

Moreton Bay Regional Council

Waste Reduction and Recycling Plan

2016-2026



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I. Introduction

Regional Profile

The Moreton Bay Region is one of South East Queensland's most diverse areas, spanning more than 2,037 square kilometres from Samford and Arana Hills to Redcliffe, Bribie Island, Caboolture, Dayboro, Woodford and Mt Mee.

Moreton Bay Regional Council (Council) is located just north of the Queensland capital, Brisbane, and immediately south of the Sunshine Coast. In the west, the region shares common borders with Somerset Region.



The Region is the key growth corridor north of Brisbane and is one of the fastest growing population areas in Australia with the rate of growth outstripping that of South-East Queensland.

Planning for growth

Over the next 20 years, the Moreton Bay Region is predicted to grow by approximately 40 per cent. Council is committed to meeting the challenges of economic growth and a changing population by working to maintain

the balance between a sense of community, environment and lifestyle whilst simultaneously creating a cleaner and healthier environment for future generations.

For Council, significant population growth presents a number of challenges in relation to effective waste management. These challenges include meeting resident demands and expectations for services and infrastructure whilst also managing an increase in resource consumption patterns and waste generation demands which can impact on the natural environment and waste disposal options.

Council remains focused on its obligations to the community and is committed to providing improved, cost-effective services, ready access to facilities and ongoing education that supports sustainability while continuing to achieve operational savings and service efficiency.

Demographics and Development

The estimated residential population of the Moreton Bay Region in 2015 was 425,500 persons; with properties in the region numbering 161,560.

The medium series projections indicate that the residential population of the Moreton Bay Region is projected to increase to 622,131 persons by 2036.

Through effective planning, Council will ensure that there are strategies in place that will accommodate the growing population and consequent increases in waste generation across the region. Council is committed to providing ongoing opportunities for resource recovery in order to reduce the amount of waste disposed to landfill.

About the Waste Reduction & Recycling Plan

Council's Waste Reduction and Recycling Plan 2016-2026 (WRRP) aims to avoid and reduce waste generation, optimise resource recovery and recycling and develop sustainable waste industries and jobs.

This Plan is underpinned by the waste and resource management hierarchy (Figure 1) that places avoidance and waste reduction as a priority followed by reuse, recycling and recovery, with disposal as the least preferred option.

Figure 1: Waste & Resource Management Hierarchy



The WRRP provides a framework for future action to improve waste management practices in the Moreton Bay Region and is consistent with the objectives set out in the Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024) and complies with the requirements of the Waste Reduction and Recycling Act 2011.

Council is committed to implementing a WRRP that analyses current waste management performance and sets measurable targets for waste reduction and recycling. With assistance of the National Packaging Covenant and Product Stewardship Forums, Council will continue to educate and actively encourage all residents and businesses to reduce waste generation and participate in the various resource recovery services available.

The WRRP will help inform Council in decision making, planning and service delivery. Council's commitment to progress will see the renewal and upgrade of existing facilities and services and consideration of the development of new services in order to meet demands and align with industry trends.

Importantly, the WRRP confirms Council's ongoing commitment to customer service, financial responsibility and long-term sustainability, in response to economic and population growth.



2. Current Services and Operations

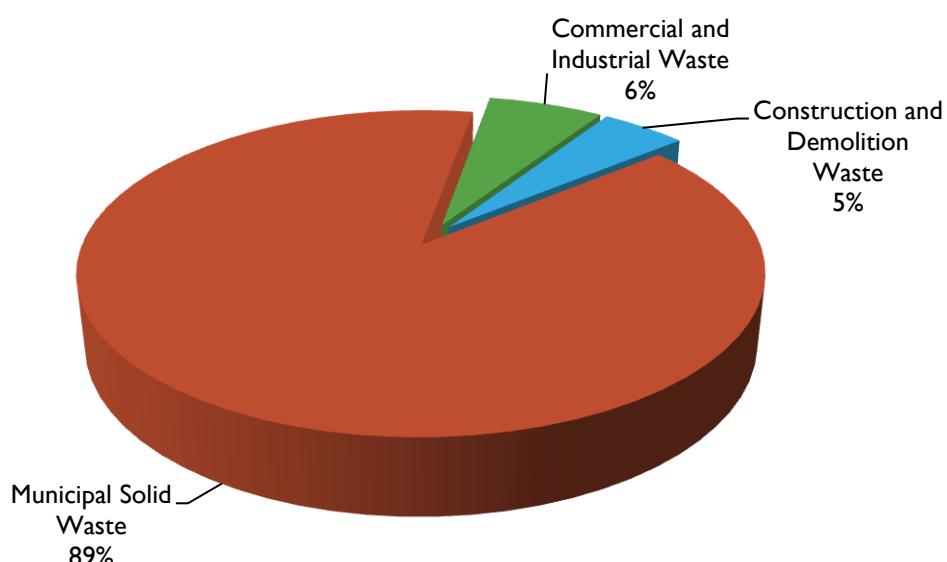
Waste Generation

The Moreton Bay Region generated 324,500 tonnes of waste in 2015 as a result of day to day activities. This is equivalent to approximately 762 kg of waste per person per annum. Most of this waste is produced by residential properties and the remainder by businesses, Council activities and construction and demolition work. A summary of waste generation is summarised in Figure 2.

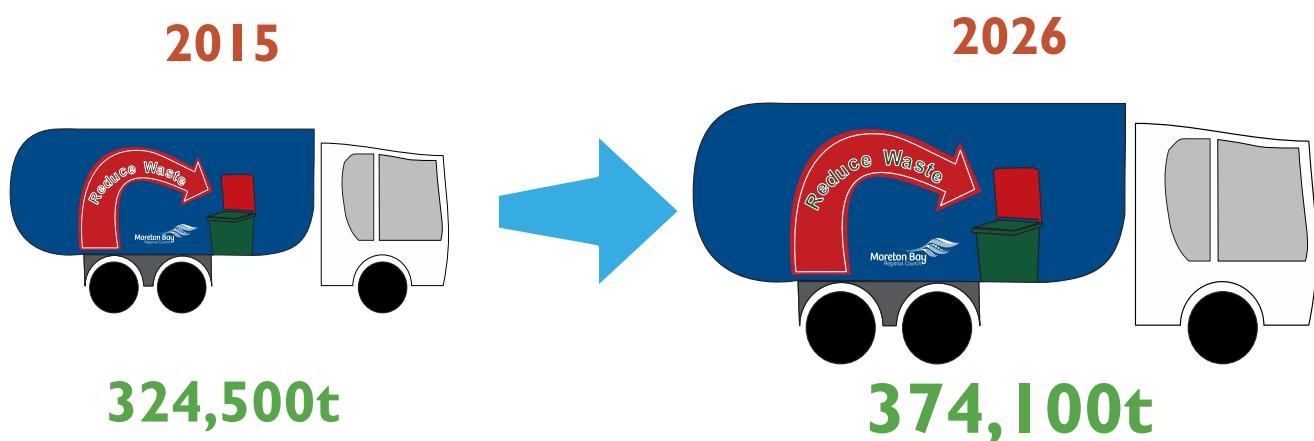
At the current rate of waste generation, by 2026, it is anticipated that waste generation in the region will reach 374,100 tonnes per annum.

