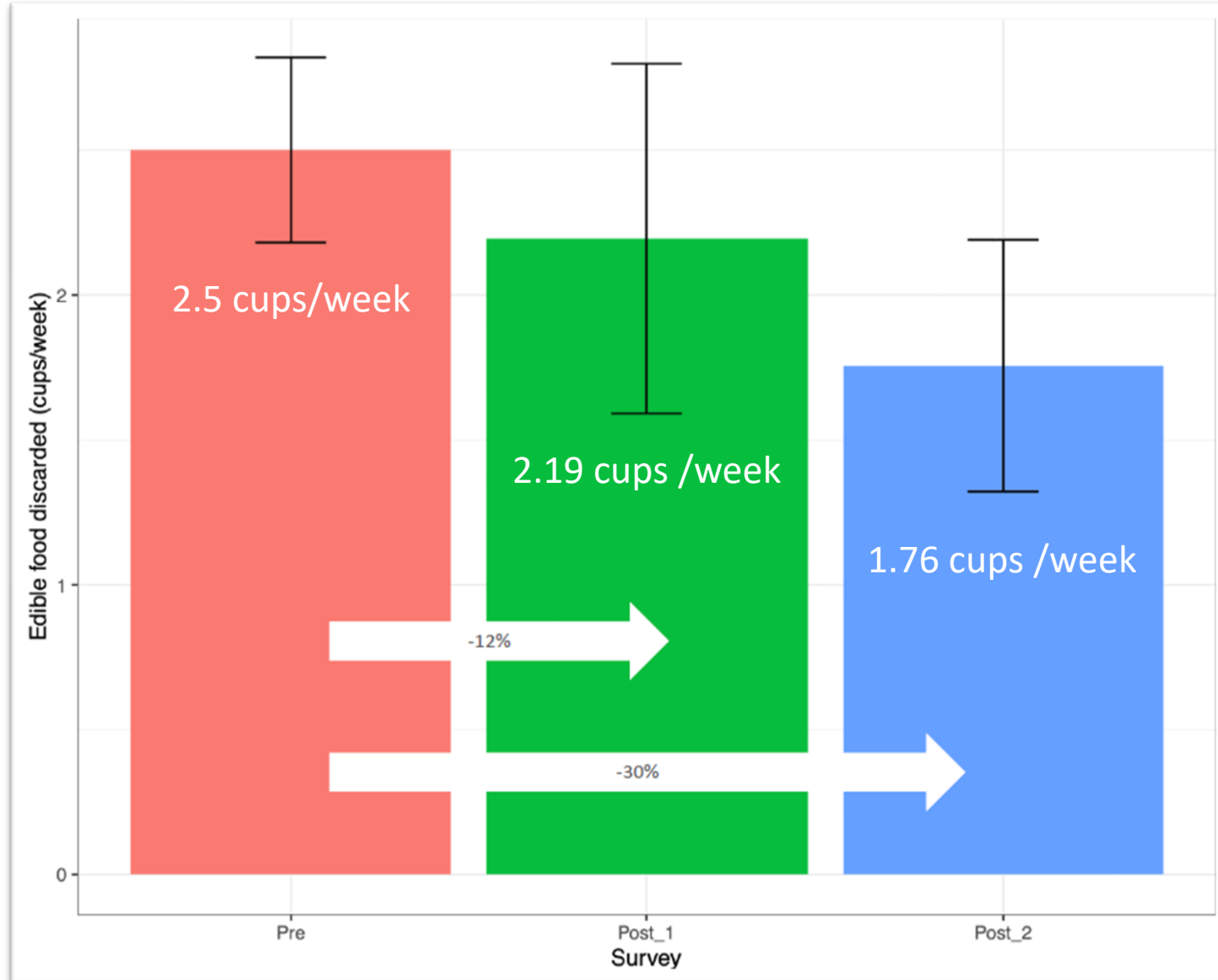
Target group

Younger age groups





Average food waste pre and post Inner West Council campaign



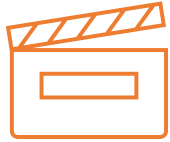
Effects of IWC interventions on HHFW by campaign activity and treatment group

Group	Campaign Activity	Count	Pre-Intervention (Baseline)		Post-Intervention		Change	
			Mean	SD	Mean	SD	No. of cups	%
Intervention Group	<i>Workshop(s)</i>	10 (10%)	2.17	2.21	1.50	1.73	-0.67	-31%
	<i>Multiple events</i>	10 (10%)	1.80	1.25	1.52	1.33	-0.28	-16%
	<i>Workshop+Info</i>	15 (15%)	1.68	1.47	1.42	1.50	-0.26	-15%
	<i>Information</i>	42 (42%)	3.10	6.28	2.90	6.16	-0.20	-6%
Control Group	-	23 (23%)	2.01	1.49	1.93	1.72	-0.08	-4%

