

Amendment on Waste Reduction and Recycling Plan

2016-2026

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Executive summary

The Central Highland's Regional Council is facing challenges relating to the collection, processing, treatment and disposal of solid waste. These challenges include short, medium- and long-term disposal options for the region, transportation distances, education and the reduction of waste being sent to landfill.

The amendment to the Waste Reduction and Recycling Plan (WRRP) 2016 – 2026 has been done as a requirement to review and update Waste Reduction and Recycling Plan 2016 – 2026 every three years, as well as to align waste operations with Queensland's new Waste Management and Resource Recovery Strategy.

Major strategic initiatives include:

1. Data capture;
2. Infrastructure rationalisation and improvement, including landfills and transfer stations;
3. Maximisation of waste and recycling collection services;
4. Long term waste disposal options; and
5. Increased waste reduction and recycling initiatives.

The Queensland Waste Avoidance and Resource Productivity Strategy 2014-2024 sets out targets which aim to reduce waste going to landfill.

The strategy targets also consider the different circumstances and opportunities relative to both the metropolitan and non-metropolitan parts of the state. The Central Highlands Regional Council is classified within a remote area of Queensland.

Key actions within the WRRP include:

- Review of existing landfill and transfer station infrastructure that complies with waste levy requirements including locations and suitability for the community;
- Investigate the establishment of one landfill for the region;
- Investigate the management of regulated waste, such as tyres; and
- A feasibility assessment for the diversion of waste materials from landfill, including organics.

1. Introduction

The Central Highlands Regional Council (CHRC) is located in the heart of Central Queensland and is valued for its strong communities, diverse economy, pristine landscapes, expanding infrastructure and for having an attractive climate. The region spans an area of almost 60,000 square kilometres and is located near the Tropic of Capricorn.

Following the principles set out in Queensland's Waste Management and Resource Recovery Strategy, the Central Highlands Regional Councils Amendment on Waste Reduction and Recycling Plan 2016-2026 (WRRP) has been developed to provide guidance and direction for the reduction of waste to landfill for the next ten years.

The WRRP will shape the region's future waste management services and infrastructure with a strong focus on resource recovery, recycling and reuse.

Key objectives for the plan include:

- Data capture;
- Infrastructure rationalisation and improvement, including landfill, transfer stations;
- Maximisation of waste and recycling collection services;
- Long term waste disposal options; and
- Increased waste reduction and recycling initiatives. Opportunities in the diversion of waste from landfill include:
 - Organics;
 - Increased reuse options (green waste, concrete, steel, tyre and other inert materials); and
 - Regional partnerships.

1.1 Development of Plan

Council is a member of the Central Queensland Region of Council's (CQROC).

Supporting documents which have been used to inform this Plan include:

- Former Central Queensland Local Government Association (CQLGA) Regional Waste Audit Report, December 2013;
- 10-year capital financial plan; and
- Central Highlands Waste Reduction and Recycling Plan (Waste Facility Rationalisation in Central Highlands), February 2014.

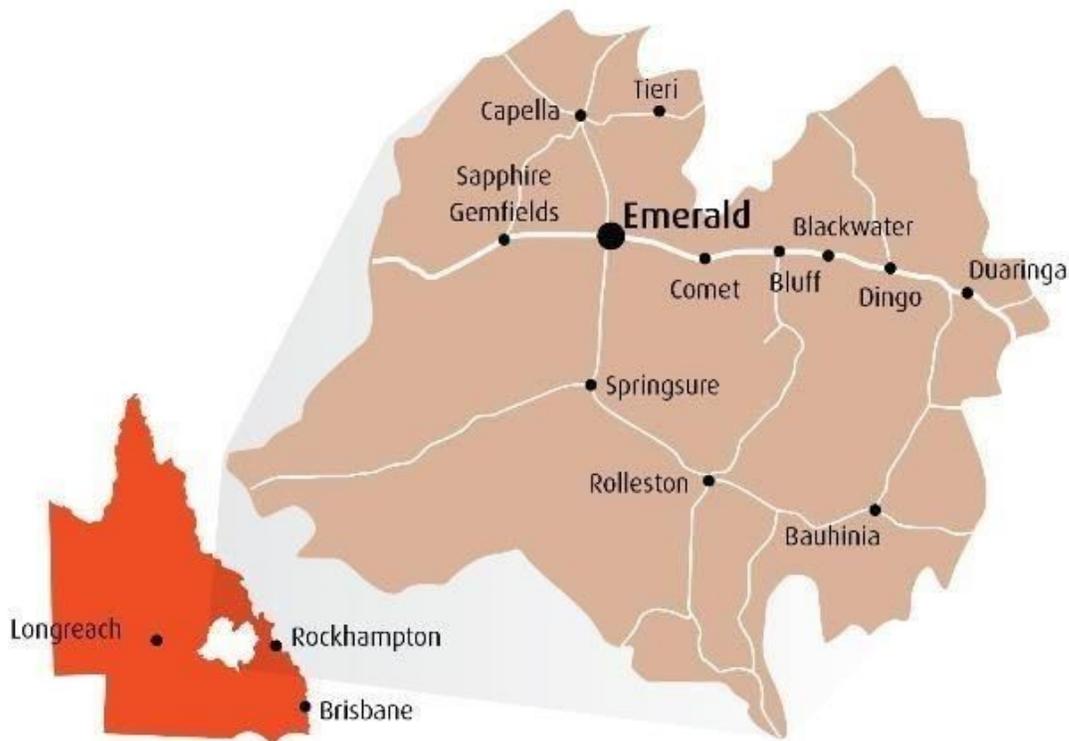
2. Where are we today?