To meet the waste management demands of a growing population, Council is committed to putting strategies in place to meet community expectations while at the same time reducing waste generation and promoting the recovery of resource.

Figure 2 Summary of Waste Generation



Anticipated growth in the waste generated per year in the Moreton Bay Region over the next 10 years



Council Waste Services

Council currently provides a range of waste services to the community as described in Table 1 below and detailed further in the remainder of the section.

Table 1: Moreton Bay Regional Council Waste Services

a) Waste Management Operations

Operation of 12 waste management facilities across the region including resource recovery centres, treasure markets, transfer stations and landfills for the disposal of general waste and the recovery of recyclable waste.

b) Kerbside Wheelie Bin Collection Services

Kerbside collection services comprising a weekly general waste service and fortnightly recyclable waste service at residential and commercial premises across the region. Council also provide bulk industrial bins for multi-residential properties.

c) Waste Minimisation and Education Program

Waste minimisation and education programs including structured school, early learning centre and community involvement programs, trash to treasure tours, recycling workshops, event displays, regional recycler competitions and compost and worm farming workshops.

d) Servicing of Public Place Bins, Butt Out Bins and Dog Bag Dispensers

Servicing of general waste and recyclable waste public place bins including butt out bins and dog bag dispensers located on road reserves, foreshores, in parks and reserves and at community facilities.

e) Waste Services for Council and Community Events

Providing waste collection and cleaning services for Council and community events.

f) Litter and Illegal Dumping

Regular litter patrols along roads and public areas and the clean-up of illegal dumps and dead animals.



Kerbside General Waste and Recycling Bins

a) Waste Management Operations

Council's waste facilities provide a diverse range of services to meet the needs of the community and assist in the recovery of resources.

The Moreton Bay Region is serviced by 4 major waste facilities, which are open 7 days a week, and 8 minor waste facilities, which are open on varying days throughout the week. Resource recovery areas and receptacles are available for residents and commercial operators to recycle items, including bulky household items, green waste, and for the disposal of general waste materials.

The range of services and materials recovered at the region's waste facilities are detailed in Table 2 below.

Council offers residents free disposal of domestic waste (subject to conditions). Customers are encouraged to reuse and recycle as much of their waste materials as possible to assist in diverting valuable resources away from landfill.

Green waste, taken to a waste facility, is chipped into mulch that can be used by residents or on Council parks and gardens.

At 30 June 2015, around 46 per cent of waste was recycled and diverted from landfill and more than 4,000 tonnes of mulched green waste was provided to residents.

Reusable items and materials are sold at the treasure markets at Caboolture and Dakabin.

Table 2: Materials Recovery at Waste Facilities

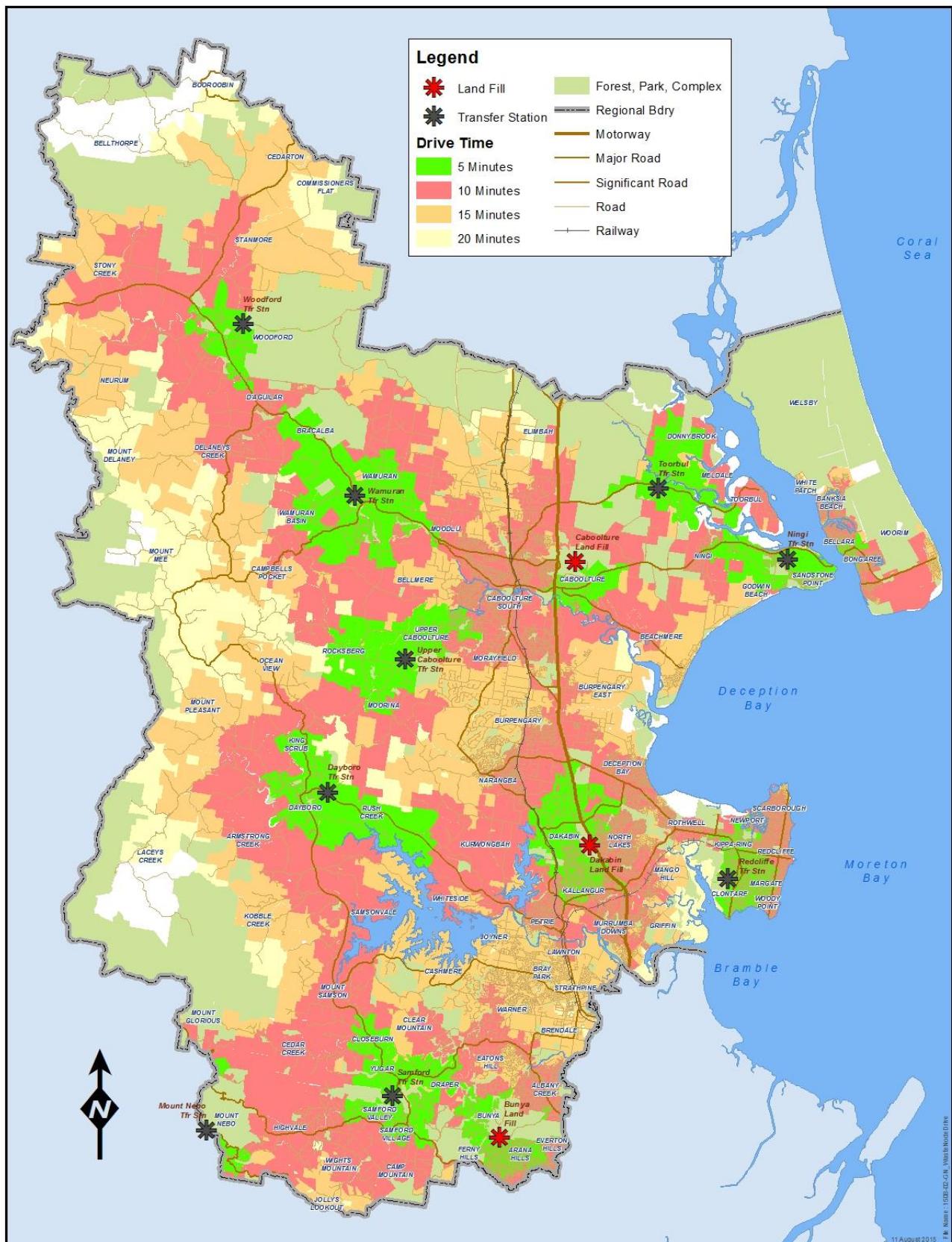
- Domestic, commercial and industrial general waste disposal
- Comingled recyclable waste such as rigid plastic containers and bottles, glass bottles and jars, milk and juice cartons and steel and aluminium cans
- Paper and cardboard
- Recovered metals (ferrous and non-ferrous metals)
- Green Waste
- Electronic waste
- Household hazardous waste
- Smoke alarms
- Fire extinguishers
- Used oil
- Timber waste
- Concrete
- Clean fill
- Tyres
- Wet cell batteries
- Gas cylinders
- Chemical drums and containers
- Furniture
- Household goods
- Clothing and textiles

Council's waste management facilities are easily accessible with over 99% of residents travelling no more than 20 minutes to their nearest facility to dispose of waste and recyclable materials. These facilities are listed in Table 3 and illustrated Figure 3.

