

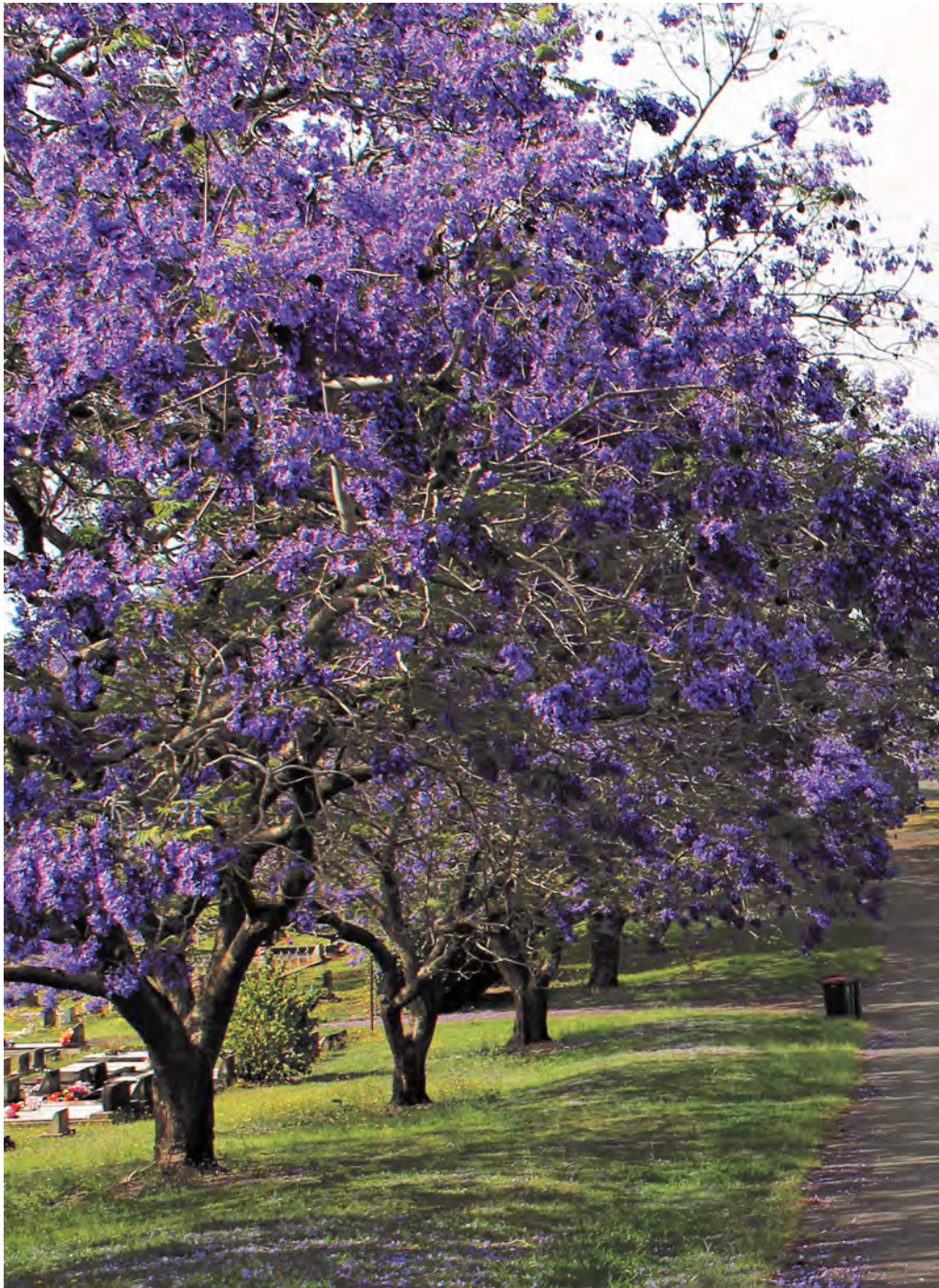


**KEMPSEY**  
Shire Council

# Waste Management Strategy 2022 - 2032







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## Acknowledgment of Country

Kempsey Shire Council acknowledges the land of the Thunggutti/ Dunghutti Nation.

We pay respect to Elders past and present.

We acknowledge the role of emerging leaders to continue to guide us in the future.

We acknowledge the Stolen Generations and the need to change practices to be inclusive.

This land always was and always will be Thunggutti/ Dunghutti land.