The Central Highlands region Stretches from the Arcadia Valley in the south to the Peak Downs Ranges in the north, east from Boolburra to Boguntungan in the west.

Covering 60,000 square kilometres in the Bowen Basin, the area is the largest coal reserve in Australia with over 100 million tonnes of coal extracted annually. The Central Highlands economy is also complemented by agriculture and horticulture industries, including beef, grain, cotton and citrus which are logistically connected to a number of major freight routes.

The region also hosts the largest sapphire producing fields in the Southern Hemisphere.

Figure 1 Map of Regional Council Area



2.1 Population Profile

Population

In 2018, approximately 28 645 people called the Central Highlands region home. However, this is expected to grow to over 30 133 by 2041.

Source: Queensland Government Statisticians Office and Australian Bureau of Statistics, Census of Population and Housing 2016.

2.2 Industrial and commercial profile

It is estimated that there are 17,019 jobs in the Central Highlands region. Approximately 11,461 residents are employed. Of these 43.8% are employed full-time and 16.01% are employed part-time.

Over 5,558 people are estimated to be non-permanent residents of the Central Highlands, in that they do not live here but they work here.

Mining is the largest employer in Central Highlands, making up 35.7% of total employment.

The region's economic base and employment opportunities also encompass agriculture, health, training, construction and ancillary services.

There is a large professional base including engineers, managers, accountants, solicitors, allied health and medical staff.

Economy

The Gross Regional Product of the Central Highlands region is estimated at \$3.93 billion, making up 1.4% of the state's GRP.

There are 2,899 businesses registered in the region.

2.3 Waste collection, recovery and disposal systems

Central Highlands Regional Council (CHRC) manages 18 resource recovery facilities. This includes landfills, transfer stations and bulk bin facilities.

The landfills at Emerald and Blackwater each have a weighbridge and charge based on weight. The other facilities use deemed weights to calculate tonnage, based on volumes and a weight conversion factor.

Public place waste and recycling services are provided along with waste services special community events.

CHRC is responsible for the provision of waste and recycling services to household and commercial premises. This service is provided through a contract to a private operator for a 7-year (+1+1+1) term which commenced in October 2019.

Table 1 Household waste collection services – Kerbside

Service	Household Service	Container (types and sizes)	Frequency	Operator	Facilities (including bulking and final destinations)
Residual	9,767	240 litres	Weekly	Contractor	Emerald, Blackwater and Tieri Landfills
Comingled	9,767	240 litres	Contractor	Contractor	Bulked and transported to Rockhampton

2.3.1 Industrial and commercial waste systems

Table 2 Commercial waste collection services – Kerbside

Service	Households served	Container (types & sizes)	Frequency	Operator	Facilities (including bulking and final destinations)
Residual	627	240 litres	Weekly	Contractor	Emerald, Blackwater & Tieri landfills
Comingled	364	240 litres	Fortnightly	Contractor	Bulked and transported to Rockhampton

2.3.2 Waste Infrastructure

Due to the size and spread of the township areas, CHRC provides a network of 18 resource recovery facilities. Their approximate locations and landfill size across Queensland and municipal area is illustrated in Figure 2.

Council is progressing through an infrastructure rationalisation to ensure environmental and license compliance in accordance with the Department of Environment and Science requirements. A key goal is to increase opportunities for recycling. This will assist Council reduce the amount of waste sent to landfill.