Workshop participants recorded the highest reduction in average FW (Post-Intervention): 31%



eat well
tasmania



Interventions

Three 8-10 minute
videos



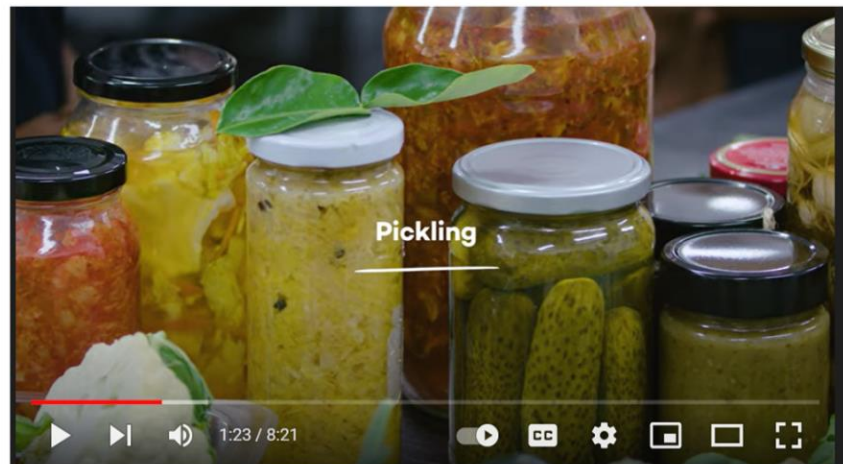
Target behaviours

- Eating oldest items first
- Leftovers
- Storage



Target group

Younger age groups



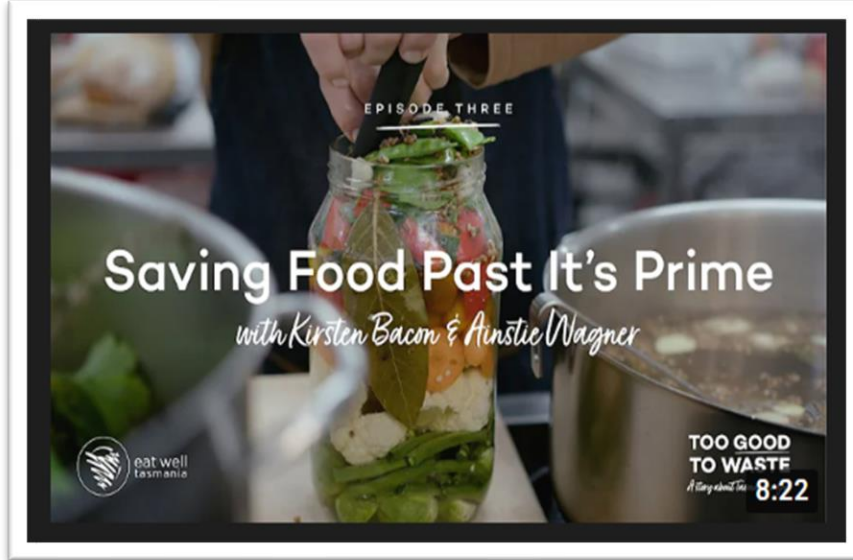
Too Good To Waste: Episode Three // Cooking With Produce Past Its Prime



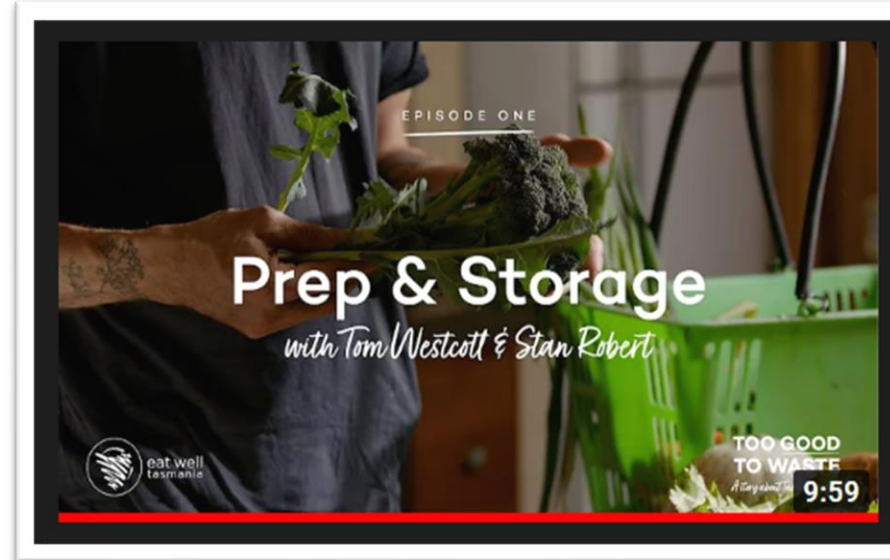
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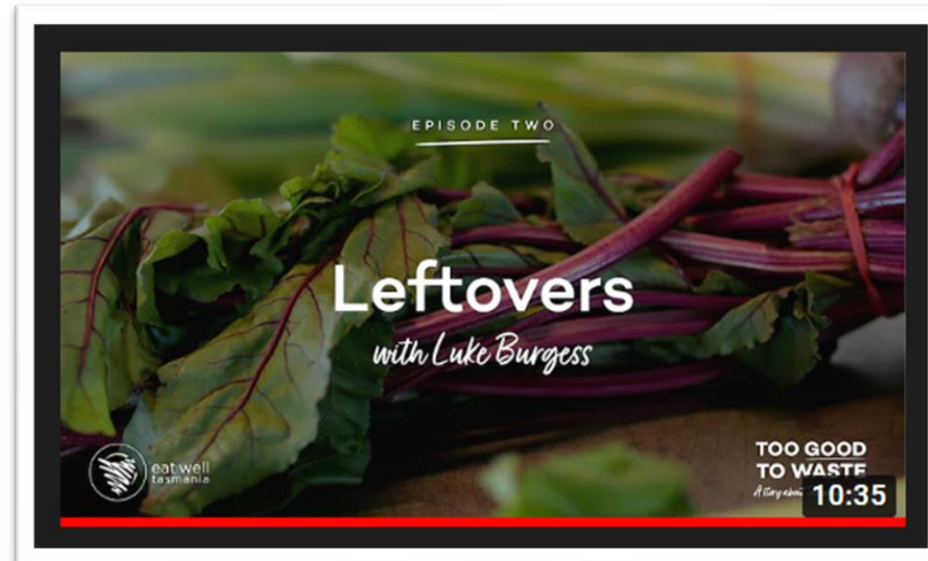
eat well
tasmania