## ABOUT WASTE MANAGEMENT STRATEGY 2022-2032

Like many communities across Australia, Kempsey Shire Council (Council) is facing new challenges with our waste management, particularly solid waste. Changes in policy nationally and internationally are impacting waste management. Council recognises the necessity for sustainable waste management services for our community and the importance of increased community expectations for Council to manage waste in a more sustainable way. The Waste Management Strategy 2022 - 2032 (the Strategy) will guide Council's transition from providing an adequate waste management service, to one of leadership and innovation in resource recovery and waste prevention.





# WHY WE NEED THIS STRATEGY

The existing 10 year Kempsey Waste Management Strategy expired in June 2022. This new Waste Management Strategy will provide the framework for how Council and the community will work together into the future to create a more sustainable way to manage our waste. It highlights where we have come from, outlines where we are now and guides Council into the future, providing both a direction for the community and other stakeholders and a strategic plan. The Strategy is guided by a set of overarching principles which set a strategic direction for waste management in NSW into the future.

## Sustainable Development and Net Zero Emissions

At both State and Federal levels, Australia is committed to meeting international sustainable development goals (SDG). The SDG provides the policy road map, the partnerships and the tools for Australia (Australian Government Department of Foreign Affairs and Trade) for sustainable development and the sustainable development goals.

### Sustainable Development

Development which meets the needs of the present without compromising the ability of future generations to meet their own needs

Multiple policies and strategies are being developed with the aim of reducing emissions, mitigating climate change impacts and building greater environmental and community resilience.

The NSW government’s sustainability goals for managing waste, planning for infrastructure, reducing carbon emissions, and refocusing the way NSW produces, consumes, and recycles products and materials is outlined in the *NSW Waste and Sustainable Materials Strategy 2041 (WASM)*. This provides the framework for achieving a reduction in waste and emissions, reducing harm to our environment, and boosting innovation to help drive the economy. Kempsey Waste Management Strategy embodies the WASM goals (The new WASM strategy replaces the waste avoidance and resource recovery strategy 2014-2021).

### 2025 WASM Targets

- Phase out problem and unnecessary plastics
- Plastic litter reduction target of 30%

### 2030 WASM Targets

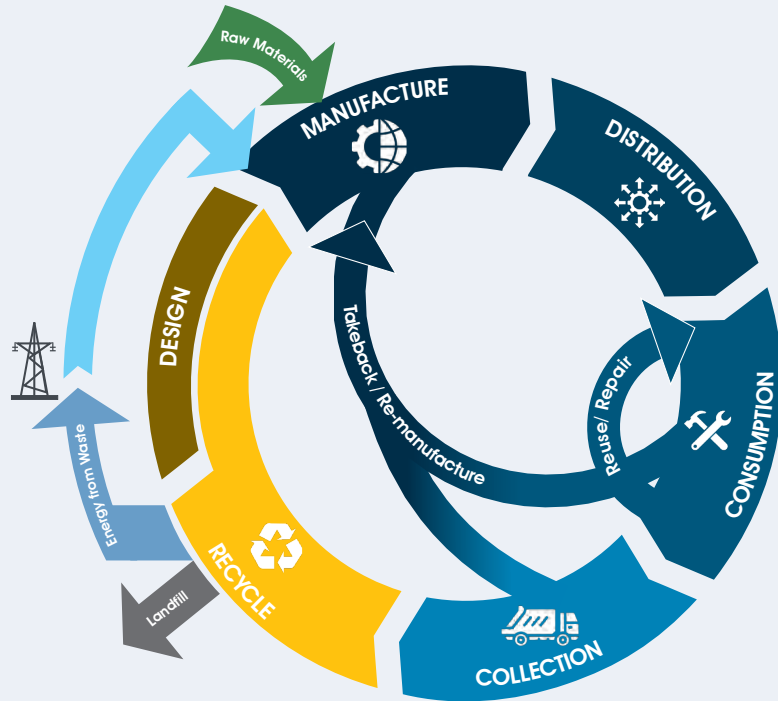
- Reduce total waste generated by 10% per person
- 80% average recovery rate from all waste streams
- Overall litter reduction of 60%
- Food & garden waste collections to all NSW households

### WASM Sub Targets

- Eliminate problem and single use plastics
- Triple plastics recycling rate
- Halve the amount of organic waste sent to landfill by 2030
- Net zero emissions from organics to landfill by 2030



# WHY WE NEED THIS STRATEGY



## CIRCULAR ECONOMY

A Circular Economy is an alternative to the traditional, linear economy which refers to taking resources, making goods that are then bought and used to then be disposed of as waste. Given there is a finite supply of natural resources which are getting increasingly harder and costlier to extract, these traditional processes result in unnecessary waste. Kempsey Waste Management Strategy aligns with Circular Economy principles which aim to 'close the loop' on waste by reusing and recycling resources and supplies that already exist, rather than creating new products out of extra resources.

