



# **RAMROC**

# **Regional Waste**

# **Strategy**

**2017-2021**





## **RAMROC's Mission**

**“To work collaboratively to enhance the economic, social and environmental capabilities of our communities to ensure the long term sustainability of our region”**

## **RAMROC's Key Roles**

- **To provide an effective means for discussion and action on issues of regional significance and common concern;**
- **To consider the needs of Local Government areas and the people of the region and to make those needs known to the Commonwealth and State Governments to advance the interests of the region;**
- **To give support to individual Member Councils on specific issues of local concern where appropriate;**
- **To strengthen the role of Local Government in regional affairs, particularly where the region may be affected by Commonwealth or State Government policy; and**
- **To facilitate the Member Councils working together and to co-operate on issues and projects of mutual interest and benefit.**

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# Acronyms

<b>C&amp;D</b>	<b>Construction and Demolition (waste)</b>
<b>C&amp;I</b>	<b>Commercial and Industrial (waste)</b>
<b>EPA</b>	<b>Environment Protection Authority</b>
<b>FOGO</b>	<b>Food organics and garden organics</b>
<b>GO</b>	<b>Garden Organics</b>
<b>HH</b>	<b>Household</b>
<b>Km<sup>2</sup></b>	<b>Square Kilometres</b>
<b>MRF</b>	<b>Materials Recovery Facility</b>
<b>MSW</b>	<b>Municipal Solid Waste</b>
<b>Pa</b>	<b>per annum</b>
<b>RAMROC</b>	<b>Riverina and Murray Regional Organisation of Councils</b>
<b>RDF</b>	<b>Refuse Derived Fuel</b>
<b>Tpa</b>	<b>Tonnes per annum</b>
<b>WARR</b>	<b>Waste and Resource Recovery</b>
<b>WMF</b>	<b>Waste Management Facility</b>



The Strategy was prepared on behalf of RAMROC by Talis Consultants Pty Ltd in consultation with the Riverina Waste Group and Murray Waste Group Coordinators and waste management staff from the RAMROC member Councils

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# 1 Introduction

Traditionally, resource recovery in rural and remote Councils of Australia is extremely difficult due to small rates bases and large geographic areas. The tyranny of distance and diversity in operational scale amongst rural New South Wales (NSW) Councils equates to many waste related projects being unfeasible. However, it is widely regarded that regional collaboration can be an effective component of any waste management system. Through collaboration, greater volumes of waste are consolidated, presenting economies of scale to support projects that may not be feasible at an individual Local Government level. These collective projects can provide best practice services and/or support compliance with Government legislation and policies.

The Riverina and Murray Regional Organisation of Councils (RAMROC) have come together to prepare a Regional Waste Avoidance and Resource Recovery Strategy (the Strategy) to set the direction for the implementation of an efficient and sustainable waste management system across the region.

## 1.1 Strategy purpose

This Strategy identifies the priorities for the region and determines the current and future services, infrastructure and educational requirements to develop a sustainable waste management system.

The Strategy will assist RAMROC to deliver its vision and objectives for waste management. It aligns with *New South Wales (NSW) 2021: A plan to make NSW number one* (NSW Government, 2012), the *Waste Avoidance and Resource Recovery Strategy 2014-21 (WARR Strategy)* and the implementation of the *Waste Less, Recycle More* initiative.

### 1.1.1 Vision

This Strategy has been developed to provide and facilitate:

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***An integrated and co-operative approach to waste management that is efficient, cost effective, sustainable and improves resource recovery across the region***

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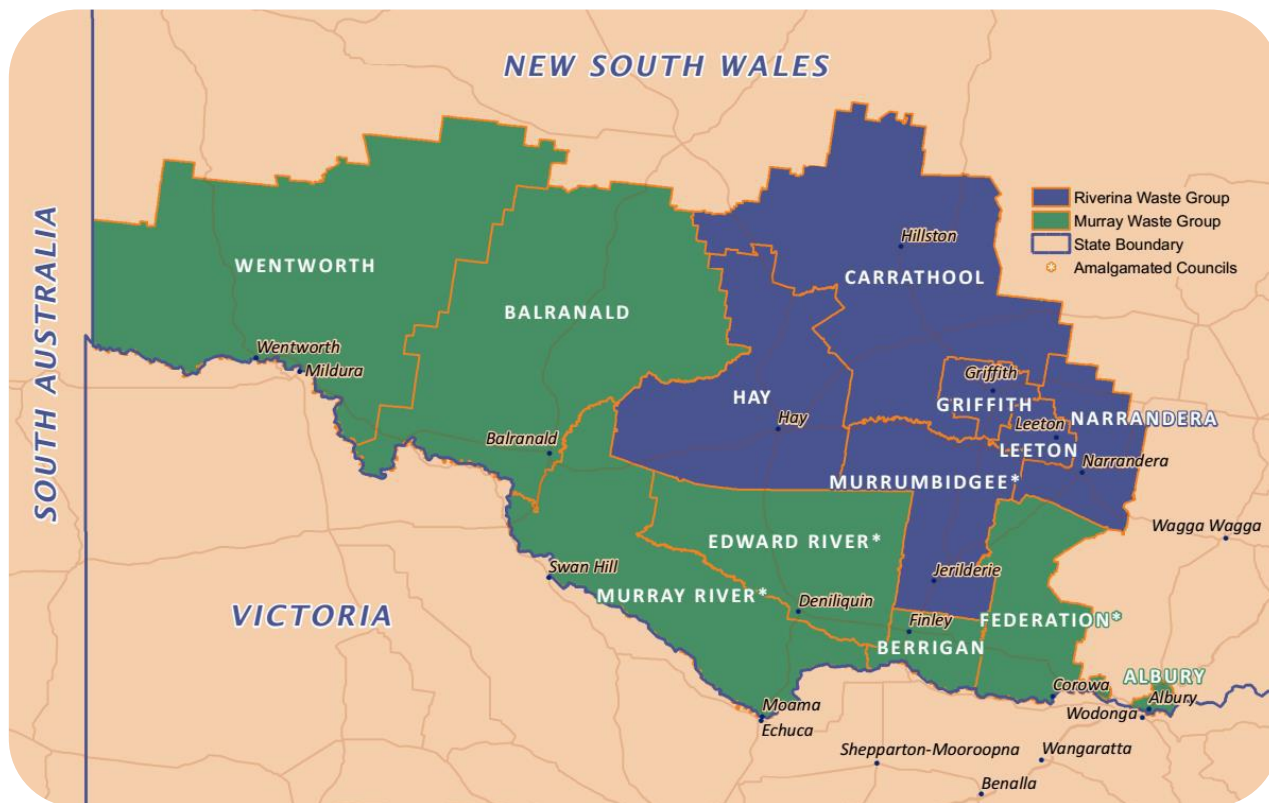
### 1.1.2 Objectives

The objectives of this Strategy are to achieve the following:

- Engage with the community through education and activities related to best practice waste management;
- Provide leadership and facilitate information exchange and skills development;
- Make a significant contribution towards the achievement of NSW's WARR Strategy targets;
- Reduce the amount of waste that is being directed to landfill;
- Improve successful funding application opportunities;
- Improve and increase current services for household recycling and organics collection;
- Provide a sustainable and healthy environment through reducing the incidences of litter, illegal dumping, and number of landfills across the region.

## 1.2 The region and Councils

The RAMROC region is located in the south-western corner of NSW and is bordered by the South Australian border to the west, the Victorian border to the south and the Great Dividing Range to the east as shown in **Diagram 1-1**.



**Diagram 1-1: RAMROC Region**

RAMROC was established in 2007 and is a voluntary Local Government group comprised of two large sub-regional areas namely; the Riverina and Murray Waste Groups. These two distinct groups are separately funded; however, both operate under the RAMROC banner. The RAMROC regional area is 120,813km<sup>2</sup> with the Riverina Waste Group accounting for 44,063km<sup>2</sup> and the Murray Waste Group 76,750km<sup>2</sup>.

The composition of the two waste groups have altered since the development of the 2014-2020 Regional Waste Strategy as a result of amalgamations and councils ending their participation. Therefore, the RAMROC region is currently comprised of the 13 Councils shown in **Table 1-1**. Newly formed Councils as a result of amalgamations are marked with an asterisks (\*).