<https://www.youtube.com/watch?v=iWBxM4ayutA&t=13s>

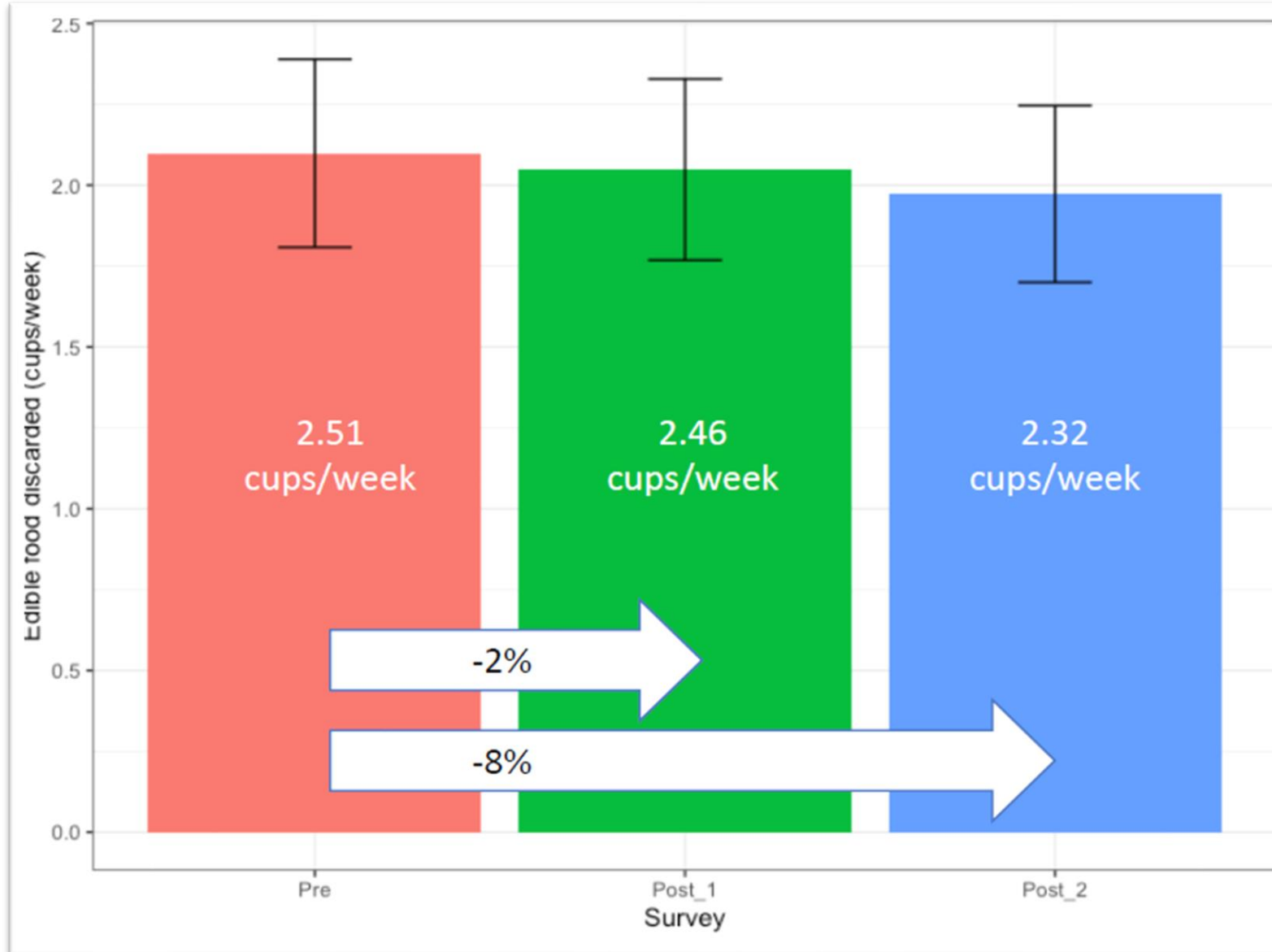


https://www.youtube.com/watch?v=LoE_4qGF1Wc&t=2s



<https://www.youtube.com/watch?v=wUgDYWfqbZA&t=2s>

Average food waste pre and post Eat Well Tasmania campaign



A Comparison: Food waste impacted by campaign type

Campaign	Campaign Type	Sample Size	Pre-Intervention (Baseline)	Post-Intervention	Change	
			FW (Mean)*	FW (Mean)*	ΔFW*	%
EWT ¹	<i>Video Campaign</i>	305; 155	2.51	2.32	-0.19	-8%
Inner West Sydney	<i>Workshop(s)</i>	10	2.17	1.50	-0.67	-31%
	<i>Workshop + Elec. Newsletter</i>	15	1.68	1.42	-0.26	-15%
	<i>Elec. Newsletter</i>	42	3.10	2.90	-0.20	-6%
	<i>No exposure (Control)</i>	23	2.01	1.93	-0.08	-4%
Asda (UK) ²	<i>Social media – Facebook</i>	510				-9%
	<i>No exposure (Control)</i>					-10%
'Save More Than Food' (USA) ³	<i>Informational campaign</i>	298-452				-23%
	<i>No exposure (Control)</i>					+29%

¹ Data comparison is for Pre-campaign and Post-Campaign Survey 2

² Young et al. (2017) Can social media be a tool for reducing consumers' food waste? A behaviour change experiment by a UK retailer. *Resources, Conservation and Recycling* 117: 195-203. % FW changes are not actual quantities wasted but an index of number of food items discarded.

³ Shu, et al. (2023) Evaluation of community-based food waste campaign using a national control group. *Waste Management* 160: 101-111.

Actions for Councils



- Include household food waste avoidance as a key goal
- Allocate resources (financial and human) to household food waste avoidance



- Collaborate with industry partners



- Focus on to 2-3 priority behaviours
 - Plan your meals (using a flexible meal plan that includes a ‘Use-it-up’ day)
 - Buy what’s on your shopping list
 - Preparing just enough (checking hunger levels of the households, understand what’s the right quantity of pasta, rice, bread etc. to cook for an adult)
 - Eating leftovers (get a commitment/ pledge to have a leftovers day once a week)

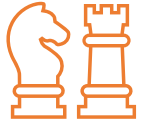


- Have a target audience in mind



- Creative and targeted communication

Actions for Councils: Types of interventions



- Challenges/competitions
 - E.g. “use it all day challenge’ showcasing photos of meals prepped using leftover foods/ ingredients



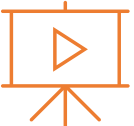
- Social movement to establish a new social norm
 - A social media campaign “I commit to a leftovers day”



- Kitchen caddy/bin stickers
 - “throw away your food = throw away your money”



- Workshops targeting families with kids or young people



- Short/ funky videos on top 3 behaviours



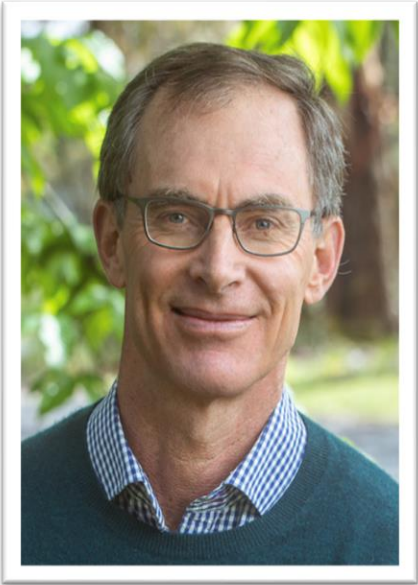
- Community role models sharing their food waste free stories



- Educating school children (avoidance assignments/projects, workshops)



Collaborate with us





Regional waste management authorities

Paul Chapman

Project manager, Legatus Group

Simon Grenfell

CEO: The Fleurieu Regional Waste Authority

Outline

- What is a WMA?
- Why might you want one?
- What would it do?
- How to make a WMA?

What is a WMA?

- A subsidiary of participating Councils
- Focus on waste management, including resource recovery
- Formed under LG Act
- An incorporated body
- Not a limited liability company
- 5 in Adelaide and surrounds
- None in regional SA ... yet

Why have a WMA?

