

# Resource & Waste Management Strategy 2023–2032



## Strategy and Action Plan



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# 1 Waste Management in Wingecarribee

**The Wingecarribee community generates over 30,000 tonnes of waste materials each year.**

The population of around 52,000 is spread across numerous population centres. The community has identified the importance of planning initiatives to support waste minimisation and resource management. All members of the community create waste materials and there is a broadly accepted responsibility to value sustainable waste management practices.



## 1.1 Wingecarribee Strategic Position

Wingecarribee Shire Council (Council) has developed a framework to implement waste management initiatives, guide operations and deliver waste management services to the community.

This *Resource and Waste Management Strategy (Strategy)* sets a pathway to support environmental and economic sustainability for the community. The management of resources from generated waste is central to the *Strategy*. The pursuit of improvements will require targeted efforts.

Strategic actions have been designed following a detailed review of the relevant waste management context, as well as Council's existing services and assets. Reasonable medium-to-long term resourcing of initiatives has informed the suitability of the work program.

A continual review of the proposed actions will be required throughout the life of this *Strategy* in order to ensure Council remains on-track to achieve the overall objectives.

## 1.2 Strategy Context

The Wingecarribee community expects Council to lead in its decision making and strategic development through providing services. This *Strategy* provides a roadmap for ensuring waste resources are optimally managed for recycling or re-use, programs are achieved, responsibilities are acted upon and suitable resourcing is planned.

Wingecarribee Shire Council's waste management responsibilities are undertaken within a broad and complex mix of policies, legislation and local characteristics. An overview of the relevant context explains the starting point for Council's consideration of future plans.





## Resource recovery services

Council provides a range of services to residents to collect or manage waste materials and resources. A number of these services are provided to the community via service contracts which are procured by Council on behalf of the community.

In addition to the collection and processing of residential waste, Council implements other opportunities for residents to sustainably manage their waste. Council also implements services to support businesses across the commercial districts.

The Resource Recovery Centre (RRC) which houses a community recycling facility is a key waste management asset operated and maintained by Council for the community's benefit. Council assumes responsibility for all compliance obligations associated with the delivery of waste management services. Also, in delivering waste management services, Council promotes, communicates and educates the community regarding the waste and resource recovery services.

Figure 1: Resource recovery services provided by Council



## Wingecarribee settings

Council's central planning strategy *Wingecarribee 2041 Community Strategic Plan*<sup>1</sup> includes ideas specific to resource recovery, including for the community to:

- work collaboratively to reduce pollution and its impact in the environment
- develop partnerships and implement education programs that enable people to live sustainably
- minimise waste through education, promotion of alternatives and prosecute illegal dumpers
- maximise recovery of resources from the waste stream
- support circular economy initiatives
- collaborate ... to reduce carbon emissions.

Council's *Environment and Climate Change Policy*<sup>2</sup> identifies principals for the local community accompanied by actions to respond to priority areas, including to develop a waste strategy. This policy also seeks to encourage and support waste avoidance, recycling, recovery and diversion of waste from landfill through targeted education and demonstration of innovative solutions. The *Policy* also notes the importance of Council's Resource Recovery Centre in playing a role in managing resources.

Council has also adopted a *Council Emissions Reduction Plan*<sup>3</sup> which recognises that landfilling contributes to the production of greenhouse gases; and notes the opportunities to recycle and repurpose waste.

In addition, Council joins with neighbours through the Canberra Region Joint Organisation of Councils and recently, the development of the *Regional Waste and Sustainable Materials Strategy*<sup>4</sup> aligned the region with NSW and national strategic pathways.

## Other influences

In setting strategic plans, Council is influenced by the NSW and national strategies.

The *2018 National Waste Policy: Less Waste, More Resources*<sup>5</sup> provides a framework for collective action by businesses, governments, communities and individuals until 2030. The *2018 National Waste Policy* seeks to embody a shift in thinking towards a circular economy including the need for better resource-efficient systems, products and services to avoid waste, conserve resources and maximise the value of all materials.



The National Waste Policy recognises that:

Local governments play an important role in providing household waste collection and recycling services, managing and operating landfill sites, delivering education and awareness programs, and providing and maintaining litter infrastructure.

The Policy identifies five overarching principles underpinning waste management in a circular economy. These include:

- avoiding waste
- improving resource recovery
- increasing use of recycled material and build demand and markets for recycled products
- better managing material flows to benefit human health, the environment and the economy
- improving information to support innovation, guiding investment and enabling informed consumer decisions.

1 *Community Strategic Plan. Wingecarribee 2041*. WSC.

2 This policy was in draft at the time of issue.

3 This policy was in draft at the time of issue.

4 *Regional Waste and Sustainable Materials Strategy 2022 – 2027*. Canberra Region Joint Organisation. 2022.

5 *National Waste Policy Less Waste, More Resources 2018*. Copyright Commonwealth of Australia 2018.

The *National Action Plan*<sup>6</sup> creates targets and actions and include:

- banning the export of waste plastic, paper, glass and tyres<sup>7</sup>
- reducing total waste generated in Australia by 10% per person by 2030
- 80% average recovery rate from all waste streams by 2030
- significantly increasing the use of recycled content by governments and industry
- phasing out problematic and unnecessary plastics by 2025
- halving the amount of organic waste sent to landfill by 2030
- making comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decisions.

The *NSW Waste and Sustainable Materials Strategy 2041*<sup>8</sup> set broad directions for NSW waste management. Relevant strategic directions include:

- that households be provided with a food and garden organics diversion system by 2030
- that the operation of the waste levy<sup>9</sup> will be formally reviewed each 5 years
- that the NSW Government will strategically plan for critical waste infrastructure
- that the NSW Government will work to strengthen powers to combat illegal dumping
- support for regional organisations of Councils collaboration and a joint procurement service.



### National Waste Policy Action Plan 2030 targets



**80%**  
average  
**recovery rate**  
from all  
waste streams

**10%**  
per person  
**reduction in total  
waste** generated  
in Australia

Targets have been adopted in the *NSW Strategy*, as set out in the *National Waste Policy Action Plan*. The *NSW Strategy* relies on local councils contributing to meeting the targets. The key result areas and aims for the *NSW Strategy* remain:

- increase recycling rates<sup>10</sup> to
  - 70% for municipal solid waste
  - 70% for commercial and industrial waste
  - 80% for construction and demolition waste
- increase waste diverted from landfill to 75%.

### NSW Waste and Sustainable Materials Strategy 2030 targets



Increase recycling rates to:

**70%**  
for municipal  
solid waste

**70%**  
for commercial  
and industrial  
waste

**80%**  
for construction  
and demolition  
waste

Increase waste diverted  
from landfill to:

**75%**

<sup>6</sup> *National Waste Policy Action Plan 2019*. Prepared by the Australian Government, state and territory governments and the Australian Local Government Association.

<sup>7</sup> The ban on plastic, paper, glass and tyres was commenced in 2020.

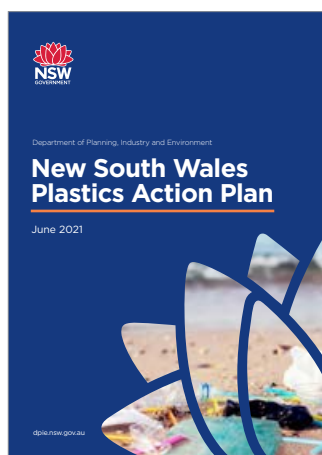
<sup>8</sup> *NSW Waste and Sustainable Materials Strategy 2041. Stage 1: 2021 – 2027*. NSW Dept of Planning, Industry and Environment. June 2021

<sup>9</sup> Pursuant to s.88 of the *Protection of the Environment Operations Act 1997*

<sup>10</sup> from a 2010–11 baseline (Municipal 52%, C&I 57% and C&D 75%)

Other relevant NSW policies and strategy positions include:

- the *NSW Circular Economy Policy Statement*<sup>11</sup>: which details how NSW will transition towards a circular economy
- the *NSW Plastics Action Plan*<sup>12</sup>: which sets out actions to reduce plastic generation and make the most of plastic resources; and
- the *NSW Net Zero Plan Stage 1: 2020 – 2030*<sup>13</sup>: which is the NSW Government’s response to the challenges posed by climate change.



### 1.3 What is important to Wingecarribee?

Council undertook significant community engagement in the development of this *Strategy*. The community provided invaluable feedback and aspirations through online surveys<sup>14</sup> and workshops<sup>15</sup>. Many aspects of Council’s waste management services and operations were identified for comments, suggestions and review. Engagement with the community is particularly important when local councils are tasked with implementing changes to current services.

The results of the various engagements undertaken were reported to Council. The key

strategic objectives nominated by residents through the consultation can be summarised as:

- divert more waste from landfill
- find solutions for managing waste plastics
- increase opportunities for a broader range of materials to be recycled
- actively work to reduce waste generation
- recover food waste for composting and re-use.

Table 1 summarises the formal community engagement key response areas.

11 *NSW Circular Economy Policy Statement: Too Good to Waste*. State of NSW and NSW EPA. February 2019

12 *NSW Plastics Action Plan*. NSW Dept of Planning, Industry and Environment. June 2021.

13 *Net Zero Plan Stage 1: 2020 – 2030*. NSW Dept of Planning, Industry and Environment. March 2020.

14 Bulky waste survey. Your say Wingecarribee June 2022 (1,204 engaged participants). Waste Management Strategy January 2023 (331 engaged participants). Resource Recovery Centre Your Say Wingecarribee June 2022 (139 participants).

15 Community workshops conducted in Renwick and Moss Vale February 2023.



Table 1: Community engagement – what our community said

RESPONSE AREA	MEASURE
1. Satisfaction with Council's services	The delivery of waste services are of high importance to residents, with the current collection services receiving high levels of satisfaction <sup>16</sup>
2. Awareness of scope of services offered	Residents believe they have adequate information
3. Measured knowledge	Most residents do not know what happens to collected waste
4. Environmental impacts of waste	Overwhelmingly, residents are concerned about the impacts
5. Resource Recovery Centre	Residents use the Community Recycling Centre and Reviva Shop
6. Other infrastructure	Other sites for recycling, waste management likely supported
7. Options for diverting waste from landfill	More opportunities for additional material recycling supported
8. Bulky clean up collection services	Scheduled are preferred, but the reduced cost of on-call services supported
9. Suite of bins services	Modernise to improve resource recovery
10. Bin collection frequencies	Mixed support for reducing mixed waste collections to fortnightly
11. Food waste management systems	Recovery of food waste is supported by most residents
12. Recycling bin options	Almost all residents utilise recycling bins – support the capture of more materials
13. Problem waste to target	Plastics, Ewaste and polystyrene recycling supported
14. Mixed waste management (unrecoverable)	Significant support for energy from waste solution
15. Cost control of waste services	Willingness to pay additional fees is mixed. Support for user-pays services
16. Council's engagement	Continual education supported – modernised

16 2022 Community Satisfaction Survey. WSC 2022.