Figure 2 Map of Waste Infrastructure

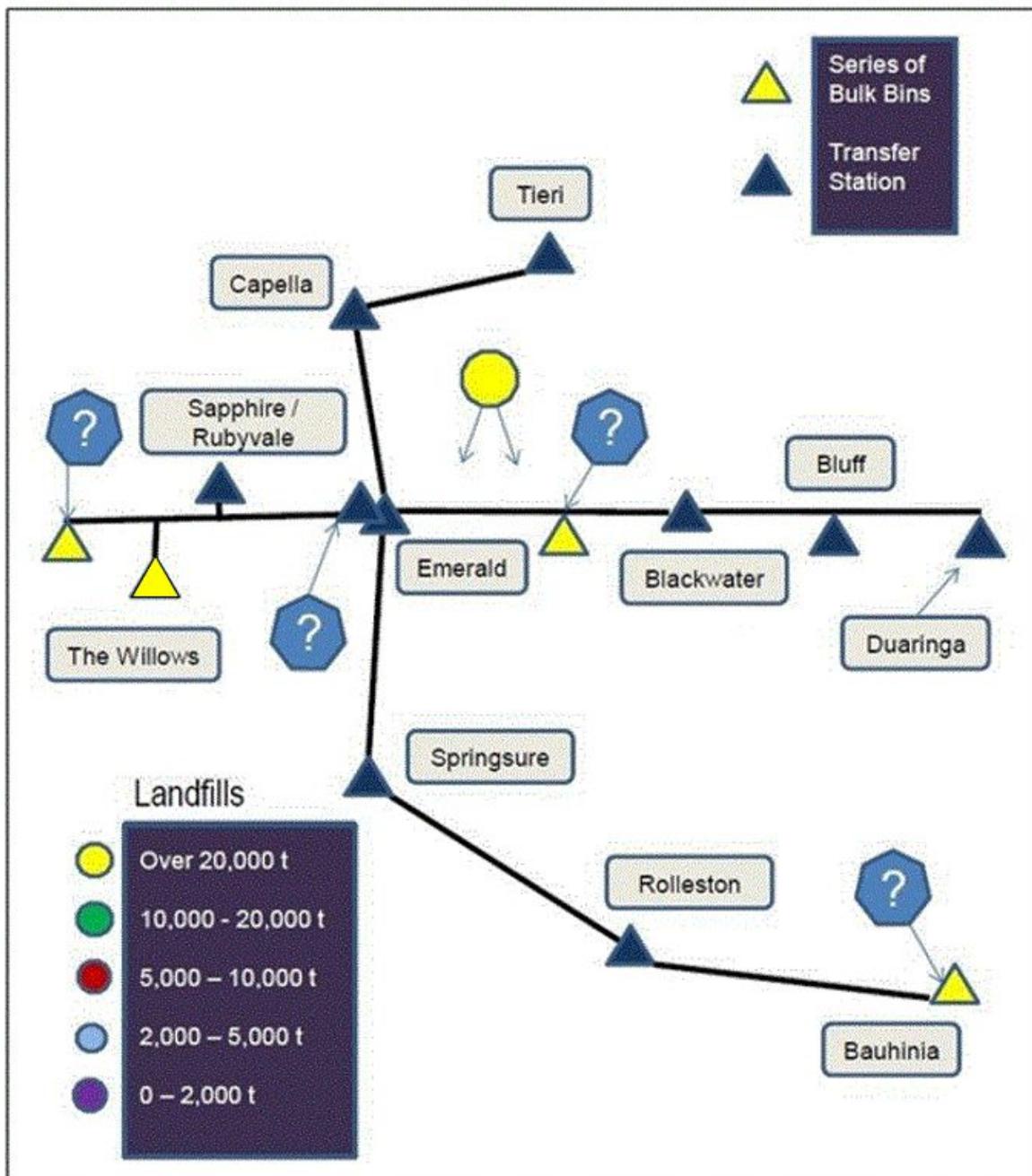


Current bulk bin, landfill and transfer station are listed in Table 3, with a regional plan provided in Figure 3.

Table 3 Waste management facilities in local government area - Current

Resource recovery facility type	Name	Existing capacity (tonnes/ annum)	Proposed new Capacity (tonnes/ annum)
Resource Recovery Centre (Bulk bin stations)	Gindie		
	Fernless		
	Anakie		
	Comet		
	Bauhinia		
	Bogantungan		
	The Willows		
	Gindie		
Resource Recovery Centres (Transfer station)	Emerald		
Resource Recovery Centres (Landfill and transfer station)	Tieri	2,000 to 5,000	
	Capella	0 to 2,000	
	Bluff	0 to 2,000	
	Dingo	0 to 2,000	
	Dauringa	0 to 2,000	
	Springsure	2,000 to 5,000	
	Rolleston	2,000 to 5,000	
	Sapphire / Rubyvale	2,000 to 5,000	
Resource Recovery centres (Landfills)	Emerald	10,000 to 20,000	
	Blackwater	2,000 to 5,000	10,000 to 20,000
Material recovery facility	Orora	Up to 11,000	

Figure 3 Infrastructure plan – Current



Changes to existing facilities during the transition period of the WRRP are listed in Table 4, The transition period incorporates the transitioning of some regional landfills to transfer stations, with landfilling concentrated at four locations.