- Provides a **framework** for collaboration
- Addresses **common** waste management matters
- **Specialist** organization
- Uses a **Charter**
 - clear, explicit **rules**
 - **Shares** costs and benefits
- Enhances **trust**

Reduces the costs of doing business together

What would a WMA do?

The central issue

- **Current** waste activities? eg
 - Collection
 - WTS
 - Minimise waste
- **New** waste activities? eg
 - Organics
 - Micro-MRFs
- **Additional** waste activities? eg
 - Methane
 - Reprocessing
 - Community engagement
 - Policy work

How would a WMA be created?

- **Engage** in a process with other Councils
 - Working Group - under WM Advisory Committee?
 - Scale and cost estimates
- Importance and comparisons of scale
 - Biggest WMA = 110 Ktpa
 - Smallest WMA = 23 Ktpa
 - **All** Legtaus = 57 Ktpa
- Draft a **charter**
- Workshop an **agreement**
- Obtain Minister's **approval**

The FRWA Story

- Formed in 2010 as a result of the Southern & Hills Waste Management Strategy 2007.
- Alexandrina Council, City of Victor Harbor, District Council of Yankalilla and Kangaroo Island Council
- Four Councils, different waste collection contractors, different collections schedules, 5 waste transfer stations, initial work included cleaning of public toilets
- Council staff transferred to the Waste Authority

The FRWA Story

- Initial Board included one Council Elected member and one Staff member from each Council
- Authority was located in Council offices for the first 4 years.

Overview of current operations

- Consistent kerbside waste collections
- Four waste recycling depots
- Waste education and advocacy
- \$11.0m Budget – 40 Staff