## 1.4 What impacts resource recovery for Wingecarribee?

Strategic actions must be designed to suit the local settings. Communities are characterised<sup>17</sup> across a number of indicators which are considered in deciding best-fit waste management and resource recovery plans.

The population estimate for Wingecarribee Shire as of the 30th June 2022 is 52,779<sup>18</sup>. Since the previous year, the population has grown by 0.62% compared to the population growth in Regional NSW at 0.89%. Between 2021 and 2041, the population for Wingecarribee Shire is forecast to increase by 13,205 persons (25.17% growth), at an average annual change of 1.13%.

### Residents & services

Wingecarribee's community is profiled as being above the NSW average age with the largest age group being the 70 to 74 year olds. More than half of the population is employed. Key industries include health care, building, education and training as well as hospitality and tourism. Most residents are English speaking and education attainment is above the regional NSW average. Household incomes for the Wingecarribee community are higher on average than the regional NSW average.

Kerbside services provided by Council to the community impact waste management systems and outcomes. Council currently provides services to residential properties and participating commercial business premises. Table 2 below includes details of the current services provided by Council.

Table 2: Wingecarribee Shire Council current resource recovery services

Service	Details
Residential	Approximately 20,000 households
Single-unit dwellings	95%
Multi-unit dwellings	5%
<b>Collection services</b>	<b>Residential and Commercial</b>
Mixed Waste	80 L Weekly (approx. 19,500 services) (140 & 240 L options)
Recycling	240 L Fortnightly (approx. 19,500 services) (360 L option)
Organics	240 L Fortnightly (approx. 19,000 services)
Residential Bulky Clean Ups	Scheduled (1 per year) <sup>19</sup> Separate bulky garbage, organics, metal, mattress collections
<b>Other services</b>	<b>Public Place Litter, Special Event and Illegally Dumped Collection Services</b>

<sup>17</sup> Wingecarribee Community Profile. idprofile. 2021

<sup>18</sup> Wingecarribee Community Profile. idprofile. 2021

<sup>19</sup> Bulky waste collections currently provided

## Housing

The *Wingecarribee Local Housing Strategy*<sup>20</sup> notes that the local government area is rural, with most residents living in the main population centres of Bowral, Mittagong and Moss Vale, with other dispersed semi-rural areas. Population forecasts are modest, but new land release areas will need to be provided with suitable services. Most of the population growth is expected to occur in the main towns. Small household numbers are a feature of household types with expected couple only and lone person households typical. By 2036, Council expects an additional 2,800 households to be accommodated. Detached houses on large lot sizes remain the dominant housing stock across the community. Medium density housing is expected to increase in the coming decade.

**Population forecasts are modest, but new land release areas will need to be provided with suitable services.**

## Waste management infrastructure

In addition to providing households with waste collection services, access to other waste management infrastructure for the community is considered by Council in planning waste management services. The Moss Vale Resource Recovery Centre services broad waste management needs and supports community opportunities for circular waste management practices. Access to the RRC is provided to residents with access to transportation. Suitable travel distances to facilities are determined by a number of factors noting that rural residents generally have a higher tolerance<sup>21</sup> for distances.

The Wingecarribee community utilises the RRC for a range of purposes. Ensuring access equity for recycling and re-use opportunities across the local government area is managed by Council in overall service delivery. Given the relatively smaller volumes of waste materials to be managed, Council will balance the justification for new infrastructure with the expected outcomes and likely costs. Council will focus on innovative and entrepreneurial activities and encourage commercial opportunities to offset/fund the costs of infrastructure.

Additional services for residents in areas other than Moss Vale may include establishing public drop-offs, recycling stations or the provision of mobile collection units for special or problem wastes. Council has identified the aim of equitable access to residents by ensuring that residents in villages and semi-rural areas have suitable access to services.



<sup>20</sup> *Housing Our Community. Wingecarribee Local Housing Strategy*. July 2021. WSC

<sup>21</sup> *Waste Transfer Stations: A Manual for Decision-making*. June 2002. EPA USA.

## 1.5 How is Wingecarribee tracking?

Council manages the waste generated by residents and businesses across a variety of waste streams. Municipal (household) waste is the key waste stream for Council's efforts. Commercial and industrial waste, together with construction and demolition waste streams also contribute to the waste that is generated and must be managed. Waste management strategies can be designed to minimise waste generation, to target the recovery and re-use of resources from the waste streams or influence the generation and management of waste streams beyond Council's control.

Waste management strategies are designed to set out the expected journey for the community towards the desired directions or goals. The first steps in designing appropriate strategies is to assess the baseline for key waste factors or indicators, including:

- how much waste is generated?
- what type of waste materials need to be managed?

- what resources can be recovered from the waste?
- how does the community's waste management compare?

### Household waste management

Households across the Wingecarribee area are responsible for a significant proportion of Council's waste to be managed. Council provides kerbside collection services for garbage, recycling and garden organics. Material managed by Council at the Moss Vale Resource Recovery Centre also needs to be considered in overall waste generation totals. Table 3 below provides a snapshot of the materials being generated by the community, together with overall resource recovery performance for the community.

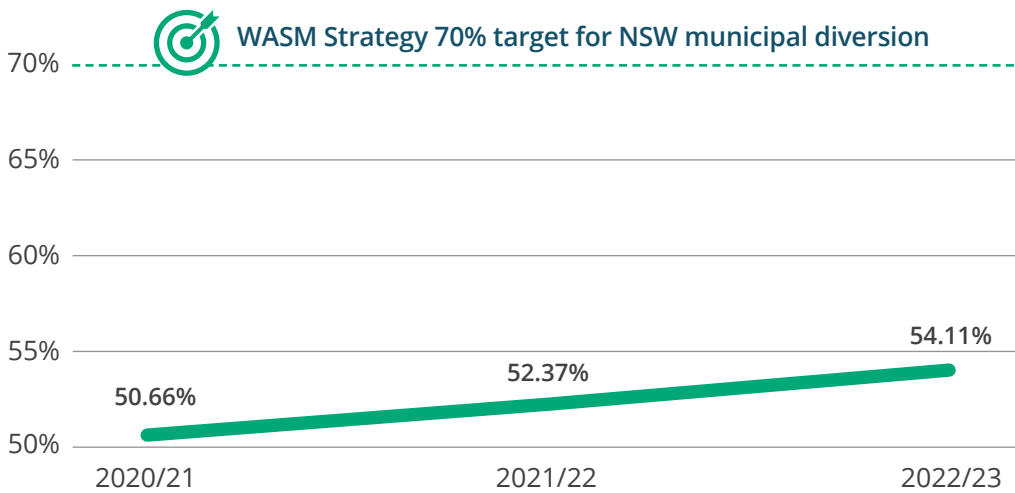
Table 3: Wingecarribee – waste generation & resource recovery performance<sup>22</sup> and comparison

Households – Kerbside	Wingecarribee households	NSW comparison
Mixed Waste	8,344 tonnes p.a. or 8.2 kg/HH/week	11.63 kg/HH/week
Recyclables	4,544 tonnes p.a. or 4.5 kg/HH/week	3.82 kg/HH/week
Organics	6,840 tonnes p.a. or 7.1 kg/HH/week	5.65 kg/HH/week
<b>Households generation</b>	<b>19,728 tonnes</b>	–
<b>Community totals</b>	<b>Wingecarribee totals</b>	–
Mixed Waste <sup>23</sup>	14,405 tonnes p.a.	–
Recyclables	5,441 tonnes p.a.	–
Organics	11,061 tonnes p.a.	–
<b>Community generation</b>	<b>30,907 tonnes p.a.</b>	–
Overall per household generation	28.59kg/HH/week	23.10 kg/HH/week
<b>Total recycled</b>	<b>19,497 tonnes p.a. or 63.1%</b>	<b>46.1%</b>

<sup>22</sup> NSW Local Government Waste and Resource Recovery Data Report 2020-21. June 2022

<sup>23</sup> Includes bulky clean up waste but excludes waste materials recycled through the community recycling centre





**Figure 2: Wingecarribee recent landfill diversion performance – municipal solid waste diverted from landfill**

The Wingecarribee community is tracking comparatively well, however, focused efforts will be needed to ensure waste is minimised and resources are captured through the waste management systems. Household waste generation compares favourably across each stream of mixed waste, recycling and organics collected. The additional waste materials delivered to the RRC to be managed increase the overall generation rates. Efforts will be required to address overall generation rates.



**Figure 3: Waste streams to be managed<sup>24</sup>**

Figure 3 illustrates the proportion of waste streams in the overall total of materials to be managed.

Other useful information that provides additional context for Council is to review the composition of the waste generated and particularly, how households present their waste. This allows for an understanding of where improvements may be made.

<sup>24</sup> NSW Local Government Waste and Resource Recovery Data Report 2020-21. July 2021

## Household waste composition

Council undertook an audit of domestic kerbside waste materials during 2021. From this waste audit, the residual waste bin (red lid bin) identified the following most predominant materials:

1. food/kitchen (recoverable)	<b>23%</b>
2. food/kitchen (other)	<b>16%</b>
3. other putrescible	<b>8%</b>
4. ceramics, dust, dirt, rock, inert, ash	<b>8%</b>
5. nappies	<b>8%</b>
6. textiles/rags	<b>4%</b>
7. contaminated soiled paper	<b>4%</b>
8. other paper and packaging	<b>4%</b>
9. LDPE non-packaging	<b>3%</b>
10. garden vegetation	<b>2%</b>

The audit showed that over 50% of the residual waste bins collected from households are comprised of recoverable resources that could be captured for recycling and re-use. This provides significant opportunity for the community to better utilise the services provided by Council, to improve overall performance.

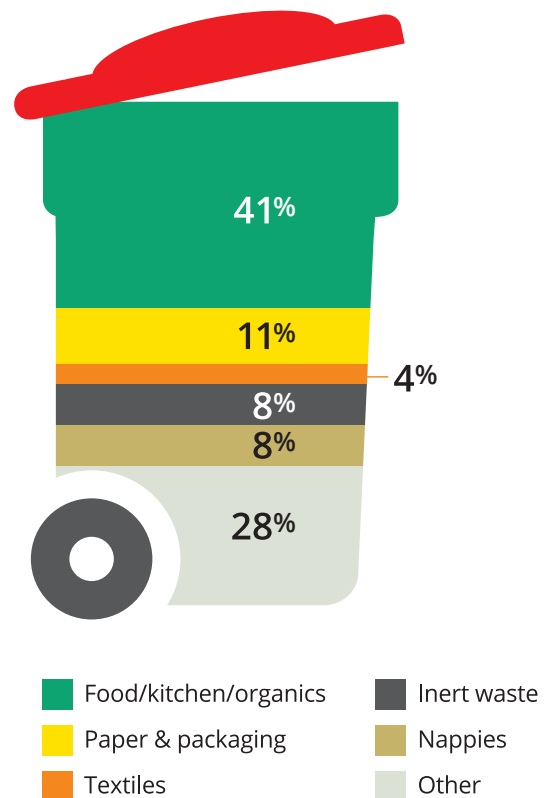


Figure 4: Residual bin composition – major waste materials



## Waste expectations

Resource management and recovery strategies can be adopted to influence all sectors and notably in Wingecarribee, household waste is around half of the waste managed by Council. The management of commercial as well as building waste can also be influenced to improve resource recovery. Commercial and industrial (C&I) waste, together with construction and demolition (C&D) waste, is delivered to ultimate destinations through Council's Resource Recovery Centre.

