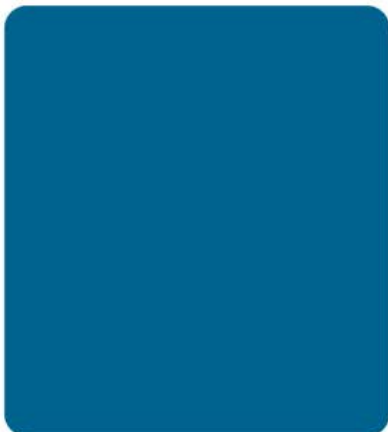


WASTE MANAGEMENT STRATEGIC PLAN

2014 - 2018



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Executive summary

Waste management is an important service provided by Council to the community. This service helps:

- Keep the community and environment safe from items which are potentially hazardous or an environmental nuisance provided that the items are handled, transported and treated correctly;
- Enables valuable resources to be recovered for reuse or recycling including the return of nutrients and carbon to the soil through composting of green waste / organic materials.

Council customers include residential and commercial communities, with approximately 40% of the region's waste originating from residential sources and 60% from commercial sources.

Council has implemented systems and provides services to these communities to handle waste from point of disposal to the ultimate destination whether – recycling or disposal to landfill. While Council provides these waste management and recycling services to the community, the community also has a responsibility for the handling waste generated in an appropriate manner and ensuring the lawful disposal.

To inform the broader community about these responsibilities Council, also provides a community engagement program to provide education and information to the community about how to reduce waste generation, correct recycling and waste management.

This document, the Waste Management Strategic Plan 2014 – 2018, presents Mackay Regional Council's vision for the management of solid waste in the Mackay Region. The current waste quantities and situation are presented along with the actions and initiatives MRC intends to implement in the period 2014 to 2018.

1 Introduction

1.1 Purpose

This Waste Management Strategic Plan (WMSP) has been developed as part of the commitment the Mackay Regional Council (MRC) has to provide a sustainable, vibrant and innovative waste management service to the Mackay Regional Council region.

Through this document Council will describe strategies and measurable actions to be undertaken over the next five years 2014- 2018.

This Plan details the findings of an assessment of the current waste management system and future strategies and identifies the future needs of MRC's waste management system as a result of this assessment. This document is presented with the aim of communicating to the community, the strategies and actions planned for the near future.

MRC is aiming to become a resource efficient region over time and to do so will work towards a substantial reduction in the entire waste stream sent to landfill. Resource management helps conserve raw materials and natural resources such as water, reduces energy use and carbon emissions and helps mitigate climate change, and through new industries creates economic growth and increased employment. It is not only about recycling and diverting materials from landfills, but it is also about restructuring production and distribution systems to prevent waste from being produced in the first place.

This Waste Management Strategic Plan sets targets for solid waste reduction, and resource recovery and specific targets and actions for the Mackay region and business sectors to deliver more sustainable use of resources by 2018, although it focuses upon waste streams and customers which are typically managed by local government and represent the majority of volume or transactions managed by Council.

Liquid and hazardous waste have not been considered within this strategy. Liquid waste is managed by Mackay Water and hazardous waste represents a very small proportion of the waste stream and hazardous waste received from domestic customers is temporarily stored by Council and disposal is managed via an appropriately licensed hazardous waste contractor to Council.

Infrastructure assessments have focused upon the current and proposed transfer stations and the Hogan's Pocket Landfill and on the waste material which would generally be landfilled.

1.2 Approach

The Mackay Regional Council Waste Management Strategic Plan has been developed through a process that can be summarised as follows:

- Review of policy, legislation context;
- Review of services and infrastructure and related technical matters;
- Consultation and workshops with Council officers and Councillors;
- Development of strategies and actions;
- Community consultation via release of draft Waste Management Strategic Plan on Mackay Regional Council's website for public review and comment from 11 September to November 2013;
- Industry consultation (30 and 31 October 2013).

1.3 Council's role

The Mackay Regional Council role in the management of the region's waste is to:

- Supply waste management services such as waste and recycling collection and residual waste disposal services to the community;
- Work with industry to seek beneficial reuse of resources recovered from waste locally where possible;
- Encourage community involvement and motivation around waste reduction, recycling, appropriate management, appropriate handling and disposal and provide services to facilitate these;
- Encourage and facilitate local reuse of waste by specifying and reusing waste construction and demolition materials in Council infrastructure projects;
- Identify areas of need in the community around waste management.

2 Strategic framework

2.1 Legislative and policy overview

There are a number of Queensland and Commonwealth statutory environmental requirements, policies and guidelines that have to be taken into consideration in order to develop appropriate waste management initiatives for this plan and to identify incentives for the reduction and recycling of waste material.

These legislative and policy drivers include:

- Australian legislation and policy:
 - National waste policy
 - Carbon pricing mechanism
 - Carbon Farming Initiative
 - *National Greenhouse and Energy Reporting Act (NGER Act) 2007*
 - *Clean Energy Act 2011*
 - *Clean Energy Legislation Amendment Act 2012*
 - *Product Stewardship Act 2011*
- Queensland legislation and policy:
 - *Environmental Protection Act 1994*
 - Environmental Protection Policy and Regulations
 - Queensland Waste Reduction and Recycling Strategy 2010 – 2020
 - Sustainable Planning Act
 - Local Government Act
 - *Waste Reduction and Recycling Act 2011*
 - *Environmental Protection (Greentape Reduction) and Other Legislation Amendment Act 2012*
- Regional initiatives;
- Mackay Regional Council plans and policies.

The key principle underpinning the waste management strategic plan is the waste and resource management hierarchy (refer Figure 2.1). The waste hierarchy places waste avoidance as the most preferred option and waste disposal the least preferred. All the policies developed by all levels of government are based on this principle.

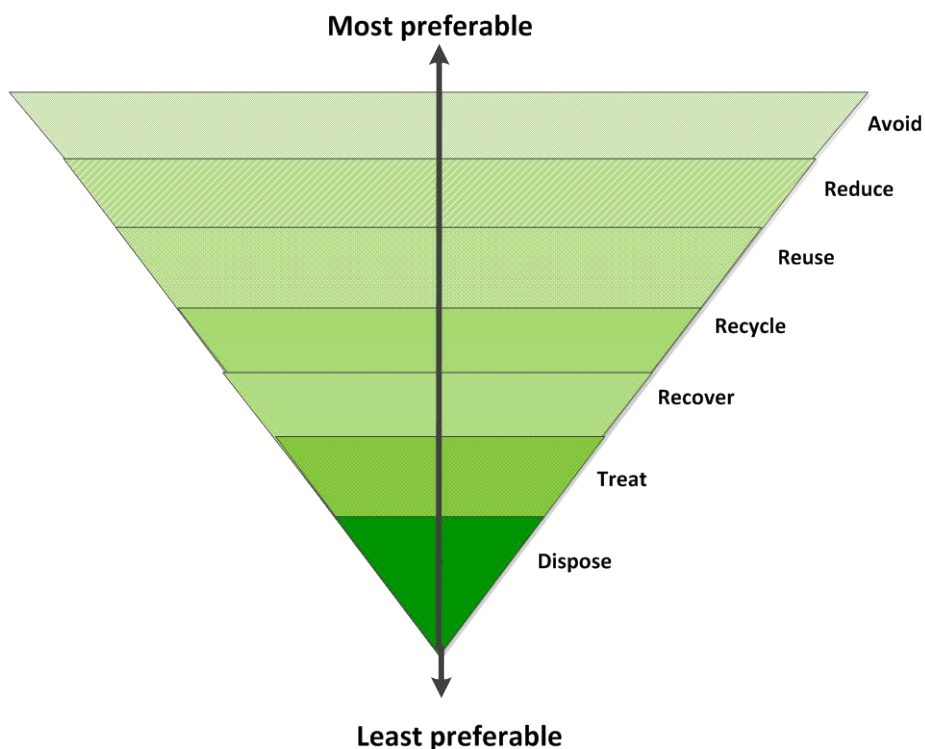


Figure 2.1 Waste and resource management hierarchy

Appendix A provides a brief summary of the National and State policies and initiatives that are relevant to this plan.

2.2 General waste trends and issues

2.2.1 Queensland Government targets

The Queensland's Waste Reduction and Recycling Strategy 2010 – 2020 sets targets aimed at tackling waste generation optimising opportunities for recovering, reusing or recycling materials and end-of-life products. While it is possible that these targets may be reviewed by the current and future State governments, the current targets are summarised in Table 2-1 below.

Table 2-1 Summary of Queensland's Reduction and Recycling Strategy 2010 – 2020 targets

Queensland's Waste Reduction and Recycling Strategy 2010 – 2020 Targets	Projected target by 2014 (compared to business-as-usual projections)
Reduce waste disposal to landfill	Reduce landfill disposal by 25 %
Increase recycling of construction and demolition waste	50%
Increase recycling of commercial and industrial waste	40%
Increase recycling of regulated waste	30%
Increase recycling of municipal solid waste ¹	5%
Reduce generation of waste ²	5 % reduction

¹ Current State average is 80 kg per person per year. State has set Target 150, aiming to increase recycling of household waste to 150 kg per person per year

² Current State average is 2.3 tonnes per person per year

2.2.2 Clean Energy Act

The introduction of the carbon pricing mechanism (CPM) on 1 July 2012 introduces a price signal on waste disposed to landfill for landfills which emit greater than 25,000 tonnes of CO₂-e. This affects MRC as its only operational landfill at Hogan's Pocket is captured by the CPM. The implications of this are:

- Council is a liable entity under this legislation and needs to report emissions from Hogan's Pocket landfill under the National Greenhouse and Energy Reporting Act ;
- Council needs to assess its liability under the CPM and acquire and surrender carbon units to satisfy its liability;
- Council needs to put in place systems and resources to manage these liabilities.