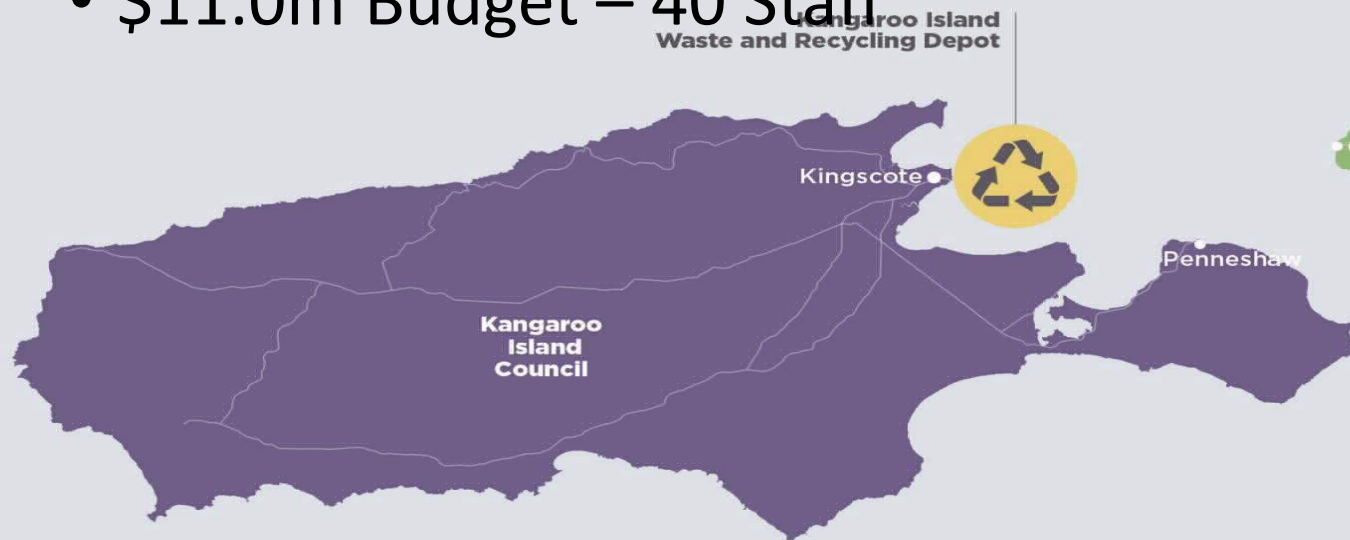


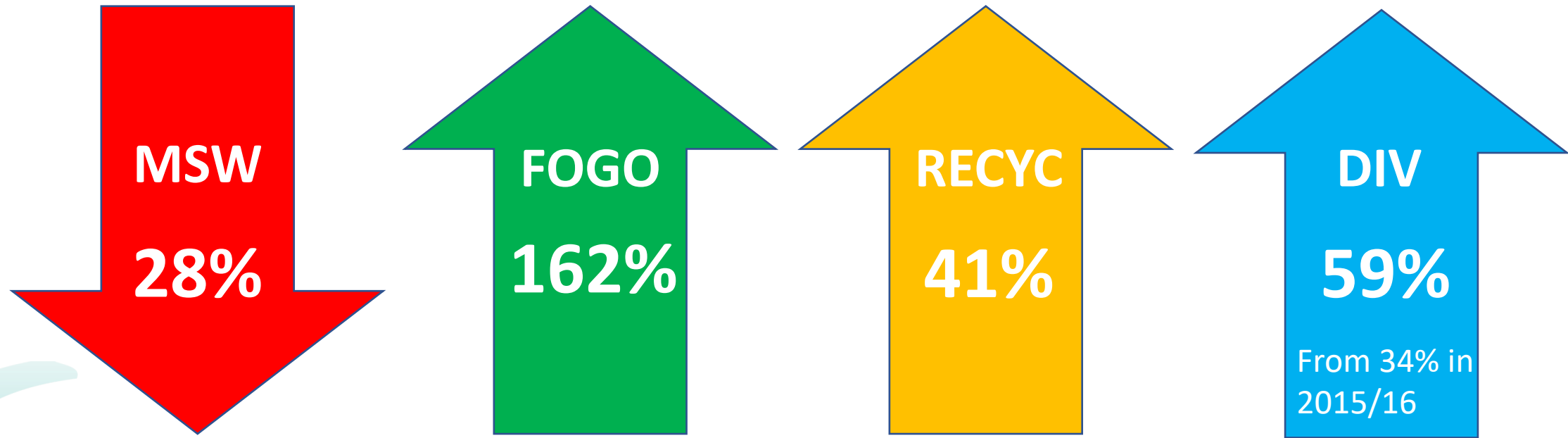
FIGURE 1 Map of FRWA Waste and Recycling Depots

Achievements

- Standard fortnightly collection of waste, recycling and FOGO across the region.
- Increase kerbside waste diversion from 34% to over 63%
- Closure of City of Victor Harbor Landfill and Transfer Station
- Redevelopment of the Goolwa Waste and Recycling Depot to a regional facility
- Dedicated waste education resources
- Access to technical waste sector experts

Achievements

From July 2016 to June 2022:



- 3,825 tonne reduction in waste to landfill FY15 compared to FY21.
- Increase of 2,900 tonne material collected as a reflection of increase in services to the community.

FRWA v LEGATUS

	FRWA	LEGATUS
Tonnes	56000	75000
Budget	\$10.5m (2022-23)	\$14.2m (estimate)
Population	55,000	109,000

Why it works well

- Councils are committed to working together and have gained benefit by collaborating
- We work very closely with the Councils and the community
- The Board is focused on what is in the best interests of the Authority and Councils as a whole not Councils individually.
- We stick to what we know best and are good at and **we don't do everything.**

Why it works well

- Size of Councils and Budgets allow for efficiencies to be made.
- Waste and Recycling Depots and offices are centrally located.
- FRWA Employees are predominantly locals invested in the community

What was/is difficult

- Councils with different levels of service that impact efficiencies and subsequently other Councils.
- Maintaining engagement with Council Members, Council CEO's and staff over time.
- Liabilities

Tips & Advice

- A Regional Subsidiary (WMA) is a small business operated by several Councils.
- Mayor & CEO ownership of the business is key to it's success.
- Ensure you have sound, trusting, secure relationships with your member Councils.
- Be very clear on what your short, medium and long objectives are.

Other Considerations

- Waste Co-ordinator working across several Councils
- Joint contracts – Local Government Procurement