Waste from sources other than households is totalled, but the origin or character of those materials are not well understood. Building is a key industry for the area and so it is expected that construction and demolition waste contributes significantly to per capita waste generation.

Nationally, waste generation rates have been collated over a 15-year period and reported through the National Waste Report. In 2022, the Report<sup>25</sup> noted that over the 15-year period overall waste generation increased by 31%<sup>26</sup> or 5.4% per capita. On a per capita basis, the following waste generation was recorded:

residential waste <sup>27</sup>	↓	13% per capita
C&I	↓	decreased 12% <sup>28</sup> per capita
C&D	↑	increased by 39% per capita

**Building is a key industry for the area and so it is expected that construction and demolition waste contributes significantly to per capita waste generation.**

Over the same period, the re-use and recycling rates were measured to show that totals recovered increased, with the municipal recovered total increasing by 22%, C&I increased by 10% and C&D increased by 121%. However, on a per capita basis, the recovery outlook was mixed, reported as follows:

C&D	↑	increased by 77% per capita
C&I	↓	decreased 4% per capita
residential waste	↓	decreased 2.2% per capita

Wingecarribee expects 1.13% population growth through the next 20 years. Given per capita waste generation continues to grow, targeted efforts will be needed to improve recovery rates. Particular note is made of the C&D sector and the likelihood of increased C&D materials to be managed in Wingecarribee.

<sup>25</sup> *National Waste Report 2022*, prepared for The Department of Climate Change, Energy, the Environment and Water. Blue Environment et. al. December 2022

<sup>26</sup> This total excludes ash – if included, the total would be 20%.

<sup>27</sup> In Wingecarribee, this is predominately household waste but includes some commercial waste.

<sup>28</sup> including ash, this total would be a 21% increase.



## 1.6 Development of this Resource and Waste Management Strategy

In developing this *Resource and Waste Management Strategy*, Council has considered the existing settings governing resource management and reviewed how the community has performed. Extensive background information has been reviewed, together with consultation and planning to identify and concentrate the importance of key areas to be addressed. This *Resource and Waste Management Strategy* has been developed in response to:

- the policy, legislative and regulatory context
- Council's existing relevant plans
- the results of community consultation to guide the *Strategy* drafting
- Council's existing waste management data and a review of waste material composition
- relevant research and analysis.

### Outline of strategy – directions + actions

Within the context of existing services and resource recovery performance is the backdrop for Council's new strategic outlook. The new direction for Wingecarribee is answered through the identification of how the community will decide to act next. Directions for Wingecarribee's resource and waste management have been garnered from considering obligations, opportunities and needs. Key *Strategy* directions have been developed to ensure the community's views can be addressed, within existing or reasonable resources. The broad directions are explained further in [Section 2](#) of this *Strategy*.

The relevant key objectives that emerge from these *Strategy* directions are then explained in [Sections 3, 4](#) and [5](#) in this *Strategy*. Council will work to achieve the objectives through a set of targeted actions identified and designed to respond to the direction objectives which are discussed throughout and finally tabled in a work program for Council to implement, in [Section 6](#) below. Intended actions are considered suitable for Wingecarribee.





# 2 Strategy Development and Directions

## Wingecarribee will build on well-established waste management foundations.

The community's priorities are acknowledged and future plans will answer to identified ambitions. Strategy directions will seek resource recovery improvements, minimise waste to landfill and maintain high service standards. Broad directions for the community will inform waste management initiatives that respond to the local conditions. Setting the pathway will allow for actions to achieve community expectations.



## 2.1 Our future direction

Council's resource management and recovery operations and resource recovery performance reflects the importance to the community of responsible and sustainable management.

Waste management plans are guided by both the starting point, as well as emerging policies, solutions, innovations and timelines. Strategic directions will underpin Council's objectives and influence what Council and the community does to continue to improve.

Council's decision-making relies on a broad range of considerations. The various responsibilities of Council can be identified, with strategic responses designed. The goal of managing waste materials to support a sustainable future will be realised through well directed strategic endeavours.

Importantly, the resourcing of Council's resource management responsibilities, strategies and actions will not be isolated from the directions of the Community Strategic Plan.

## 2.2 What will Wingecarribee do next?

In determining the next steps for Wingecarribee waste management and resource recovery, the scope of responsibilities are identified.

Council's strategic direction is designed to create opportunities within the constraints of a broad range of obligations. These obligations include:

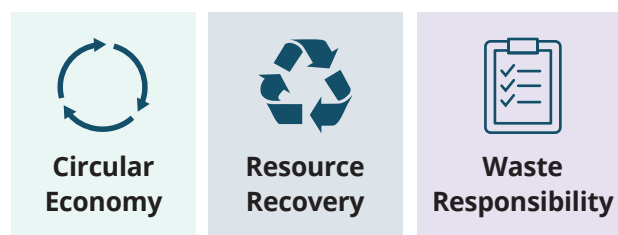
1. management of residential waste, including the kerbside collections; and the processing/ disposal of the collected waste (for garbage, recycling, organics and bulky clean-up waste)
2. influencing commercial waste generators to improve resource recovery
3. ensuring Council's own generated waste is suitably managed
4. management of Council's waste management assets
5. targeting building and construction waste generators and providing improved opportunities to recovery resources
6. understanding regulatory obligations and ensuring compliance responsibilities are addressed in accordance with timing requirements
7. providing suitable community communications and education
8. participating in, and responding to, adopted regional strategies
9. planning and resourcing the agreed programs and waste management actions.



## 2.3 Resource and Waste Management Strategy Directions

Upon acknowledging the broad categories of Council’s waste management obligations, together with the settings and drivers for improvements, the strategy directions are identified. Council has determined strategic directions. Specific actions can be developed for each. The strategic directions provide opportunities for improved management, such as targeting waste materials for recovery. Each *Strategy* direction then allows for management objectives.

The following *Resource and Waste Management Strategy* directions are established:



The Strategy directions, together with their related objectives are noted below in Table 4.

Table 4: Wingecarribee Shire Council – strategy directions and objectives

Direction: <b>Circular Economy</b>	Direction: <b>Resource Recovery</b>	Direction: <b>Waste Responsibility</b>
<b>Align</b> with regional, NSW and national strategies including strategies to target waste streams not yet recovered e.g. FOGO, plastics etc	<b>Pursue</b> a staged resource recovery rate/target through adopting the NSW targets – to minimise waste, divert more waste from landfill and improve resource recovery	<b>Address</b> Council’s infrastructure and assets requirements, including understanding and managing all compliance responsibilities, for the medium to long term
<b>Promote and reinforce</b> circular strategies, language and change approaches as relevant to Council’s waste materials	<b>Implement</b> systems to capture the widest possible range of materials for recovery	<b>Resource and control</b> costs for value for money outcomes – implement services efficiencies to address other directions
<b>Identify and participate</b> in viable circular economy, avoidance and re-use project initiatives, including utilising the RRC and Southern Highlands Innovation Park (SHIP) to embrace resource recovery and the circular economy	<b>Progress</b> strategies within well-developed communications and education activities that raise awareness and drive behavioural change (including contamination management)	<b>Identify and implement</b> opportunities to manage problem waste management
<b>Implement</b> waste management collection and processing services suitable – through the most appropriate suite of services – to achieve circular outcomes	<b>Seek</b> operational efficiencies and maintain quality controls, to ensure the highest order re-use of materials	<b>Seek</b> opportunities for innovation in the recovery of residual waste as an alternative to landfilling, that are cost effective and environmentally responsible
<b>Support</b> long term investment in circular responses and regional solutions – allowing flexibility to capture new waste materials where a recycling solution can be provided	<b>Develop</b> strategies and work with all stakeholders to influence and support improvements in recovering a broad range of waste materials e.g. construction and demolition waste	<b>Assess and develop</b> new strategic partnerships where opportunities will support Council’s other strategic directions
<b>Review and update</b> relevant Council policies to align waste services with circular pursuits	<b>Broaden</b> services to provide opportunities for additional waste materials to be recycled	<b>Participate and contribute</b> to regional strategies – such as, litter reduction efforts and respond to illegally dumped waste challenges



## 2.4 Wingecarribee’s targets

Wingecarribee adopts the targets set in the National Waste Policy and the NSW Waste and Sustainable Materials Strategy, as applicable. Within the Wingecarribee community, these translate to local targets through local objectives and can be summarised as:

- reducing total waste generated on a per capita basis by 10% during the life of this *Strategy*
- implementing programs to aim for 80% resource recovery overall by 2030
- providing organics waste recovery systems, once services are available, to halve organics landfilled

- identifying how to phase out problematic and unnecessary plastics as soon as possible
- promoting the use of recycled content to increase local re-use of resources.

Targets will be pursued through local and regional programs. Additional pursuits will also be aligned with broader strategy endeavours such as advocating for suitable waste management infrastructure and joining in regional efforts to combat illegal dumping. This *Resource & Waste Management Strategy* will be implemented by Council across the identified directions through staged timelines and action plans.