2.2.3 Waste disposal to landfill levy

Between November 2011 and June 2012, solid waste disposed to landfill from commercial sources was subject to an industry waste levy of \$35 per tonne for general waste and \$50 to \$150 for low and high hazardous waste. While this levy was subsequently removed following a change in State government, over the life of this plan it is possible that some sort of price signal for waste disposed to landfill will be reintroduced. The implications of such a price signal are:

- A future landfill disposal price signal may drive resource recovery behaviours and therefore potentially increase the number of MRC waste services customers seeking alternatives to waste disposal to landfill;
- That in addition to business planning purposes, Council will need to maintain its weighbridge measurement software and have the ability make adjustments to gate fees based upon customer and waste types.

2.2.4 Product Stewardship - National Television and Computer Recycling Scheme

The National Television and Computer Recycling Scheme will provide Australian householders and small business with access to free recycling services for televisions and computers, printers and computer products (such as keyboards, mice and hard drives) regardless of their brand and age. The Scheme does not cover other e-waste products. The Scheme aims to boost the recycling rate for television and computer products in Australia from an estimated 17 per cent in 2010 to 30 per cent in 2012-13 and 80 per cent by 2021-22. The Scheme will be funded and run by the television and computer industry, and regulated by the Australian Government under the Product Stewardship Act 2011 and the Product Stewardship (Televisions and Computers) Regulations 2011.

Local government does not have any obligations under the Regulations and the Scheme does not change state, territory or local government responsibilities in relation to regulating waste. However, there may be opportunities for councils to participate in the Scheme³.

With the eventual expansion of e-waste collection services to the Mackay Region, Council will need to decide how to become involved in the scheme and evaluate the cost of participation Council will need to decide whether to enter into partnerships or commercial arrangements with the administrators of a co-regulatory arrangement to collect televisions and computers on behalf of the co-regulatory arrangement. In some instances e-waste drop off points are provided by computer and electrical goods retailers. The implications of this are:

- Council will need to evaluate the cost of participation in the scheme as some changes to existing services may be required for council to be a service provider or to partner with industry in the Scheme. For example, relevant environmental and occupational health and safety requirements

³ Source: National Television and Computer Recycling Scheme - Information for Local Government <http://www.environment.gov.au/settlements/waste/ewaste/local-government/index.html>

must be met and fees cannot be charged to householders or small business for the collection of products under the Scheme⁴.

2.2.5 Waste and recycling service providers in the region

Currently MRC is the sole provider of waste disposal services in the Mackay region through the operation of Hogan's Pocket landfill. However there are companies that provide waste and recycling collection services that operate and provide services to commercial customers in the region. Some of these companies utilise MRC landfills and waste transfer stations, others such as scrap metal merchants operate in isolation of MRC and may even provide recycling services to MRC.

MRC needs to develop and maintain knowledge of other participants/service providers in the region, to inform MRC Waste Services business planning.

2.2.6 Markets for material sourced via recycling and resource recovery from waste

Through Council's roles in leadership, owner/custodian, part or sole funder and direct service provider, MRC needs markets for material sourced via recycling and resource recovery from waste. Without these markets Council can only temporarily store the recovered resources until no more storage remains on its facilities. Currently a majority recovered resources from the MRF and scrap metal are transported to recycling merchants in south east Queensland.

MRC needs to develop and maintain knowledge of potential markets for recovered resources in the region as being local these would be the preferred destination for materials.

2.2.7 Regional cooperation

MRC participates in two regional bodies the Whitsunday Regional Organisation of Councils (Whitsunday ROC) and Local Authority Waste Management Advisory Committee (LAWMAC).

Through Whitsunday ROC and LAWMAC committee meetings, the participant Councils share information, discuss regional initiatives, advocacy and regional issues and discuss current waste industry issues and legislative requirements.

MRC needs to maintain contact with other local governments in the region to be able identify potential initiatives where mutual benefit can be derived through regional cooperation.

2.3 Mackay Regional Council plans and policies

Mackay Regional Council has committed to improving the waste management services and there is a legislative mandate to facilitate and promote environmental, social and economic use of resources.

It is important that Mackay Regional Council align to the Queensland Government's broader economic and strategies to complement the programs administered by other parts of Government and specifically other agencies in the environment portfolio.

Aurecon has reviewed existing reports such as the *Tomorrow's Mackay a vision for the community - Our Community Plan 2011 - 2031* and Mackay Regional Council Corporate Plan 2009 – 2014 to identify potential synergies and partnerships between stakeholders to achieve the region's objectives.

2.3.1 Tomorrow's Mackay Region

The document provides a vision for the Mackay Regional Council community and represents the desires of the Mackay's community for the future. It sets a long term vision and the actions to get there. Having such a plan means there is a clear direction for the region, with clear community

⁴ Source: National Television and Computer Recycling Scheme - Information for Local Government <http://www.environment.gov.au/settlements/waste/ewaste/local-government/index.html>

expectations, which is important for effective delivery of the planned actions. These aspirations and goals are summarised by the following statement about the Mackay Region:

“A vibrant prosperous lifestyle today - held in trust for tomorrow’s generations”

For communities to be sustainable, vibrant and liveable centres they need:

- Access to housing, good health, education and social services;
- A range of efficient transport options;
- Reliable infrastructure and public utilities;
- Infrastructure for active, healthy living - a variety of recreation and leisure opportunities;
- Future development, services and infrastructure to be focused on our urban areas;
- Access to a variety of affordable housing options;
- Services to be maintained and the character of our centres and rural settlements to be preserved;
- Efficient management of our water catchments;
- Control of rural/coastal development;
- Biodiversity and landscape values to be protected and enhanced;
- More economic activity, providing more job opportunities across the region;
- Development to be managed – avoiding new development in hazard-prone areas.



There are 9 planning themes for the regions:

1. Strong communities;
2. Natural environment and landscapes;
3. Natural resources;
4. Economic development;
5. Settlement patterns (where we live and work);
6. Infrastructure;
7. Transport and mobility;
8. Sustainability and climate change;
9. Regional leadership.

Mackay’s continued high rate of growth will continue and it is essential that infrastructure is built and refurbished in time to ensure that this growth is sustained into the future.

2.3.2 Mackay Regional Council Corporate Plan 2009 - 2014

The strategic priorities are those major opportunities and challenges that our community believes need to be addressed in the Mackay region. The key strategic priorities and their corresponding corporate objectives identified in the Corporate Plan are:

- Commercial Services: to provide and manage high quality water and waste programs on a commercial basis that meet social and environmental objectives;

- Economic Development: to promote a strong, competitive and diverse economy throughout the region by supporting and investing in sustainable business development and local employment opportunities;
- Council is responsible for meeting outcomes that are achieved in an appropriate workplace culture and environment. In support of this, the organisation will embrace the following guiding principles: Quality services and outcomes, integrity with accountability and responsibility, customer satisfaction, commitment to the region, value, teamwork and collaboration, participation and community engagement.

Corporate objective 6: To provide and manage high quality water and waste programs on a commercial basis that meet social and environmental objectives.

2.3.3 Council policies impacting waste management

There are four key Council policies impacting waste management. These policies are:

- Policy No 033 - Community Engagement Policy;
- Policy No 053 - Waste Collection Services – about provision of waste collection services;
- Policy No 061 – Corporate Environmental Policy;
- Policy No 062 – Corporate Sustainability Policy.

The primary implications of these policies on waste management are that Council:

- Council must consult with the community and interested parties to inform and finalise this waste management strategy;
- Will continue to provide waste management services and intends maintaining waste collection, recycling and disposal services and investing further in resource recovery and diversion from landfill where viable;
- is committed to improving the organisations environmental performance;
- is committed to preventing, managing, and minimising environmental impacts associated with our operations and activities;
- Actively promote and encourage the adoption of ecologically sustainable work practices and operations;
- Promotes the efficient use of energy, reduction of waste and recycling of materials in all of our Council operations and activities;
- Adopts and promotes resource and energy efficiency, waste reduction and recycling programs.

2.3.4 Population and regional growth

Based on state population projection figures, Mackay is projected to experience strong growth over the coming decades⁵. With one of the key drivers of waste generation being population this expected growth will have a significant impact on the quantity of waste that Council will need to manage.

2.4 Key issues and implications

Issues

There are a number of waste management trends and drivers that arise from the strategic setting within which Council operates, that MRC will have to face in the next five years including:

- Ongoing population growth;
- Community expectations regarding waste management and resource recovery services;
- Community expectations regarding environmental performance;
- Community expectations regarding cost;

⁵ Over the life of this plan (to 2017) MRC's population is expected to increase to around 135,000 people.

- Compliance with and/ or adaption to Council, State and Federal policies and initiatives;
- A need for better quality and more comprehensive waste management data.

Implications

These issues need to be considered and addressed by Mackay Waste Services over the life of this plan and have contributed to developing the plan's direction, initiative and actions. Specifically the plan includes actions to:

- Monitor and manage carbon liabilities;
- Address State waste strategy objectives;
- Initiate a program of waste composition audits to accurately identify the composition of the individual waste streams to understand the opportunities for resource recovery from waste;
- Recovery and diversion of e-waste;
- Review resource recovery infrastructure and service offerings.