- Joint waste education and publications – Green Industries SA

Questions

Simon Grenfell

0436 300 359

simon.grenfell@frwa.com.au





LUNCH BREAK

Support for Sustainability





Focus on Organics

Paul Chapman

Project manager, Legatus Group

Outline

- Why focus on organics and regional processing?

KESAB Facilitated Discussion

- What makes us think regional processing is viable?
- What next?

Stephen Rufus Pilot Organics Processing Plant

Why focus on organics and regional processing?

- Achieve ambitious **diversion targets**
- **Minimise costs** by linking to fortnightly collection and GISA incentives
- **Reduce costs** by processing close to source
- Demonstrate the **Circular Economy**
- Base for **more local sources and more local users**



FOGO & working together

Wendy Bevan

CEO, KESAB environmental solutions

Sarah Bruns

Environmental services officer, KESAB



Full circle education &
behaviour change



**"Education alone often has little or
no effect upon
sustainable behaviour"**

Doug McKenzie Mohr: Community-Based Social Marketing





“Community-based social marketing is pragmatic.

It involves:

- identifying the barriers to a behaviour.
- developing and piloting a program to overcome these barriers.
- implementing the program across a community.
- evaluating the effectiveness of the program.”

www.cbsm.com



KESAB
environmental solutions



Mark Boulet: Behaviour Works Australia



IVAN NOLTE

Coordinator waste & inspectorate
Copper Coast Council



COPPER COAST

lifestyle location of choice

WORKING TOGETHER



TIMELINE

June 2020

Elected members approve FOGO implementation

Contact KESAB

September 2020

1st Bin Audit

Present to the elected members

Start with education programs in schools and with business owners

July 2021

FOGO introduced and change kerbside collections from weekly to fortnightly

Current average landfill diversion = 60%

KESAB





Lifestyle location of choice

COPPER COAST COUNCIL TEAM



DON'T REINVENT THE WHEEL, BUT...



lifestyle location of choice



WHAT DOES THE FUTURE HOLD?