Table 3: Resource Recovery Centres (RRC), Transfer Station (TS) and Landfill Locations

| Location | Facility | Address |
|------------------|--|---|
| Bunya | <ul style="list-style-type: none"> • Weighbridge Operations • Resource Recovery Centre & Transfer Station • Landfill | 384 Bunya Road, Bunya |
| Caboolture | <ul style="list-style-type: none"> • Weighbridge Operations • Resource Recovery Centre & Transfer Station • Treasure Market • Landfill | 51 McNaught Road, Caboolture |
| Dakabin | <ul style="list-style-type: none"> • Weighbridge Operations • Resource Recovery Centre & Transfer Station • Treasure Market • Landfill | 336 Old Gympie Road, Dakabin |
| Redcliffe | <ul style="list-style-type: none"> • Weighbridge Operations • Resource Recovery Centre & Transfer Station | 261 Duffield Road, Clontarf |
| Ningi | • Resource Recovery Centre & Transfer Station | 1532 Bribie Island Road, Ningi |
| Toorbul | • Resource Recovery Centre & Transfer Station | 1105 Pumicestone Road, Toorbul |
| Upper Caboolture | • Resource Recovery Centre & Transfer Station | 789 Caboolture River Road, Upper Caboolture |
| Wamuran | • Resource Recovery Centre & Transfer Station | 1150 D'Aguilar Highway, Wamuran |
| Woodford | • Resource Recovery Centre & Transfer Station | 105 Golf Course Road, Woodford |
| Dayboro | • Resource Recovery Centre & Transfer Station | 1721 Dayboro Road, Dayboro |
| Mt Nebo | • Resource Recovery Centre & Transfer Station | Mt Nebo Road, Mt Nebo |
| Samford | • Resource Recovery Centre & Transfer Station | 46 Gibbons Road, Samford |

Figure 3: Map of Waste Management Facilities - Drive Time Analysis



Landfill

Council operates three approved landfill sites where general waste, that is not recyclable or compostable, can be taken for disposal.

The projected life expectancy of the 3 landfills is estimated to be: Bunya 35 years, Caboolture 30 years and Dakabin 6 years, indicating a strong need for a plan to manage waste disposal in the region into the future.

Landfill gas is captured at the landfill sites to abate carbon emissions and produce green energy.



Materials Recovery Facility Services (MRF)

Recyclable materials collected throughout the region by the kerbside and bulk industrial bin collection services are processed at a Materials Recovery Facility (MRF).

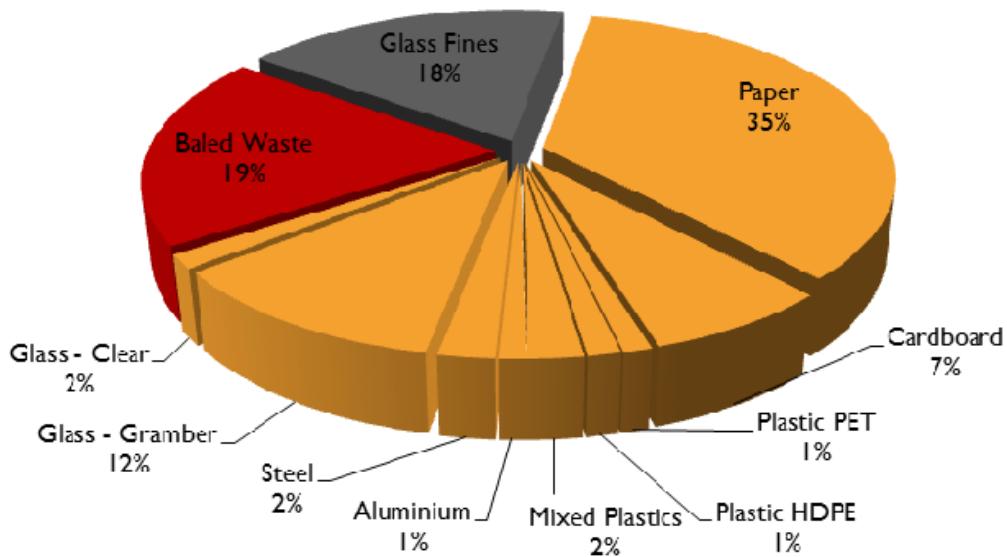
Recyclable materials accepted in kerbside wheelie bins consists of materials that are suitable for resale and reprocessing such as paper and cardboard, aluminium and steel

cans including aerosols, trays, foil, glass jars and rigid plastic containers and bottles.

Non-recyclable materials placed in the recycling stream cause processing issues at the MRF and increase costs.

In 2014/15, 19% of materials that were handled by the MRF were non-recyclable (baled) waste materials as shown in Figure 4.

Figure 4: Recyclable statistics for 2014-201



b) Kerbside Wheelie Bin Collection Services

Council offers the majority of residents in the region the convenience of a kerbside waste and recycling collection service currently provided by a designated waste management contractor. Services for general waste wheelie bins are carried out weekly for residential customers and multiple times per week for commercial properties.

The collection vehicles transport the waste materials to the landfills located within the region.

The kerbside recycling bins are serviced fortnightly and the recyclable materials are transported to a Materials Recovery Facility (MRF) for processing.

In 2015, approximately 250 new bin services were requested each month culminating in 152,585 properties being serviced within the defined waste collection area in 2015 as demonstrated in Table 4.

Table 4: Total kerbside collection services as at 30 June 2015

| Service-Entitled Premises | Mobile Bin Sizes | | Total Properties Services |
|--|------------------|------------------|---------------------------|
| | General Waste | Recyclable Waste | |
| Residential | 120L and 240L | 240L | 146,452 |
| Commercial | 240L | 240L | 6,133 |
| Council Facilities | 240L | 240L | |
| Total weekly Kerbside Collection Services | | | 152,585 |

Waste Collection Area

In accordance with the *Local Government Act 2009*, the Council makes and levies utility charges for the provision of waste management services.

These charges are generally based on the application of the 'user pays' principle. Council regularly reviews the Defined Waste Collection Area and makes changes where required.



What is in the Kerbside Wheelie Bins?