**Table 1-1: RAMROC Member Councils**

Murray Waste Group	Riverina Waste Group
Albury City Council	Carrathool Shire Council
Balranald Shire Council	Griffith City Council
Berrigan Shire Council	Hay Shire Council
Edward River Council *	Leeton Shire Council
Federation Council *	Murrumbidgee Council *
Murray River Council *	Narrandera Shire Council
Wentworth Shire Council	



## 1.3 State legislation and policy

There are a number of NSW State legislative, policy, strategy, educational and economic tools relating to waste management in NSW. The State's main legislation that impacts waste management include the *Protection of the Environment Operations (POEO) Act 1997*, the *Waste Avoidance and Resource Recovery (WARR) Act 2001*, the *Protection of the Environment Operations (Waste) Regulation 2005* and the recently released amended draft *Protection of the Environment Operations (Waste) Regulation 2017*. These main legislative documents describe the requirements for transporting, storing, processing, managing, recovering and disposing of waste and recyclable material.

*NSW 2021: A plan to make NSW number one* outlines a number of waste management related aspects within the following goals:

- Goal 22 - Protect our Natural Environment:
  - Reduce illegal dumping;
- Goal 23 - Increase opportunities for people to look after their own neighbourhoods and environments:
  - Reduce litter;
  - Achieve recycling targets; and
  - Supports community recycling drop-off centres to provide locations for recycling and/or disposal of household hazardous wastes.

The *WARR Strategy* provides a framework for waste management until 2021 and aligns with the NSW Government's waste reforms in *NSW 2021: A plan to make NSW number one*. The WARR Strategy outlines the key result areas and associated targets to minimise environmental damage caused by waste generation, while preserving resources.

The *Waste Avoidance and Resource Recovery Amendment (Container Deposit Scheme) Act 2016* established the Container Deposit Scheme (CDS) to reduce litter and recover, reuse and recycle drink containers. The CDS "Return and Earn" was introduced in 2017 facilitating a 10-cent refund for eligible containers when presented to a collection point. Eligible containers in kerbside recycling bins are also redeemable by Councils through an agreement with the Materials Recovery Facility (MRF) operator providing Councils with a source of revenue.

## 1.4 Waste Less Recycle More

The State's *Waste Less Recycle More* initiative aims to improve waste management and resource recovery practices by assisting to achieve the targets set out in the WARR Strategy. Phase 1 of the *Waste Less Recycle More* initiative provided a total of \$465.7 million over a 5 year period from 2013 to 2017. The second phase provides \$337 million over 4 years from 2017 to 2021. Funds for the program are sourced from revenue generated by the landfill levy.

RAMROC member Councils have successfully sought funding through the initiative by attracting a series of grants. Projects have been both of regional and local scale and have included the following:

- Community Recycling Centres at Albury, Berrigan, Blighty, Coleambally, Corowa, Deniliquin, Hay, Hillston, Jerilderie, Leeton, Lockhart, Moama, and Griffith, Narrandera and Urana;
- An expression-of-interest application for Combating Illegal Dumping by the Riverina Waste Group;
- A regional application for the implementation of the Love Food Hate Waste program;
- A regional Litter Strategy for the Riverina and Murray Waste Groups; and
- A regional approach to illegal dumping to ensure base-line data is available from councils using the RIDonline application.

The *Waste Less Recycle More* initiative includes a Local Government Waste and Resource Recovery program that provides \$5 million to support regional and rural local councils with landfill consolidation and closure, building and upgrading of transfer stations, and environmental improvements to small landfills servicing rural communities. A number of RAMROC member Councils have been successful in obtaining funding through this program and it is anticipated that more will apply for funding through this and other programs in the future.

## 1.5 Waste and Resource Recovery Infrastructure Strategy

The Environment Protection Authority (EPA) developed the *Waste and Resource Recovery Infrastructure Strategy 2017-2021* which identifies the resource recovery infrastructure capacity and requirements across the State. The *Waste and Resource Recovery Infrastructure Strategy 2017-2021* aims to facilitate the development of the necessary infrastructure to meet future waste management needs and to be utilised as part of the criteria associated with funding approvals granted through the *Waste Less Recycle More* initiative. It noted the following points for the RAMROC region:

- The capacity for Resource Recovery of Construction and Demolition (C&D) waste and other inert waste is generally low outside the Metro Levy Area. There is a requirement for two C&D processing facilities in the region;
- Packaging MRF capacity is in Victoria however, if desired to be processed within the RAMROC region, two facilities would be required;
- Despite approved capacity at Albury, there is still a need for one additional facility for putrescible organics processing; and
- To establish one small mixed waste treatment facility with one energy recovery facility or Refuse Derived Fuel (RDF) plant RAMROC would have to cooperate with the Riverina Eastern Regional Organisation of Council (REROC).

**Table 1-2: Infrastructure needed**

Type	Number Required
C&D Waste Processing	2
Packaging MRF	2
Putrescible Organics Processing	1

## 2 Where are we today?

Current consumption patterns, particularly within the developed world, are generating high volumes of materials which have traditionally been regarded as waste and disposed of to landfill. Landfilling waste results in a loss of materials and energy from the supply chain and the generation of methane, a harmful greenhouse gas. In essence – traditional waste management practices are *wasteful*.

With an increasing global population and growing demand for resources, these traditional waste management practices are not sustainable. A fundamental change in current consumption patterns and waste management systems is required to ensure that our natural resources are preserved for future generations. As robust as our earth has been, the current level of consumption and wasteful waste management practices cannot be sustained. The ‘do nothing’ option is not an option.

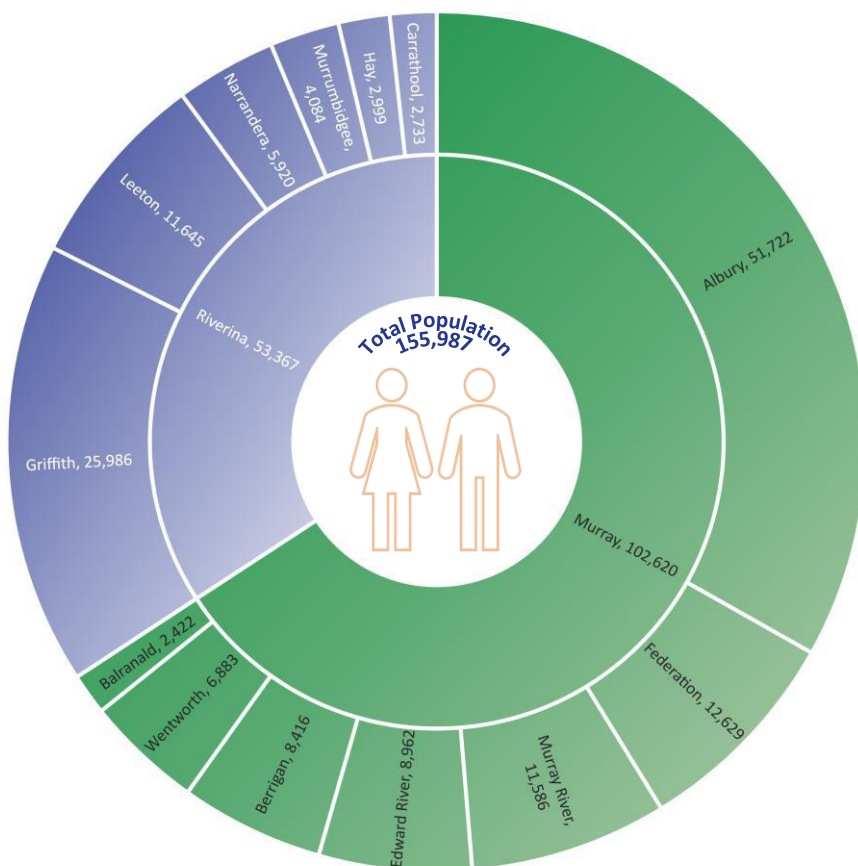
The Department of Environment and Energy recently published the Australian National Waste Report 2016 which identified that, between 2006-2007 and 2014-2015 Australia’s population rose by 14% while waste generation



(excluding fly ash) increased by 23%<sup>1</sup> and subsequently waste generation per capita increased by 7% during the same period. In 2014-2015, NSW generated 16 million tonnes of waste (excluding fly ash) or 14 million tonnes excluding hazardous wastes. Although the quantity of material diverted from landfill has been increasing for a number of years, NSW still falls behind South Australia, the Australian Capital Territory and Victoria. Subsequently, landfilling still accounts for 35% of the total waste generated. This illustrates that NSW still has a considerable reliance on landfill, which is further supported by the waste data outlined within the following sections.