- CONTINUED EDUCATION
- STILL PROMOTE “TAKE THE PLEDGE” PROGRAM
- TRANSFER STATION TOURS
- VIRTUAL TOURS

lifestyle location of choice





COUNCIL AND KESAB

*Partnering to Engage
with Community*



PORT PIRIE REGIONAL COUNCIL

- **Community Plan Vision:** By 2025 the Port Pirie Region is the premier regional centre in South Australia where residents and visitors want to be.
- **Mission:** To progressively strive for excellence, lead with integrity and deliver positive outcomes for the community.
- **Goal No 5 Waste and Resource Recovery Strategy 2019-2024** Identify and implement best practice education programs to the community and industry.



CLEAR COUNCIL OBJECTIVES

- To reduce tonnage of municipal solid waste to landfill.
- To reduce contamination in our kerbside recycling bins.
- To reduce contamination in our kerbside organics bins.
- To provide ongoing educational opportunities to the community to learn about best waste and recycling practices.
- Who can assist us work towards our objectives?

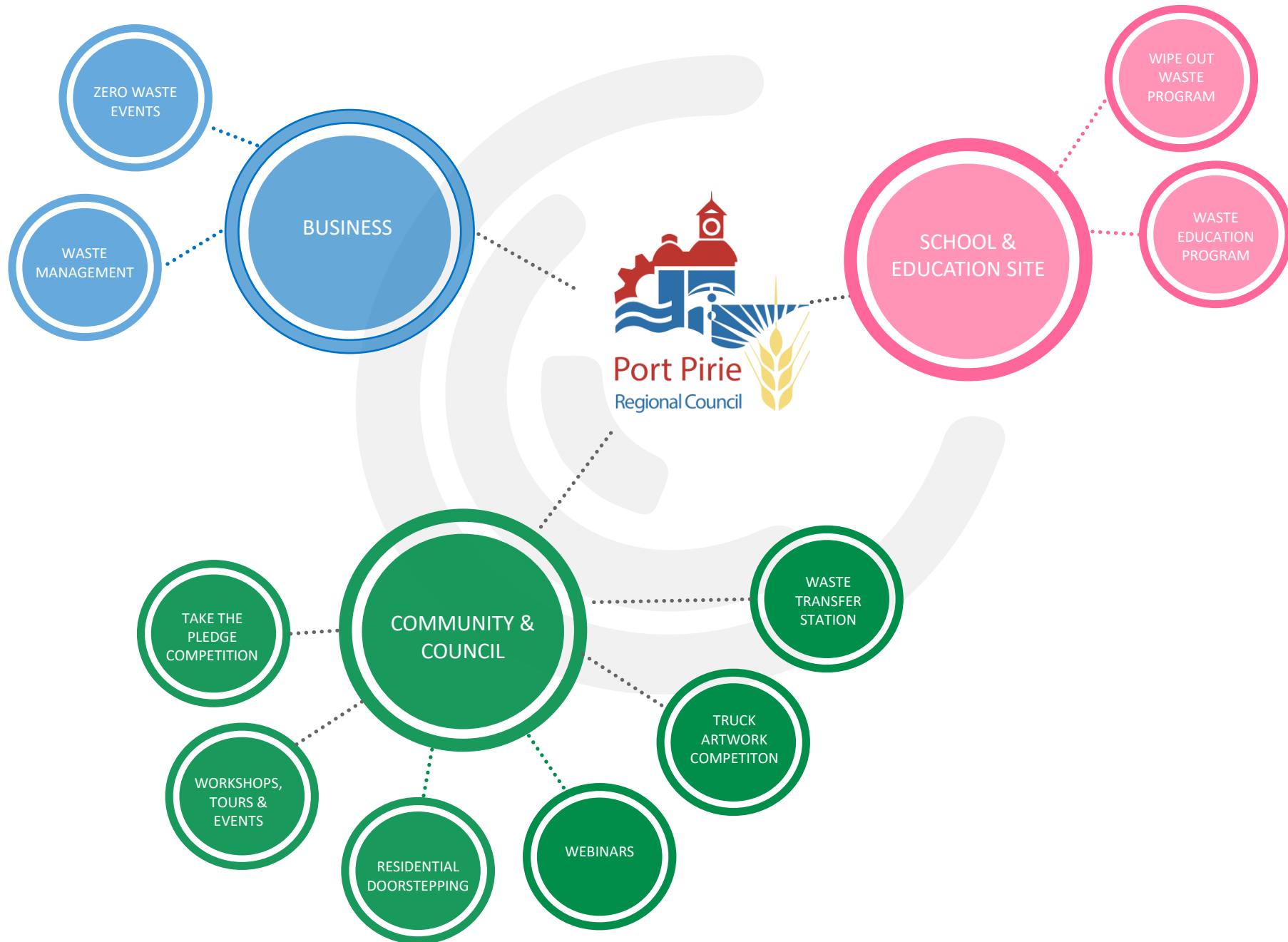


IN PARTNERSHIP WITH KESAB

Fostering sustainable behavior in
Port Pirie Regional Council

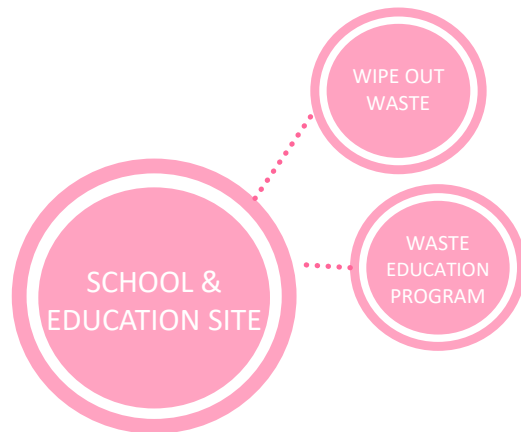
- Bin survey 2016
- Community
- Schools
- Business to come



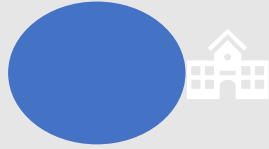


SCHOOL & EDUCATION SITES

- 80% of Port Pirie Regional Council schools engaged.
- 56 waste and recycling incursions delivered.
- Focussed site support.
- Wipe Out Waste program.



SCHOOL SHOWCASE



AIRDALE PRIMARY SCHOOL

- Since 2016
- Staff development, incursions and site support
- Council assisted to establish a Recycling Shed and purchase new bins to divert waste from landfill
- Students audit weekly and record data
- School sends 80% less to landfill since 2019!



COMMUNITY & COUNCIL

- Face to face education with > 1500 residents.
- 29 workshops, tours, events and activities delivered or attended.
- Informed community confident to act.



TAKE THE PLEDGE

- Public display of household commitment
- Measurable program
- Significant results