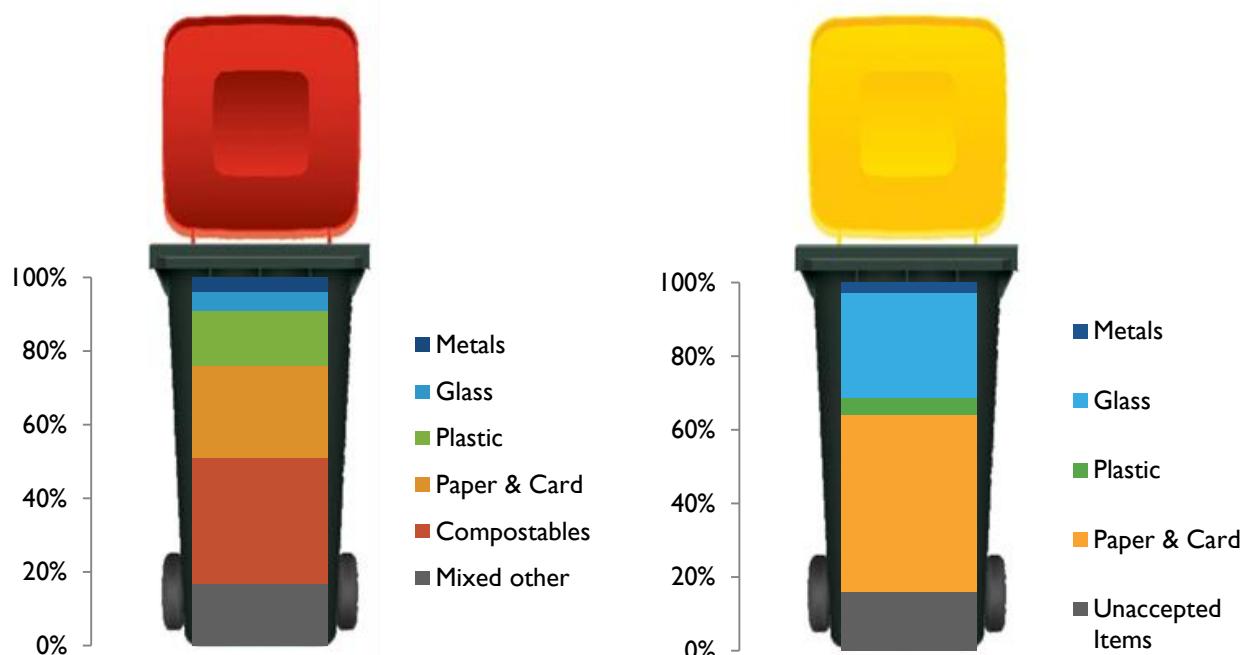
Residential waste is made up of non-recyclable general waste materials, recyclable materials and compostable waste such as green and food waste. Council residents have a red (or dark green) lidded 120 or 240 litre kerbside wheelie bin for the collection of general waste materials and a yellow lidded 240 litre kerbside wheelie bin for the collection of recyclable materials.

As depicted in Figure 5, even with the recycling rates being achieved by Council

residents, there is still a significant proportion of material that could be recycled or composted which ends up in the general waste bin.

Based on a recent survey of what material is presented to general waste bins, there is approximately 31,000 tonnes of recyclable material that could be separated at the kerbside.

Figure 5: Composition of Kerbside General Waste and Recycling Bins



Recycling and Recovery Performance

Council is currently recycling 46% of the total waste stream.

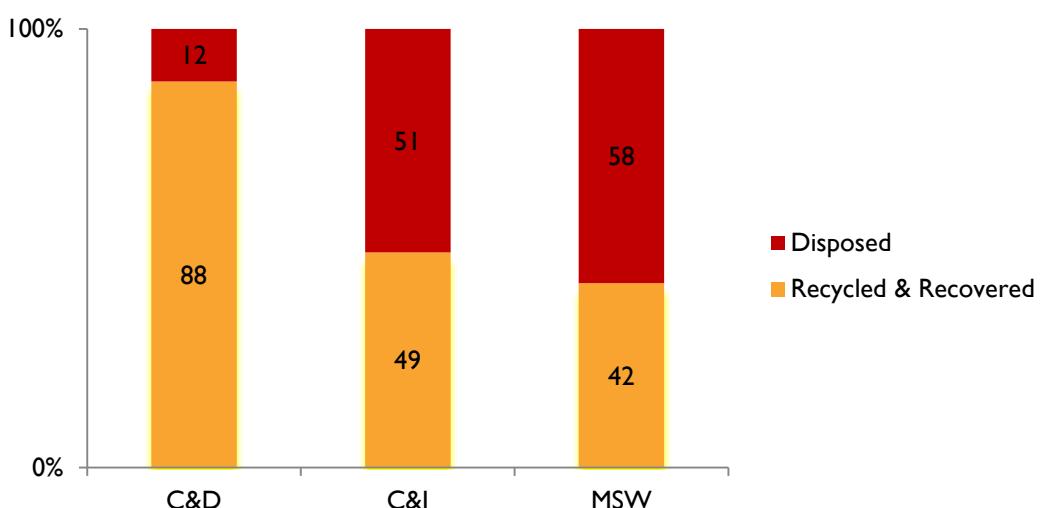
Even with this good recycling performance, 175,500 tonnes of waste was sent to landfill for disposal in 2014/15.

To meet the targets set out in this plan, and the targets within the Queensland Waste

Avoidance and Resource Productivity Strategy (2014-2024), recovery rates need to increase further.

Figure 6 outlines recycling performance between Construction & Demolition Waste (C&D), Commercial & Industrial Waste (C&I) & Municipal Solid Waste (MSW).

Figure 6: Summary of Recycling and Recovery Performance



Materials recovered at Waste Facilities

Bulk Industrial Bin Services to Nominated Locations

At June 2015, 688 bulk industrial bins were supplied to 215 nominated locations in the region for the collection of general waste, comingled recycling, and paper and cardboard.

The nominated locations include residential multiple dwellings, community facilities,

Council facilities, waste management facilities and Council and community events.

The average weekly services for bulk industrial bins as at 30 June 2015 are listed in Table 5.

Table 5: Average weekly services for bulk industrial bins (as at 30 June 2015)

| Nominated Locations | Bulk Bin Sizes | Total weekly Services as at 30 June 2015 | |
|----------------------------------|--|--|--|
| | | General Waste | Comingled Recyclable Waste and Paper & Cardboard |
| Multiple Residential Dwellings | 660L, 1100L plastic moulded bins; 1m ³ , 2m ³ , 3m ³ , 3.5m ³ & 4m ³ steel bins | 2,130 | 685 |
| Community and Council Facilities | 660L, 1100L plastic moulded bins; 1m ³ , 2m ³ , 3m ³ , 3.5m ³ & 4m ³ steel bins | 636 | 116 |
| Temporary and Extra Services | 660L, 1100L plastic moulded bins; 1m ³ , 2m ³ , 3m ³ , 3.5m ³ & 4m ³ steel bins | 52 | 21 |

Bulk Kerbside Clean-up Service

Council does not provide a Bulk Kerbside Clean-up service for the following reasons:

1. The piles of waste on the kerbside detract from the amenity of the area;
2. Free domestic tipping has been introduced across the region;
3. There is a significant cost to provide the service across the region;
4. Other residents scavenge through the materials on the footpath and may leave the area unsafe;
5. Reduces recycling as useable items are crushed when collected in the compactor truck;
6. Council's liability could be increased by encouraging residents to stack materials, which can be heavy or sharp, on the footpath;
7. There is a considerable safety risk from loose items being stacked on footpath should a storm event occur.

c) Waste Minimisation and Education Program

Council is committed to the reduction of waste being disposed of to landfill and the recovery of resources through various projects and promotions across the region.

As part of this commitment, a waste minimisation and education program which focuses on raising awareness, understanding and knowledge via community, business and school participation is in place.

The education program encourages waste avoidance and waste minimisation as well as promoting recycling and resource recovery at business, home and through the waste facilities.

Waste minimisation education programs undertaken in 2014-2015 are listed in Table 6.



Waste Education and Minimisation Van display stand at Council events

Table 6: Waste Minimisation Education Programs undertaken in 2014-2015

| Program | Benefactor | Number of presentations or sites for 2015 |
|---|---|--|
| 1. Resource-Ed School Program(Waste education) | Schools and Early Learning Centres | 139 |
| 2. Waste Facility Tours - Trash to Treasure | Community, Schools and Early Learning Centres | 5 |
| 3. Treasure Market Recycling Workshops | Community | 12 |
| 4. Group Presentations/ Displays at events & community days | Community | 13 |
| 5. Composting & Worm Farm Courses | Community | 5 |
| 6. Annual Clean Up Australia Day Sites | Community, Schools and Businesses | 117 |
| 7. Donations of worm farms and compost bins | | |
| 8. Annual Regional Recycler competition | | |
| 9. Development of calendars, recycling guides, fact sheets and brochures | | |
| 10. Maintaining up to date information on Council's website | | |

Council's website provides information regarding Council's waste services and operations.