## 2.5 Strategy drivers and directions

The delivery of this *Strategy* is planned to respond to identified drivers through objectives that comprehensively set clear directions. Dynamic actions will be the method by which Council and

the community join to reach the local targets. Figure 4 below illustrates the strategy development and directions:

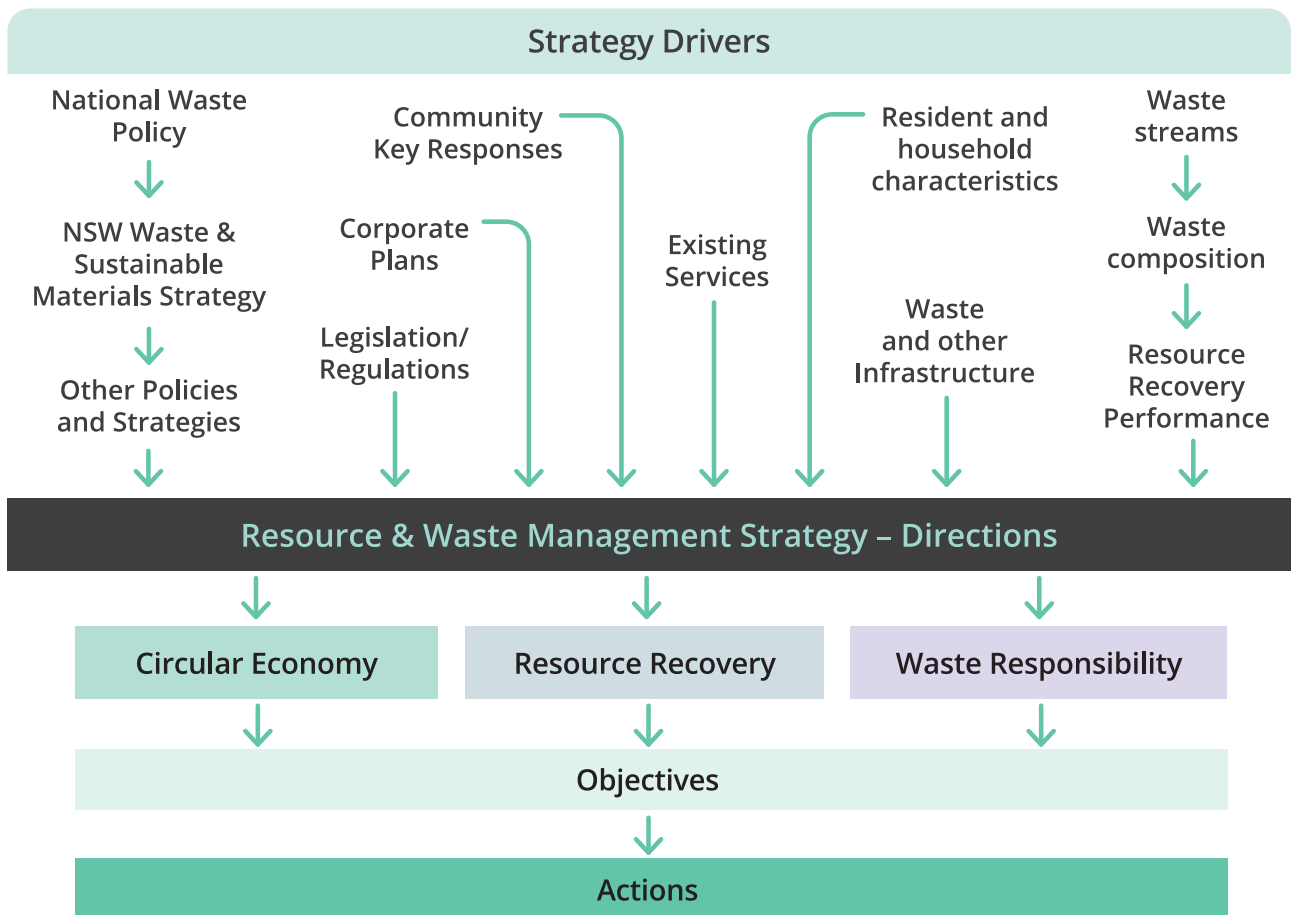


Figure 5: Council strategy drivers and directions



## 2.6 Strategy development

The actions to be undertaken in order to deliver this *Resource and Waste Management Strategy* are medium to long term actions, designed for each identified direction, being mindful of the community's resources.

Each strategic action will guide Council to implement and achieve the various steps required to improve resource recovery, waste management and services to the community. Details of each strategy direction and the related local characteristics for adopting each are explore further. Finally, the directions of the *Strategy* are sub-categorised in order to arrange actions and timelines for implementation. Table 5 below summarises the sub-categories from which local actions are developed:


 Each strategic action will guide Council to implement and achieve the various steps required to improve resource recovery, waste management and services to the community.

Table 5: Resource and waste management strategy development

Strategic direction subcategories	
<b>A</b>	<b>Circular Economy direction</b>
A.1	Waste and circular economy
A.2	Circular materials
A.3	Manage new or problem waste
<b>B</b>	<b>Resource Recovery direction</b>
B.1	Capturing resources
B.2	Contamination management
B.3	Influence all waste generators
<b>C</b>	<b>Waste Responsibility direction</b>
C.1	Services
C.2	Facilities
C.3	Continue education and communications
C.4	General compliance and waste management data

# 3 Wingecarribee Circular Economy Direction

**Waste management circular economy principles guide communities to become active in pursuing solutions for improved resource management.**

Keeping materials in circulation rather than creating waste will require a shift in mindset and transitional steps. Once there is a clear understanding of the materials to be managed, the actions for transforming the community to be circular can be designed and followed.



## 3.1 Waste and the circular economy

Wingecarribee Shire Council has responded to the community's wishes to consider such directions as '*environment and climate change*' and '*emissions reduction*' through the development of Council-specific policies – such as eliminating single use plastic bags. Circular economy actions can also be captured in this *Resource and Waste Management Strategy* as it relates to the management of materials captured through Council's waste systems.

Council will endeavour to attach circular value to materials when implementing waste management practices, programs and activities. Adopting this new circular paradigm will ensure decision

making is founded in community accepted values which will result in reduced wasted materials and increased sustainability.

Long term waste management will focus on recognising the resources to be managed and the opportunities for maintaining the circularity of materials over the long term.

The Circular Economy differs from recycling in that from the very beginning products are made to last several lifecycles. In an ideally designed Circular Economy, products would be designed from the start to be reused, repaired, and re-manufactured.

## 3.2 Waste hierarchy and circular economy

The waste hierarchy is a well-established framework prioritising waste minimisation and resource recovery that underpins waste management strategies. Council's approach will advance this philosophy towards a circular view in designing all aspects of the management of resources through priorities that follow from the hierarchy, being:

1. the highest priority of *avoiding and reducing the generation* of waste materials
2. the next priorities encompass resource recovery actions through re-use, recycling, reprocessing and energy recovery
3. finally, where waste materials cannot be recovered, *treatment options and disposal* as a last resort.

The waste hierarchy is typically illustrated below in Figure 6.

The waste hierarchy is a well-established framework prioritising waste minimisation and resource recovery that underpins waste management strategies.

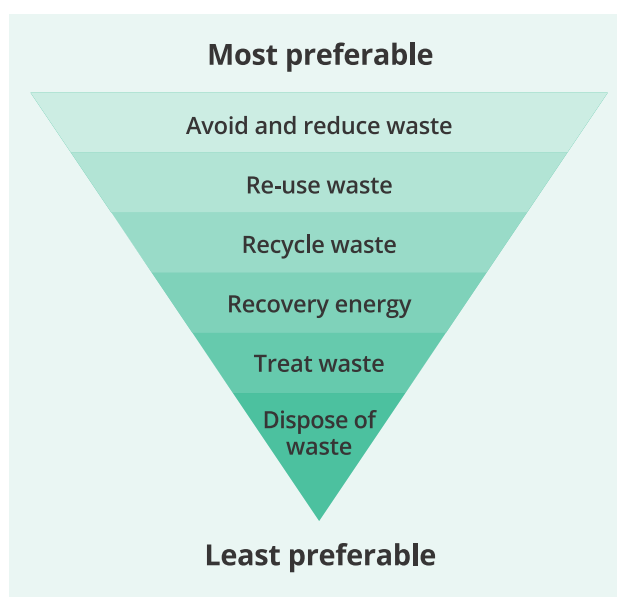


Figure 6: Waste hierarchy

Council's strategy endeavours promote the avoidance and minimisation of waste. The next step is the management of materials once they are to be managed by Council. A 'circular economy' approach to waste management aims to value resources by keeping products and materials in use for as long as possible, thereby maximising the use and value of resources. Such an approach reduces environmental impacts as well as contributing to increased economic activity and community social benefits, such as employment opportunities.

At its centre, circular economy includes the recognition that deliberate activities are to be implemented, or steps taken to embed circular principles into strategies and operations to encourage sustainable business performance. Council will take the same approach to the delivery of waste management services.

The circular economy in the resource management context, can be illustrated as follows in Figure 7.

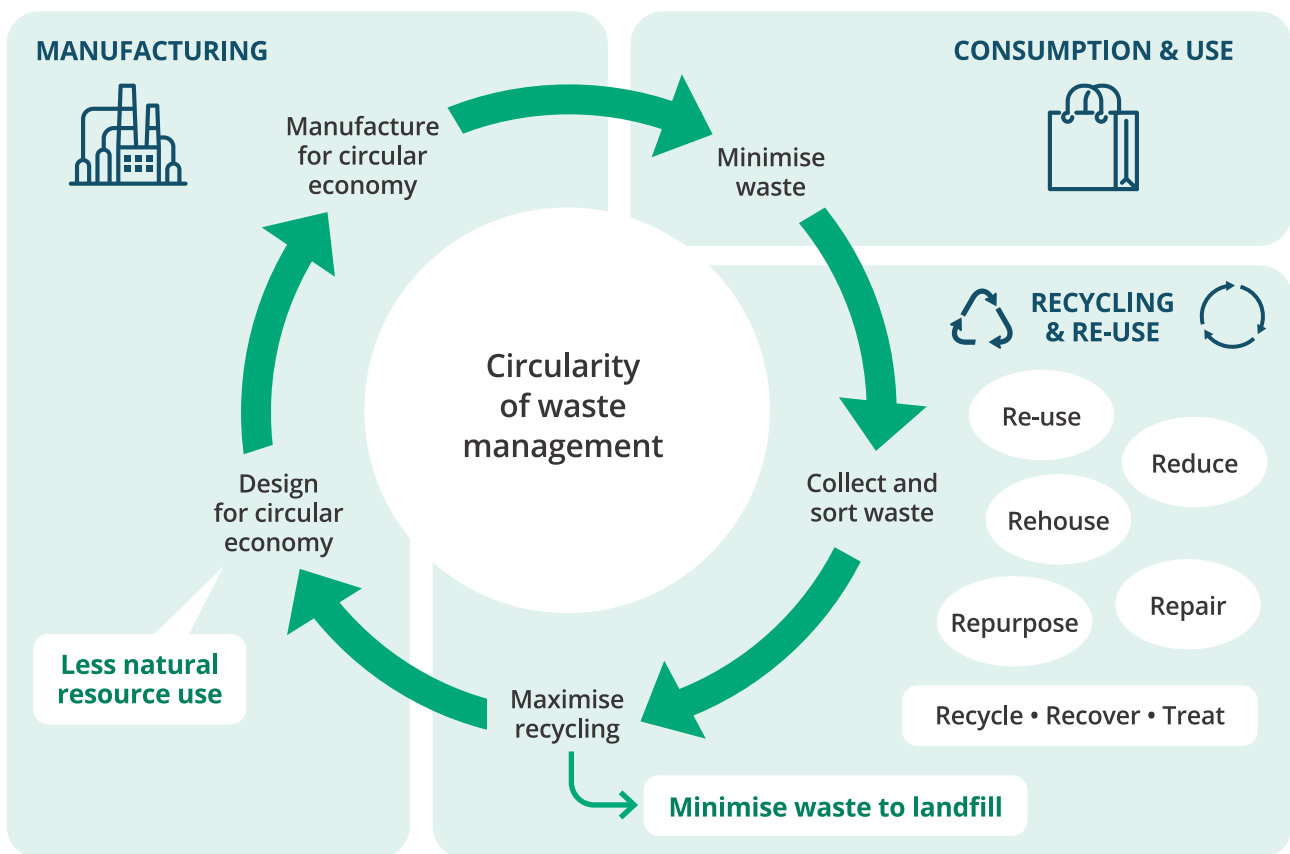


Figure 7: Circular economy



### 3.3 Circular materials

The management of materials through Council's waste management systems must be planned to capture resources and ensure recycling, re-use or reprocessing. The approach is designed to keep the resources in circulation to minimise natural resources being used as well as avoiding the limitation of resource use by landfilling. Communities are well-tuned to the aims of circularity and desire schemes to be implemented for the highest order outcomes, through waste management systems focused on resource management.