Councils across NSW will need to collaborate, build strong partnerships with communities, businesses and industries and explore innovations for waste management solutions to achieve these goals.

## WASTE MANAGEMENT HIERARCHY

The Waste Management Hierarchy has been adopted within this Strategy as the basis for classifying and assessing the various resource recovery options which are being considered to assist Council to improve its waste management system.



# COUNCIL'S STRATEGIC CONTEXT

Five program areas have been developed within the Kempsey Waste Management Strategy 2022-2032. These align with existing and emerging Council Strategies.

SUSTAINABILITY AND RESILIENCE STRATEGY 2022	COMMUNITY STRATEGIC PLAN 2022	KEMPSEY WASTE MANAGEMENT STRATEGY 2022 - 2032
<b>1. COMMUNITY BEHAVIOURAL CHANGE</b>		
Capacity building, education, local, stakeholder support, and collaborative projects, resilience to extreme events and natural disasters	Quality education and lifelong learning experiences for people of all ages and abilities	<b>PROGRAM 1</b> - Waste education, behaviour change and circular economy resource position. Waste avoidance and source separation programs directed to households, businesses, and industry. Monitor program successes
<b>2. WASTE SERVICE AND INFRASTRUCTURE</b>		
Resilient community and council infrastructure	Technology and appropriate infrastructure in managing waste	<b>PROGRAM 2</b> - Improved resource recovery at our waste facilities. Waste facilities operational efficiency. User-friendly facilities. Develop community reuse facilities. Foster innovation and technology at our waste facilities
<b>3. ENVIRONMENT</b>		
Reducing emissions, climate risk adaption and mitigation	Recycling and regeneration in managing waste	<b>PROGRAM 3</b> - Improve disposal of problem wastes and reduce kerbside contamination. Gather and analyse data to comprehend the causes of litter and illegal dumping. Continue to review and improve the environmental management of Council's waste facilities
<b>4. COUNCIL LEADS BY EXAMPLE</b>		
Sustainable procurement, sustainable events	Meaningful, informed partnerships, and evidence guide decision making	<b>PROGRAM 4</b> - Secure ongoing waste funding. Drive sustainable procurement and a local circular economy. Collaborate on regional resource recovery. Collaborate on regional planning for resilience to natural disasters and continuity of essential waste services
<b>5. PLANNING FOR THE FUTURE</b>		
Innovative technology, accurate data	Council's assets are managed to meet the needs of current and future community	<b>PROGRAM 5</b> - Explore and implement innovative technologies. Waste Management Centre Management plan. Ongoing review of kerbside bins. Long-term waste operational and capital plans. Waste emissions strategies, accurate data capture and management. Financial sustainability

# FACTORS THAT IMPACT OUR STRATEGY - OUR CHALLENGES

Kempsey Shire Council faces several long term challenges. These challenges are being felt by local councils around NSW and whilst not unique to Kempsey Shire, this has the potential to have a significant impact of Waste Management practices

These challenges (as described on the right) offer us the opportunity to think differently. We need to address the pressures from shifting economic conditions urbanisation and climate change to manage our waste in a more sustainable way



## CLIMATE CHANGE

Globally: the effects of climate change are considered the biggest threat to a sustainable future.

Organic waste, particularly food waste, sent to landfill is a large producer of greenhouse gases and has significant impacts on climate change. Council will engage our community to foster behaviour change to maximise our waste resources and divert more organic waste from our landfill.

Planning infrastructure to withstand impacts of climate change and population growth is important to our community. (*Community Strategic Plan 2042*) Council is working towards enhancing and protecting our natural and built environment to ensure that the risks of natural hazards and climate change are recognised and acted on.

Council will develop climate mitigation measures which deliver resilient waste facilities and services. We will collaborate regionally to ensure continuity of essential waste services in response to natural disasters.



## URBANISATION

Multi-unit dwellings represent 9.3% of our residential waste collection services. Predicted population growth and the emergence of high density housing by 2032, will require targeted planning and innovative Waste Management solutions that are sustainable and economically viable for our community and future generations.

Emerging waste streams, such as organics and e-waste, will create new considerations in the design and function of buildings.

Consideration will need to be given to how waste services impact the amenity of residences and surrounding properties.

Council will need to explore solutions on how to best store different waste types in communal areas and how to collect, recycle or dispose of waste streams.

Planning and timing of waste infrastructure, service delivery and community-based education needs must align with population growth and changing community characteristics and needs.



## ECONOMIC CONDITIONS

NSW's recycling industry is under pressure to process materials within Australia. The recycling industry can no longer rely on the export of recycled materials and the cost of recycling services is increasing.