## 2.1 Population

In 2015-2016, the RAMROC region had a total population of approximately 156,000. The Murray Waste Group accounts for 66% of the total population largely based on the population of the Albury City Council (51,720), with the Riverina Waste Group containing 33% of the population. Griffith City Council is the largest centre in the Riverina Waste Group with a population of 25,985. A breakdown of the RAMROC population is shown in **Figure 2-1**.



**Figure 2-1: RAMROC Population Breakdown**

The Department of Planning and Environment released updated Local Government area population and household projections in 2016 which were utilised to determine the RAMROC population over the next 10 years. There are 7 member Councils predicted to decrease in population over this period however, growth in the Albury, Griffith, Leeton, Federation and Murray River Councils is expected to result in a net population increase over the next 10 years. Therefore, in 2026 the population of the RAMROC region is expected to almost reach 160,000.

## 2.2 Services

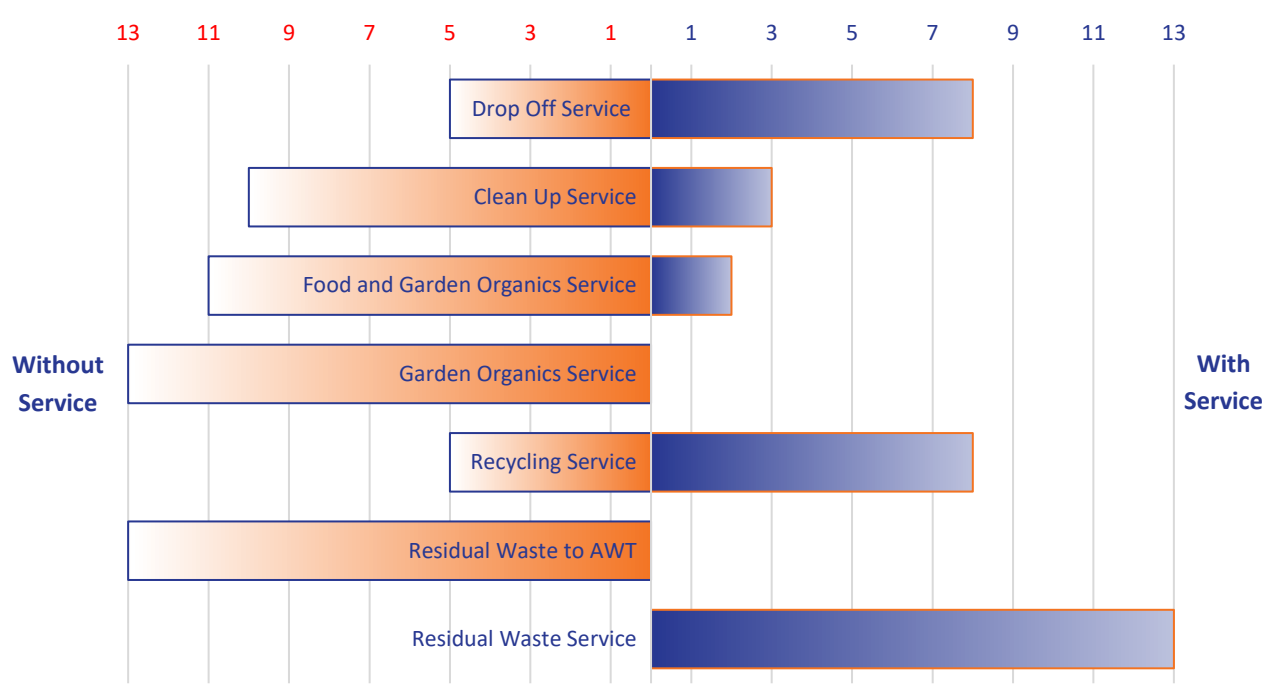
Data associated with the waste management services provided by the Councils of RAMROC were sourced from the *NSW Local Government Waste and Resource Recovery Data Report 2015–16* which consolidates waste data from the Councils based on the following services:

- Drop-off services at waste management facilities;

<sup>1</sup> Australian National Waste Report 2016, Department of the Environment and Energy, Blue Environment, Randell Environmental Consulting (2017).

- Verge/Kerb Clean Up services;
- Food and Garden Organics (FOGO) kerbside collection services;
- Garden Organics (GO) kerbside collection services;
- Kerbside Recycling collection services;
- Residual Waste to Alternative Waste Technology (AWT) Service; and
- Kerbside Residual waste collection services.

There are 13 member Councils within the RAMROC region providing a range of waste management services. **Figure 2-2** illustrates how many Councils within RAMROC provide the abovementioned services and which do not.



**Figure 2-2: Number of RAMROC member Councils with or without service**

As shown in **Figure 2-2** no Councils provide a Garden Organics or Residual Waste to Alternative Waste Technology (AWT) Service and only two Councils provide a weekly FOGO Service. However, most Councils provide a fortnightly kerbside Recycling service and all provide a Residual Waste service.

The kerbside collection services are facilitated through three sizes of mobile garbage bin (MGB) with the most common the 240 litre (L) for both recycling and residual waste. Three Councils provide a smaller residual waste bin of either 140L or 120L.

## 2.3 Infrastructure

There are 52 waste management facilities within the RAMROC region with 33 in the Murray Waste Group and 19 in the Riverina Waste Group. It can be seen in **Diagram 2-1** that of the 33 facilities within the Murray Waste Group of which 22 are landfills and 11 are transfer stations. There are 14 landfills, 2 transfer stations and 3 facilities classed as both within the Riverina Waste Group.