3 Current waste management

3.1 Overview

3.1.1 Population and waste generation trends

Based on state population projection figures, the Mackay region is projected to experience strong growth over the coming decades with a regional population heading towards 200,000 people. With one of the key drivers of waste generation being population this expected growth will have a significant impact on the quantity of waste that Council will need to manage. Over the life of this plan (to 2018) MRC's population is expected to increase to around 135,000 people.

The Australian Bureau of Statistics reports that 0.88 tonnes of waste per person is landfilled per annum and 0.19 tonnes of waste per person is recycled by the population in the Mackay region⁶.

Over the coming decades rising consumption and greater demand for raw materials from the growing global population will lead to increasing pressure on supplies, depletion of natural resources and higher raw materials prices. This will make the recovery of raw materials from waste increasingly important and economically more attractive.

3.1.2 Waste quantities

Mackay Regional Council Waste Services has managed the following waste quantities for its residents and business community over the past few years:

Table 3-1 Summary of MRC waste disposed to landfill and resources recovered and comparative population

Waste type (tonnes)/ Population	2010-2011	2011-2012	2012-2013
Population (approximate) ⁷	118,600	121,100	123,800 ⁸
Waste			
Disposed to landfill (Hogan's Pocket Landfill)	97,789	104,581	115,581
Commingled recycling – kerbside collected (Paget MRF)	5,495	5,753	5,454 ⁹
Metals recycled (Scrap Metal Recycler)	1,506	2,178	2,342 ¹⁰
Green waste (stockpile and local reuse)	10,206	10,758	6,822
Waste total	114,996	123,270	130,199

Approximately 60% of the waste brought into MRC Waste Services Transfer Stations and Hogan's Pocket Landfill is from commercial sources (non-domestic).

⁶ Queensland percentage breakdown across Australian Bureau of Statistics (ABS) regions as reported in this survey (Waste Site Characterisation Survey, Qld, 2011)

⁷ Population and Dwelling Profile, Mackay Regional Council, Office of Economic and Statistical Research, Queensland Treasury and Trade (2012)

⁸ Forecast estimate of 2.3% population increase over 1 year

⁹ Due to a change in the methodology of recycling data collection in 2012/2013, this quantity is not confirmed

¹⁰ Annual quantity calculated as a proportion scrap metal recycling data over 9 months as 3 months of data are not available

3.1.3 Resource recovery

Based on typical annual tonnages, Council is currently recovering 14.4% of the waste streams that it is handling. This performance is detailed in Table 3-2 below which highlights that the majority of this diversion (8.1%) is coming from green waste recovery.

Table 3-2 Current performance of diversion from landfill

Key waste streams	Typical annual tonnage recovered	Typical annual tonnage landfilled	Percentages of total MRC wastes
Residual waste disposed to landfill at Hogan's Pocket	-	110,000	85.5%
Recycling kerbside collected	5,500	n/a	4.3%
Green waste	10,500	n/a	8.1%
Scrap metal	2,200	n/a	1.7%
Resource Recovery (Paget)	350 ¹¹	n/a	0.3%
Regulated waste (Paget)	-	100	0.1%
Total	18,550	110,100	100%
Percentage of total wastes	14.4%	85.6%	-

3.1.4 Community satisfaction with waste services

MRC currently has a high level understanding of community satisfaction with waste services through its routine customer surveys and this level of satisfaction, while focused mainly on collection services, is consistently high. However, in conjunction with this strategy and more generally on an ongoing basis, Council is investigating the means by which it can gauge satisfaction more comprehensively and in a more targeted manner.

3.2 Waste services

This section summarises the key waste management services provided by Council in terms of the type of services provided, contractual details and the facilities used to treat and dispose of the region's waste. As outlined in the Waste Collection Services Policy No 053 Approved by Council: 20 July 2011:

"Mackay Regional Council is committed to providing waste collection services, on a fee for service basis, that are economically and environmentally sustainable, with a focus on customer service delivery, cost effectiveness and quality. All single-unit dwelling residential premises and multi-unit dwelling premises located on a road serviced by council's waste and recycling contractors will be provided with a kerbside waste collection service by council or its nominated contractor"

Waste collection and facility operations contracts that service the region are outlined below:

Table 3-3 Summary collection contracts and expiry dates

Source	Type – collection/operation	Service provider	Contract expiry date
Municipal	Waste kerbside collection – Mackay and Sarina	Veolia	Feb 2015
	Waste kerbside collection - Mirani	JJ Richards	Feb 2015

¹¹ Some items purchased may not be weighed upon purchase from the Paget Tip Shop at the Paget Waste Management Centre. The actual quantity recovered for reuse is understood to be higher than this but cannot be accurately quantified.

Source	Type – collection/operation	Service provider	Contract expiry date
	Recycling kerbside collection – Mackay and Mirani	JJ Richards	Feb 2015
	Recycling kerbside collection - Sarina	Veolia	Feb 2015
Paget Transfer Station	Operation and waste transfer to landfill	Remondis	Oct 2014 (+1+1)
Landfill	Residual waste disposal – development and operation	Remondis	Oct 2014 (+1+1)
Green waste management	Chipping and shredding green waste	A.J.K. Contracting	Oct 2014
MRF	Operation of Materials Recycling Facility	Veolia	Feb 2015
Resource Recovery Operations	Collection/operation – Operation of resource recovery drop off and Tip Shop	Incredible Ltd	Oct 2014
Hazardous	Tyres, waste chemicals, other	Various providers engaged on relatively short term contracts.	
Metals			
Other			

Through these contracts and the efforts of Council staff, Mackay Regional Council offers the services as described in the following sections.

3.2.1 Kerbside waste collection services

Council currently provides 50,915 kerbside waste collection services. These services are described in more detail in Table 3-4.

Table 3-4 Summary of kerbside waste collection services

Rating categories	Properties/ customers	Number of Council waste services
Residential 1(a) to 1(d)	40,260	40,622
Multi-unit Dwellings (Res 1(e), 2(a), 2(b))	2,662	2,718
Commercial / Industrial 8(a) to 8(c)	2,381	2,421
Other (including Council/State/Fed/Sugar/Ports/Not for Profit)	4,373	5,154
Total	49,676	50,915
No Garbage Service (Vacant Residential & Commercial Land)	740	0

3.2.2 Kerbside domestic recyclables collection

The number of kerbside collection services in the Mackay region increases every year as Council expands the areas it services or the number of dwellings increases within existing serviced areas. The number of fortnightly kerbside domestic and commercial recycling collections generally increases at an annual rate of 2% to 3%. This is illustrated in Figure 3.1.

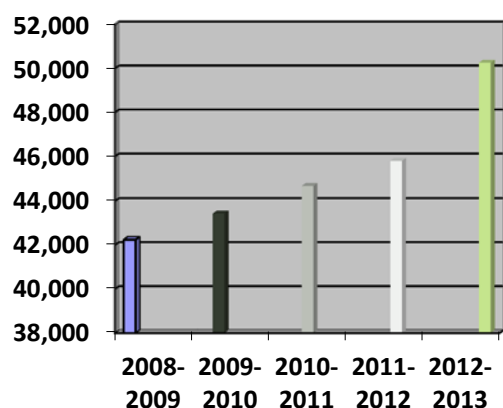


Figure 3.1 Kerbside commingled recycling collection services

3.2.3 Self-haul services

Council provides self-haul waste disposal services for domestic and commercial customers.

Council provides six permanent transfer stations and five temporary transfer stations for domestic customers and commercial small vehicle customers. These facilities are described in more detail in Section 3.3.

Council currently provides one transfer station (Paget) for use by commercial large vehicle customers. Commercial customers with large loads of residual waste are also permitted to enter the Hogan's Pocket landfill for waste disposal under certain circumstances.

3.2.4 Community engagement

Council currently delivers a program designed to engage with the community about management of waste in general. This program has the overall objective of informing and supporting the community to make more sustainable choices relevant to the prevention and management of waste. Council's Waste Education Officer coordinates and delivers the following program annually:

- Delivery of waste minimisation education programs at the Materials Recovery Facility, in schools and out in the wider community;
- Coordinate and participate in community events and deliver the waste minimisation and recycle right message to the wider community;
- Maintain and update waste information for schools and the wider community;
- Promote environmental education initiatives;
- Identify opportunities for continual improvement of the waste education program in the region.

Further information about the annual community engagement program delivered by Council is provided in Appendix C.

3.2.5 Emergency response/support

The *Disaster Management Act 2003* sets out the responsibilities of Local Governments during disasters. Council has prepared a Disaster Management Plan and Operational Plans for use in the event of a disaster, to meet the following categories:

- Preparedness;
- Response;
- Recovery.

For instance after the tropical cyclone Yasi on 2 February 2011, the Paget Waste Management Centre received at least double the regular quota of domestic customers and an additional 20,000 tonnes of waste was accepted for disposal during the cyclone clean up period.

3.3 Waste infrastructure

3.3.1 Waste transfer stations

Council currently provides six permanent transfer stations and five temporary transfer stations. The permanent facilities are located at:

- Paget Waste Management Centre;
- Bloomsbury rural transfer station;
- Eungella rural transfer station;
- Koliyo rural transfer station;
- Koumala rural transfer station;
- Seaforth rural transfer station.