Table 4 Waste management facilities in local government area – Transition

Facility type	Name	Type of material sent	Landfill capacity (tonnes/ annum)	Proposed Landfill Capacity (tonnes/ annum)	Landfill Rehabilitation Plans
Resource Recovery Centre (Bulk bin stations)	Gindie				
	Fernless	MSW			
	Anakie	MSW			
	Comet	MSW			
	Bauhinia	MSW			
	Bogantungan	MSW	Currently licensed as a landfill 50 to 2,000		Rehabilitation planned 2022
Resource Recovery Centres (Transfer station)	Emerald	MSW			
	Willows	MSW	Currently licensed as a landfill 50 to 2,000	Resource Recovery Centre	Rehabilitation planned 2021
	Rolleston	MSW	Currently licensed as a landfill 2,000 to 5,000	Resource Recovery Centre	Rehabilitation planned 2021
	Capella	MSW	Currently licensed as a landfill 50 to 2,000	Resource Recovery Centre	Rehabilitation planned 2020
	Bluff	MSW	Currently licensed as a landfill 50 to 2,000	Resource Recovery Centre	Rehabilitation planned 2023
	Dingo	MSW	Currently licensed as a landfill 50 to 2,000	Resource Recovery Centre	Rehabilitation completed 2019
	Dauringa	MSW	Currently licensed as a landfill 50 to 2,000	Resource Recovery Centre	Rehabilitation planned 2020
Resource Recovery Centres (Landfill and transfer station)	Springsure	MSW	2,000 to 5,000	Resource Recovery Centre only	Rehabilitation planned 2023
	Sapphire / Rubyvale	MSW	50 to 2,000	Resource Recovery Centre	Rehabilitation planned 2020
Resource Recovery centres (Landfills)	Lochlees	MSW & Commercial	Over 20,000	No change	
	Tieri	MSW & Commercial	2,000 to 5,000	No change	
	Blackwater	MSW & Commercial	2,000 to 5,000	10 000 to 20 000	
Material recovery facility	Orora	Comingled recyclables	Unknown		

NB: It is a license condition to have in place rehabilitation plans. Rehabilitation & closure procedures are required to be implemented following official closure of a landfill.

Some landfill licenses will be maintained until the establishment of the new regional resource recovery centre.

Table 5 provides an indication of changes during the long-term plan with one regional landfill is established. The schematic in Figure 4 illustrates the long-term waste management strategy.

Table 5 Waste management facilities in local government area – Long term

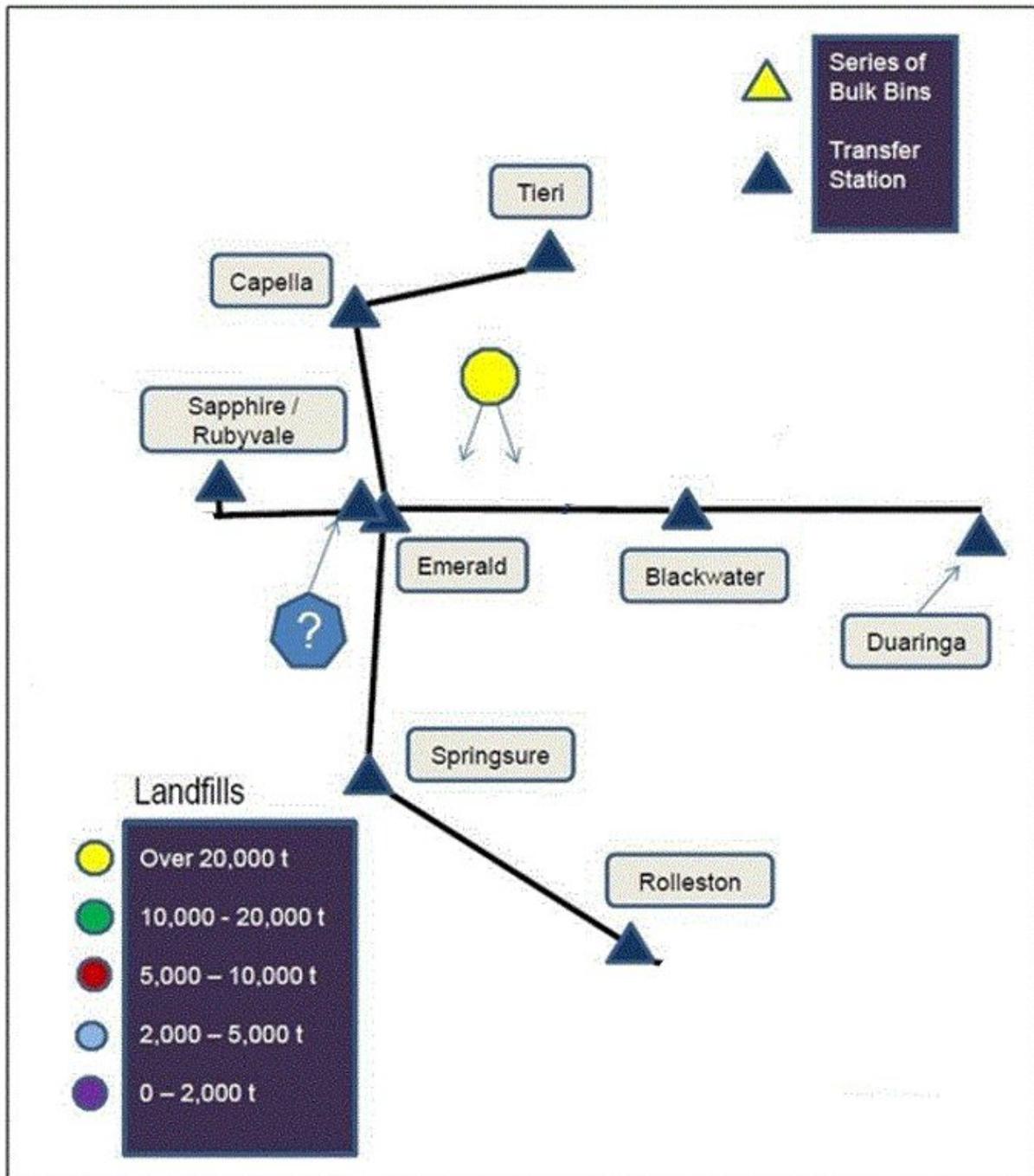
Facility type	Name	Type of material sent	Operational Change
Resource Recovery Centre (Bulk bin stations)	Comet	MSW	Key access to residents by 31 Dec 2019 and will be closed by 30 June 2020
	Fernlees	MSW	Closed by 30 June 2020
	Anakie	MSW	Closed by 2022
	Gindie	MSW	Closed by 2022
	Bogantungan	MSW	Closed by 2026
	Bauhinia	MSW	Closed by 2026
	Willows	MSW	Closed by 2026
Resource Recovery Centres (Transfer station)	Bluff	MSW	Closed by 2022
	Dingo	MSW	Closed by 30 June 2020
	Capella	MSW	Transfer Station only
	Duaringa	MSW	Transfer Station only
	Emerald	MSW	Transfer Station only
	Rolleston	MSW	Transfer Station only
	Sapphire/ Rubyvale	MSW	Transfer Station only
Springsure	MSW	Transfer Station only	
Resource Recovery centres (Transition Landfills)	Blackwater	MSW/ Commercial	Transition landfill until regional site developed
	Lochlees	MSW /Commercial	Transition landfill until regional site developed
	Tieri	MSW/ Commercial	Transition landfill until regional site developed
Resource Recovery centres (Landfills)	Regional Landfill (New site) **	MSW/ Commercial	Expected
Material recovery facility	Orora	Comingled recyclables	Continuing