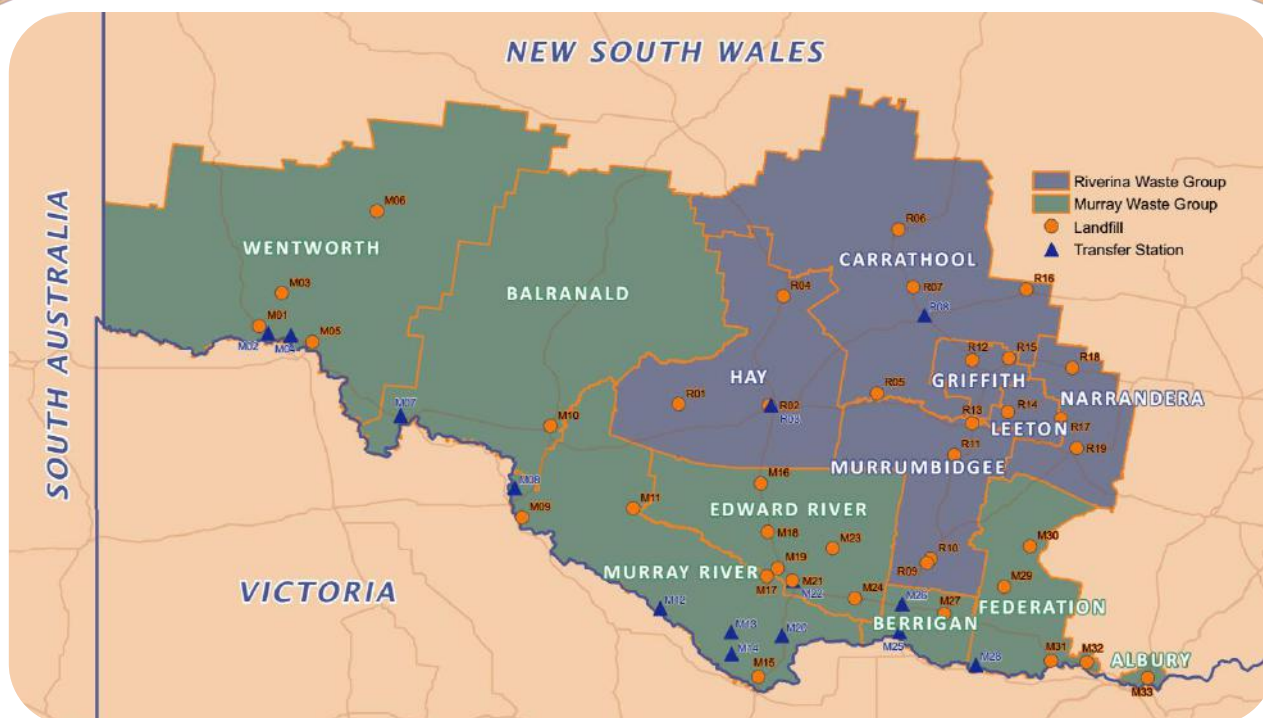


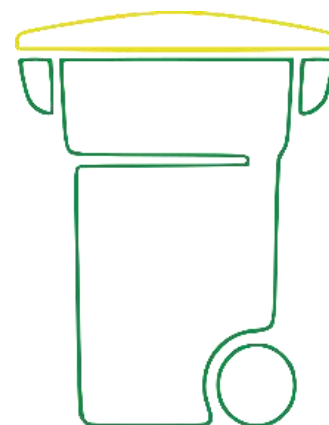
Diagram 2-1: RAMROC Waste Facilities

## 2.4 Waste and recycling data

Data on the waste currently generated within the RAMROC member Councils has been sourced from the 2015-2016 financial year. The data is broken into the three main components of the Municipal Solid Waste (MSW) stream namely; recyclables, organics and residual. The waste data represents the total waste generated from a combination of services and drop-off facilities provided by each Council.

### 2.4.1 Recyclables

A total of 13,302 tonnes of recyclables were collected by the RAMROC member Councils. 12,410 tonnes were recycled with the remaining contamination within the recycling stream being landfilled. Based on this data, the RAMROC region has a contamination rate of approximately 6.5%.



It should also be noted that Carrathool and Hay do not have any recycling services or infrastructure and therefore do not accept or process any recyclables.

### 2.4.2 Organics

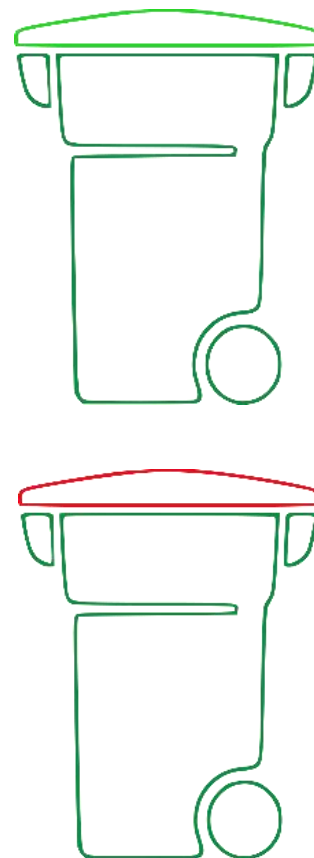
In the 2015-2016 period, RAMROC member Councils collected 17,138 tonnes of organics material. Of this total volume, 99% was utilised and processed with only 125 tonnes being disposed to landfill. This suggests that the organics collection and/or drop-off services were well understood in particular the importance of minimising contamination to produce a valuable product.

### 2.4.3 Residual

Across the RAMROC region 46,022 tonnes was landfilled in the 2015-2016 financial year. Wentworth was the only Council to recycle any of its residual waste utilising 282 tonnes in the process.

**Table 2-1: Waste and recycling data (tonnes collected)**

Waste Group	Council	Recycling	Organics	Residual
Riverina	Carrathool	-	-	1,113
	Griffith	1,516	-	8,822
	Hay	-	-	2,210
	Murrumbidgee	147	79	860
	Leeton	1,006	341	4,185
	Narrandera	485	-	1,050
Murray	Albury	6,344	12,600	12,210
	Balranald	132	110	560
	Berrigan	781	260	1,432
	Edward River	266	704	2,924
	Federation	1,304	2,229	2,336
	Murray River	1,283	345	4,810
	Wentworth	39	470	3,792
<b>TOTAL tonnes</b>		<b>13,302</b>	<b>17,138</b>	<b>46,305</b>



### 2.4.4 Total generation

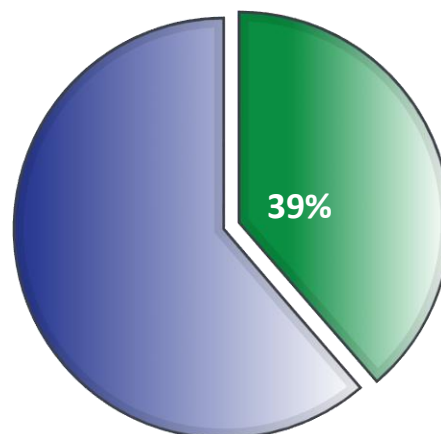
RAMROC Councils collect 76,744 tonnes per annum (tpa) of recyclables, organics and residual waste. The Murray Waste Group accounts for a larger portion with 54,930tpa of total material collected in comparison to the Riverina Waste Group's 21,814tpa. As a result, the regional waste generation average is 9.5kg/capita/week and 20kg/household/week.

A total of 85% of households across the RAMROC region have a residual kerbside collection, 71% have a kerbside Recycling service and 39% have a FOGO service. Of those who have a service, the total household generation is 22.2kg/week and the total generation per person is 10.1kg/wk. This suggests that those without a kerbside service generate less waste or are disposing of it on private land thereby, reducing the overall waste generation rate to 9.5kg/capita/week.

However, with the introduction of the CDS and the potential for more Product Stewardship schemes, RAMROC member Councils may start seeing a reduction in some waste streams particularly those that are more easily recycled.

### 2.4.5 Recovery rate

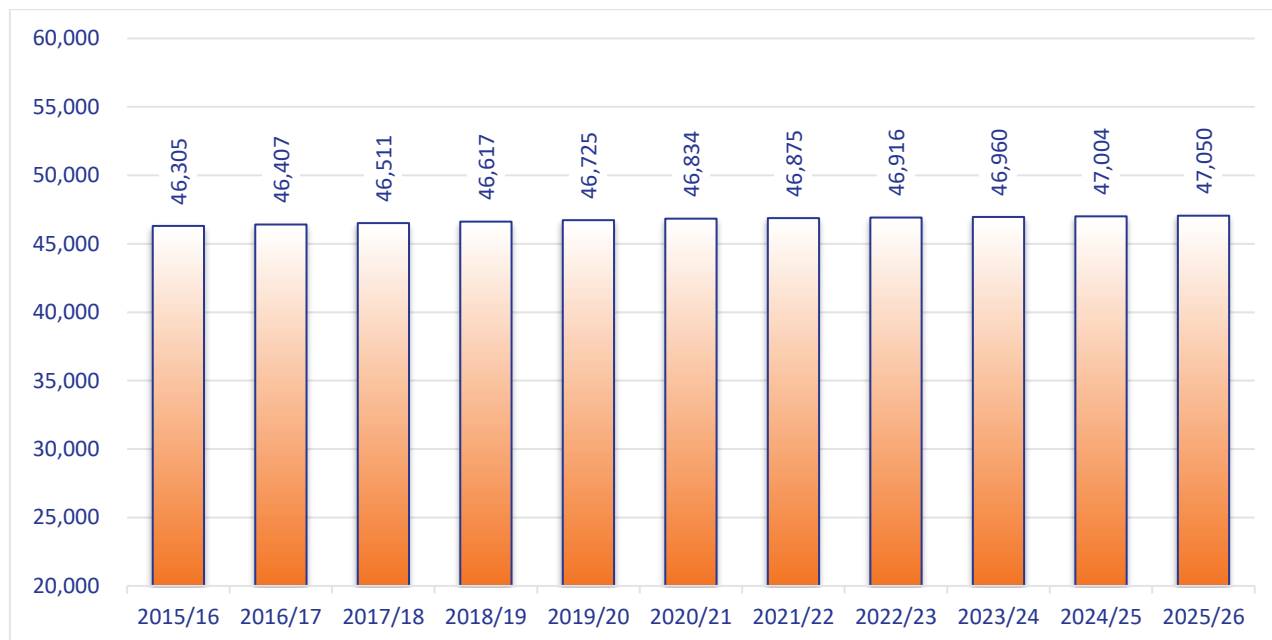
Based on the total waste generation (76,744tpa) and the tonnes of materials recycled (29,705tpa) by all Councils within the RAMROC region, the combined recycling rate was determined to be 39%. This is an improvement of 12% over the last four years since 2011-2012.