Council has completed construction of a new transfer station at Sarina former landfill to replace the former temporary transfer station. The new facility commenced operation in October 2013.

The temporary waste transfer facilities are located at:

- Sarina former landfill (temporary transfer station);
- Gargett interim transfer station;
- Hay Point former landfill;
- Otterburn former landfill;
- Kuttabul rural transfer station.



Figure 3.2 New transfer station at the former Sarina landfill

Green waste disposal facilities are available at all of the permanent and temporary transfer stations as well as at the following dedicated green waste disposal facilities:

- Bucasia green waste facility;
- Walkerston green waste facility.

3.3.2 Paget waste management centre

The Paget Waste Management Centre provides the following services and facilities:

- Transfer station for residual waste transfer;
- Materials recovery facility for processing kerbside collected commingled recyclables;
- Resource Recovery Facility and Tip Shop;
- Green waste.

This facility receives in the order of 100,000 tonnes of residual waste, 4,500 tonnes of green waste, 1,500 tonnes of scrap metal and 5,500 tonnes of commingled recycling for processing annually. Based on these tonnages this site handles about 80% of the entire waste generated in MRC area.

In addition, tyres and batteries are accepted from domestic customers for recycling. Commercial customers with regulated waste are directed to a commercial waste management contractor for regulated waste treatment and disposal services.

3.3.3 Hogan's Pocket Landfill

Hogan's Pocket Landfill is an engineered landfill. It is based on a bioreactor design and after an estimated five years, Council envisages it will recover commercial quantities of landfill gas to generate power. On present estimates the landfill is predicted to have a life of 37 years. There is no public access to Hogan's Pocket Landfill; however there are some exceptions for special waste deliveries such as asbestos which is directed for disposal at the landfill at Council's discretion. Recent annual quantities of residual wastes landfilled at Hogan's Pocket landfill are:

- 2008/09 - 81,200 tonnes;
- 2009/10 – 85,100 tonnes;
- 2010/11 – 97,800 tonnes;
- 2011/2012 – 104,600 tonnes;
- 2012/2013 – 115,600 tonnes.

Hogan's Pocket Landfill is also licenced to accept a range of regulated wastes although in general the regulated wastes received only include:

- Asbestos;
- Approved contaminated soil;
- Clinical waste or quarantine waste that has been rendered non infectious;
- Fish processing waste;
- Food processing waste;
- Poultry processing waste;
- Tyres; and
- Treatment wastes or sludges produced in the carrying out sewage treatment or municipal water treatment.

3.3.4 Management of legacy landfills

Council manages 20 legacy landfills and former liquid waste sites in the region. This management is delivered via an ongoing monitoring program and a long term prioritised capital works plan that is progressively delivering closure, remediation and post-closure works. Previous capital works plans included the following key actions:

- Closure of old landfills;
- Remediation of closed landfills;
- Establishing a network of rural transfer stations to replace former landfills;
- Rationalisation of transfer station servicing arrangements across the region.

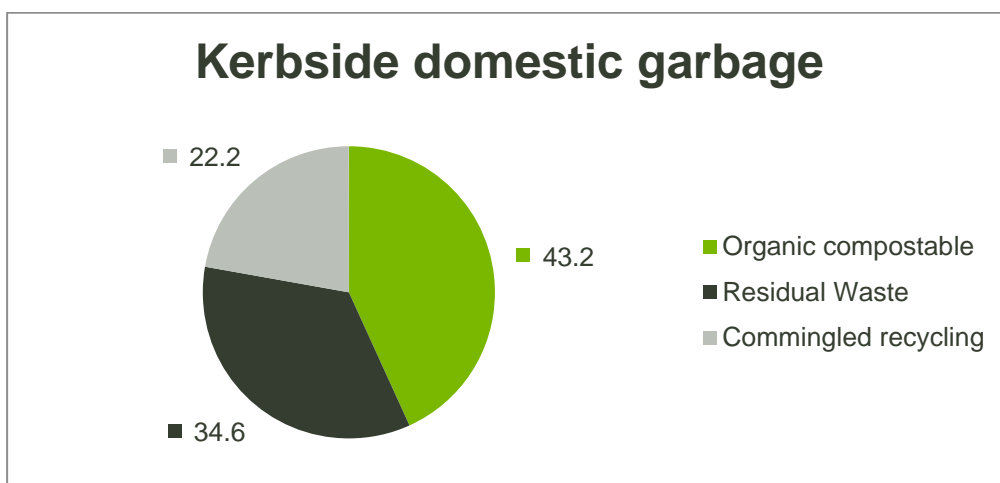
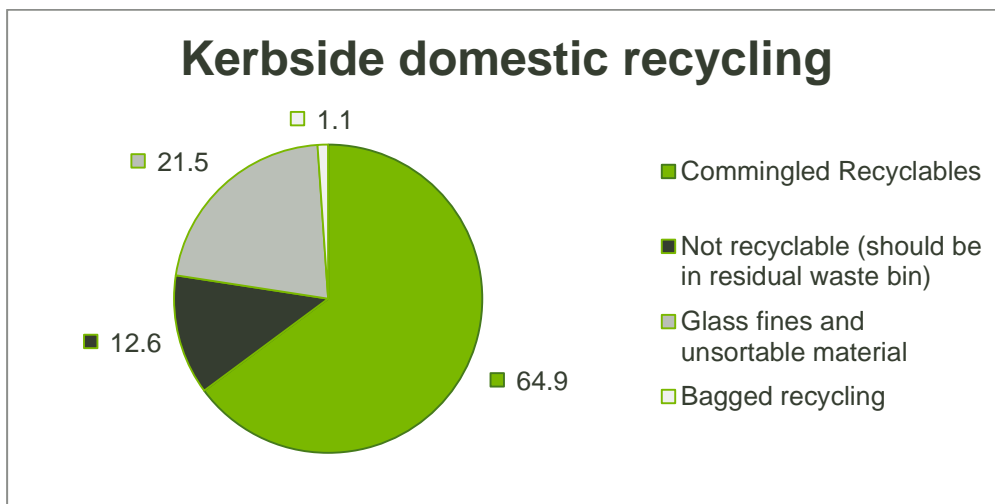
3.4 Waste composition

During June 2012, Council engaged Envirocom (MRC Waste Stream Composition Audit June 2012) to conduct a waste stream audit of the key waste streams kerbside collected municipal waste, kerbside collected municipal commingled recyclables, commercial waste stream and the construction and demolition waste stream. This survey provided an indicative assessment of the composition of the waste streams and highlighted where the opportunities are for additional resource recovery.

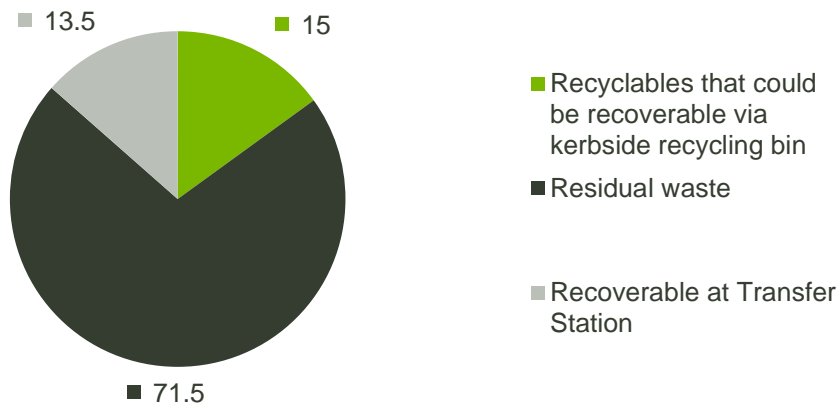
This survey was the first conducted for the whole MRC region and it is proposed that this audit will be conducted on a regular basis to monitor performance on an ongoing basis.

The following charts provide a summary of the waste stream composition information presented in the report (Envirocom 2012). The first chart shows that nearly 12.6% of material put into the kerbside recycling bin is not recyclable and should have been put in the residual waste bin. This non-recyclable material needs to be separated from the recyclable material at the MRF and is disposed to landfill.

This survey data is reflected in the data collected by MRC which indicates that around 16 to 18% of material put in the recycling bin is residual waste and 20% is glass fines.



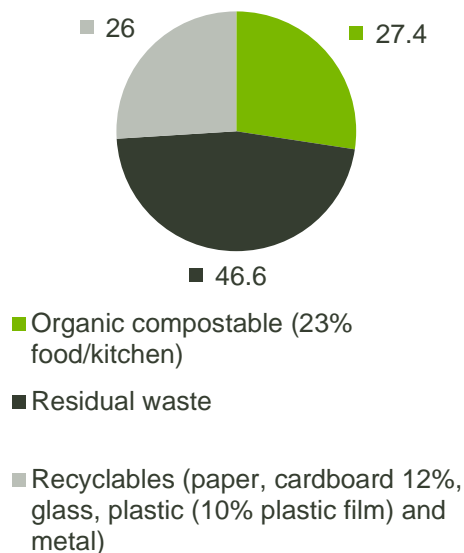
Domestic self-haul



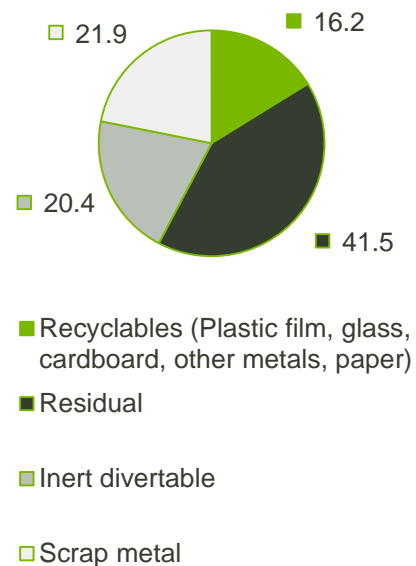
The findings of the three domestic waste composition audits indicate that the community could benefit from further campaigns to improve awareness of the materials that should and should not be placed in the kerbside domestic recycling and garbage bins and the opportunities for resource recovery at Paget transfer station.