**** Council to investigate a new Resource Recovery Centre on the eastern side of Emerald.**

To have a better control and increased capacity to monitor illegal dumping, gate key access will be provided to residents for unmanned resource recovery centres i.e. bulk bin stations. To compliment this, operating hours at all resource recovery centres (transfer stations and landfill

facilities) have been introduced. Thorough community engagement has been undertaken since April 2019 to inform residents of these changes accordance with the introduction of the Queensland Waste Levy on 1 July 2019.

Figure 4 Infrastructure plan – Long term



2.3.3 Additional Infrastructures in Existing Resource Recovery Centre Facilities for Waste Levy

The introduction of a waste levy on 1 July 2019 has resulted in the introduction of a number of infrastructure changes across Council's facilities to ensure accurate waste data capture and reporting, and better control over the type of waste being collected, can be achieved.

Weighbridge

All resource recovery centre facilities (involved in waste landfilling) require the installation of a weighbridge within five years. The installation of weighbridges at small facilities can be extended to ten years provided that an exemption application is made for those facilities and approval is granted by the Department of Environment and Science. In the absence of a weighbridge, waste needs to be measured using a deemed weight from volume. Table 6 shows existing weighbridges, with the intention to apply for an exemption to the requirement for a weighbridge at Tieri.

Table 6 Installation Plan of Weighbridge at Landfill Facilities

Facility Name	Weighbridge Requirement	Installed Year
Lochlees	Yes	Existing
Blackwater	Yes	Existing
Tieri	Yes	2029*

*pending exemption from the State Government. Landfill areas with tonnages at 5,000 tonnes or less are eligible for an exemption from the requirement to install a weighbridge.

Surveillance Cameras

Surveillance cameras are to be set up at most facilities as part of the strategy to build a robust monitoring system. Monitoring will assist the management of illegal dumping and littering problems. Council has committed to the installation of a CCTV system at these facilities with all necessary connectivity requirements by November 2019.

Fencing

All facilities are now fenced with security gates to ensure greater security. The intention is to have greater control over waste disposal operations through the physical presence onsite.

Signage

Adequate signage is displayed at all facilities to inform the community of disposal requirements relating to acceptance of waste conditions, disposal location of various waste types and applicable gate fees including levy charges.

Other Infrastructure

Other necessary infrastructure such as portable staff facilities and waste oil sheds have been installed at the staffed resource recovery areas.

Software Integration

Council's waste data collection software has been installed at the Lochlees and Blackwater facilities. This software will be installed at Tieri landfill in the 2019/2020 financial year. It is not required at other resource recovery facilities.