**Figure 2-3: RAMROC Recovery Rate**

## 2.4.6 Waste projections

To understand the possible annual residual waste generation over the next 10 years, forecasted population growth rates for each Council were applied to the 2015-2016 residual waste tonnage.

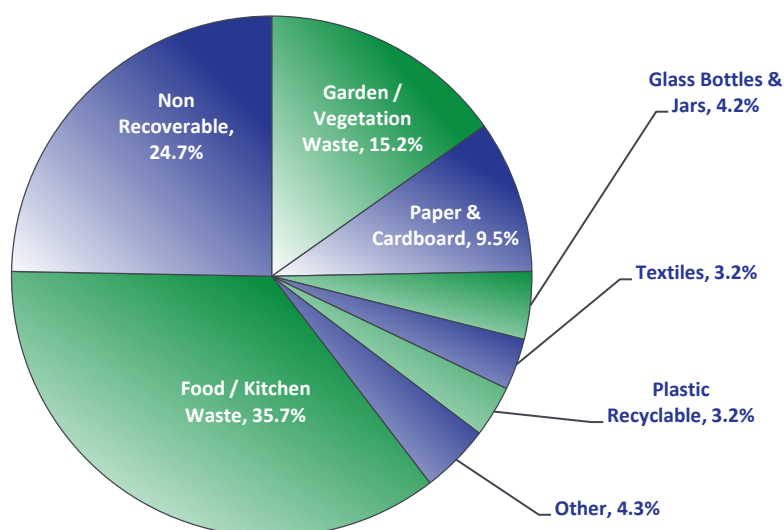


**Figure 2-4: RAMROC Residual Waste generation projections**

**Figure 2-4** shows the total residual waste collected within RAMROC Councils increases by 745 tonnes to 47,050 in 2025-2026.

## 2.4.7 Waste composition

2012 kerbside residual waste compositional data (**Figure 2-5**) was sourced from the Albury City Council and has been provided for information.



**Figure 2-5: Residual waste composition**



## 3 Where do we want to get to?

In order to improve the current waste management system and performance, the RAMROC region needs to be proactive and adopt a philosophy that strives for continued advancement and sets goals considered aspirational and also achievable. A common objective for all member Councils should be to improve resource recovery services and infrastructure which can lead the RAMROC region towards a sustainable future.

### 3.1 Transition to a sustainable system

A sustainable system is an alternative to a traditional linear system (extract, produce, consume, dispose) in which resources are kept in use to extract their maximum value via reuse, recycling and recovering. A sustainable system results in minimal waste to landfill whilst generating opportunities for growth and improvement in performance.

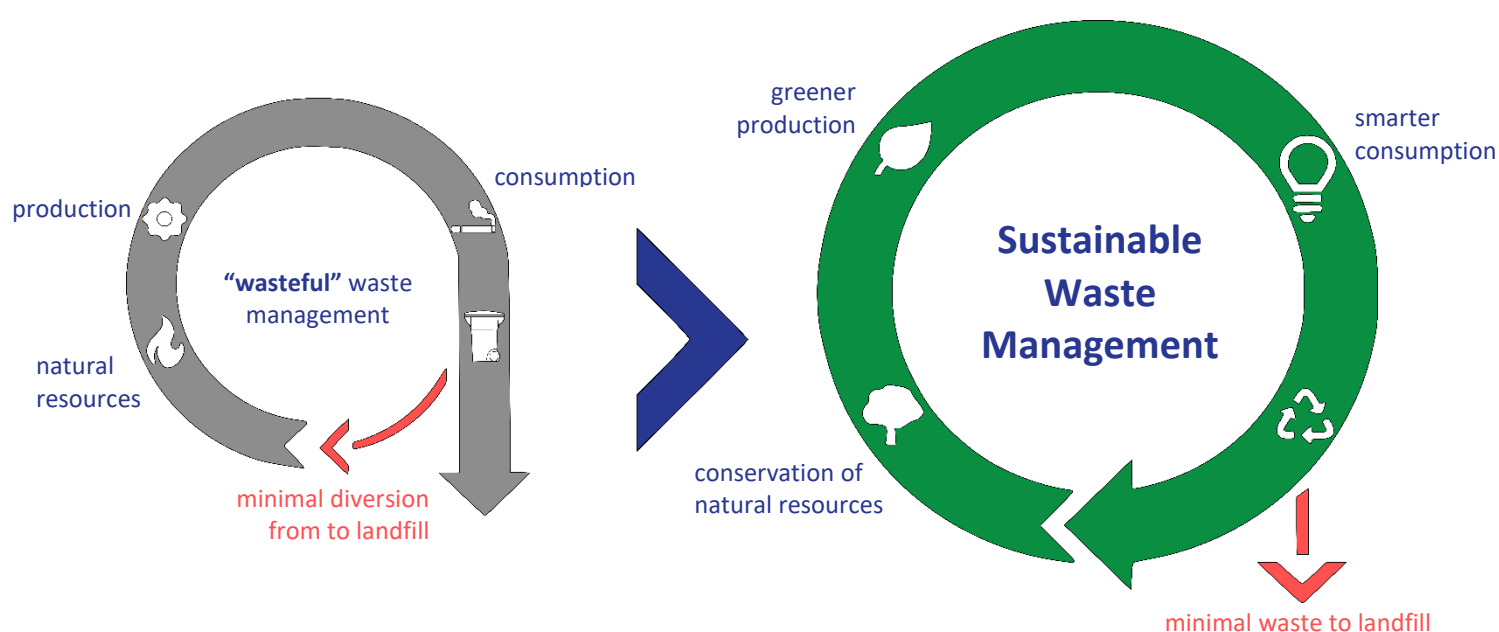


Diagram 3-1: Transition to a sustainable system

Transitioning to a sustainable system is an aspirational yet achievable goal that RAMROC can strive for into the future. This approach views waste as a resource and continually seeks to utilise those resources to their maximum potential. This can be done through greater source separation and by processing individual waste streams in accordance with the preferred methods of the Waste Hierarchy.

### 3.2 Implement the Waste Hierarchy

The Waste Hierarchy (**Diagram 3-2**) is an internationally adopted principle and concept which lists waste management options in order of preference according to their sustainability and environmental impacts. It is generally accepted as the basis for the development of best practice waste management policy in Australia.

Waste management initiatives which achieve outcomes higher up the Waste Management Hierarchy are preferred over those located



Diagram 3-2: Waste Hierarchy



further down the Hierarchy as the maximum value has been extracted from the targeted waste stream.

RAMROC member Councils will seek to promote, advocate and implement the principles of the Waste Hierarchy by adopting it as the underlying conceptual framework for their waste management practices and utilising it as a practical tool for decision-making regarding waste management within the region.

### 3.3 Educate and lead

Through the implementation of this strategy, RAMROC will become leaders in the resource recovery and waste management industry and by assuming this position, will be facilitators and promoters of sustainable practices to all sectors of the community.

As leaders, RAMROC can improve awareness, influence behavioural change and, through education and implementation, assist with moving the industry towards a more sustainable waste management system. By taking a holistic and proactive approach to waste education and leadership, RAMROC can empower all sectors of the community with best practice knowledge, techniques and skills to improve current practices and facilitate innovation to ensure continued advancement across the region for the benefit of all.



### 3.4 Strive for legislative targets

The WARR Strategy targets (Table 3-1) set by the State Government are aspirational targets that RAMROC member Councils are striving to achieve. Every project that diverts waste within the RAMROC region assists with achieving these targets however, the targets remain a long term priority. In the short to medium term, RAMROC member Councils will aim for achievable more realistic interim targets.