Commercial and Industrial (C&I) waste stream and Construction and Demolition (C&D) waste stream was examined by a combination of segregation assessment and visual assessments.

C&I waste stream



C&D waste stream



Similar to the kerbside domestic garbage there is around a quarter of the C&I waste stream that is recyclable. It was reported that within the C&D that a range of cardboard, garden, wood, glass, plastic films, metals and inert materials should be recoverable from this sector in the region.

Potential actions regarding the resource recovery opportunities highlighted by this audit data are discussed further in Section 4.2.

3.5 Progress against previous plan

This Strategic Waste Management Plan is an update of Council's Waste Management Strategy 2010. This previous strategy and a Waste Management Capital Works Plan were developed to guide MRC through the post-local government amalgamation in 2009 and infrastructure rationalisation process.

While some proposed actions were reprioritised and the program rescheduled to align with available budgets, previous capital works plans included the following key actions which have been completed:

- Closure of Hay Point, Sarina, Otterburn and Gargett landfills;
- Detailed design and construction of rehabilitation works at the former landfill at Bayersville;
- Detailed design and tendering for the construction of the Sarina Transfer Station;
- Completion of construction and commencement of operation of Sarina Transfer Station (October 2013).



Figure 3.3 Construction of new transfer station at the former Sarina landfill (August 2013)

The closure program shown in Table 3-5 shows the projects that have been advanced by MRC Waste Services over the past 3 years.

Table 3-5 Closure program summary – capital works plan

Legacy Landfill	Interim closure works & post closure care phase	Closure & remediation design works completed	Remediation works completed	Landfill gas system assessment	Landfill gas system installation
Bayersville landfill	Closed prior to 2009	✓	✓	Viability to be re-assessed post capping works	To be determined
Hay Point landfill	✓	✓	2017/2018		
Sarina landfill	✓	✓	2015/2016		
Gargett landfill	✓				
Otterburn landfill	✓	✓	2016/2017		

Legacy Landfill	Interim closure works & post closure care phase	Closure & remediation design works completed	Remediation works completed	Landfill gas system assessment	Landfill gas system installation
Bakers Creek landfill	Closed prior to 2009				
Bedford Road liquid waste site					
Boundary Road liquid waste site					
Bucasia landfill					
Eton landfill					
Eungella landfill					
Far Beach landfill					
Finch Hatton landfill					
Grendon Street landfill					
Kolijo landfill					
Koumala landfill					
Midget Point landfill					
Seaforth landfill					
St Helens landfill					
Walkerston landfill					

4 Gap analysis

4.1 Waste projections

The Mackay region population is expected to increase to around 135,000 people over the life of this plan (to 2018) which is a 9% population increase over 5 years. Based on population growth, it is possible that with business as usual consumption and economic activity in the region, that the amount of waste and recycling received by Council will increase by around 9% to 142,000 tonnes per annum.

The major waste streams projections are set out below. These are based on current waste generation rates and as outlined in the previous section have generally been increasing in line with projected population increases.

Table 4-1 Projected MRC waste and recycling quantities

Waste type (tonnes)/ Population	2010-2011	2011-2012	2012-2013	Forecast for 2016-2017
Population (approximate) ¹²	118,600	121,100	123,800 ¹³	135,000
Waste				
Disposed to landfill (Hogan's Pocket Landfill)	97,789	104,581	115,581	126,000
Commingled recycling – kerbside collected (Paget MRF)	5,562	5,750	5,454 ¹⁴	6,000
Metals recycled (Scrap Metal Recycler)	1,506	2,178	2,342 ¹⁵	2,550
Green waste (stockpile and local reuse)	10,206	10,758	6,822	7,450
Waste Total	114,996	123,270	130,199	142,000

In order to maximise the life of its key waste disposal facility at Hogan's Pocket Council will need to take action to increase resource recovery to achieve the desired diversion from landfill.

4.2 Potential resource recovery opportunities

The waste stream composition analysis conducted in June 2012 indicates the following opportunities for resource recovery. The potentially recoverable material presented in Table 4-2 represents a further

¹² Population and Dwelling Profile, Mackay Regional Council, Office of Economic and Statistical Research, Queensland Treasury and Trade (2012)

¹³ Forecast estimate of 2.3% population increase over 1 year

¹⁴ Due to a change in the methodology of recycling data collection in 2012/2013, this quantity is not confirmed

¹⁵ Annual quantity calculated as a proportion scrap metal recycling data over 9 months as 3 months of data are not available

33,400 tonnes or about 30% which may potentially be diverted from landfill from the residual waste stream.

Table 4-2 Potentially recoverable tonnages from key waste sources

Key waste sources	Typical annual				Percentage of potentially recoverable materials from the residual waste stream
	Tonnes (2010-2011)	Tonnes (2011-2012)	Tonnes (2012-2013)	Percentages of total residual waste landfilled	
MSW Kerbside Collected	30,709	31,601	33,558	29.0%	22%
C&I	47,040	48,496	40,147	34.7%	26%
C&D	2,298 ¹⁶	5,836	24,606	21.3%	53%
Balance self-delivered at Paget TS	641 ¹⁷	9,332	8,893	7.7%	28%
Direct haul of commercial waste and rural transfer station residual waste to Hogan's Pocket Landfill	5,701	5,063	7,072	6.1%	n/a
Other	11,400	4,253	1,480	1.3%	n/a
Residual waste disposed to landfill at Hogan's Pocket	97,789	104,581	115,756	100%	n/a

4.3 Proposed targets

In order to plan future actions and initiatives it is necessary to identify the gaps between where Council is now and where it wants to be in relation to the issues of importance to Council.

Council's primary objectives are to:

- Continue to provide high quality waste collection and disposal services to the community;
- Maximise the cost-effective recovery of resources from the region's waste streams;
- Maximise the life of the Hogan's Pocket landfill.

These objectives are clearly compatible and they also align with the broad thrust of the State waste reduction and recycling strategy. However the primary efforts for MRC will be driven by the information in Table 4-2. This table identifies that all waste streams have potential for additional resource recovery but consideration also needs to be given to the level of influence that Council can apply to the customers delivering these wastes.

The most cost-effective improvements in resource recovery for any waste stream are made at source. The next point where diversion can take place is when it is received at the transfer station. It is noted that Council does not have a strong influence over the behaviour of commercial customers at the point of waste generation and that as well as the wastes being generally delivered by a third party, commercial wastes are not easily separated at Council's transfer stations. Accordingly Council's primary resource recovery focus needs to be given to:

¹⁶ C&D may be under represented as in these years these two categories were recorded as Commercial up to approximately June 2012. Registration of loads as C&I or C&D commenced in July 2012 in line with the commencement of the carbon price mechanism.

¹⁷ Self haul domestic waste was not weighed during this period.

- Kerbside collected waste (MSW);
- Construction and demolition waste delivered to transfer stations (C&D);
- Small vehicle (typically householder) self-delivered wastes at Paget.

In addition, as well as increasing the quantity of waste being diverted from landfill, Council also needs to focus on getting maximum value out of every cubic metre of airspace at Hogan's Pocket landfill by aiming to improve the landfill efficiency i.e. tonnes placed for every m³ used.

Within these areas specific targets are proposed on:

- Increasing in quantity of material recovered through kerbside recycling;
- Increasing the diversion of green waste;
- Improved resource recovery from mixed loads at transfer stations particularly targeting:
 - Metals
 - Green waste
 - Inert materials
- Increasing the diversion of whole loads of inert waste;
- Increasing the landfill efficiency factor at Hogan's Pocket (tonnes placed for every m³ used).

The proposed targets are outlined in the following table.

Table 4-3 MRC Waste Services Targets

Objective	Projected State target by 2016	MRC generated waste targets within this plan ¹⁸
Reduce waste disposal to landfill, compared to business-as-usual projections	Reduce by 25%	Reduce by 15%
Increase recycling of construction and demolition waste	50%	50%
Increase recycling of commercial and industrial waste	40%	10%
Increase recycling of regulated waste	30%	n/a
Increase recycling of municipal solid waste	5%	5%
Reduce generation of waste	5%	n/a
Increase diversion of green waste	n/a	5%
Increase resource recovery from mixed loads	n/a	5%
Increase the diversion of whole loads of inert waste	n/a	10%
Increasing the Hogan's Pocket landfill efficiency factor	n/a	10%

¹⁸ These targets are based on current population and projections

5 Action plan

5.1 Objectives and priorities

This strategy will be put into effect through an action plan which will document the various activities required to deliver against the strategy targets, objectives and priorities.

In general terms the overall objectives of the MRC Waste Management Strategic Plan are similar to that presented in the Queensland Waste Strategy. The MRC strategic plan objectives are:

- Reduce the amount of waste to landfill by recovering resources from the waste stream;
- Reduce landfill gas emissions;
- Increase the recovery and recycling of resources across all waste streams;
- Reduce generation of waste;
- Reduce the total amount of, and the environmental impacts from, litter and illegal dumping.