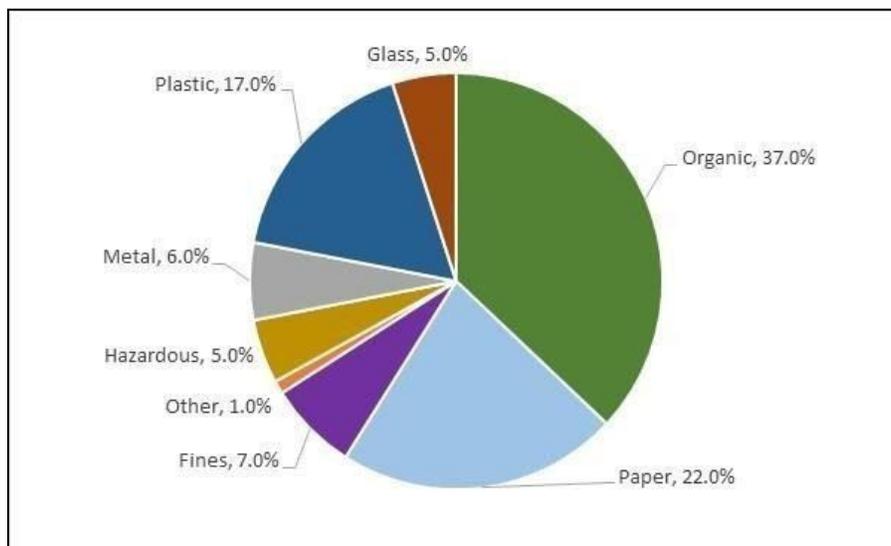
2.4 Waste Composition

In October 2013, the Central Queensland Local Government Association completed a regional waste audit for kerbside residual and kerbside recyclables. In addition to the physical waste audits, a visual waste assessment was undertaken on commercial and industrial (C&I) and construction and demolition (C&D) waste entering the Lochlees Road landfill.

The new kerbside contract provides for an annual bin audit to help us manage the various sources of our waste and provide targeted education programs.

A summary of the waste stream composition is provided in Figures 5, 6 and 7.

Figure 5 Composition of Household Residual (MSW)



The findings from the household residual bin audit indicate that organics are a large portion of disposal contents, at 37%.

The portion of recyclables entering residual bins indicate that the community could benefit from further awareness campaigns on what could and should be placed in the recycling bin.

In addition to the kerbside residual physical waste audit, a contamination audit was also conducted to identify the percentage of contamination and also the major contaminants being placed into the kerbside recycling bin. The recyclable processor has an acceptance level of 12%.

The Central Highlands Regional Council presented a contamination percentage of 19.4%. Major items identified causing contamination included:

- Food and kitchen materials;
- Plastic film and bags; and
- Inert materials such as bricks and rocks.

Results from the C&I and C&D visual assessments have indicated that a large portion of recoverables/ recyclables are entering landfill, such as organics, paper, metals and plastics.

Figure 6 Composition of C&I

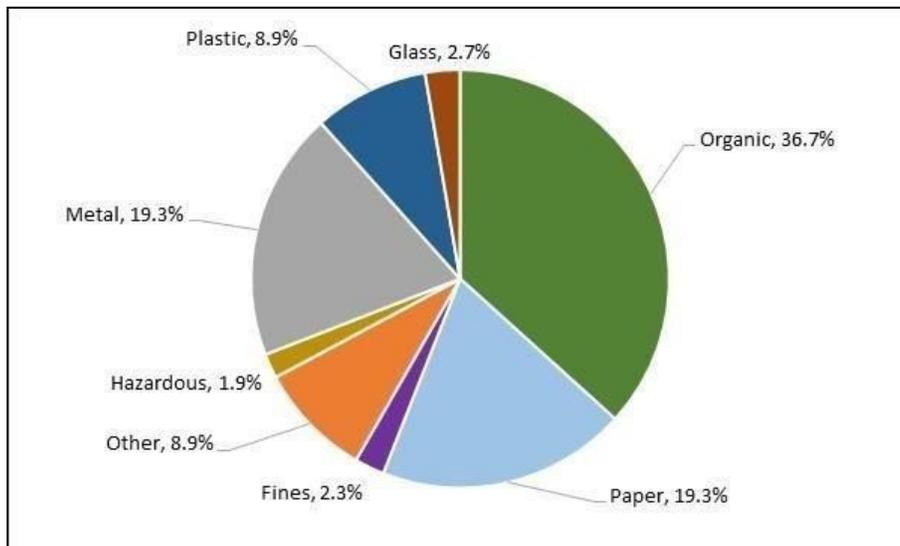
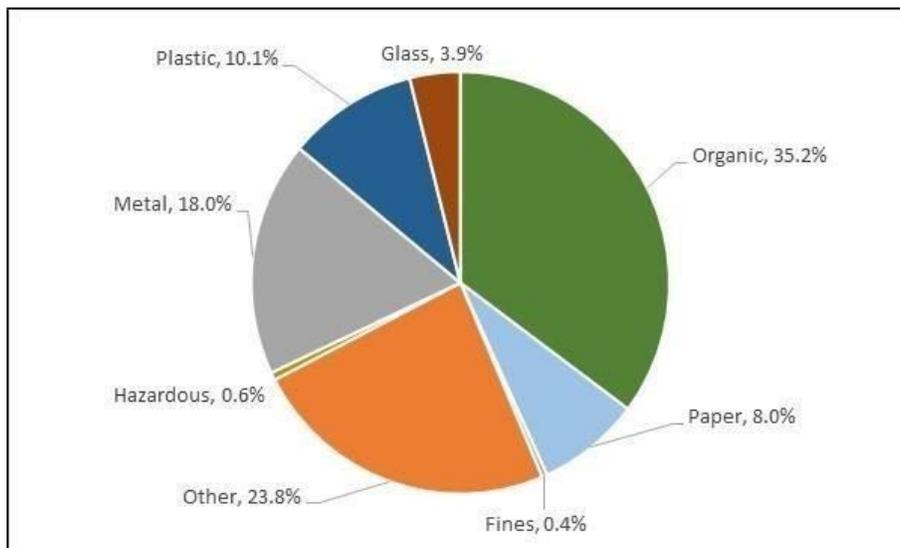


Figure 7 Composition of C&D



3. Key drivers and policy context

3.1 National drivers and policies

There are a number of 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 materials.