**Table 3-1: WARR Strategy Key Result Areas and Targets**

#	Key Result Area	Target	Implementation Timeline
1	<b>Avoid and reduce waste generation</b>	Reduce the rate of waste generation per capita	2021-2022
2	<b>Increase recycling</b>	Increase recycling rates for: <ul style="list-style-type: none"> <li>• MSW to 70%</li> <li>• Commercial and Industrial (C&amp;I) waste to 70%</li> <li>• C&amp;D waste to 80%</li> </ul>	2021-2022
3	<b>Divert more waste from landfill</b>	Increase the waste diverted from landfill to 75%	2021-2022
4	<b>Manage problem wastes better</b>	Establish or upgrade 86 drop-off facilities or services for managing household problem wastes state-wide	2021-2022

#	Key Result Area	Target	Implementation Timeline
5	Reduce litter	Reduce the number of litter items by 40% compared with 2011–2012 levels and then continue to reduce litter items to 2021–2022	2021-2022
6	Reduce illegal dumping	<p>Implement the NSW Illegal Dumping Strategy 2014–2016 to reduce the incidence of illegal dumping state-wide.</p> <p>As part of this strategy, by 2016–2017:</p> <ul style="list-style-type: none"> <li>reduce the incidence of illegal dumping in Sydney and the Illawarra, Hunter and Central Coast regions by 30% compared with 2010–2011; and</li> <li>establish baseline data to allow target-setting in other parts of the state.</li> </ul>	2016-2017

### 3.4.1 Interim targets

The interim targets (**Table 3-2**) have been adopted by RAMROC member Councils as achievable stepping stones on the path to towards the WARR Strategy Targets. The interim targets set the direction over the next 5 years and provides RAMROC member Councils with relevant and realistic targets that can be utilised to justify endorsement for projects and measure performance.

The interim targets have been developed through identification of priority areas following consultation with RAMROC member Councils. The interim targets are measurable and achievable and will ensure that the RAMROC region continues to improve its resource recovery performance over the short to medium term.

**Table 3-2: Interim targets**

#	Key Result Area	Target	Implementation Timeline
1	Avoid and reduce waste generation	Maintain regional waste generation at 9.5kg per capita per week	2020-2021
2	Increase recycling	Implement kerbside recycling for all member Councils	2020-2021
3	Divert more waste from landfill	Achieve a regional resource recovery rate of 50%	2020-2021
4	Manage problem wastes better	Deliver at least one community recycling centre within each member Councils district	2020-2021
5	Reduce litter	Establish a baseline and reduce the incidence of litter by 10%	2020-2021
6	Reduce illegal dumping	Establish a baseline and reduce the incidence of illegal dumping in the region by 10%	2020-2021

RAMROC recognises and appreciates that there is a lack of reliable and accurate waste data available to establish baseline positions. This in turn reduces the RAMROC's ability to set targets however, waste data will be a key focus area over the next 5 years.

## 4 How will we get there?

In order to successfully implement the strategy and place RAMROC member Councils in the desired position to achieve targets, a clear path must be set that outlines the approach and direction towards a sustainable waste management system.

This path is comprised of the following priority themes in which RAMROC will be proactive and implement projects that are relevant, collaborative, cost effective, sustainable and/or improve resource recovery across the region.



### 4.1 Leadership, facilitation and empowerment

RAMROC will lead by example, facilitate knowledge sharing and empower member Councils with the resources to make informed decisions to improve waste management practices within their communities. RAMROC intends to do this through the following actions:

Action		Detail of Action
1.1	Community events	Maintain existing and identify new opportunities for RAMROC to present innovative resource recovery ideas to the community and deliver educational campaigns.
1.2	Sustainable practices	Develop sustainable operational practices for waste management facilities which demonstrate leadership within the community and that provides staff with a sense of responsibility.
1.3	Training plan	Provide training opportunities for staff at waste management facilities to assist with implementing best practice principles.
1.4	Online information	Develop a website dedicated to each of the waste groups which will facilitate easy access to information on waste facilities, services and hours of operation.

The success of the leadership, facilitation and empowerment approach will be measured by recognition of a more engaged, informed and enthusiastic community, complemented and supported by, better waste management practices by member Councils.



## 4.2 Education and marketing

Recycling and waste education is a critical component within a sustainable waste management system as it influences behaviours within the community and facilitates change. A powerful and successful education strategy should coincide with a targeted and effective marketing campaign which ensures the messages are heard, engaging and understood by the community.



The focus of education material will relay the principles of the Waste Hierarchy in addition to informing the community of events and services with the best approach being holistic and encompassing all sectors of the community. The following actions will assist RAMROC in achieving this:

Action		Detail of Action
2.1	Murray Waste Group Rebranding	Create and implement a new brand and associated branding and identity collateral that markets the Murray Waste Group as a relevant environmental group and engages the community.
2.2	RAMROC website	Update and continue to improve and maintain the RAMROC website with new branding, resources and links to relevant information.
2.3	Education Strategy	Develop a waste education strategy to set the path for waste education and implementation into the future.
2.4	Education Campaign	Implement a regional waste education campaign (potentially based on the Halve Waste Initiative) to reduce waste going to landfill.
2.5	Advertising	Promote and advertise RAMROC initiatives in particular the Education Campaign through different media formats: TV, print and social.
2.6	Social Media	Engage with the community through social media by creating, maintaining and updating accounts across different social media platforms.
2.7	Consistent signage	Implement a consistent approach to signage at all waste management facilities across RAMROC utilising the EPA's CRC signage as a baseline.

To measure the success of the proposed education and marketing to be undertaken by RAMROC, the following will be apparent:

- Greater engagement with RAMROC member Councils by the community;
- Changes in waste management behaviours and expectations;
- Creation of innovative ideas and projects;
- Reduction in waste generation; and
- Community pressure to improve practices.

## 4.3 Regional collaboration

A regional approach supports knowledge sharing and the generation of greater economies of scale and therefore provides the RAMROC with the ability to collaborate during procurement, planning, funding and implementation of waste management related projects. Through a collaborative approach, there is real potential for the RAMROC to move towards a cost effective sustainable waste management solution that provides best practice services to the community that may not otherwise have been possible, thereby resulting in social and environmental benefits.

Through the development of this Strategy, RAMROC member Councils have taken the necessary steps to continue the development of a regional approach which builds upon the work already undertaken. The following actions will continue this collaborative approach:

Action		Detail of Action
3.1	Sustainable procurement	Continue to develop and facilitate regional procurement and/or contracts across a range of recycling and waste services.  Prepare a guideline for member Councils to use in facilitating greater use of recycled materials within projects or operations. The guideline shall provide information that assist decision makers to understand the benefits and implement the practices.
3.2	Funding applications	Continue to collaborate with RAMROC member Councils to identify projects that can achieve beneficial outcomes for all participants and apply for funding.
3.3	Collections	Work to align contracts with neighbouring councils to facilitate and transition towards future regional collaboration on procurement for recycling and waste collections.
3.4	Education and ideas	Continue to facilitate and improve knowledge sharing and ideas with RAMROC member Councils through periodic meetings, forums and the RAMROC website Resources Library.
3.5	Infrastructure planning	Prepare a Regional Recycling and Waste Infrastructure Strategy which guides RAMROC's transition to a sustainable waste management system.

Successful regional collaboration will be demonstrated by RAMROC member Councils having achieved environmental, social and/or economic benefits from undertaking joint projects at a sub-regional or regional scale.

## 4.4 Holistic approach

A holistic approach does not consider a singular waste stream such as MSW, a holistic approach instead plans for and considers all waste streams that are, or may in the future, require services by RAMROC member Councils. In particular, the C&I and C&D waste streams which are generated in significant quantities across the State; however, these are not tracked or quantified as required therefore making it difficult to make informed decisions regarding the correct level of waste management services.

A sustainable waste management system, applied holistically, requires initiatives from across all levels of the Waste Hierarchy and to do so, requires the knowledge of what material is being generated. Therefore, the following actions should not be considered in isolation but as part of an integrated system associated with other themes within this Strategy to assist in delivering a range of actions within the RAMROC region:

Action		Detail of Action
4.1	Waste streams	Undertake an assessment to identify, record, quantify and understand the different waste streams that are generated within the region in particular the sources and quantities of C&I and C&D waste. Annually update this information through reconciliation with captured waste data across the region.
4.2	Planning	Undertake waste management planning that takes a holistic approach by considering all waste streams that are serviced and/or managed by the member Councils (MSW, C&I and C&D).
4.3	Problematic waste	Develop resources which member Councils can use to assist with managing problematic waste in particular, asbestos.

The success of a holistic approach will be measured by the number of initiatives and projects introduced that have considered and planned for all waste streams and associated waste types both now and into the future. In addition, these initiatives must complement one another and form an integrated system which utilises initiatives from across all levels of the Waste Hierarchy.