Delivering on these objectives requires a range of actions within the following broad categories:

- Infrastructure based approaches;
- Service based approaches;
- Relationship based approaches;
- Knowledge/ information based approaches;
- Policy based approaches.

However, as Mackay Waste Services operates under commercial principles Council must be able to recover the cost of the services provided to customers by MRC waste services.

5.2 Proposed targets

In order to gauge the success of this strategy and the proposed action plan it will be necessary to measure Council's performance. Whether it is the performance of Council's contractors, Council itself or the Mackay region community as a whole it is essential that outcomes are quantified. These outcomes should then be used to focus Council and community efforts onto the strategies that work so that the management of wastes in the Mackay region can be improved.

To measure Council's performance, targets need to be set. These targets need to be tailored to the local context and they need to be realistic. As a result, while Council acknowledges the targets set by the Queensland Government, the targets set by MRC are specific to Council.

Within the MRC context and within this plan, the targets that have been adopted by MRC are set out as outlined in Table 4-3 the previous section. The actions and strategies in this plan are aimed at delivering against these targets and these targets will be used to measure the success of this strategy.

5.3 Action plan

Action plans set out clear and achievable actions that are linked to the delivery of the key objectives, meeting the set targets and using the nominated strategies. This action plan will guide the short to

medium term management of waste in the Mackay region by providing a prioritised program of actions within the following broad timeframes:

- Short Term: 1-2 years;
- Medium Term: 3-4 years;
- Long Term: 5 years and beyond.

These timeframes are intended to assist in prioritising actions whilst providing a degree of flexibility to accommodate Council's operational, resource, environmental and social constraints.

Table 5-1 Action Plan 2014-2018 - Part A - Infrastructure based approaches

Strategies	Actions	Target date	Performance indicators/ potential targets
Improve infrastructure for resource recovery	Explore the proposed Northern Resource Recovery Centre as part of the long term MRC Waste Services Financial Strategy	June 2018	Indicative cost and validity determined
Improve infrastructure for resource recovery	Investigate viability of a C&D Resource Recovery facility – Investigate options around planning, risk apportioning, length of time to implement, ownership of asset, development of performance based contract, appropriate technology, criteria for assessment of tender proposals – cost, energy use, recovery amount, etc	June 2015	Indicative cost and validity determined
Improve infrastructure for resource recovery	Paget Transfer Station MRF refurbishment to improve commodity handling including glass fines	September 2015	Completion of works and commissioning
Asset Management	Management of Legacy Landfills.	Ongoing	Closure and remediation activities completed in accordance with Capital Works Plan

Table 5-2 Action Plan 2014-2018 - Part B - Service based approaches

Strategies	Actions	Timeframe	Performance indicators/ Potential targets
Organic waste diversion from landfill	Investigate the viability of green waste collection. Review previous investigations and develop options and potential final products and/or processing methods.	August 2014	Recommended actions identified, costed and submitted to Council
Organic waste diversion from landfill	Research local markets regarding collectors and processors to improve understanding of potential impacts of a kerbside collection service	March 2015	Feasibility report prepared and submitted to Council
Organic waste diversion from landfill	Gather information on the different options (compost, Biochar products, green waste processing for sugar mill feedstock) and prepare a report on potential implications including pros and cons and risks and requirements such as land, cost and approvals.	March 2015	Options identified and report prepared

Strategies	Actions	Timeframe	Performance indicators/ Potential targets
Provide services to support sustainable community behaviours	Investigate widening the choice of bin options and associated charging regimes for incorporation into collection contract documents.	February 2014	Recommended actions identified, costed and submitted to Council
Provide services to support sustainable community behaviours	Implement tighter on-site controls at transfer stations for domestic customers and C&D customers to facilitate resource recovery from domestic self-haul customers Broader direction to TS staff to maximise diversion	July 2014	Level of resource recovery

Table 5-3 Action Plan 2014-2018 - Part C - Relationship based approaches

Strategies	Actions	Timeframe	Performance indicators/ Potential targets
Community engagement to support the development of sustainable community behaviours	Develop a survey and conduct market research to understand community attitudes, motivations and behaviours in relation to waste.	May 2014	Completion by scheduled date
Community engagement to support the development of sustainable community behaviours	Prepare an information paper regarding the cost of waste management infrastructure and services and telegraph /circulate via media releases as part of community education.	December 2014	Completion by scheduled date
Community engagement to support the development of sustainable community behaviours	Prepare community information paper regarding the litter/ illegal dumping and telegraph /circulate via media releases as part of community education.	December 2014	Completion by scheduled date
Community engagement to support the development of sustainable community behaviours	Maintain existing waste education programs and revise/ review to integrate any new initiative introduced as a result of this Strategy.	Ongoing	Geographical coverage and frequency of activities and events
Regional collaboration	Continue to participate in regular meetings with surrounding local governments to identify synergies and potential projects to collaborate on.	Ongoing	Regular collaboration with at least 3 meetings a year

Table 5-4 Action Plan 2014-2018 - Part D - Knowledge/ information based approaches

Strategies	Actions	Timeframe	Performance indicators/ Potential targets
Asset management	Regularly review anticipated landfill capacity/life (Quarterly compaction efficiency review)	Ongoing	Conducted quarterly and performance reported to Council
Measurement and evaluation	6 monthly waste and resource recovery composition surveys.	Ongoing	Two surveys conducted per year and results reported to Council and the community

Strategies	Actions	Timeframe	Performance indicators/ Potential targets
Measurement and evaluation	Maintain the waste performance data collection system to report on waste and resource recovery as required for MRC reporting.	Ongoing	In accordance with submission timelines for each particular report.
Measurement and evaluation	Ongoing review of carbon price surcharge for landfilled waste.	Ongoing	Review annually prior to budget process

Table 5-5 Action Plan 2014-2018 - Part E - Policy based approaches

Strategies	Actions	Timeframe	Performance indicators/ Potential targets
Asset Management	Investigate Carbon Farming Initiative (CFI) opportunities	August 2014	Submit application by August 2014
Measurement and evaluation	Report on the operation of the MRC Waste Reduction and Recycling Plan within 2 months of the end of 2014/15 and annual monitoring of progress and reporting	September 2015	Reporting completed to State Government requirements
Council collaboration - Litter/Illegal Dumping	Refine internal processes around record keeping, compliance and enforcement.	July 2014	Refined processes in place by target date
Council collaboration - Litter/Illegal Dumping	Enforcement of a policy on illegal disposal of waste and litter.	Ongoing	Document clean ups to determine the extent of the problem. Estimate and report on the financial cost of illegal disposal of waste to the community.
Develop local markets for resource recovery	Assess viability of use of recycled aggregate from inert waste in a MRC construction project. If viable, identify a project to incorporate recycled aggregate and evaluate performance	June 2015	Indicative cost and validity determined
Develop local markets for resource recovery	Develop a procurement policy and modify Council infrastructure construction specification to require the use of recycled aggregate (including glass fines)	June 2015	Number of tonnes of recycled resources used in MRC construction works annually
Develop local markets for resource recovery	Develop a MRC resource recovery policy for the MRC construction industry to influence resource recovery.	July 2015	Internal consultation discussion paper - July 2015

5.4 Review of plan

Council's performance against this plan will be monitored and reviewed regularly. It is envisaged that the results achieved against each of the targets set in this plan will be monitored on an annual basis. In addition the plan will be reviewed in full before its expiry in 2018.

6 Consultation, engagement and review

6.1 Draft consultation plan - identification and engagement

6.1.1 Purpose

In accordance with Council's Community Engagement Policy, consultation with the community and interested parties was required to inform and finalise the strategy.

6.1.2 Stakeholder engagement plan content

Council developed an engagement strategy for the Waste Management Strategic Plan project and a Stakeholder Engagement Action Plan which covered the following:

- Key messages to be used in communication materials;
- Objectives of the proposed engagement process;
- The interested parties and community groups to be targeted during the consultation process, including people from culturally and linguistically diverse communities and Aboriginal and Torres Strait Islander peoples, to ensure an inclusive engagement process;
- The broad methodologies to be used for stakeholder engagement, underpinned by an understanding of where engagement sits on the IAP2 Public Participation Spectrum;
- Timing and key milestones including the Community Waste Attitudes Survey;
- Resources required to support stakeholder engagement activities;
- Performance indicators to measure the effectiveness of stakeholder engagement;

The Stakeholder Engagement Action Plan was discussed and confirmed with the Community Engagement Working Group prior to the commencement of engagement activities.

Engagement methods proposed included providing information, consulting and engaging with interested parties. The Stakeholder Engagement Action Plan included the following actions:

Information

- Preparing a plain English summary of the draft Waste Management Strategic Plan;
- Preparing a fact sheet summarising the Strategic Plan;
- Developing content to be placed on Council's website and on the Connecting Mackay website to provide information about the strategy. This was available on the website from September 2013;
- Using content from the fact sheet to prepare a media release and community newsletter. A media release was prepared to update the community on progress in developing the Strategic Plan, An article referring to the engagement process appeared in the Daily Mercury on 11 September 2013.

Consultation

- Establishing feedback mechanisms including a website and project email address;
- Monitoring feedback mechanisms and preparing responses as required..

Participation

- Confirming with Council those interested parties and stakeholder groups to be represented at industry stakeholder workshops about the Strategic Plan, and facilitating a series of stakeholder workshops to inform stakeholders of the actions proposed in the Strategy and to seek feedback.