Community consultation undertaken in developing this *Resource and Waste Management Strategy* identified the need to capture a broader range of materials, such as soft plastics and textiles. Council is tasked with installing services and structures to target these materials and to seek a solution for perpetuating their circularity.

It is likely that local solutions for promoting the circularity of materials will be characterised by creating links and access to regional or national solutions. For waste materials, circular economies are grounded in competitive efficiencies such as scale, predictable material qualities and the costs of production or processing. The relatively small volumes of materials from Wingecarribee will be consolidated with other communities seeking circular outcomes.

A range of waste management actions have been designed to promote a circular economy for Wingecarribee, through the optimisation of materials. Council will be required to take a leadership role in aligning circular resource management practices with broader policy positions.

#### Sustainable procurement

Sustainable procurement ensures that Council considers economic, environmental and social impacts of purchasing goods to emphasise the entire life cycle of the product. Council's sustainable procurement processes can take into account:

- strategies to extend the life of the product
- planning what happens with a product at the end of its life – i.e. how will it be reused, recycled, treated or disposed
- sustainable solutions and innovation in tenders
- improving sustainability throughout the life of the good's life while improving opportunities for a more circular approach to Council's business.



## 3.4 Wingecarribee circular economy solutions

Key circular actions will be directed towards providing the community with increased opportunities to support circular solutions and access services that will increase circularity. The following will be implemented by Council in order to set Wingecarribee on a suitable circular economy direction:

### A.1 Waste and the circular economy

#### ACTIONS

- 1.1 Continue to engage in regional waste strategies
- 1.2 Develop waste reduction strategies
- 1.3 Support local circular solutions
- 1.4 Develop a sustainable procurement strategy
- 1.5 Design resource recovery measurement methods
- 1.6 Advocate for circular solutions
- 1.7 Influence Council's partnerships
- 1.8 Establish social enterprise connections

### A.2 Circular materials

#### ACTIONS

- 2.1 Continue regional collaboration
- 2.2 Plan procurement to address circularity of materials
- 2.3 Promote buy-back opportunities
- 2.4 Examine Council's own waste
- 2.5 Community bans for single use items
- 2.6 Continually review strategic actions

### A.3 Manage new or problem wastes

#### ACTIONS

- 3.1 Consider pathway for unrecoverable materials
- 3.2 Participate in regional illegal dumping activities
- 3.3 Assess C&D waste generation
- 3.4 Consider new methods or events to capture more materials
- 3.5 Develop a sustainable events policy
- 3.6 Support community events such as Clean Up Australia
- 3.7 Ewaste management plan developed

# 4 Wingecarribee Resource Recovery Direction

**Resource recovery success depends not only on the collection systems for recycling and recovery of waste materials, but also on the proper use of the systems to minimise levels of contamination.**

Wingecarribee can improve resource recovery outcomes by capturing all materials where solutions for their reprocessing is available. Optimising the collected materials will improve recovery outcomes.



## 4.1 Resource recovery

The Wingecarribee community recycles well, although appears to have stalled in improving resource recovery outcomes. Recycling volumes have reduced 5% annually over the last 5 years. Existing systems are utilised and where possible, residents seek alternatives to disposing of recoverable materials to landfill. Resource recovery occurs by residents and businesses utilising the existing kerbside collection services as well as separating waste items for recycling at the Moss Vale Resource Recovery Facility.

Resource recovery can be increased by capturing all materials where solutions for their reprocessing is available. Resource volumes captured, together with the minimisation of contamination, allows for re-use or re-processing of the collected materials.

The increasing cost of not recovering resources from the waste streams continues to support the need for efficient recycling systems. Council seeks expanded opportunities for recycling and endeavours to match sustainable materials management practices with services designed to improve resource recovery.

## 4.2 Systems and services for capturing resources

Council currently provides a range of kerbside collection systems for residents for the collection of mixed waste, recycling and garden organics. Options for bin sizes and collection frequencies across the waste streams are designed to cater to varying household needs. Best practice guides<sup>29</sup> for bin systems, to drive resource recovery also seek to harmonise systems across regions in order to strengthen the correct use of collection systems. Residents need to recognise and understand the collection systems in order to optimise resource recovery.

<sup>29</sup> *Preferred resource recovery practices by local Councils*. Best Bin Systems. NSW EPA. 2012. *Better practice guide for resource recovery in residential developments*. NSW EPA. 2019



Council can consolidate the options available to residents in order to promote resource recovery, simplify the bin systems to be serviced and to compliment the processing services provided. Community education is then designed to support residents to capture recoverable resources and minimise contamination. The particular bin systems adopted will result in performance outcomes where the bin size, collection frequency and household education are optimised to match community needs. In addition, straightforward and clear fees and charges will then flow from a consolidation of the available services.

Noting the information from Council's waste materials composition audits and the community's feedback, certain resources can be targeted through the systems implemented by Council. Food waste recovery is identified as a key target area. Soft plastics recovery is also a high priority area to target. Textiles is another area for improved capture, where suitable solutions can be implemented.

### What kerbside collection systems are most suitable for Wingecarribee?

Council will continue the best practice three bin system for garbage, recycling and organics. Importantly, Council is actively pursuing a processing solution for the capture of food waste with garden organics (FOGO). Such a system can be planned for and introduced prior to the NSW mandated FOGO date. From 2026 a new collection services agreement will need to be implemented that can be designed to transition the community to a food recovery service, once a suitable processing solution is available. Kerbside collection services are designed to provide a 'default' system for the community. Alternatives to say, collection frequencies or bin sizes, can be added by Council where there is sufficient need.

Supplying new bins to the community is a significant undertaking. Weighing up the need and the timing for new bins is usually considered when new collection services are being procured. Upon the introduction of FOGO collections, Council will also need to determine the most appropriate system for the community. This may include the supply to households of kitchen caddies with liners to encourage the capture of food waste. A comprehensive FOGO implementation plan can be developed by Council to support the new service.

For Wingecarribee, the most suitable kerbside services for the medium term will be as illustrated below in Figure 8.



Figure 8: Collection services – default services

Bulky clean up services from households have also been identified by residents as a desired service. The resource value of this waste stream is usually high and, for the medium term, Council will deliver this material to a facility tasked with recovering materials for recycling and re-use. Over the long term, the management of this waste material can be reviewed for any possible higher order outcomes. Currently Council provides households with one scheduled bulky waste collection services. The service level for bulky clean up collections can be reviewed and options examined for the most suitable approach. In the medium term, the community seeks a suitable approach which is likely to be one service per annum. However, to improve efficiencies Council can consider whether these need to be booked collections and/or user-pays services. Other alternatives can include providing residents with vouchers for disposal to the RRC.

Council will also continue to provide resource recovery options through the Moss Vale Resource Recovery Centre.

Pursuing solutions such as soft plastics recovery will depend on systems development and infrastructure access that will depend on parties other than Council. Council will play a role in providing support to emerging schemes as well as advocate for government support to the creation of circular solutions.

All collected waste streams are delivered to available facilities subject to service contracts for suitable management services, including resource recovery for recycling, organics and bulky clean up waste. Wingecarribee has been a member of a regional collective of local councils that have twice sought resource recovery solutions jointly. This allows for Wingecarribee to join the relatively small volumes of materials with neighbouring Councils to access resource recovery solutions that may not otherwise be available. This approach is a long term commitment for Council.

## 4.3 Managing contamination

Once the resource recovery systems have been adopted, the capture of resources for re-use depends on the management of contamination in each stream. Contamination refers to the presence of non-recyclable or non-compliant materials mixed into the resource stream, undermining the quality or efficiency of materials recovery. Where contamination impacts the material stream, there is a lost opportunity to recover the separated materials and additional costs to manage, or the contamination compromises the quality of re-processed resources.

Waste items placed into the wrong bin undermines community efforts. Understanding bin systems is the first step for residents. Establishing household habits needs to be supported by clear guidelines for 'what goes in what bin'. The collection system outlined for Council supports ease of access which is the first step towards the most appropriate contamination management system. Community education will be essential, particularly for the adoption of FOGO services. Where residents don't utilise the bin systems through household separation, or continually contaminate resource streams, Council can consider methods for identifying the households and appropriate contamination sanctions which can become a condition of service provision.

Auditing waste is an essential step for understanding the composition of waste streams, the recoverable materials to be targeted and the need for customised services. Kerbside waste material audits are a standard method for assessment of household waste which also identifies contamination characteristics. Council might consider additional audits for other waste streams, as appropriate.



## 4.4 Resource recovery for all waste generators

Resource recovery is not limited to households. All waste generators can be targeted for the recovery of resources for re-use or reprocessing. Stakeholders are usually willing to observe circular economy practices and to optimise resource recovery where systems or services are available.

Council can influence other waste generators, noting that the NSW EPA reports<sup>30</sup> that municipal waste accounts for 20% of waste generated in NSW, with commercial and industrial waste being 21%; and construction and demolition waste making up 59% of waste generation.

### Business waste

In order to improve overall resource recovery, generators of large waste volumes can be supported to implement resource recovery practices. Such an approach is likely to yield improved outcomes for the community. Targeting large waste generators will require assessing the material delivered to the RRC as well as the generators. Understanding the waste types and the potential for resource recovery can allow for the most effective recovery approach.

Commercial, industrial, building and demolition waste contributes to the community's overall performance and focusing efforts to better understand and incentivise these waste generators



will be beneficial. Where necessary, new services may need to be designed to provide solutions. Upon closer assessment of these waste streams, alternatives for resource recovery can be developed. These waste streams can be different to household waste in characteristics, delivery frequency and volume. New ways of improving resource recovery from this waste will be necessary.

Other approaches and incentives for commercial waste generators can improve overall community efforts. Customised communications for business waste generators and heightened engagement with businesses will also create linkages to resource recovery improvements. Further stakeholder consultation and development of recognition of resource recovery achievement in the commercial sector can be pursued.

Focused education for businesses, particularly in the building and construction sector can help resource recovery efforts.

### Development control considerations

Development control plans are another avenue for Council to influence waste generators. Ensuring proper management of demolition and construction waste, together with ensuring new buildings are adequately planned for long term resource recovery systems, such as having adequate space for multiple bins, is an essential approach for Council.