## 4.5 Waste data

To make informed decisions, relevant information must be known and considered. Unfortunately, most member Councils within the RAMROC are unaware of critical pieces of information which would assist in implementing better waste management practice. In particular, little is known about waste composition, nor is there consistent classification, recording and management of waste data. Without useable, reliable data that can be interrogated, the RAMROC member Councils may be implementing services that are sub-optimal.

To improve waste data collection, classification and management the following actions should be implemented by RAMROC:



Action		Detail of Action
5.1	Waste audits	Undertake waste audits across RAMROC to understand the waste composition on the various waste streams. Compositional audits will also provide a baseline which performance can be measured and allow councils to make informed decisions.
5.2	Waste classification	Create a simple and practical waste classification system for all waste streams and types to be recorded which aligns with legislated definitions.
5.3	Data recording	Prepare a guideline which details the approach required to record useable waste data including at waste management facilities.
5.4	Infrastructure	Determine the feasibility of expanding the network of weighbridges across the RAMROC region including the provision of weighbridges at new waste management facilities (public and private).



The implementation of the waste data initiatives will provide RAMROC member Councils with reliable information that can be utilised strategically to assist in the implementation of projects tailored to each member Council and therefore, have a greater likelihood of long-term success. Consequently, the measurement of success will be to identify the effective long-term projects implemented locally, sub-regionally or regionally across the RAMROC region.

## 4.6 Resource recovery services

The implementation of an integrated network of resource recovery services and facilities across the RAMROC region will assist in delivering the environmental benefits obtained from recycling while being more cost effective. RAMROC member Councils should consider a range of services and implement those which is best suited to their particular situation in order to:



- Reduce waste to landfill thereby extending the landfill life;
- Increase availability of recycling services;
- Encourage source separation;
- Generate revenue from the sale of recycled components;
- Be recognised for Best Practice;
- Increase community appreciation for Council;
- Assist with achieving targets; and
- Influence consumer behaviour.

RAMROC member Councils will strive to achieve these results by undertaking the following actions:

Action		Detail of Action
6.1	Collection services	Undertake a feasibility study of the implementation of 2 or 3 bins systems across the RAMROC Region for those member Councils who do not have such a service.
6.2	C&D processing	Facilitate greater C&D processing through a regional collaboration (i.e. regional contract).
6.3	Drop-off services	Investigate the need and implement better practice at recycling and waste drop-off locations.
6.4	Public place / event collections	Prepare a guideline for member Councils to utilise in implementing best practice associated with public place and event collections in particular the potential contractual arrangements with waste collection service providers.
6.5	Illegally dumped waste collections	Develop a RAMROC illegal dumping strategy which will provide guidance on prevention, enforcement, management, collection and disposal of illegally dumped waste. Implement the strategy by offering the necessary training to RAMROC member Councils.
6.6	Mobile processing plant	Research available types of mobile processing equipment and operators in the market to assist with waste processing of certain waste streams. This may be facilitated through a regional contract.

The success of the resources recovery services implemented in accordance with the Strategy will be measured through the following means:

- Increased availability of recycling services to all communities across the RAMROC region;
- A reduction in waste to landfill;

- Increased quantities of source separated materials;
- Increase in revenue created from the sale of recycled materials;
- Increased recognition and appreciation for member Councils by the community;
- Changes in consumer behaviour which avoids waste generation or reduces and/or reuses materials.

## 4.7 Waste management infrastructure planning

To support improved practices and resource recovery at existing waste management facilities across the RAMROC region, the member Councils need to plan for the future in order to transition towards a sustainable waste management system. The infrastructure required to provide the necessary resource recovery and waste management services needs to be strategically identified and implemented across all RAMROC member Councils.

In combination with the known True Cost of Landfilling and the State Resource Recovery Infrastructure Strategy, RAMROC member Councils should now devise a plan to improve environmental performance, consolidate the number of waste disposal facilities and establish more resource recovery infrastructure. The necessary waste management infrastructure planning required to achieve this is outlined within the following table:



Action		Detail of Action
7.1	Facility management changes	Prepare a report which outlines the potential impact of the amendment to the Protection of the Environment Operations (Waste) Regulation and the <i>scrap metal regulations</i> to RAMROC member Councils.
7.2	Operational manuals	Prepare operational manuals which outlines the approach to sustainable waste management facility (landfill, transfer station, drop-off facility) operation for use by RAMROC member Councils as guidance towards best practice.
7.3	Container deposit	Assess the opportunities that the CDS may present to the RAMROC including expansion of existing recycling infrastructure.
7.4	Resource recovery plan	Prepare a Regional Resource Recovery Infrastructure Plan which assesses the feasibility and outlines the plan to implement the following: <ul style="list-style-type: none"> <li>• Clean MRF;</li> <li>• CDS collection points/Drop-Off Facilities; and</li> <li>• Organics Processing.</li> </ul>
7.5	Landfill rationalisation	Prepare a Regional Waste Disposal Strategy to determine the most cost effective long term landfilling options across the RAMROC region. Options should consider regional and sub-regional facilities.
7.6	Sub-regional facilities	Identify suitable locations for long-term regional or sub-regional best practice infrastructure and understand the requirements to secure these facilities for long-term waste management purposes.
7.7	Waste management guidelines	Develop a Waste Management Guideline for RAMROC member Councils which assists Councils include provisions for waste and recycling services in Development Applications including commercial, high-rise developments and mixed-use buildings.

Waste management infrastructure planning is a critical component in transitioning to a sustainable waste management system. Its success will be measured by an improved environmental performance, the consolidation of several waste facilities and an increase in the establishment of resource recovery infrastructure. The planning will also need to be adaptable, flexible and provide the RAMROC member Councils with the opportunity to implement best practice infrastructure. Consequently, the successful implementation of waste management infrastructure planning will:

- Reduce the average cost per tonne to manage waste and recycling materials;
- Increase resource recovery processing capacity;
- Increase compliance at waste management facilities;
- Present the RAMROC member Councils with greater opportunity to develop financial autonomy;
- Increase the recoverable material collected and reduce the material for disposal;
- Identify, secure and safeguard best practice, long-term waste management facilities.

## 4.8 Funding opportunities

Due to small populations, low volumes of material and scarce revenue, most small RAMROC member Councils cannot justify the expense of implementing most of the initiatives outlined within this Strategy. It is therefore critically important to most RAMROC member Councils that funding is acquired through the necessary means to assist in developing a sustainable waste management system.

In order to improve the likelihood of funding application success, RAMROC should undertake a more coordinated and centralised approach to funding applications and opportunities across the region. It is vital that RAMROC is proactive and pre-empts and plans for funding opportunities prior to release, identifies suitable funding sources and seeks partnerships to demonstrate collaboration and increase performance. Through the following approach, RAMROC will have a greater chance of obtaining funding which in-turn will facilitate the implementation of the required actions to meet its waste management objectives, goals and targets:

Action	Detail of Action
8.1 Funding opportunities and applications	<p>Plan for and understand the anticipated funding application timelines and prepare necessary information ready for inclusion in funding applications when required.</p> <p>Identify a range of sources (local, state and federal, private) for funding that may be available to member Councils or regional groups. Understand if multiple sources of funding can be utilised for single projects to reduce member Council's capital outlay on projects.</p> <p>Develop a clear strategy which outlines the approach towards funding application preparation and who is responsible for actioning.</p> <p>Engage with stakeholders such as RAMROC member Councils, private industry and communities to identify projects worthy of seeking funding.</p> <p>Seek partnerships with community groups and private industry to bolster applications and extend the impact/influence of the project.</p>

Grant funding can make a significant difference to the waste management services and/or infrastructure of the RAMROC member Councils therefore, it is important that funding opportunities are sought after whenever possible. To measure the success of a coordinated approach to funding opportunities and applications, an increase in the number of successful applications for member Councils, businesses, schools and community groups would be evident.

## 5 What are the actions required?

The Action Plan identifies the relevant themes and actions required to be undertaken, the responsibilities for each action, the priority of the actions and the estimated budget for achievement. The Action Plan identifies tasks to be implemented over the next five years and is shown in **Table 5-1**.