6.2 Consultation participants

As part of this process, it was necessary to identify the relevant interested parties and stakeholders that needed to be consulted in the development of the final document. The identified stakeholders are:

- Internal:
 - Waste and recycling working group;
 - Elected representatives.
- External:
 - Industry;
 - Community.

6.3 Consultation findings

In accordance with Mackay Regional Council's commitment to public consultation under its Community Engagement Policy, Council adopted a range of methods to inform stakeholders of the Draft Waste Management Strategic Plan 2013-2017 and to incorporate feedback from local residents, businesses and other key stakeholders.

Feedback on Council's Draft Waste Management Strategy was invited via these mechanisms:

- Website with online feedback portal:
http://www.mackay.qld.gov.au/services/waste/draft_waste_strategy
- Consultation workshops with key industry sectors including:

Table 6-1 Consultation workshops

Industry sector	Date	Location
Construction and demolition	Wednesday 30 October 2013	Waste Services Training Room, Paget, Mackay
Green waste	Thursday 31 October 2013	Waste Services Training Room, Paget, Mackay
Commercial and industrial	Thursday 31 October 2013	Waste Services Training Room, Paget, Mackay

In response to Council's invitation to residents and businesses to submit feedback on the Draft Waste Management Strategic Plan, a total of 16 submissions were made online and up to 40 industry stakeholders attended the consultation sessions.

Overall, both the public submissions and industry consultation reflected broad support for Council's proposed recycling and resource recovery strategies.

6.3.1 Key Themes

Themes emerging from the consultation included:

- Broad support for recycling and recoverability
- Strong awareness of cost/benefit of waste management
- Broad support for financial incentives to modify behaviour
- Interest in community education
- Improvement of on-site controls
- Management of palm tree waste

6.3.2 Consultation Feedback

Many of the public submissions and industry comments demonstrated an acceptance of existing policy and strategy, with potential for improved service delivery and cost savings by modifying infrastructure, services, community engagement and policy approaches.

Many comments related to implementing incentives such as:

- Periodic free bulk kerbside collections of green and recoverable waste or free drop off at Council facilities
- Subsidisation of recyclable commercial waste
- Reduced fees for lower volumes of self-hauled waste

These comments were balanced by strong support for implementing strategies which reduced the cost to Council.

In both public submissions and industry feedback, several participants suggested financial incentives could modify waste disposal and recycling behaviour of residents and commercial and industrial operators. Suggested incentives included:

- Free waste collection or drop off days
- Reward for tighter on-site controls at transfer stations, i.e. rewards (lower fees) for unloading of recyclable items at transfer station recycling areas rather than in the landfill disposal (residual waste bin or push pit)
- Council modelling sustainable behaviour through re-use of recovered resources in Council infrastructure and maintenance projects

Many respondents and industry workshop participants supported community education as a mechanism to increase compliance in managing recyclable waste.

The consultation results, particularly in the green waste and construction and demolition sectors, also indicated significant support for greater on-site control at transfer stations (through transfer station attendants – guiding customers to deposit recyclables in appropriately designated areas of the transfer station) for domestic and commercial/ industrial waste customers.

Green waste industry representatives and some public consultation respondents specifically addressed the difficulties in management of palm tree waste, with some suggestions that Council could investigate a long-term strategy to reduce palm plantings in the region.

7 References

Aurecon (2010) Waste management Strategy Mackay Regional Council, February 2010

Aurecon (2014) Community Engagement Report (September to November 2013)

EnviroCom Australia (2012) Waste Stream Composition Audit. Mackay Regional Council, June 2012

Mackay Regional Council (2011) Operational Plan 2011/ 2012, June 2011

Mackay Regional Council (2011) Tomorrow's Mackay a vision for the community. Our Community Plan 2011 – 2031

Mackay Regional Council (2009) Corporate Plan 2009 – 2014

Mackay Regional Council (2010) Annual Report 2010 – 2011

Queensland Treasury and Trade, Population and Dwelling Profile, Mackay Regional Council, April 2012

Department of Environment and Resource Management, Queensland Government (2011) Waste Site Characterisation Survey, Final Report

17 Feb 2011-First edition of Council Connect - a monthly one page feature in the Sarina & District Advertiser, which provides information on council's projects, activities, initiatives and services

Appendix A

Legislation

Key Federal legislation and policies

The National Waste Policy

The National Waste Policy heralds a new, coherent, efficient and environmentally responsible approach to waste management in Australia. The policy, agreed by all Australian environment ministers in November 2009, and endorsed by the Council of Australian Governments, sets Australia's waste management and resource recovery direction to 2020.

The aims of the National Waste Policy are to:

- Avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal;
- Manage waste as a resource;
- Ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner, and
- Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of the land.

The policy contains sixteen strategies and the role of relevant jurisdictions:

1. Product stewardship framework legislation to allow the impacts of a product to be responsibly managed during and at end-of-life. (Australian Government).
2. Sustainable procurement principles and practices across and within government operations. (Individual jurisdictions).
3. Better packaging management. (Collaboration).
4. National definition and classification system for wastes (including hazardous and clinical wastes) that aligns with international conventions and has provision for items that have ceased to be classed as waste. (Collaboration).
5. National principles, specifications, best practice guidelines and standards to remove impediments to effective markets for potential wastes. (Collaboration).
6. Access to knowledge and expertise in sustainable procurement and business practices. (Collaboration).
7. Continued government focus to reduce the amount of biodegradable material sent to landfill. (States and territories individually).

8. Management of safety and health risks arising from landfill gas emissions. (States and territories individually).
9. Strategy for emissions from landfills and other waste activities not covered by the operation of a future Carbon Pollution Reduction Scheme. (Australian Government led collaboration).
10. Improvements in waste avoidance and re-use of materials in the commercial and industrial waste stream. (State and territory led collaboration).
11. Continued government encouragement of best practice waste management and resource recovery for construction and demolition projects. (Individual jurisdictions).
12. Responsibility to meet international obligations; reduce hazardous materials entering the waste stream; dispose of and move transboundary waste in an environmentally sound manner in appropriate facilities. (Australian Government led collaboration).
13. Adoption of a system that aligns with international approaches to reduce hazardous substances in products and articles sold in Australia. (Australian Government led collaboration).
14. Identify actions to build capacity and ensure an appropriate suite of services is available to regional and remote communities. (States and territories individually).
15. Audit of existing waste infrastructure and local capability in selected remote Indigenous communities as part of essential services audit under the COAG National Indigenous Housing Partnership. (Australian Government).
16. Publish a three yearly waste and resource recovery report, underpinned by a system that provides access to integrated national core data on waste and resource recovery. (Australian Government led collaboration).

Product Stewardship Act 2011

The objectives of the Act are to reduce the impacts that products have on the environment throughout their life cycle; and also to reduce the impact that substances contained in products have on the environment, and on the health and safety of human beings.

Product stewardship is an approach to managing the impacts of different products and materials. It acknowledges that those involved in producing, selling, using and disposing of products have a shared responsibility to ensure that those products or materials are managed in a way that reduces their impact, throughout their lifecycle, on the environment and on human health and safety.

This act is supported by the Product Stewardship Regulation 2012 which sets out the fees and fee structure for the assessment of applications for accreditation of a voluntary product stewardship arrangement. The Product Stewardship (Voluntary Arrangements) Instrument 2012 sets out the requirements and conditions for accreditation by the Australian Government for voluntary product stewardship arrangements.

Product Stewardship (Televisions and Computers) Regulations 2011

Product Stewardship Regulations 2011 involves a combination of government regulation and industry action to take responsibility for the collection and recycling of waste televisions, computers, printers and computer products.

Under the Scheme, householders and small business will be able to drop-off these items for free at designated access points, which may include permanent collection sites, take-back events or through a mail-back option. Collection services under the Scheme will be progressively rolled out by industry from 2012, expanding across metropolitan, regional and remote areas of Australia by the end of 2013.

The Scheme recycling target starts at 30 per cent of waste arising in 2012/13 and will rise to 80 per cent of waste arising in 2021/22.

The Regulations include a material recovery target of 90 per cent, which will come into effect in the 2014/15 financial year.

The target requires each co-regulatory arrangement to ensure that at least 90 per cent of the weight of material they recycle in the financial year is sent for further processing into useable materials.

National Television and Computer Recycling Scheme

The Scheme will not regulate local government.

Local government may wish to contact or may be contacted by organisations that intend to apply for approval of a recycling arrangement to discuss opportunities for collaboration. Information is available about the proposed arrangement National Television and Computer Recycling Scheme administrators at the Australian Government's National Waste Policy website.

National Greenhouse and Energy Reporting Act (NGER Act)

The Commonwealth Government passed the National Greenhouse and Energy Reporting Act (NGER) in September 2007. The purpose of this law is to ensure that there is a consistent approach to greenhouse gas emission reporting across Australia. The collection and reporting of information related to greenhouse gas emissions, greenhouse gas projects, energy production and energy consumption was a precursor to establishing the Carbon Pollution Reduction Scheme (CPRS) (now referred to as the Carbon Price Mechanism). For a full explanation of the CPM pricing refer to "Clean Energy Regulator Carbon Pricing Mechanism (CPM)¹⁹".

The range of emission sources covered in the NGER determination includes:

- The combustion of fuels for energy;
- Fugitive emissions from the extraction of coal;
- Oil and gas;
- Industrial processes (such as producing cement and steel);
- Waste management.