Guidelines can be developed for inclusion with DCPs. Guidelines can provide current information about local resource recovery solutions. Compliance with DCPs will improve outcomes. Council can also introduce on-site checks to ensure compliance where developments need to adopt resource recovery practices.

### Resource recovery at the RRC

A masterplan for the RRC will direct Council on the efficient utilisation of this key waste management facility. Council will implement the planned approach and ensure that the facility continues to facilitate waste management needs for the community. Importantly, the masterplan provides for resource recovery management and the continuation of significant operations at the site.

<sup>30</sup> Waste Avoidance and Resource Recovery Strategy Progress Report 2017-18. NSW EPA. 2019



*The Reviva shop at the Resource Recovery Centre*

Utilising the RRC to further expand resource recovery opportunities and services will be important. Community feedback encourages Council to broaden the materials to be recovered and Council will explore all possibilities for accommodating additional materials, such as soft plastics, polystyrene and fabrics.

The Reviva Shop at the RRC is operated to capture household items for repair and re-use. This organisation is at the forefront of re-use activities for the community. Further Council support for this enterprise can be examined for increased resource recovery and re-use opportunities.

Problem waste items are also recovered at the RRC community recycling centre for recycling or safe disposal. A range of other inert waste items are managed by Council for resource recovery where solutions are available.

Whether the RRC or alternative additional facilities need to accommodate challenging waste and resource recovery operations, such as construction and demolition waste, can be assessed as part of the RRC masterplan implementation.

Council has identified an aspiration to provide a waste and resource recovery facility for each 10,000 residents. This approach can be delivered through solutions such as recycling stations, transfer facilities, special collections, drop-off event or additional waste event opportunities. All such solutions will remain reliant on the RRC as the central consolidation facility. Other satellite

facilities or special services will have linkages to the RRC which will remain Council's key waste management asset and will centralise the management of waste collected across the local government area. Council will examine opportunities to provide all residents with access to waste and resource recovery services, regardless of where they live.

## Community events

Typically, local councils require special or community events to comply with resource recovery practices. A special event management plan can include information and proposed services to ensure that recycling services are provided at each event. Council supplied services can support the event resource recovery and waste management.

To advance this approach, Council can further promote waste minimisation by suggesting that event organisers encourage event participants to bring their own plates, cups and utensils. Information can also be provided for event organisers to request that food vendors permit food and drink service in 'keep-cups' and other BYO food servers.

In addition to special events, expanding public place recycling opportunities will further support resource recovery. Local residents actively seek recycling services when they are away from home. For all public place bins, Council can identify suitable locations, bin types and other service requirements.

Further advances in managing waste in public places can also be explored. Efficiencies can be gained in service provision through strategically located self-compacting bins, or smart bins.



## 4.5 Wingecarribee resource recovery solutions

Actions will be seek improved resource recovery outcomes. The following strategy components and planned strategic actions will be implemented by Council with the purpose of ensuring the community continues to improve resource recovery and reduce materials to landfill:

### B.1 Capturing resources

#### ACTIONS

- |      |  |
|------|--|
| 1.1  | Adopt a default service suite for households                     |
| 1.2  | Procure new waste management services                            |
| 1.3  | Assess need for new bins   |
| 1.4  | FOGO Implementation Plan   |
| 1.5  | Explore options for soft plastics                                |
| 1.6  | Develop waste textile recovery plan                              |
| 1.7  | Implement RRC Master Plan  |
| 1.8  | Expand public place recycling                                    |
| 1.9  | Assess commercial bin services to improve resource recovery      |
| 1.10 | Implement responses to reduce construction & demolition waste    |
| 1.11 | Continually review the community's resource recovery performance |

### B.2 Contamination

#### ACTIONS

- |     |   |
|-----|---|
| 2.1 | Audits to characterise contamination materials                      |
| 2.2 | Increase kerbside contamination management efforts                  |
| 2.3 | Embed contamination management in next collection services contract |
| 2.4 | Target contamination in FOGO  |
| 2.5 | Implement commercial contamination plan                             |
| 2.6 | Advocate for expanded CDS   |

### B.3 Influence all waste generators

#### ACTIONS

- |     |  |
|-----|--|
| 3.1 | Identify large waste generators                              |
| 3.2 | Incentivise resource recovery                                |
| 3.3 | Review Council's waste DCP                                   |
| 3.4 | Develop C& I resource recovery pledge                        |
| 3.5 | Consider additional materials recovery events                |
| 3.6 | Provide resource recovery information for construction waste |



# 5 Wingecarribee Waste Responsibility Directions

**Waste responsibilities for local councils are wide ranging and increasingly complex.**

Facility compliance responsibilities, service procurement, budgeting and community engagement each have multi-faceted demands for Council to plan for and manage. Strategies need to respond to the vast responsibilities to be managed by Council and directions can be set for proper management of the various responsibilities.



## 5.1 Waste management responsibilities

Council must ensure adequate importance is attached to managing its waste management responsibilities. Strategic actions must be implemented to ensure Council adequately plans for, and resources, the management of environmental compliance obligations, financial management, contracting for waste management services and community communication.

Maintaining reasonable costs for the waste services to be provided to the community is essential and a medium to long term planning framework is provided by Council. Cost impacts of new and additional services must be planned for.

Securing collection and processing or disposal services must also be planned over a medium to long timeline. Council must anticipate 'what-is-next' to ensure proper preparation for the needs of the Wingecarribee community.

## 5.2 Services and resourcing

Council controls the infrastructure and methods for delivering waste management operations to the community. The responsibility for resourcing the services requires planning, budgeting and the procurement of services. For the various proposed actions detailed in this *Resource and Waste Management Strategy*, Council can plan for adequate resourcing to ensure delivery of the agreed elements. Resourcing of this *Strategy* will include financial allocations, in-house staffing, external services providers, as well as ensuring Council maintains a suitable level of expertise to guide all responses to Council's responsibilities.

The resourcing of Council's activities, together with the establishment of increased service levels must be balanced against the costs of not acting. For each significant action adopted, an assessment of the costs and benefits will provide the requisite backing for measured decision making.

Where services are to be procured by Council on behalf of the community, suitable procurement strategies and processes should be set up to ensure competitive processes are undertaken within well-established probity and governance arrangements.



Improvements can be pursued by Council in resident interactions. Technology may be utilised to provide residents with pro-active notices regarding the day-to-day management of the services as well as put information into residents' hands. Council may explore the development of interactive information exchanges reinforcing resource recovery efforts.

## Financial and risk management

Long term financial planning will be required to adequately anticipate financial resourcing. Implementing the actions for this *Strategy* will be aligned with planned finance over the long term. Council plans the financial obligations of the community through an integrated planning and reporting framework. The financing of household waste management services sits alongside Council's consolidate budget with reasonable costs as a guide.

Ultimately, Council will set annual fees and charges to adequately maintain the agreed level of services and direct planning for the medium to long term. Setting the domestic waste charge requires financial standards to be adopted for planned and expected reasonable costs. Charges may be varied for different service levels or user-pays service options e.g. where opt-in services are provided.

For commercial and other waste management services it is open to Council to ensure full cost recovery together with targeting possible revenue streams. Key to waste budgeting is to ensure that generators of waste today are not passing cost forward to future generations. Special budgets may be needed for individual projects or actions.

Importantly, where waste services are provided by service providers at facilities in other locations, contingency planning should also be undertaken by Council. A waste management emergency plan can be developed to plan how emergencies that impact local waste management can be addressed, as well as when access to facilities may need to be managed. Council's responsibility for business continuity planning should align with long term financial planning.

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## 5.3 Facilities and other responsibilities

Special waste streams or waste from special sources can need particular responses. Where tailored solutions are required for the management, or a change to the management, of these wastes, Council can devised responses and manage these waste for the community. New needs can arise at anytime and Council will be tasked with responding to these.

Waste management facilities are provided by Council at the Moss Vale Resource Recovery Centre. Implementing the RRC master plan and monitoring facility utility and capacity will be an ongoing responsibility. Resource recovery will remain the focus for this key facility, supported by clear messaging, signs and facility operation.

Where other waste service demands arise, responses can be designed. For example, where some residents are not able to access the RRC for problem waste item disposal, mobile collection and disposal units may be a suitable response. Special arrangements or other responses may be needed for events like 'drop-off days' for materials

that are not usually delivered to the RRC. Attention may be needed to improve service levels for rural residents.

Council will seek to ensure a waste or resource recovery resource is accessible per 10,000 residents, which may result in additional services or facilities located in villages and semi-rural areas. Such facilities may be limited in what can be collected but will focus on improving resource recovery outcomes.

Over the medium to long term, Council may also consider the need for additional facilities. Ensuring equal access to facilities across the local government area, as well as identifying where certain waste streams made need a separate facility, may improve Council's waste management.

Council continues to pursue innovative response to community needs. A precinct study has provided a preliminary framework for establishing a Southern Highlands Innovation Park (SHIP). Council seeks to amalgamate industrial land for locational, employment, ecological and

sustainable uses. The infrastructure needs of the Wingecarribee community will be a consideration for the SHIP. A strategic masterplan for the SHIP will consider Council's overall strategic infrastructure planning. Potential connections to Council's waste management needs can be included in SHIP planning.

Legacy responsibilities will remain with Council for all facilities. Notably the closed Welby landfill site closure requires ongoing rehabilitation management.