Community education and engagement is critical in influencing the use of resources recovery centres, landfills and minimising unwanted items in kerbside recycling or losing reusable and recoverable items in general waste collections.

Consequently the communication will focus on developing and implementing a range of specific waste prevention programs that could be topic specific and support the activity within this WRRP. Examples of future programs to be investigated and implemented include targeting food waste, smart shopping, junk mail, disposable packaging and material specific re-use and repair initiatives.

d) Servicing of Public Place Bins, Butt Out Bins and Dog Bag Dispensers

Public place bins, butt out bins and dog bag dispensers are provided throughout the region to assist in the reduction of litter and to protect the natural environment and visual amenity of the area. Council also places recycling bins in high profile public locations

around the region to minimise waste going to landfill.

Table 7 lists the number of public place bins and services per week.

Table 7: Public place bins supplied and serviced in the region

| Bin Type and Services | No. of Bins | No. of Services per Week |
|-----------------------|-------------|--------------------------|
| General Waste Bins | 2,855 | 6,565 |
| Recycling Bins | 128 | 128 |
| Butt Out Bins | 43 | 167 |
| Dog Bag Dispensers | 327 | 602 |

e) Waste Services for Council and Community Events

Council provides cleaning services and support to a number of community and Council run events to ensure the standard of the event is of a high quality. The services range from providing wheelie bins and waste collections for small community events, such as sporting and school fetes, through to supplying wheelie bins, bulk bins, litter clean

up and amenity cleaning to a wide range of the larger promoted events throughout the region including the Redcliffe Festival, Urban Music Festival and the Decades Festival.

Table 8 shows the waste services that were provided to events in the region during 2015.

Table 8: Number of bins supplied and serviced at events in the region

| Type of Event | No. of Events | Waste & Recycling Bins | Waste & Recycling Services |
|---------------|---------------|------------------------|----------------------------|
| School | 40 | 724 | 882 |
| Community | 214 | 3,668 | 7,618 |
| Council | 34 | 1,366 | 1,530 |
| Total | 288 | 5,758 | 10,030 |

f) Littering and Illegal Dumping

Council has initiated a number of programs to raise awareness, knowledge and understanding for the public and reduce the amount of littering and illegal dumping that occurs across the region, as described in Table 9.

Council regularly carries out litter patrols and the removal of illegal dumping and dead animals from public roadways and reserves in the region as described in Table 10.

Table 9: Litter and Illegal Dumping Engagement Programs

- Waste education in schools and early learning centres
- Information stands at community events
- Free tipping at waste facilities for residents
- Promotion of community clean-up events, i.e. Clean Up Australia Day, Clean Up the Rivers, etc
- Surveillance of illegal dumping hot spots using motion detection cameras and regular patrols.
- Information on Council's website
- Joint enforcement and clean-up program with the state government targeting illegal dumping in state forests

Table 10: Number of litter, illegal dumping and dead animal requests for 2014-2015

| Type of Request Received | Total number of Requests Received |
|-----------------------------------|-----------------------------------|
| Clean-up Litter and Illegal Dumps | 1,232 |
| Dead Animal Removal | 73 |



Clean Up Australia Day Volunteers

3. Why do we need a waste plan?

Strategic Framework

The implementation of Queensland's Waste Avoidance and Resource Productivity Strategy 2014-2024, and the introduction of the Waste Reduction and Recycling Act 2011, places a requirement for councils, including Moreton Bay Regional Council, to develop and

implement a Waste Reduction and Recycling Plan. There are also a number of federal and state legislative and policy requirements that influence and shape the development of a local Waste Reduction and Recycling Plan for the Moreton Bay Region.

Council Obligations

Council has an obligation to manage all waste generated by its own operations and that of residents and others within the local government area in line with its Waste Reduction and Recycling Plan. The WRRP will include:

- Waste reduction and recycling targets for waste generated within the region
- How waste recycling and reduction will be achieved
- Details of all existing and proposed waste infrastructure
- Management and monitoring of local governments performance under the plan
- How continuous improvement will be achieved



Aligning with the Queensland Plan

This Waste Reduction and Recycling Plan 2016-2026 provides a well defined framework for future action to improve waste management practices in the Moreton Bay Region and complies with the requirements of the Queensland Waste Reduction and Recycling Act 2011. Queensland's Waste Avoidance and Resource Productivity Strategy 2014-2024 provides the principles and objectives to guide local governments to establish long term strategies in waste avoidance, disposal and recycling.

The policy context of the WRRP is illustrated in Figure 7.

Principles

1. Protecting human health and the environment to secure our future prosperity
2. Sharing responsibility for avoiding unnecessary consumption and improving resource management
3. Recognising the economic, environmental and social costs of waste generation
4. Recognising regional differences and opportunities
5. Full lifecycle management of resources

Objectives

1. Driving cultural change.
2. Avoidance and minimisation.
3. Reuse, recovery and recycling.
4. Management, treatment and disposal.

Figure 7: The policy context of the Waste Reduction and Recycling Plan



4. What is the vision for the future?

Vision for the Future

Council is committed to implementing a WRRP which improves current waste management performance and sets measurable targets for waste reduction and recycling. The vision for the WRRP for waste services is:

“To reduce our waste in an innovative, cost effective and sustainable way while improving the level of service to the community”

This outcome is based on a view that most waste is a valuable resource that can be used in innovative ways rather than being disposed of at landfill sites. Reducing the generation of waste in the first instance is Council's primary focus. In addition, reducing our carbon footprint and the amount of waste going into landfill will contribute to the future sustainability of the region. Council will seek to manage local waste in an innovative, cost effective and sustainable way.

Table 11: State Government Waste Avoidance and Resource Productivity Strategy (2014 - 2024) Targets

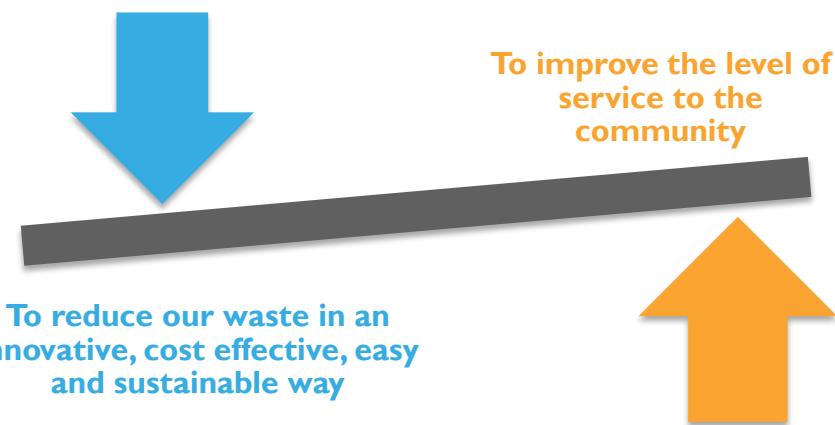
| Target | Qld Position 2012-13 | Qld Target Year 2024 |
|---|----------------------------|-------------------------------------|
| Reduction in per capita generation of general waste | 1.9 tonnes / person / year | By 5% 1.8 tonnes / person / year |
| Improve Recycling | | |
| - Municipal Solid Waste (MSW) | 37% | 55% |
| - Construction and Demolition (C&D) Waste | 61% | 80% |
| - Commercial and Industrial (C&I) Waste | 42% | 55% |