With the introduction of the Clean Energy Act, the NGER Act has been amended such that local governments with a carbon price liability under the Clean Energy Act need to report their emissions under the NGER Act.

A facility can also trigger the reporting threshold if it produces 25,000 tonnes of CO₂-e or produces or consumes over 100 TJ of energy.

Clean Energy Act 2011

The Clean Energy Act created the carbon pricing mechanism (CPM), which commenced on 1 July 2012. Entities covered by the CPM must report on, and pay a price for each tonne of carbon emissions that are released from their facility into the atmosphere each year. Only landfill facilities with direct emissions of 25,000 tonnes of CO₂-e a year or more are liable under the carbon price.

Liability under the Clean Energy Act rests with the entity that has operational control over a facility that exceeds the threshold for covered scope 1 emissions of 25,000 tonnes of CO₂-e or more in an eligible financial year. MRC, as the owner and operator of Hogan's Pocket landfill is a liable entity under the Clean Energy Act.

¹⁹ Clean Energy Regulator CPM - <http://www.cleanenergyregulator.gov.au/Carbon-Pricing-Mechanism/Pages/default.aspx>

Carbon Farming Initiative

The Carbon Farming Initiative (CFI) allows land managers such as MRC being the owner of Hogans Pocket landfill to earn carbon credits by reducing greenhouse gas emissions from their land and in Council's case its landfill. These credits can then be sold to people and businesses wishing to offset their emissions.

The CFI provides a potential source of funding for capturing landfill gas from waste disposed prior to July 2012 also referred to as 'legacy waste'.

The CFI is a carbon offsets scheme that is part of Australia's carbon market. Regulations are in place to underpin the operation of the CFI, the Australian National Registry of Emissions Units (ANREU) and to undertake audits of CFI projects.

Key State policies and initiatives

Environmental Protection Act 1994

The Environmental Protection Act 1994 (EP Act) is the principal piece of legislation related to waste management in Queensland. A key legislative concept of relevance to waste management is that of "ecologically sustainable development" (ESD). This concept was enshrined in Queensland Legislation following the agreement of a National Strategy for Ecologically Sustainable development in 1992.

The National Strategy for Ecologically Sustainable Development 1992 outlines the two core principles of ESD:

- Incorporating ESD in decision-making;
- The precautionary principle.

Accordingly, the main objective of the ESD approach to environmental protection as outlined in the EP Act is to protect Queensland's environment while allowing for development that improves the total quality of life, now and in the future, in a way that maintains ecological processes on which life depends.

Environmental Protection Regulation 2008

The overall objective of the Environmental Protection Regulation is to achieve the purposes of the EP Act by providing a list of regulated environmentally relevant activities (ERAs), establishing a system of administration for ERAs and environmental nuisance, recovering the costs of regulation of activities that have the potential to cause environmental harm (including serious or material harm), in an efficient and equitable manner and to give effect to national environmental protection measures. The primary intent of the Regulation is to provide for effective regulation of activities causing point source pollution to help achieve ecologically sustainable development. Some of Council's waste management facilities are a prescribed ERA.

Environmental Protection (Waste Management) Regulation 2000

The Environmental Protection (Waste Management) Regulation is the key instrument whereby local government has been devolved the power to administer and enforce waste management arrangements at premises in their local area. The regulation includes provisions for the following:

- Offences for unlawful activities at waste facilities;
- Waste tracking system that tracks the movements of specific wastes to ensure correct disposal;
- Requirements for managing and handling specific waste types;
- Design rules for waste equipment.

There are also general provisions related to collection and storage of waste contained in the Regulation with which local government and a person using local government services must comply.

Therefore, in addition to its significant role as a local community leader and policy maker, local government also has a key role in service provision. Household waste and recycling collection is one of many key services provided by local government. Councils either directly or through the engagement of contractors, provide for the collection, transport and disposal of Municipal Solid Waste (MSW). Some local government infrastructure such as transfer stations and landfills are also commercially available for use by other sectors such as Commercial and Industrial (C&I) and Construction and Demolition (C&D). This is particularly relevant in regional areas.

The Queensland Waste Reduction and Recycling Strategy 2010 - 2020

The Queensland Waste Reduction and Recycling Strategy 2010- 2020 is a 10 years plan to achieve the governments vision of a low- waste Queensland.

As part of this strategy Queensland will, over the next decade:

- Reduce waste to landfill by 50 per cent;
- Reduce landfill gas emissions by 50 per cent;
- Increase the recovery and recycling of resources across all waste streams;
- Reduce generation of waste;
- Reduce the total amount of and the environmental impacts from, litter and illegal dumping.

The aim of the Waste Reduction and Recycling Strategy 2010- 2020 is to reduce the amount of waste going to landfill and hence targets have been set to achieve this aim.

Sustainable Planning Act 2009

The Sustainable Planning Act (SPA) is Queensland's principal planning legislation and seeks to achieve ecologically sustainable development. SPA sets out the framework in which development, made assessable under the Act, is to be undertaken and emphasises the coordination and integration of planning at the state, regional and local levels.

Assessable development

Under SPA, development is either exempt, self-assessable, development requiring compliance assessment, assessable or prohibited. Schedule 1 of SPA prescribes certain development types to be prohibited development. Schedule 3 of the Sustainable Planning Regulation 2009 (SP Reg) prescribes certain developments to be assessable and self-assessable and Schedule 18 prescribes development subject to compliance assessment. Development that is prescribed by the State in Schedule 3 or by local government through their planning scheme as assessable development requires an application for development approval under SPA.

Implications for waste strategy

Development of new Council facilities on existing sites is likely to require development approvals under SPA. In addition, a planning scheme is one of the primary ways in which Council can secure land for use as a future waste facility. A planning scheme facilitates the allocation of land for different uses, and these future uses are able to be prepared for, by recognising and accounting for, the need to coordinate and integrate infrastructure needs and the related land requirements.

By appropriately zoning future waste facility sites as well as incorporating provisions to protect such sites from incompatible development, and securing adequate future accesses, land can be expressly protected for the future development of a waste facility.

Given the recent amalgamations, MRC now has an ideal opportunity to secure land for future waste facilities through the types of development standards or criteria that are stipulated within the level of assessment tables and codes of the new planning scheme.

Local Government Act 2009

The State Government's Waste Management Policy (Siting, Design and Management of Landfills)

This policy impacts those scheduled landfills that are not currently operating which should not come into operation until the closure, or imminent closure of existing operating landfills in their relevant sub-region has created a demonstrable need for new landfill space.

Waste Reduction and Recycling Act 2011

The Waste Reduction and Recycling Act contains a suite of measures to reduce waste generation and landfill disposal and encourage recycling.

The legislation establishes a framework to modernise waste management and resource recovery practices in Queensland. It aims to promote waste avoidance and reduction and encourage resource recovery and efficiency.

The key provisions of the Waste Reduction and Recycling Act 2011 include:

- Requirements to report about waste management and prepare waste management plans;
- Introduction of product stewardship arrangements;
- Littering and illegal dumping offences.

Environmental Protection (Greentape Reduction) and Other Legislation Amendment Act 2012

This legislation reflects a change in emphasis from assessing approvals to managing performance in the administration of environmental regulations by the environmental regulator.

A core function of the environmental regulator is to meet the expectations of the community for a well-managed and healthy environment, while at the same time meeting the expectations of industry for streamlined approvals processes and reduced regulatory burdens.

For this to be achieved, the regulator is changing the way in which it carries out its responsibilities for assessing and granting approvals, and assessing and remedying environmental performance. The former will be streamlined while there will be increased emphasis on environmental performance through stronger and more consistent enforcement.

Appendix B

Waste services community engagement initiatives

Waste services community engagement initiatives

Waste management, recycling and waste reduction related community engagement projects that MRC Waste Services undertakes and the program that is delivered annually is outlined below:

Waste Minimisation Education

- Material Recovery Facility Tours;
- School/ Community waste education sessions;
- Participation in events such as:
 - Mackay EcoExpo
 - Greenmount Heritage Fair
 - Local Government Week
 - Council community Day's
 - Under 8's Week
 - National Playgroup Week
 - Landcare in the Gardens
 - Regional shows
 - Shopping centre displays
 - Regional council offices and libraries
 - CUAD and GNCU events

Waste Education Trailer

Mackay Regional council is in the process of constructing a mobile education trailer promoting waste minimisation, using the preferred waste management hierarchy principles of reduction, reuse, recycling, energy recovery and finally disposal. The project will include nature's way of recycling with education about composting and worm farming to reduce generation of waste.

Objective of the project is to raise awareness of waste minimisation and management. Inform school students and the wider community about waste reduction, reuse, recycling, energy recovery and finally disposal. Highlight the key aim of Council to reduce waste going to landfill and promote sustainable resource recovery. Emphasis will be placed on how reducing the waste we create can help preserve our natural environment for future generations. It will also stress sustainable resource use and maintaining enough for everyone forever. Information will be provided about, money and energy savings and reducing greenhouse gas emissions. The program will encourage responsible waste management practices in the community.

Composting and worm farming workshop

- Three community composting and worm farming workshops are held per year.
- Workshops for teachers are held on professional development days to assist with composting and worm farming in schools.

Recycling Bin inspection program

This is a combined compliance and educational exercise.

Recycling Art Competition

An annual art competition is organised for schools promoting good reusing and recycling habits and environmental sustainability.



Appendix C

Community engagement report (September to November 2013)