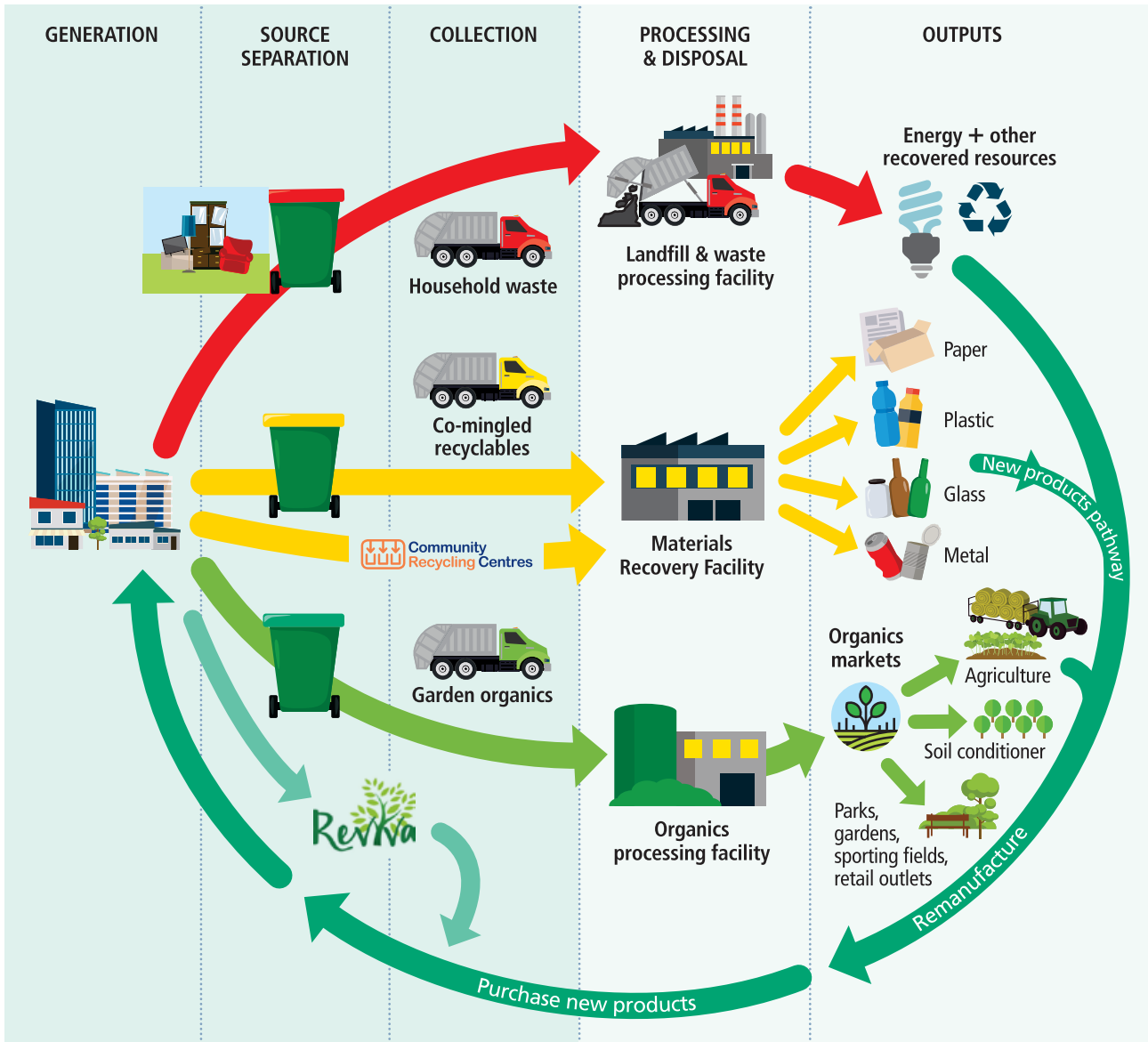


Figure 9: Household waste circular economy – the kerbside to market return journey

## 5.4 Communications and education

Implementation of this *Resource and Waste Management Strategy* can be accompanied by an engagement plan that recognises and plans for all required community education and communications. Changes to services or new innovations need to be suitably communicated to the community. Resource recovery education is a constant responsibility for Council to ensure participation and compliance with waste management systems.

School and community education forms an important part of this responsibility. Information must also be developed and delivered to households to align with the actions taken up by Council. The success of certain objectives, such as improving resource recovery and contamination management, depends on consistent and broadly delivered community education.

Where significant changes are planned, such as the introduction of FOGO services, separate implementation and education planning will

be essential to the success of the new system. Special communication campaigns can be designed for targeted actions, for example, capturing building waste for resource recovery. Communications can also be designed to target littering and illegal dumping.

Where Council anticipates that new services may need particular explanations or justification, engaging with the community early and often will provide for better understanding of all community concerns and where accurate information needs to be delivered.

Digital technology has been embedded in waste education and offers a delivery method that is accessible and effective. Council can use digital communication methods to reach the community and provide lower cost, up-to-date information regarding the waste topics Council determines are important at the various stages of implementing this *Strategy*.

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## 5.5 Reporting on progress

Council will monitor and regularly report on the effectiveness of the *Strategy*. We will report progress against priority actions at least every six months through our Delivery Program and Operational Plan reporting mechanisms as well as via Council's Annual Report. Changes to strategies can be enacted where success is not evident.

This *Resource and Waste Management Strategy* can be accompanied by a measurement and reporting system whereby Council develops clear data sets to track performance and assess whether actions remain suitable. Data sets are routinely derived for some service components and can be expanded where Council needs to understand and illustrate that invested resources are sustainable.

Continuing to undertake composition audits forms part of the data required to measure performance. Where improvements are made to services in particular sectors or for identified waste streams, these improvements can be built on, if it is clear that the actions are gaining results. Separate datasets may need to be designed for measuring particular waste management activities.



## 5.6 Wingecarribee waste management responsibilities and solutions

Council's waste accountabilities will be further achieved through actions designed to ensure Council's overarching responsibilities are addressed. The following strategy components and planned strategic actions will guide Council to capture broad planning and service delivery for all additional responsibilities.

### C.1 Services

#### ACTIONS

- 1.1 Review all resourcing of Council's responsibilities
- 1.2 Update knowledge and acquire advice where necessary
- 1.3 Undertake procurement for long term processing services
- 1.4 Design new fees and charges and long term financial planning
- 1.5 Assess commercial services for full cost recovery
- 1.6 Consider bulky clean up service alternatives
- 1.7 Review services and survey the community
- 1.8 Increase management of special wastes
- 1.9 Assess grant opportunities
- 1.10 Manage Welby landfill legacy
- 1.11 Consider new waste management technology
- 1.12 Continual review of Council's waste management and operations

### C.2 Facilities

#### ACTIONS

- 2.1 Ensure compliance with implementation of MVRRC Masterplan
- 2.2 Assess access for all disposal needs
- 2.3 Consider drop-off events
- 2.4 Assess need for additional facilities
- 2.5 Elevate waste management in SHIP planning

### C.3 Continue education & communications

#### ACTIONS

- 3.1 Draft a Resource & Waste Management Engagement Plan
- 3.2 Increase residential information re recycling
- 3.3 Update information to target contamination
- 3.4 Litter and illegal dumping prevention campaign developed
- 3.5 Community education for FOGO developed
- 3.6 Develop construction and demolition waste specific communications
- 3.7 Deliver communications if energy from waste is likely
- 3.8 Target special and problem waste education
- 3.9 Review and update digital waste information and education

### C.4 General compliance & waste management data

#### ACTIONS

- 4.1 Measure and report *Strategy* success
- 4.2 Broaden Councils' baseline data set
- 4.3 Identify large waste generators for the purpose of improved communications
- 4.4 Consider additional audits to inform information
- 4.5 Review *Strategy* timelines and performance for additional communications
- 4.6 Develop emergency and contingency planning
- 4.7 Continue to undertake periodic composition audits
- 4.8 Develop new strategy



# 6 Actions

The following action plan is designed to guide Council's implementation of the Resource and Waste Management Strategy. Each year, the Council will operationalise the *Strategy* by reconfirming the priority actions for the year ahead, along with the funding required, as part of the annual Operational Plan and Budget process.

## Wingecarribee circular economy direction – actions

Table 6: Wingecarribee Shire Council – circular economy direction

<b>A.1 Waste and the circular economy – Strategic actions</b>			
<b>ACTION</b>	<b>Place Partners</b>	<b>Impact</b>	<b>Timeframe</b>
1.1 Continue to engage in regional waste strategies.	Council and neighbour local councils		
1.2 Develop waste reduction strategies focussed on identified per capita waste decreases.	Council		
1.3 Support local circular solutions where opportunities arise.	Council and relevant proponents		
1.4 Develop a sustainable procurement policy for Council (a regional approach can be considered). Identify Council opportunities to support circular materials e.g. recycled glass.	Council		
1.5 Design measurement methods for how resource recovery is helping Council achieve climate change and emissions reductions – as sought in broader strategic directions.	Council		
1.6 Advocate for circular solutions such as reprocessing options, extended producer responsibilities.	Council		
1.7 Examine Council partnerships that can adopt Council's circular strategies e.g. when Council undertakes its business activities, suggest and develop joint 'circular understanding statements'.	Council and relevant proponents		
1.8 Establish social enterprise connections to target circular material management. Local social enterprise operations reviewed for material management, employment opportunities etc.	Council		

## A.2 Circular materials – Strategic actions













ACTION	Place Partners	Impact	Timeframe
2.1 Continue regional collaboration for material processing services to access best solutions and innovations in waste processing/treatment.	Council and neighbour local councils		
2.2 Commence procurement planning to seek additional materials processing solutions, develop specifications for contamination management responses, other circular actions through services.	Council/External		
2.3 Promotion of buy-back opportunities for residents through RRC.	Council		
2.4 Examine and characterise Council's own waste. Review systems utilised by Council's operations and determine where materials are not being well managed. Implement changes necessary to improve outcomes.	Council		
2.5 Ban on single use plastic water bottles extended for other identified single use items.	Council to promote		
2.6 Review Strategy actions and achievements in preparation for next strategy.	Council		

### A.3 Manage new or problem waste – Strategic actions

ACTION	Place Partners	Impact	Timeframe
3.1 Consider pathway for energy-from-waste solution for residual materials that cannot be recovered. Identify barriers and risks to be managed. Community plan for EfW implementation.	Council and through procurement process		
3.2 Participate in regional illegal dumping management activities. Resource accordingly for local illegal dumping rectification.	Council		
3.3 Assess C&D waste generation to understand waste types, for recovery programs. Consider C&D audits to assess – volume and composition, generator type, particular stages or time periods to be managed.	Council/External		
3.4 Consider new methods or resource recovery events for capturing problem waste e.g. special waste materials events with discounted fees for disposal/management. Broadened solution and target problem waste such as polystyrene. Develop solutions for other emerging problem wastes, such as solar panels.	Council		
3.5 Develop a sustainable event policy to be followed at Council events and as a requirement for community events. Update Council's special events waste management plans. Include in Council's relevant policies a requirement that special events must include resource recovery and demonstrate how services can be provided by Council (via service contract). Promote BYO plates, utensils, cups etc. for community events. Introduce a recycled content requirements for special event waste management plans and council operations.	Council		
3.6 Support events such as Clean Up Australia – provide advice and resources.	Council/External		
3.7 Introduce an Ewaste management plan to improve recovery and diversion from mixed waste/ bulky stream. Increase the scope of ewaste to be recovered.	Council		











## Wingecarribee Resource Recovery direction – actions

Table 7: Wingecarribee Shire Council – resource recovery direction

<b>B.1 Capturing resources – Strategic actions</b>			
<b>ACTION</b>	<b>Place Partners</b>	<b>Impact</b>	<b>Timeframe</b>
1.1 Adopt a default 3 bin waste collection service for residents and commercial customers. Implement waste policy for default services. Consider options on default services and consider incentives for smaller bins.	Council		
1.2 Initiate procurement planning for waste management services. Understand timeline and resource allocations required for procurement of collection services and for processing services. Implement procurement strategy.	Council/External		
1.3 Consider and assess when new bins will be supplied to residents and businesses (tied to waste policy for services). Procure supply and distribution of new bins, when appropriate (possibly at time of FOGO introduction).	Council/External		
1.4 Develop a comprehensive FOGO Implementation Plan including, for example: trials, communications to prepare the community, consideration of multi-unit dwelling food collections, commercial food collection services, use of kitchen caddies and liners, opt in or across the collection area – all other features to be determined. Deliver the plan in preparation for FOGO collections. Design FOGO monitoring strategy for first 18 months following FOGO implementation. Introduce FOGO collections, monitor and respond. Support to residents for proper use of the new system.	Council/External		
1.5 Explore options for soft plastics collections and capture. Determine most suitable system and procure relevant soft plastics management system.	Council		
1.6 Identify textile sources, types, volumes, where they enter the waste stream and their resource potential e.g. re-use/recycle/re-process. Develop waste textile recovery plan and implement.	Council/External		