New design, reuse and re-manufacturing technologies are evolving rapidly, however the oversupply of recyclables relative to current demand is creating uncertainty around markets this was due to the China sword.

There are strong opportunities for Kempsey to improve the quality and value of our recyclables.

Council will support smarter local solutions and explore future niche resource recovery opportunities at our waste facilities.



# WHERE WE ARE NOW



Kempsey has comparably low volumes of kerbside household waste

Kempsey households produce similar amounts of waste each week as compared to our neighbours and the average NSW household. However, our diversion of food and garden organics (FOGO) and recyclables from landfill lies below the NSW target

Reducing waste generation at the source is a key priority in this Strategy and State and Federal waste and sustainability strategies.

The average household generates:



### WASTE RECOVERY COMPARISON

kg/hh/w	Waste	Recycling	FOGO
Kempsey	8.4 45%	3.4 18%	6.9 37%
MidWaste	8.6 43%	4.1 20%	7.5 38%
NSW	11.6 50%	3.8 16%	7.8 34%

kg/hh/w = kilograms per household per week

"MidWaste" = Regional waste forum comprising 6 Mid North Coast councils

Source: NSW Local Government Waste and resource Recovery data report 2020-21



Lets 'clean up' our bins

Getting Kempsey rubbish "in the right bin" keeps waste out of our local landfill and provide opportunities for greater resource reuse

### Kerbside General (Red) Bin



30% is food scraps + food in original packaging

20% should be in the FOGO bin

20% can be recycled in the yellow bin

### Kerbside Recycling (Yellow) Bin contamination Rates



Getting our recycling bin contents "right" will improve the quality and value of our recyclables

### CONTAMINATION COMPARISON

Kempsey	10.3%
MidWaste	10.7%
NSW	11.5%

Source: APC (2021): MidWaste Mid Region: Audit of domestic kerbside waste



Kempsey waste recovery compares well with our neighbours

Kempsey can improve our waste recovery rates

Like NSW we will need to strive to meet the 2030 80% diversion rate for all waste streams under WASM State targets

### RESIDENTIAL RECOVERY

Kempsey	54%
MidWaste	54%

### TOTAL WASTE RECOVERY

Kempsey	45%
NSW	45%

Source: NSW Local Government Waste and resource Recovery data report 2020-21



Target improved methods of waste sorting at our facilities

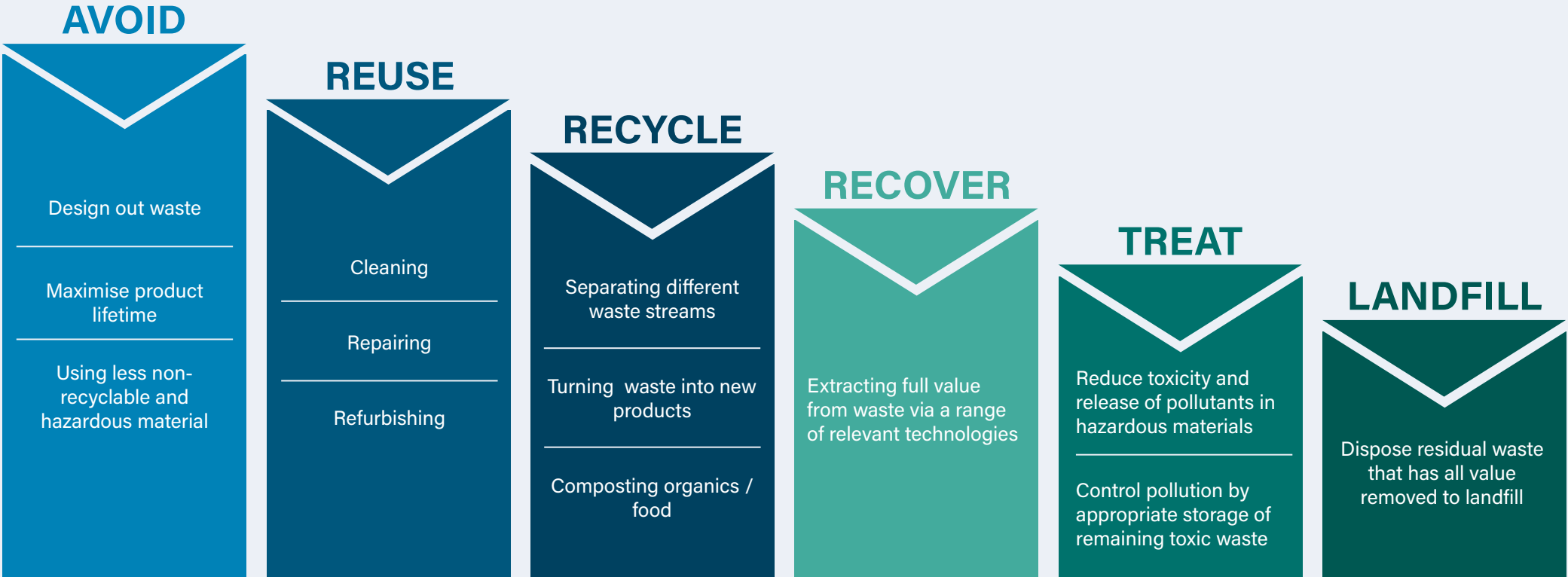
Council is committed to better separation of waste streams at our waste facilities