Commonwealth legislation and policy:

- *National Greenhouse and Energy Reporting Act (NGER Act) 2007;*
- *Clean Energy (Consequential Amendments) Act 2011;*
- *Clean Energy Legislation Amendment Act 2012;* and
- *Product Stewardship Act 2011.*

The National Waste Policy 2009: *Less Waste, More Resources*

The National Waste Policy 2009 sets the national framework for Australia's waste management and resource recovery direction from 2010 to 2020.

The aims of the National Waste Policy 2009 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 sets directions in six key areas and identifies 16 priority strategies that would benefit from a national or coordinated approach.

The six key areas are:

- 1. Taking responsibility** for reducing the impacts of products and materials from production to the end-of- life;
- 2. Improving the market** to deliver efficient and effective markets for waste recovered resources, using local technology and innovation;
- 3. Pursuing sustainability** and achieving environmental, social and economic benefits from producing less waste and using waste better;
- 4. Reducing hazard and risk** by reducing the hazardous content of waste and using consistent and safe waste management methods;

5. Tailoring solutions to increase regional capacity and allow communities to manage waste and recover and re-use resources;

6. Providing evidence giving decision makers access to meaningful, accurate waste and resource recovery data that allows progress to be measured and to inform community choices and behaviours.

3.2 State drivers and policies

The Queensland State Government has developed key legislation and policies that form the basis for waste reduction and recycling principles within the state.

Queensland legislation and policy:

- *Environmental Protection Act 1994;*
- Environmental Protection Regulation 2008;
- *Planning Act 2016;*
- *Local Government Act 2009;*
- *Waste Reduction and Recycling Act 2011;*
- *Environmental Protection (Greentape Reduction) and Other Legislation Amendment Act 2012;*
- Environment protection (Waste ERA Framework) Amendment Regulation 2018;
- *Waste Reduction and Recycling (Waste Levy) Amendment Act 2019;* and
- Waste Management and Resource Recovery Strategy.

Waste Reduction and Recycling Act 2011

Contains a suite of measures to reduce waste generation and landfill disposal and to encourage recycling.

The legislation promotes waste avoidance and reduction and encourages resource recovery and efficiency. The key provisions of the *Waste Reduction and Recycling Act 2011* include:

- A requirement for Queensland Government agencies and local governments to prepare waste management plans;
- Introduction of product stewardship arrangements for any waste products that are identified as a growing problem for landfill in the future; and
- Strengthened littering and illegal dumping offences, including public reporting of vehicle related littering offences.

Waste Reduction and Recycling Regulation 2011 (WRRR2011)

The Waste Reduction and Recycling Regulation 2011 sits under the *Waste Reduction and Recycling Act 2011* and provides details about the legislative framework. The key provisions of the Regulation include:

- Fees for applications under the *Waste Reduction and Recycling Act 2011;*
- Management of unused packaging materials; and
- Details about who is required to plan and report about waste management.

Queensland Waste Avoidance and Resource Productivity Strategy 2014-2024

This strategy provides a high-level vision and direction for Queensland over the next ten years.

The strategy sets out four main objectives, based around the waste and resource management hierarchy.

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

From these objectives, the key features of the strategy include:

- Targets for reducing waste generation and improving recycling rates;
- Recognition of the challenges and opportunities for regional areas of the state;
- Identification of Queensland's priority wastes and areas for action; and
- Implementation through action plans developed at government and sectoral levels to achieve the objectives and priorities of the strategy.

Waste Reduction and Recycling (Waste Levy) Amendment Act 2019

It provides details on the requirements to implement the waste levy on landfill facilities. It specifies that the levy will be imposed on waste delivered to leviable waste disposal facilities, and outlines exemption procedure on waste and declaration of resource recovery area (RRA) aspects.

Moreover, waste needs to be measured either by weighbridge for waste facilities with capacity greater than 5,000 tonnes/year or be deemed for smaller facilities. Volumetric surveys must be completed each year in June to measure the volumes of waste in each active landfill cell, including volume estimations of stockpiled waste and recoverable resources in RRA's. This data is to be evaluated to identify the existing landfill capacity and future capacity needs.

Waste Management and Resource Recovery Strategy

It provides a strategic plan for managing waste in Queensland and features the aim to achieve 4 R's i.e. reduce waste, reuse waste, recycle waste and recover resources from waste. It has set out three strategic priorities which are:

- Reduce impact of waste on the environment and communities;
- Transitioning towards a circular economy for waste; and
- Building economic opportunity.

Targets for waste reduction, amounts of waste disposal to landfill, and recycling rates for 2050 are shown in Tables 7, 8 and 9.