*“As a parent I feel it is important to teach my children ways of reducing our contribution to landfill by composting our food scraps, recycling our soft plastics and using the yellow and green bins correctly. That is why I joined the program.”
Megan Congdon, Pledge participant*



> 400
households
joined

More than
60
Prizes
awarded

STATISTICS
TBC

TRUCK ART COMPETITION



TRUCK ART COMPETITION

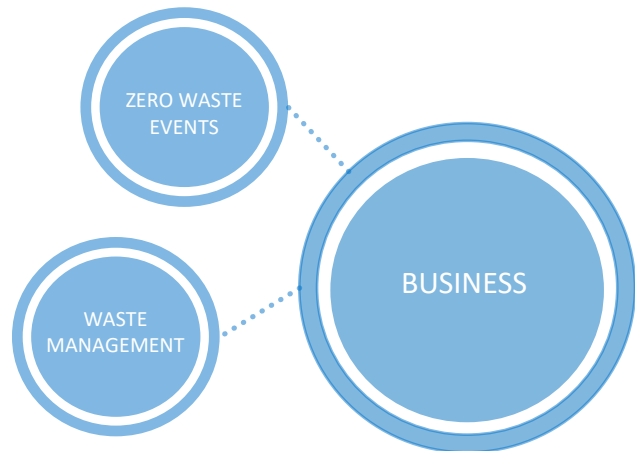
'I made my artwork to teach people what's right and wrong. I wanted to inspire everyone to reduce, reuse and recycle so we can send less to landfill and keep our earth clean.'

Ava Kotaras, 9 years old

BUSINESS

Working towards:

- Waste free events
- Work with our Business Port Pirie association



WHAT'S NEXT

- Further Commitment to Schools.
- Audits to compare Pledge and non-Pledged household waste output.
- Which Bin Material.
- Businesses.
- FOGO rollout





FORUM Feedback: What are your regional goals?

Audience feedback and discussion



Focus on Organics

Paul Chapman

Project manager, Legatus Group

What makes us think this is viable?

- ‘Nothing can be processed in the regions’ (Chapman, 2020)
- But I was **wrong** about organics
- Private regional facilities **already exist**
 - Peri-urban and large scale with gate fees
- There are **too few** and **far apart**, too **costly**
- Modelling confirms the overview ...

Aggregation site	Average net cost of readying for reuse \$/t	Average cost of sending to landfill \$/t
Port Lincoln	165	176
Whyalla	103	190
Port Pirie	121	194
Monash	145	195
Mount Gambier	116	169
Peri-urban to Adelaide	-13	173

What then?

- Reference Group study looked at local sources, users and scale
- Councils to provide leadership to pilot the change
- Implement and fine-tune FOGO
- Connect with the community and influence behaviour
- Communicate and collaborate with neighbouring Councils
- That leads to Peterborough and Stephen Rufus, CEO, DC of Peterborough



Pilot organics processing plant at Peterborough

Stephen Rufus, CEO

District Council of Peterborough



Thank you
Support for Sustainability