Mixed waste comprises 86% of all self-haul waste currently landfilled.

Improved onsite sorting will increase our waste recovery rate, extend the remaining useful asset life of our landfill and re-capture lost resources. This will be vital in effectively managing emerging waste streams into the future

# HOW WE WILL GET THERE

Council has adopted the Waste Hierarchy to guide our Waste Strategy. This model aims to avoid the creation of waste in the first place, then seeks to reuse, recycle, or recover waste prior to considering a range of relevant technologies to extract further value from resources. The disposal of any residual waste product is the least preferred path for waste management. Under each Program Area within the Waste Strategy the table below guides Council to deliver positive actions that align with the adopted Waste Hierarchy.





# OUR PARTNERS

We acknowledge that we cannot achieve our goals alone. Council will foster key waste related partnerships including:

**Local:** Residents, businesses, developers, visitors, volunteers and waste-sustainability community groups.

**Regional:** MidWaste Regional Waste Forum, Mid North Coast Joint Organisation (MNCJO) group of Councils.

**State:** NSW Environmental Protection Authority, Resilience NSW.



## COUNCIL'S ROLE

Partner with the community and relevant stakeholders to deliver waste education, information, initiatives and programs.

Build waste infrastructure, service capacity and resilience to climate change.

Provide quality and equitable waste services to the community.

Reduce waste through better methodologies, technologies and innovation in resource recovery.

Provide improved reuse and resource recovery solutions.

Limit the impact of waste on the natural and built environment.

Waste management financial and operational sustainability.

Assess progress and improve waste management over time.

Collaborate with our community to support improved waste behaviours.



## OUR COMMUNITY'S ROLE

The Community plays a significant role in waste reduction by the choices they make in purchasing, resource reuse, and recycling.

Developers and body corporates partner with Council to implement better practice design of new buildings. They drive waste management of new and existing buildings to optimise resource recovery and streamline storage and collections.

Businesses minimise waste creation, optimise waste diversion particularly food waste, and explore sustainable procurement such as packaging to minimise waste.

Visitors minimise litter in our natural and built environments.



## REGIONAL WASTE PARTNER'S ROLE

Drive investment, grant funding and action on regional waste projects.

Inform on and contribute to important changes within the waste industry.

Explore circular economy opportunities which leverage and benefit from regional economies of scale.

Lobby State and Federal government on agreed changes required within the waste sector.



**COUNCIL AND OUR COMMUNITY NEEDS TO WORK TOGETHER TO ACHIEVE FIVE PRIORITY WASTE OUTCOMES AND BECOME**



- 1. A COMMUNITY THAT EMBRACES BEHAVIOUR CHANGE TO MAXIMISE OUR RESOURCES**
- 2. A COUNCIL COMMITTED TO IMPROVING RESOURCE RECOVERY AT OUR WASTE FACILITIES**

- 3. A COMMUNITY THAT PROTECTS AND ENHANCES OUR NATURAL AND BUILT ENVIRONMENT**
- 4. A COUNCIL THAT LEADS BY EXAMPLE**

- 5. A COUNCIL THAT PLANS OUR FUTURE WASTE SERVICES AND INFRASTRUCTURE NEEDS**



# PROGRAM AREA 1

## A community that embraces behaviour change to maximise our resources



### Objectives

- 1.1 We implement education and behaviour change programs to maximise waste avoidance, reuse and resource recovery



### Strategic Initiatives

- 1.1.1 We will create a Waste Education, Behaviour Change and Circular Economy resource plan
- 1.1.2 We will deliver residential, visitor, industry and business waste programs which identify and avoid waste generation and encourage greater separation of waste streams at source
- 1.1.3 We will monitor and provide the community with feedback on program success
- 1.1.4 We will encourage community use of product stewardship schemes to promote the use of environmentally sound management of products and materials over their life
- 1.1.5 We will develop sustainable event guidelines and checklists