**Table 5-1: Action Plan**

Theme	Action		Detail of Action	Responsibility	Timeline
<b>1. Leadership, Facilitation &amp; Empowerment</b>	1.1	Community events	Maintain existing and identify new opportunities for RAMROC to present innovative resource recovery ideas to the community and deliver educational campaigns.	MWGRC & RWGRC	Now
	1.2	Sustainable practices	Develop sustainable operational practices for waste management facilities which demonstrate leadership within the community and that provides staff with a sense of responsibility.	All	Year 1
	1.3	Training plan	Provide training opportunities for staff at waste management facilities to assist with implementing best practice principles.	All	Year 2
	1.4	Online information	Develop a website dedicated to each of the waste groups which will facilitate easy access to information on waste facilities, services and hours of operation.	MWGRC & RWGRC	Now
<b>2. Education and Marketing</b>	2.1	Murray Waste Group Rebranding	Create and implement a new brand and associated branding and identity collateral that markets the Murray Waste Group as a relevant environmental group and engages the community.	MWGRC	Now
	2.2	RAMROC website	Update and continue to improve and maintain the RAMROC website with new branding, resources and links to relevant information.	MWGRC & RWGRC	Now
	2.3	Education Strategy	Develop a waste education strategy to set the path for waste education and implementation into the future.	MWGRC & RWGRC	Year 1
	2.4	Education Campaign	Implement a regional waste education campaign (potentially based on the Halve Waste Initiative) to engage, educate and empower the community.	All	Year 1
	2.5	Advertising	Promote and advertise RAMROC initiatives in particular the Education Campaign through different media formats: TV, print and social.	MWGRC & RWGRC	Year 1
	2.6	Social Media	Engage with the community through social media by creating, maintaining and updating accounts across different social media platforms.	MWGRC & RWGRC	Now
	2.7	Consistent signage	Implement a consistent approach to signage at all waste management facilities across RAMROC utilising the EPA's CRC signage as a baseline. Continue to develop and facilitate regional procurement and/or contracts across a range of recycling and waste services.	All	Year 1
<b>3. Regional Collaboration</b>	3.1	Sustainable Procurement	Prepare a guideline for member Councils to use in facilitating greater use of recycled materials within projects or operations. The guideline shall provide information that assist decision makers to understand the benefits and implement the practices.	MWGRC & RWGRC	Year 1-2
	3.2	Funding Applications	Collaborate with RAMROC member Councils to identify projects that can achieve beneficial outcomes for all participants and apply for funding.	All	Now
	3.3	Collections	Work to align contracts with neighbouring councils to facilitate and transition towards future regional collaboration on procurement for recycling and waste collections.	All	Year 3-4
	3.4	Education & ideas	Facilitate and improve knowledge sharing and ideas with RAMROC member Councils through periodic meetings, forums and the RAMROC website Resources Library.	MWGRC & RWGRC	Year 1
	3.5	Infrastructure Planning	Prepare a Regional Recycling and Waste Infrastructure Strategy which guides RAMROC's transition to a sustainable waste management system.	MWGRC & RWGRC	Year 1-2



Theme	Action		Detail of Action	Responsibility	Timeline
<b>4. Holistic Approach</b>	4.1	Waste Streams	Undertake an assessment to identify, record, quantify and understand the different waste streams that are generated within the region in particular the sources and quantities of C&I and C&D waste. Annually update this information through reconciliation with captured waste data across the region.	All	Year 1
	4.2	Planning	Undertake waste management planning that takes a holistic approach by considering all waste streams that are serviced and/or managed by the member Councils (MSW, C&I and C&D).	All	Now
	4.3	Problematic Waste	Develop resources which member Councils can utilise to assist with managing problematic waste in particular asbestos.	MWGRC & RWGRC	Now
<b>5. Waste Data</b>	5.1	Waste Audits	Undertake waste audits across RAMROC to understand the waste composition on the various waste streams. Compositional audits will also provide a baseline which performance can be measured and allow councils to make informed decisions.	All	Year 1
	5.2	Waste Classification	Create a simple and practical waste classification system for all waste streams and types to be recorded which aligns with legislated definitions.	MWGRC & RWGRC	Year 2
	5.3	Data Recording	Prepare a guideline which details the approach required to record useable waste data including at waste management facilities.	MWGRC & RWGRC	Year 2
	5.4	Infrastructure	Determine the feasibility of expanding the network of weighbridges across the RAMROC region including the provision of weighbridges at new waste management facilities (public and private).	MWGRC & RWGRC	Year 1
<b>6. Resource Recovery Services</b>	6.1	Collection Services	Undertake a feasibility study of the implementation of 2 or 3 bins systems across the RAMROC Region for those member Councils who do not have such a service.	MWGRC & RWGRC	Year 1-2
	6.2	C&D Processing	Facilitate greater C&D processing through a regional collaboration (i.e. regional contract).	All	Now
	6.3	Drop-Off Services	Investigate the need and implement better practice at recycling and waste drop-off locations.	MWGRC & RWGRC	Year 2
	6.4	Public Place / Event Collections	Prepare a guideline for member Councils to utilise in implementing best practice associated with public place and event collections in particular the potential contractual arrangements with waste collection service providers.	MWGRC & RWGRC	Year 3
	6.5	Illegally Dumped Waste Collections	Develop a RAMROC illegal dumping strategy which will provide guidance on prevention, enforcement, management, collection and disposal of illegally dumped waste. Implement the strategy by offering the necessary training to RAMROC member Councils.	MWGRC & RWGRC	Year 2
	6.6	Mobile Processing Plant	Research available types of mobile processing equipment and operators in the market to assist with waste processing of certain waste streams. This may be facilitated through a regional contract.	MWGRC & RWGRC	Year 1
<b>7. Waste Management Infrastructure Planning</b>	7.1	Facility Management Changes	Prepare a report which outlines the potential impact of the amendment to the Protection of the Environment Operations (Waste) Regulation and the <i>scrap metal regulations</i> to RAMROC member Councils.	MWGRC & RWGRC	Now
	7.2	Operational Manuals	Prepare operational manual which outline the approach to sustainable waste management facility (landfill, transfer station, drop-off facility) operation for use by RAMROC member Councils as guidance towards best practice.	MWGRC & RWGRC	Year 1
	7.3	Container Deposit	Assess the opportunities that the CDS may present to the RAMROC including expansion of existing recycling infrastructure.	All	Now



Theme	Action		Detail of Action	Responsibility	Timeline
	7.4	Resource Recovery Plan	Prepare a Regional Resource Recovery Infrastructure Plan which assesses the feasibility and outlines the plan to implement the following: <ul style="list-style-type: none"> <li>Clean MRF;</li> <li>CDS collection points/Drop-Off Facilities; and</li> <li>Organics Processing.</li> </ul>	MWGRC & RWGRC	Year 1-2
	7.5	Landfill Rationalisation	Prepare a Regional Waste Disposal Strategy to determine the most cost effective long term landfilling options across the RAMROC region. Options should consider regional and sub-regional facilities.	MWGRC & RWGRC	Year 2
	7.6	Sub-Regional Facilities	Identify suitable locations for long-term regional or sub-regional best practice infrastructure and understand the requirements to secure these facilities for long-term waste management purposes.	All	Year 1
	7.7	Waste Management Guidelines	Develop a Waste Management Guideline for RAMROC member Councils which assists Councils include provisions for waste and recycling services in Development Applications including commercial, high-rise developments and mixed-use buildings.	MWGRC & RWGRC	Year 3
<b>8. Funding Opportunities</b>	8.1	Funding Opportunities & Applications	Plan for and understand the anticipated funding application timelines and prepare necessary information ready for inclusion in funding applications when required. Identify a range of sources (local, state and federal, private) for funding that may be available to member Councils or regional groups. Understand if multiple sources of funding can be utilised for single projects to reduce member Council's capital outlay on projects.	All	Now
			Develop a clear strategy which outlines the approach towards funding application preparation and who is responsible for actioning.		
			Engage with stakeholders such as RAMROC member Councils, private industry and communities to identify projects worthy of seeking funding.		
			Seek partnerships with community groups and private industry to bolster applications and extend the impact/influence of the project.		

Responsibilities Legend:

**All** - All RAMROC member Councils and Regional Coordinators

**MWGRC** – Murray Waste Group Regional Coordinator

**RWGRC** – Riverina Waste Group Regional Coordinator



**Riverina  
And  
Murray  
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Organisation of  
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