## B.1 Capturing resources – Strategic actions

ACTION	Place Partners	Impact	Timeframe
<p>1.7 Implement the RRC Masterplan including all options for improved resource recovery.</p> <p>Where possible, expand RRC opportunities for recovery of additional materials where solutions are available.</p> <p>Expand re-use shop functions e.g. tool library (maybe collaborate with Moss Vale Mens Shed Inc.), repair-and-share event.</p>	Council		
<p>1.8 Expand public place recycling opportunities.</p> <p>Identify sites and undertake trials/audits. Consider smart/compactor bins.</p> <p>Implement in new collection contract.</p>	Council		
<p>1.9 Design and implement a commercial bin services assessment process to determine resource recovery opportunities.</p> <p>Implement service response to improve commercial resource recovery.</p> <p>Develop and implement 5 star compliance system recognising commercial efforts.</p>	Council		
<p>1.10 Following assessment of C&amp;D waste, implement a multi-pronged response to reducing C&amp;D waste generation and improving C&amp;D resource recovery.</p> <p>Assess increased needs of RRC or other facility needed to properly address C&amp;D waste recovery efforts.</p>	Council/External		
<p>1.11 Assess Council's resource recovery performance and track progress.</p> <p>Identify where new services or responses may be required.</p>	Council		

## B.2 Contamination – Strategic actions






ACTION	Place Partners	Impact	Timeframe
2.1 Review audit information to characterise contamination in each stream. Design responses that deal with particular items of contamination. Develop and disseminate information regarding what-goes-in-what-bin.	Council		
2.2 Enact contamination management conditions of receiving collection services such as removal of services. Tied to waste policy for kerbside collections. Engage kerbside contamination resources to identify and respond to contaminated bins.	Council		
2.3 Consider contamination management requirements for new collection services contract. Design best approach to kerbside contamination management with new collections contractor.	Council		
2.4 Increased efforts to target contamination in FOGO services. To be addressed early and consistently.	Council/External		
2.5 Formulate and implement a commercial services contamination assessment and action plan. Liaise with local businesses through surveys and provide information for managing contamination.	Council/Local businesses		
2.6 Advocate for greater participation in the NSW container deposit scheme – more facilities, more containers, increased refunds etc.	Council		

### B.3 Influence all waste generators – Strategic actions















ACTION	Place Partners	Impact	Timeframe
<p>3.1 Identify large waste generators delivering material to the RRC and assess resource recovery opportunities. Engage with large waste generators directly to support transitional needs and design bespoke resource recovery plans.</p>	Council/External		
<p>3.2 Incentivise resource recovery through promotion and communications for capturing resources e.g. target resources 'free' to drop off at RRC.</p>	Council/External		
<p>3.3 Review and update Council's waste DCP together with waste management guidelines to ensure resource recovery is supported in all development across Wingecarribee. Waste management guidelines to accompany DCP and approvals. Guidelines developed for construction and development waste as well as on site (ongoing) waste management for residents i.e. spaces to ensure systems for resource recovery. Consider periodic on-site inspections for new developments to ensure waste DCP is being complied with. Use educational approach in the first instance to encourage resource recovery.</p>	Council/External		
<p>3.4 C&amp;I resource recovery pledge developed and endorsed for adoption by local businesses – recognition developed. Council to promote annual resource recovery improvements by local businesses. Baseline performance measure offered for businesses taking up the pledge.</p>	Council		
<p>3.5 Consider expanding materials for recovery through events e.g. drop-off days – ewaste/organics waste including pallets/Christmas cardboard and polystyrene etc.</p>	Council		
<p>3.6 Construction and demolition waste generators identified through DA process. Educational information with local solutions for demolition resource recovery included with DA correspondence from Council. Final approvals and certification processes to include requirements for resource recovery evidence.</p>	Council/Developers		

## Wingecarribee waste responsibilities direction – action

Table 8: Wingecarribee Shire Council – waste responsibility direction











<b>C.1 Services – Strategic actions</b> <b>ACTION</b>	Place Partners	Impact	Timeframe
1.1 Review Council's waste management resourcing to determine if needs are being responded to and define measures to be implemented.	Council		
1.2 Continually update knowledge and acquire advice to ensure Council adequately responds to all waste management responsibilities.	Council		
1.3 Undertake procurement process for new waste management services: Collection services and long term processing services (regional approach to procuring processing services supported)	Council/ External		
1.4 Design new fees and charges following procurement of services – medium term Consider long term financial planning. Review Council budgeting approach and new methods for financial management, including ensuring full cost recovery. Investigate user-pays service components. Link financial planning to contingency planning. Long term financial plans for various responsibilities e.g. RRC/contracted services/ additional actions to be taken up from this Strategy.	Council/External		
1.5 Assess and develop suitable approaches commercial waste management costs recovery – and influence resource recovery. Implement necessary changes to fees and charges.	Council		

## C.1 Services – Strategic actions



















ACTION	Place Partners	Impact	Timeframe
<p>1.6 Consider options for the management of bulky clean up waste. Minimisation and resource recovery improvements to be design features of this service. Consider:</p> <ul style="list-style-type: none"> <li>- service minimisation</li> <li>- vouchers</li> <li>- mattress recovery</li> <li>- user pays options to minimise the waste stream</li> <li>- alternative: swap days/garage trail days etc.</li> </ul> <p>Create an education campaign around 'user-pays' to highlight how service charges are allocated for the variety of services provided by Council.</p>	Council		
<p>1.7 Review of services mid-term in order to plan for service changes – to align with community needs. Next service contracts to be planned for reviewed services.</p> <p>Conduct service satisfaction surveys – to inform strategic changes.</p> <p>Review urban vs rural service offerings.</p>	Council		
<p>1.8 Special waste: establish a register of special services such as medical, sharps: develop communication materials to guide the proper management of these special wastes.</p>	Council		
<p>1.9 Assess all opportunities for grants to support Council's waste management responsibilities.</p>	Council		
<p>1.10 Continue maintenance and photo-capping of Welby landfill.</p>	Council		
<p>1.11 Consider and develop technology to improve resident interaction for service management, resource recovery and education.</p>	Council		
<p>1.12 Continual review of all waste management operational models, services and facilities to maximise community benefits and value.</p>	Council		

















## C.2 Facilities – Strategic actions

ACTION	Place Partners	Impact	Timeframe
2.1 Complete implementation of masterplan for Moss Vale Resource Recovery Centre and ensure associated compliance responsibilities are resourced.	Council		
2.2 Ensure safe disposal and resource recovery opportunities are accessible to all residents. Review barriers to access to the Moss Vale Resource Recovery Centre. Explore solutions or suitable responses, for example, mobile collection and disposal units/milk run collections. Mobile unit may be suitable for special events use. Consider rural residents and additional services, as suitable.	Council		
2.3 Consider drop-off events at designated areas across the LGA – to capture materials that are not received at the RRC.	Council		
2.4 Examine need for increase to resource recovery management facilities. For example, is a separate building resource recovery site required. Link to contingency planning.	Council		
2.5 Elevate resource recovery and other waste management related opportunities in SHIP planning.			

### C.3 Continue education & communications – Strategic actions

ACTION	Place Partners	Impact	Timeframe
<p>3.1 Draft a Resource &amp; Waste Management Engagement Plan to align with this Strategy. Plan to include all relevant points and changes that will require communication and education. Plan to address the various sectors and planned strategic actions – with most efficient methods for communication and information to be delivered. Schools’ resource recovery education expanded and aligned to NSW curriculum.</p>	Council/External		
<p>3.2 Develop and implement increased residential information regarding recyclables i.e. target materials in mixed waste bin that could be recycled.</p>	Council/External		
<p>3.3 Update and increase Council’s education and communications to target contamination – distributed with rates notices.</p>	Council		
<p>3.4 Litter and illegal dumping prevention campaigns to be updated and periodically delivered over the long term.</p>	Council		
<p>3.5 FOGO implementation plan to include FOGO community education and communications – identify and communicate the behaviour changes required.</p>	Council/External		
<p>3.6 Build new C&amp;D specific communications. Information based packages to solve resource recovery decisions locally – update regularly.</p>	Council/External		
<p>3.7 Develop and deliver communications regarding EFW if this option looks likely to be a solution for Wingecarribee for unrecoverable materials – recognise the possible social licence barriers.</p>	Council		
<p>3.8 Special problem waste education targeting the correct management method for items such as paints, batteries and gas bottles. Promote other programs that Council participates in e.g. drummuster, Household Chemical CleanOut etc.</p>	Council		
<p>3.9 Review Council’s waste website information and upgrade. Implement interactive digital engagement. Expand functions such as a waste ‘app’ for disseminating education. Develop new social media accounts to promote resource recovery. Use digital methods to ‘campaign’ a particular waste issue each 3 to 6 months.</p>	Council/External		

## C.4 General compliance and waste management data – Strategic actions

ACTION	Place Partners	Impact	Timeframe
4.1 Measure and report on the progress of the Strategy against objectives, timelines and resource recovery impacts. Templates can be designed to track annual key measures against the Strategy objectives, as they relate to Council's broad endeavours.	Council		
4.2 Establish baseline data set for measuring performance improvements across waste streams as well as for planning, budgeting etc. Identify and collate waste data that will inform decision making for all waste streams and materials	Council		
4.3 Identify large C&I and C&D generators for targeted communications e.g. is agricultural waste an issue that needs particular attention and communications. Improve estimates of commercial waste collected through kerbside collections – audits.	Council		
4.4 Undertake period audits (other than kerbside audits – to determine specific communication actions).	Council/External		
4.5 Include a review of strategy timelines, resource recovery performance monitoring and reporting as well as the need for further community engagement.	Council		
4.6 Commence development of emergency waste management planning for Council, to align with the NSW EPA's emergency waste sub plan. Develop a Council Waste Business Continuity Plan.	Council/External		
4.7 Continue to undertake composition audits to track progress any emerging challenges. Prepare for and respond to other kerbside interactions as issues arise e.g. contamination management for FOGO introduction. Contamination officers deployed periodically to educate regarding kerbside contamination.	Council/External		
4.8 Development of new strategy Commencement review, community consultation etc. in preparation.	Council	