### Program Success Measures

- 1.1.1.1 Positive impact of Council's waste education and information services across the community
- 1.1.1.2 Stronger communication by Council positively influences the community to reduce, resource recovery, reuse, recycle materials that would otherwise be added to landfill
- 1.1.1.3 Our community is engaged, and actively participates in Council's waste and sustainability initiatives
- 1.1.1.4 Our community is aware of the impact of waste on their health, wellbeing, and the environment and have the tools to manage their waste responsibly





## FOCUS - BEHAVIOURAL CHANGE

### Council will engage in a wide range of waste and sustainability events, education and community engagement activities

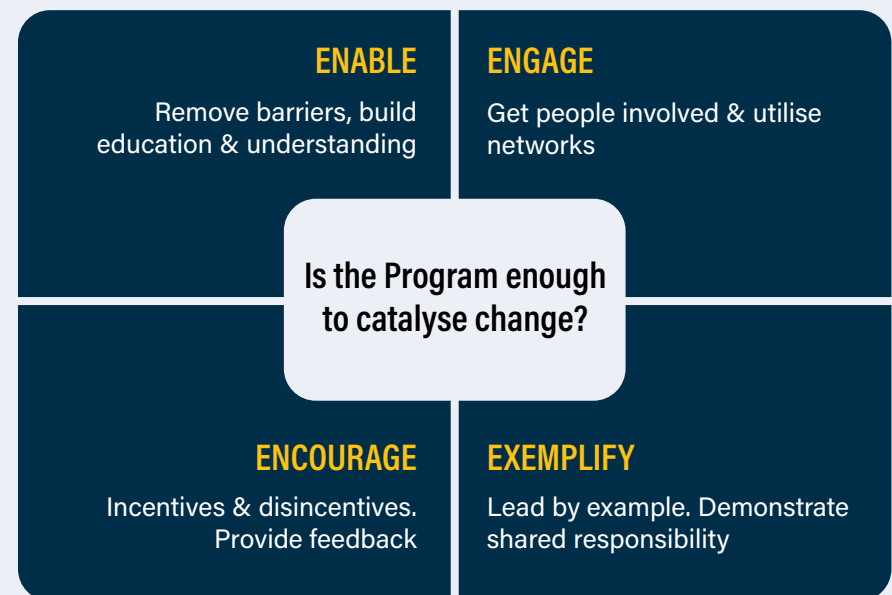
Having a physical presence in schools in the local area is important for Council. Council engages specialist educators to deliver curriculum linked waste and sustainability workshops to raise awareness of waste issues and explore what happens to waste and recyclables

Council collaborates with stakeholders including the Macleay Sustainability Schools Network with the aim of providing learning opportunities, tools, resources, inspiration and school sustainability and waste programs

Council will investigate a range of behaviour change which models the future understanding how changing social behaviour; such as our consumer patterns, waste disposal practices and our attitude towards Waste Management

### The best performing waste management systems are supported by strong waste education programs

We will guide and encourage waste behaviour change within our residential and business communities and encourage support for new waste initiatives





## PROGRAM AREA 2

### A Council committed to improving resource recovery at our waste facilities



#### Objectives

- 2.1 Council demonstrates better practice waste management across our waste facilities
- 2.2 We maximise resource recovery and extend the useful asset life of our Waste Management Centre (WMC)
- 2.3 We partner with the community and key stakeholders to explore innovative waste recovery and circular economy solutions