Table 12: Aligning Council's WRRP (2016 - 2026) Targets with the Queensland Waste Avoidance & Resource Productivity Strategy

| Target | MBRC Position 2015 | MBRC Target Year 2026 |
|---|------------------------|---------------------------------|
| Reduction in per capita generation of general waste | 762 kg / person / year | By 5% 724 kg / person / year |
| Reach recycling rates in line with the Qld WARP Strategy | | |
| - Municipal Solid Waste (MSW) | 42% | 55% |
| - Construction and Demolition (C&D) Waste | 88% | 90% |
| - Commercial and Industrial (C&I) Waste | 49% | 55% |

Targets and Collaborative Action

Council is committed to a proactive approach to ensure it meets its objectives and targets as outlined in this WRRP. This will be achieved through a series of deliverable actions over the short, medium and long term. This will include engagement with key stakeholders and working in partnership with other entities, where feasible to do so.



Of primary importance to this WRRP is the need to continue to promote waste prevention activities and reuse programs to the community through a variety of education and engagement methods. This will require a focus on promoting preferred behaviours and, where necessary, encouraging a change in behaviour and attitudes towards waste generation and handling.

Council's short and medium term focus is on the improvement and enhancement of existing waste infrastructure and a focus on improving current waste management practices. This will allow Council to deliver core operations in an efficient, cost effective and sustainable way. This will be followed by long term investment in waste infrastructure to deliver the targets identified within this plan.



Short Term Targets

Data Management and Reporting

Accurate waste data is important to draw an accurate waste data baseline, upon which meaningful targets can be set and performance can be measured over time and continuous improvement demonstrated.

Communication

Residents are already taking positive action to recycle and reuse waste. As part of delivering this WRRP, there will be an ongoing need to engage with residents and empower them to change consumption behaviours thereby creating less waste, as well as encouraging them to avoid, reduce, reuse, recover and recycle more. This will take place through targeted education, community engagement and promotional activities which give instructions and provide motivation in simple and practical ways to improve levels of knowledge and understanding of the key issues and, in turn, encourage responsibility for action.

Council will develop communication plans that support the WRRP and associated activities.

Consultation

It is important to consult with residents, community organisations and educational facilities to gauge the understanding of key waste and resources management issues.

User surveys are carried out at Resource Recovery and Transfer Station Facilities to provide better customer service. Results obtained from participants at the Facilities and education programs are reviewed to improve sustainable waste practices used at home, work and school.

Improve the Performance of Existing Kerbside Recycling Systems

Council diverts approximately 24% of the municipal waste generated in the region from landfill through kerbside recycling. However there is still more material which could be diverted as a large proportion of recyclable materials are being thrown into the general waste bin.

Further guidance, awareness raising and education to improve the understanding of how to use the recycling systems correctly, along with an explanation of the environmental benefits of doing so, are required.

Improve the Performance at Resource Recovery & Transfer Station Facilities

Resource Recovery and Transfer Station Facilities are an important part of the waste collection services offered by Council. Council diverts approximately 60% of self-haul waste and these sites provide additional opportunities to segregate waste for recycling and re-use. As an example, Treasure Markets are provided to allow residents to donate or purchase second hand household items.

In order to make it as easier for residents to use and identify resource recovery and reuse options at each of the facilities, the site layout will be continually reviewed, focusing on aspects such as signage and user friendliness.

Internal Council Waste Systems

As well as providing services for residents and businesses, Council generates waste as a result of its own activities.

Council has been reviewing the amount of Council waste generated and implementing additional recycling schemes within the various sections to improve recycling and diversion from landfill.

Council Procurement Systems

Council's Procurement Policy includes an environmentally sound contracting principle for officers to consider when selecting a supplier and/or product: "Council will purchase environmentally preferred products whenever their performance, quality and total acquisition cost is equal to, or better than, those products which can be demonstrated as having a more adverse effect on the environment."

Council will continue to review internal procurement policies and procedures to promote resource recovery through the Council supply chain.

Medium Term Targets

Review Provision of Resource Recovery & Transfer Station Facilities

Building on the short term work completed to improve the waste management performance at individual facilities, it will also be important to review the provision of Resource Recovery & Transfer Facilities to ensure:

- there is a sufficient number of sites provided;
- existing sites allow sufficient opportunities to recycle/recover waste materials;
- site operational practices support and encourage user behaviour that leads to higher levels of resource recovery and recycling yields.

Review Opportunities for Partnerships

Council currently works with a number of local groups to deliver and develop waste management projects. Council recognises the importance of developing partnerships with community organisations, neighbouring councils and business partners. This will support waste management projects which help deliver the key objectives of this plan and ultimately divert more waste from landfill.

Waste Prevention and Reuse Programs

Waste prevention is central to this WRRP and is the best way to reduce the impact of waste management activities on the environment. Not generating waste means that natural resources are conserved, there is a reduction in carbon emissions and the cost of dealing with the issue of waste disposal is avoided.

Council will continue to educate and engage the community on the importance of waste prevention to save resources and reduce waste going to landfill.

Longer Term Targets

Alternative Waste Treatment Technology Facilities

Alternative Waste Treatment Facilities may be considered in the future that would reduce the waste to landfill even further.

The cost of such systems is high when compared to the current landfill cost. Council will therefore firstly review the viability of introducing Alternative Waste Treatment technology in the region.