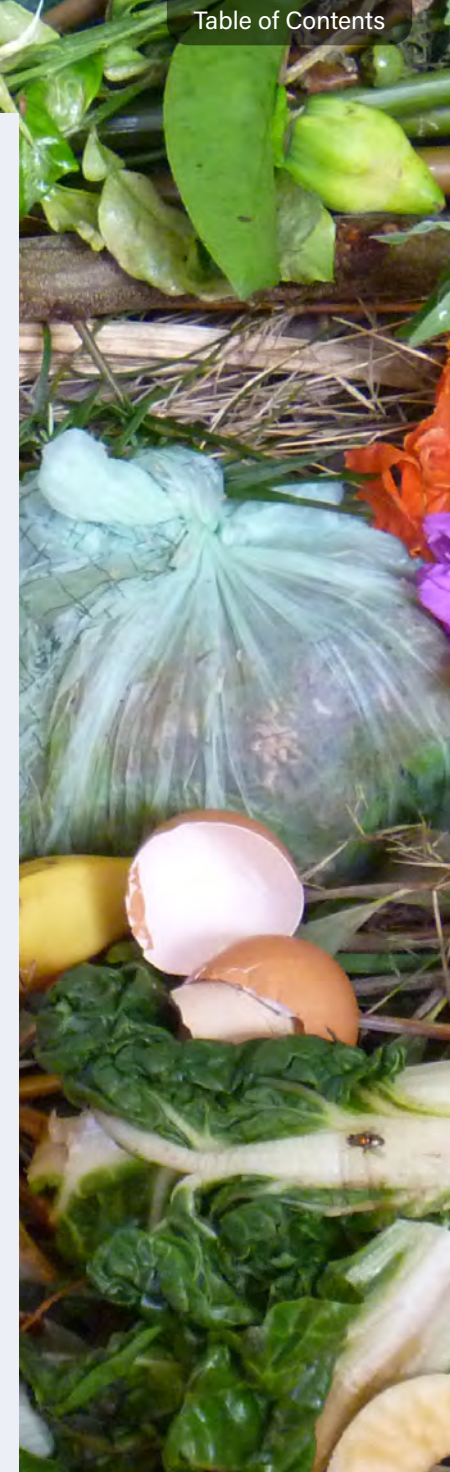
#### Strategic Initiatives

- 2.1.1 Improve the operational efficiency of Council's waste facilities
- 2.1.2 Support the development of community reuse facilities
- 2.1.3 Continue to review and deliver better practice options for disposal of residual waste
- 2.1.4 Upgrade Council's waste management facilities to be more user friendly to the community
- 2.1.5 Explore and incorporate innovative technology solutions to improve resource recovery at our facilities



#### Program Success Measures

- 2.1.1.1 Community willingness to maximise resource recovery at our waste facilities
- 2.1.1.2 Increased waste diversion and recycling rates at our local waste facilities
- 2.1.1.3 Improved sorting of self-haul mixed waste
- 2.1.1.4 Improved resource recovery through technology, innovation, and partnerships



## FOCUS - KEMPSEY WASTE FACILITIES

Kempsey Waste Management Centre (WMC) accepts household, commercial, industrial, building and demolition waste. Waste Transfer Stations (WTS) are also in operation and accept solid household waste. Residual waste and key resource recovery streams from our WTS are transported to the WMC for further sorting or disposal

Improving recovery of waste at our WTS offers the opportunity to redirect targeted waste streams directly to a range of destinations and markets for further processing. This results in reduced traffic, handling, and waste volumes impacting on our WMC. Importantly, improving recovery of waste at our WMC offers Council the potential to extend the life of our landfill and produce saleable commodities with both commercial value and demand within viable markets

### This embodies one of the first steps of a Circular Economy

This approach includes collaborating with businesses, industry manufacturing and other stakeholders and other stakeholders and leveraging existing regional development programs to support better waste management and resource recovery

Council is committed to planning and implementing improved operational efficiency, resource recovery and staged technology innovations to support our waste facilities into the future

### Intelligent recycling and pre-processing potential

The need for efficient waste sorting is urgent as recycling targets and market quality demands tighten. New waste sorting and processing technologies are burgeoning as manufacturers and other stakeholders including councils engage to place themselves favourably in an expanding recyclables market

Material Recovery Facilities (MRFs) play a vital role in the Circular Economy, transforming waste into quality secondary resources that can replace primary resources. Existing and emerging MRF technologies include:



Intelligent 'cloud-based' data management solutions



Screens, crushers, magnets, 'eddy currents'



RFID (Radio Frequency Identification) tracked waste bags for specific materials types - an RFID reading device automatically recognizes the information on the bag to enable automatic weighing and sorting



Advanced recognition and sensor technologies



## PROGRAM AREA 3

### A Community that protects and enhances our natural and built environment



#### Objectives

- 3.1 Our Waste practices ensure ecologically sustainable development that meets the needs of current generations without compromising those of future generations



#### Strategic Initiatives

- 3.1.1 Engage the community and implement monitoring solutions to improve disposal of problem wastes and reduce kerbside contamination
- 3.1.2 Gather and analyse data to better understand the sources and causes of litter and illegal dumping
- 3.1.3 Review and improve the environmental management of Council's waste facilities



#### Program Success Measures

- 3.1.1.1 Council and the community can better understand and more effectively reduce litter, illegal dumping, and contamination
- 3.1.1.2 Out waste facilities example better practice environmental management



## PROGRAM AREA 4

### A Council that leads by example



#### Objectives

- 4.1 We explore opportunities to increase sustainability and build a circular economy
- 4.2 We collaborate at a regional level to create opportunities to manage waste and resources at scale and secure funding



#### Strategic Initiatives

- 4.1.1 Source opportunities and obtain funding to deliver waste programs and initiatives
- 4.1.2 Adopt a greater regional approach to procurement
- 4.1.3 Integrate sustainability and circular economy principles into procurement practices
- 4.1.4 Develop policy, targets, assessment criteria and audit methodologies to measure benefits of sustainable procurement
- 4.1.5 Provide advocacy and support best-practice mechanisms for growth of a local Circular Economy
- 4.1.6 Collaborate on regional waste management and resource recovery solutions such as options to increase revenue and/or cost savings
- 4.1.7 Develop a plan for managing natural disasters and ensuring continuity of essential waste services within a regional perspective



#### Program Success Measures

- 4.1.1.1 Where relevant, all Council procurement considers better practice waste management
- 4.1.1.2 Council continues to advocate for investment in a local Circular Economy
- 4.1.1.3 Council is actively engaged in regional collaboration and solutions which maximise the potential to recover costs and offer better waste management practice and continuity of service



## PROGRAM AREA 5

### A Council that plans our future waste services and infrastructure needs



#### Objectives

- 5.1 We improve financial and waste data capture and management
- 5.2 We demonstrate strategic service-delivery planning and investment in infrastructure
- 5.3 We demonstrate sustainable financial delivery of the Waste Service Function



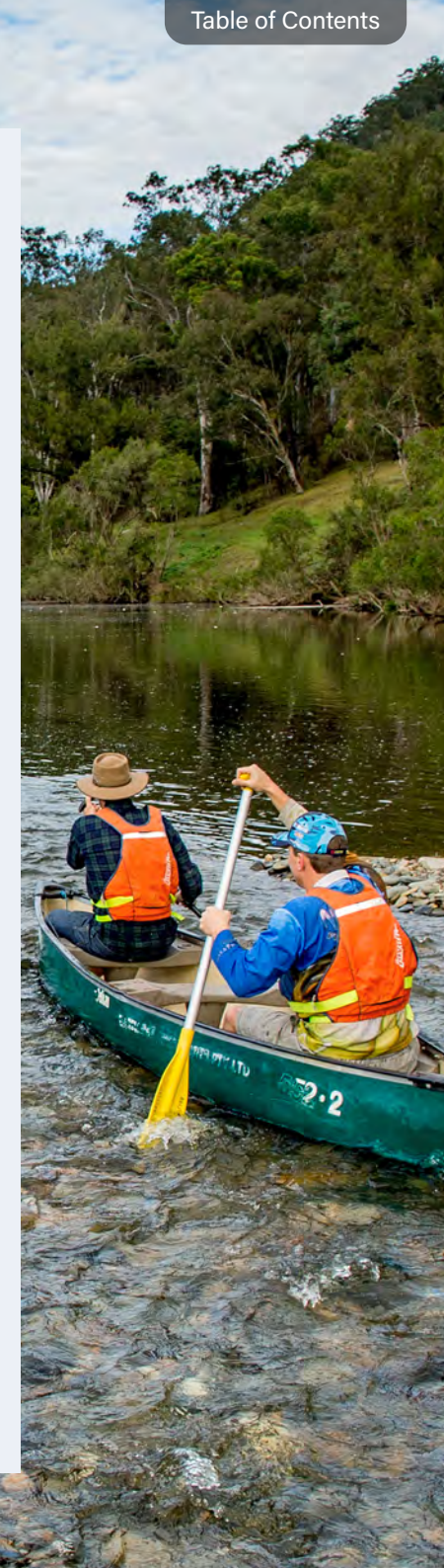
#### Strategic Initiatives

- 5.1.1 Improve financial and waste data capture and management
- 5.1.2 Develop a site Master Plan for the Waste Management Centre (WMC) to deliver improved site usability, efficiency, and resource recovery
- 5.1.3 Review our current kerbside bin system to optimise service and efficiency
- 5.1.4 Develop innovative solutions for problem wastes
- 5.1.5 Develop waste strategies to reduce carbon emissions
- 5.1.6 Undertake a whole-of-life cost assessment of the WMC landfill
- 5.1.7 Develop long-term waste operational and capital plans



#### Program Success Measures

- 5.1.1.1 Waste management services and resources are fit-for-purpose, meet the needs of the community and align with better practice waste management
- 5.1.1.2 Community satisfaction levels in relation to waste are maintained or improved
- 5.1.1.3 Waste services are delivered in a financially sustainable way











**KEMPSEY**  
Shire Council

Civic Centre  
22 Tozer Street (PO Box 3078)  
West Kempsey NSW 2440

Customer Services  
P. 02 6566 3200 F. 02 6566 3205  
[ksc@kempsey.nsw.gov.au](mailto:ksc@kempsey.nsw.gov.au)