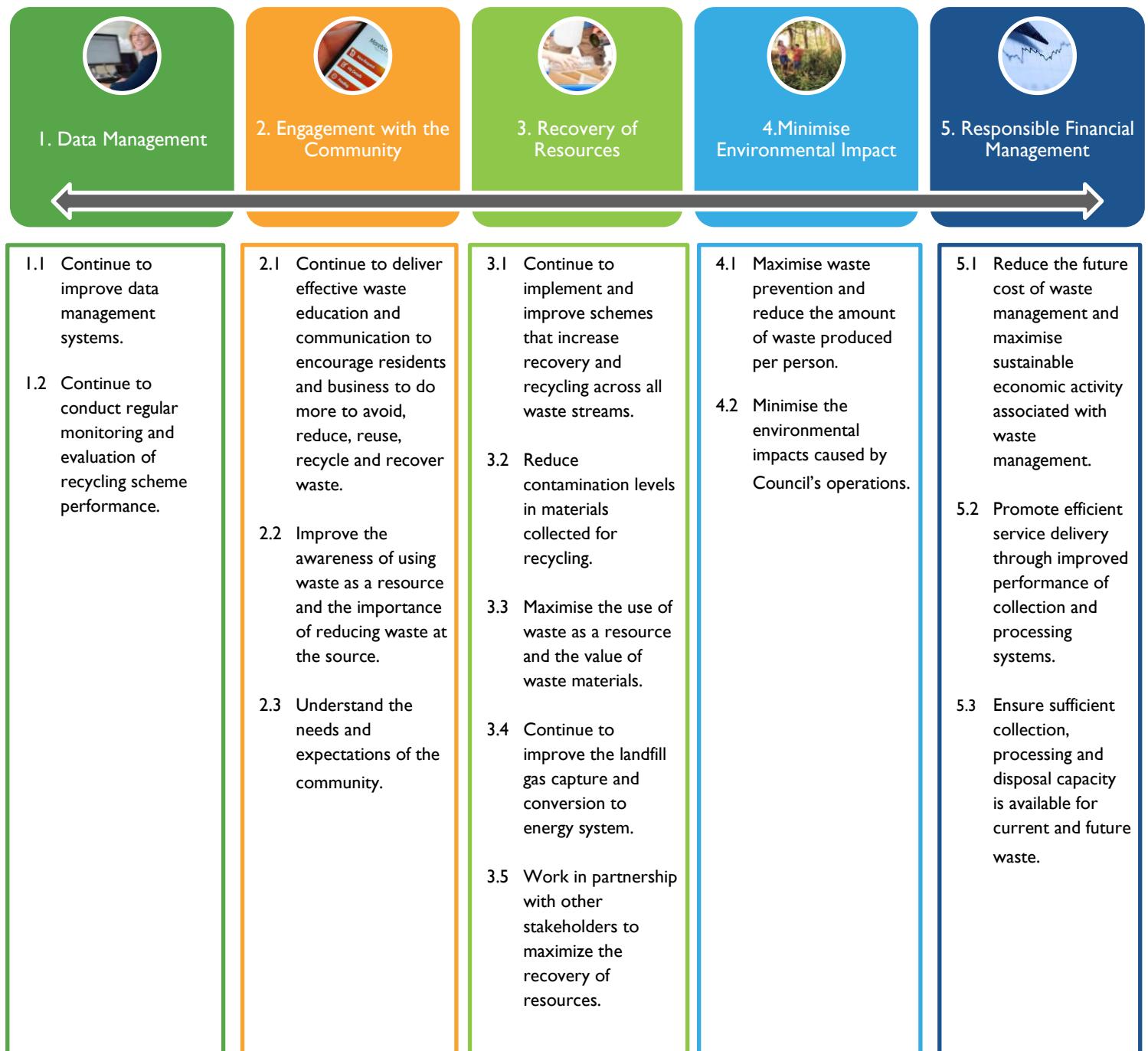
Changes to Kerbside Collection Schemes

Council will consider the viability of introducing separate green waste collections for residents as part of the next kerbside waste collection contract.

Priority Themes for Action

In order to address the targets and achieve the WRRP vision for waste management in Moreton Bay, Council has identified five priority themes for action (Figure 8). A series of objectives have been developed to address these five priority themes for action. These objectives detailed in tables 11-15 will guide the direction of Council activities over the next ten years.

Figure 8: Waste Reduction & Recycling Plan Priority Themes



Action Plan and Timeframes

Table 11: Objective 1 Data Management

| Strategic Objective | Actions | Timeline | Cost |
|---------------------|--|----------|------|
| I.1 | Continue to improve data management and reporting practices. | Short | Low |
| I.2 | Maintain an ongoing relationship and exchange of information with other Councils in South East Queensland to ensure that the delivery of waste services is continually improved. | Short | Low |
| I.2 | Conduct regular waste and recycling audits of the material collected in the kerbside collection program. | Short | Med |

Table 12: Objective 2 Engagement with the Community

| Strategic Objective | Actions | Timeline | Cost |
|---------------------|---|----------|------|
| 2.1 | Consult regularly with teachers to determine that Council's school based waste education program has been developed in line with the requirements of the school's education curriculum. | Short | Low |
| 2.1 | Develop communication plans to support the WRRP. | Short | Med |
| 2.1 | Develop a litter and illegal dumping management plan in cooperation with the state government, other Council departments and interested stakeholders. | Med | Med |
| 2.2 | Conduct a yearly review of Council's website to ensure that the community has ready access to the most up to date waste education information and waste management programs. | Short | Low |
| 2.2 | Continue to partnership with the community in promoting waste management programs. | Short | Low |
| 2.2 | Liaise with businesses to provide services that encourage recycling. | Med | Med |
| 2.3 | Conduct regular surveys at waste management facilities to determine customer satisfaction. | Short | Low |
| 2.3 | Seek feedback from the community at Council events and public displays to determine their knowledge and the effectiveness of Council's waste management programs. | Short | Low |
| 2.3 | Continue to survey residents outside the Defined Waste Collection Area to determine the need to provide a kerbside collection service in their area. | Short | Low |

Table 13: Objective 3 Recovery of Resources

| Strategic Objective | Actions | Timeline | Cost |
|----------------------------|--|-----------------|-------------|
| 3.1 | Continue to review and implement recycling at events. | Short | Med |
| 3.2 | Develop a monitoring program with contractors to identify the level of contamination in kerbside recycling bins and provide feedback to the resident. | Short | Low |
| 3.3 | Investigate waste reuse programmes targeted at <ul style="list-style-type: none">• Organic waste• Reducing packaging• Smart Shopping | Med | Med |
| 3.4 | Continue to review and upgrade the recycling areas at all waste facilities to maximise the recovery of resources. | Med | Med |
| 3.5 | Continue to review internal Council procurement policies and procedures. | Short | Low |
| 3.5 | Collaborate with business and industries to develop markets to improve the recovery of resources. | Long | Med |
| 3.5 | Continue to investigate opportunities to work with businesses for reusing recycled products. | Long | Med |
| 3.1 3.2 3.4 3.5 | Review the performance of existing kerbside collection systems to: <ul style="list-style-type: none">• increase the amount of materials recycled• increase the number of properties that use the service• reduce contamination | Short | Med |

Table 14: Objective 4 Minimise Environmental Impact

| Strategic Objective | Actions | Timeline | Cost |
|----------------------------|--|-----------------|-------------|
| 4.1 | Continually review the information provided to the public to assist them in minimising the amount of waste they generate. | Short | Low |
| 4.2 | Continue to review Council's Planning Scheme to ensure new developments have suitable waste management services that do not impact on the surrounding environment. | Short | Low |
| 4.2 | Continually monitor and reduce the environmental impacts from all waste management facilities. | Short | Med |
| 4.2 | Continue to review the site based management plans for all landfill sites to improve the management of these facilities. | Short | Med |
| 4.2 | Continue to improve the landfill gas capture systems across all sites to reduce carbon emissions. | Short | Med |

Table 15: Objective 5 Responsible Financial Management

| Strategic Objective | Actions | Timeline | Cost |
|----------------------------|--|-----------------|-------------|
| 5.1 | Continually manage Council's waste management contracts to ensure Council is receiving maximum value for dollar. | Short | Low |
| 5.2 | Ensure efficient and effective landfill operations to maximise the life of all landfills. | Short | Med |
| 5.2 | Continue to review overall provision of waste facilities and operational practices with a view to standardisation. | Med | Med |
| 5.3 | Continually review Council's 10 year capital works program so as to plan and deliver necessary infrastructure capable of meeting future waste management demands. | Short | Low |
| 5.3 | Plan, design, construct, operate and maintain facilities to provide suitable infrastructure on time and of sufficient capacity to accommodate a growing community in an economically and environmentally responsible manner. | Short | Med |
| 5.3 | Consider options for the establishment of a Regional Waste Management and Resource Recovery Facility that may involve the collaboration between other stakeholders. | Short | High |
| 5.3 | Consider feasibility of introducing alternate waste treatment technologies to treat general waste and reduce waste to landfill. | Long | High |

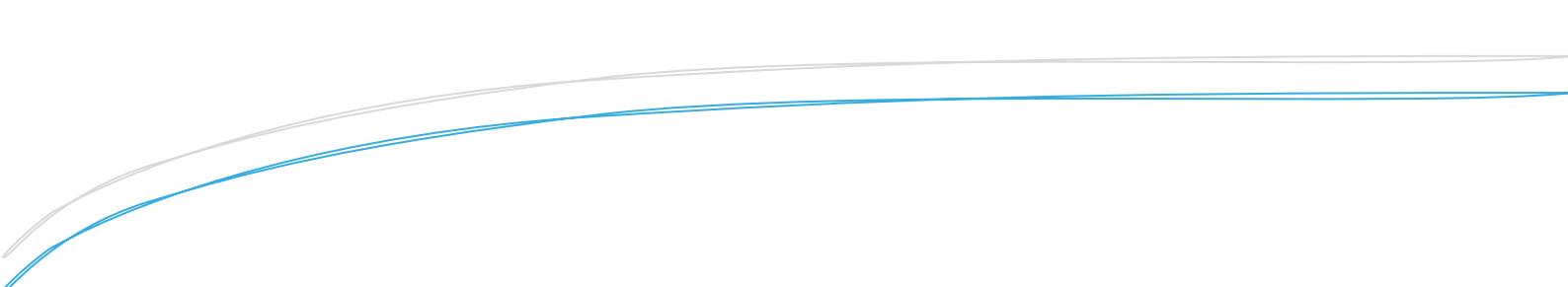
Performance Measures

| Strategic Objective | Target | Target Measure |
|---|---|---|
| Data Management | <p>Conduct regular waste stream audits of the following areas to determine the effectiveness of WRRP:</p> <ul style="list-style-type: none"> • Kerbside waste and recycling collection services. • Self-haul waste deposited at waste facilities. | Biennial |
| Engagement with the Community | <p>Develop Communication Plans to support the WRRP.</p> <p>Conduct regular satisfaction surveys of customers that use the waste facilities.</p> <p>Provide feedback surveys to schools to determine the effectiveness of the Resource Education program.</p> | 2018 Biennial 20% of presentations to be surveyed |
| Recovery of Resources | Improve Recycling Rates by 2026 for: <ul style="list-style-type: none"> • Municipal Solid Waste • Construction and Demolition Waste • Commercial and Industrial Waste | 55% 90% 55% |
| Minimise Environmental Impact | Reduce the per capita of waste generation by 2026 by 5%. Ensure all landfills in the region have a landfill gas capture and power generation system in operation. | 724 kg/per/yr July 2018 |
| Responsible Financial Management | Ensure that the waste management operations costs do not increase by more than the yearly growth rate & CPI. | CPI & Growth Rate |

Glossary

| | |
|---|---|
| Alternative Waste Technology (AWT) | Waste processing infrastructure using mechanical, biological and/or thermal processes as an alternative to, or pre-treatment for landfill. |
| Avoidance | Avoid unnecessary consumption of products created using natural resources, water, energy, and financial cost resulting in unsustainable waste disposal. |
| Commercial and Industrial Waste (C&I) | Waste which has been generated from a business activity and or waste that has been generated as a result of the ordinary use or occupation of commercial/industrial premises and community groups including churches, schools, sporting clubs, and other non-profit organisations. |
| Construction and Demolition Waste (C&D) | Waste generated from construction and demolition work. Includes concrete, bricks, timber, steel, clean fill, tiles, lino, carpet, gyprock/plasterboard, insulation, electrical and plumbing wastes. |
| Contamination in the recyclable waste stream | Materials that are not accepted in Council's comingled recycling bin service. These items may be recycled through an industry or community program, donated for reuse and recovery, recovered, composted as organic matter for reuse, or disposed in general waste. |
| Defined Waste Collection Area | The area of the Moreton Bay Region which has been identified by Council from time to time where the contractor must conduct kerbside waste collection services. |
| Dispose | Dispose of waste only if there is no viable alternative. |
| Key Performance Indicators | Specific measures of performance that are clearly defined and are able to measure progress towards achieving an effective Waste Reduction and Recycling Plan. Examples include the amount of waste generated per person per year (kg/person/year). Each indicator needs specific data to be recorded and collated in order to track change over time. |
| Landfill | The disposal of waste materials through burial. Modern landfill sites are engineered, lined and fitted with gas capture systems to minimise environmental impact. |
| Landfill diversion | Actively diverting waste away from landfill so that it is instead re-used, recycled or treated. |
| Materials Recovery Facility (MRF) | Materials collected for recycling at the kerbside in the Moreton Bay Region are sent to a materials recovery facility. The MRF is equipped to sort items into material categories for resale and reprocessing. |

| | |
|--|---|
| Municipal Solid Waste (MSW) | Municipal solid waste is waste produced primarily by households and Council activities, including biodegradable material, recyclable materials such as bottles, paper, cardboard and aluminium cans, and a wide range of non-degradable material including paint, appliances, old furniture and household lighting. |
| Recover | Recover waste resources, including the recovery of energy. |
| Recycle | Recycle waste resources to make the same or different products. |
| Recycling | Recycling involves the collection, sorting and processing of materials to be used in the creation of new recyclable products. |
| Reduce | Reduce waste generation and disposal. |
| ResourcEd Schools | An award winning waste management education program provided to schools and early learning centres in the Moreton Bay region assisting to increase the recovery of resources and reduce waste disposal to landfill. |
| Resource Recovery Centre / Transfer Station | A Council facility which receives waste for temporary storage. The waste can be sorted or consolidated and then removed and transported for further processing including recycling or disposal at a landfill facility. |
| Reuse | Items that do not require processing, and are in a suitable condition and quality to be reused in its original form e.g. furniture, household items. |
| Treasure Market | A designated market area for the reuse of salvageable items to the public. |
| Treat | Treat waste before disposal, including reducing the hazardousness nature of the waste. |
| Waste | <p>The Environmental Protection Act 1994 defines waste as:</p> <ul style="list-style-type: none"> a) left over, or an unwanted by-product, from an industrial, commercial, domestic or other activity; b) surplus to the industrial, commercial, domestic or other activity generating the waste. <ul style="list-style-type: none"> ■ Waste can be a gas, liquid, solid or energy, or a combination of any of them. ■ A thing can be waste whether or not it is of value. ■ The administering authority may approve a resource, or a stated type of resource, for subsection (1) if it considers the resource, or type of resource, has a beneficial use other than disposal. |



Waste Avoidance and Resource Productivity Strategy (WARP)

Outlines opportunities and challenges for Queensland residents to improve performance in waste avoidance and recovery.

Waste Reduction/Prevention

Reducing and/or preventing waste from occurring in the first instance. This includes behaviour change so that residents make informed decisions to avoid waste for example smart shopping to reduce packaging, plastic bags.

Waste Reduction and Recycling Plan (WRRP)

This Waste Reduction and Recycling Plan. A framework of guiding principles and objectives to underpin action plans for managing waste in the region.