Table 7 Waste Reduction Targets for Households

Waste Stream	2025	2030	2040	2050
MSW	10%	15%	20%	25%

Table 8 Amount of Waste Disposal to Landfill

Waste Stream	2025	2030	2040	2050
MSW	45%	30%	10%	5%
C & I	30%	20%	10%	5%
C & D	25%	15%	15%	15%
Overall	35%	20%	15%	10%

Table 9 Recycling Rates as a percentage of total waste generated

Waste Stream	2025	2030	2040	2050
MSW	50%	60%	65%	70%
C & I	55%	60%	65%	65%
C & D	75%	80%	85%	85%
Overall	60%	65%	70%	75%

3.3 Local drivers and policies

The key requirement of the *Queensland Waste Reduction and Recycling Act 2011* (W RRA 2011) is an obligation for each local government area to prepare a Waste Reduction and Recycling plan (WRRP). A WRRP must set out actions for managing waste in a way that best achieves the objectives of the Act.

This document is the Council Amendment on the WRRP.

3.4 Summary

The Queensland Waste Management and Resource Recovery Strategy sets out targets which aim to reduce waste to landfill. These targets for various waste streams are provided in Table 9.

The strategies have been developed to suit different circumstances and opportunities as characterised by the varied features inherent to metropolitan and non- metropolitan community environments.

The Central Highlands Regional Council is classified within a remote area of Queensland.

The waste and resource management hierarchy outlines the order of preference for managing waste to inform decision makers. The hierarchy (Figure 8) shapes the vision, principles, objectives and priorities in the strategy, and provides a basis for development of action plans.

Table 10 Queensland Waste Management and Resource Recovery Strategy Targets

Waste Stream	Measure	2050 Target
Municipal Solid Waste (MSW)	Improved recycling rate	25% reduction in household waste
Commercial and Industrial Waste (C&I)	Improved recycling rate	95% (state-wide)
Construction and Demolition Waste (C&D)	Improved recycling rate	85% (state-wide)
Landfill Diversion Target	Reduce amount of waste going to landfill	90% diversion from landfill

Figure 8
The Waste and Resource Management Hierarchy

Resource Management Hierarchy



4. Stakeholder Consultation

Consultation of the Waste Reduction and Recycling Plan 2015-2025 to the broader community is essential in the success of waste reduction and diversion from landfill.

Key stakeholders include:

- Council staff;
- Councillors;
- Community;
- Industry;
- Regional / neighbouring Councils; and
- State government (DES).

The initial development of this plan went through a substantive public consultation exercise. This consultation was undertaken during October 2015 through to February 2016 and involved two rounds of notification on Council's website. The Plan was posted for review and comment for ten days in late 2015 and then an additional 30 days in January to February 2016 to ensure compliance with the Act.

A brochure was also produced which was provided to the community. In addition to this public notification process, meetings were held with industry and commercial waste generators in late 2015 to outline the Plan and associated actions. To facilitate awareness of the Plan, an agenda item was issued to the thirteen community reference groups across the Central Highlands, where the Waste Reduction and Recycling Plan was highlighted. Township communities have informed that further information was available on Council's website and that Council was seeking feedback and comments on the proposals.

5. Action Plan

The Central Highlands Regional Council, through the Waste Reduction and Recycling Plan 2016-2026, will put into effect an action plan which will provide direction to achieving the outcomes against the Queensland Waste Management and Resource Recovery Strategy.

The key objectives of the plan include:

- Data capture;
- Infrastructure rationalisation and improvement, including resource recovery centres (landfills & transfer stations);
- Maximisation of waste and recycling collection services;
- Long term waste disposal options; and
- Increased waste reduction and recycling initiatives.

The timeframes and budgets needed to support the achieved outcomes are summarised in Tables 11 and 12. The timeframe for each action has been determined based on:

- Waste diversion potential;
- Urgency; and
- Ease of implementation.

Table 11 Timeframe Definitions

Timeframe (years)	
Short term	1 – 3
Medium term	4 – 7
Long term	8+
Ongoing	1+

Table 12 Budget Definitions

Cost (\$)	
Low	\$0-100k
Medium	\$101k to \$500k
High	\$501k and greater
Unknown	\$100k+

Delivering on these objectives requires a range of actions, based upon the broad categories of:

- Infrastructure;
- Service Level;
- Education; and
- Policy.

Individual actions plans for each of the above elements are provided in Tables 13 to 16.

Table 13 Action Plan – Infrastructure

Objective		Action	Timeframe	Cost	Performance indicators / targets
2.1	Resource recovery centres. (Landfills, transfer stations and bulk bin areas stations)	Secure facilities and implement opening times to ensure operational and environmental compliance.	Short	Medium	Facilities fully fenced and only accessible during opening hours.
		Review and evaluate effective means of monitoring waste disposal.	Medium	High	
2.2	Kerbside waste and recycling	Investigate the expansion of residential kerbside services throughout the region.	Short	Medium	Additional residential services implemented.
		Investigate the expansion of commercial waste and recycling services throughout	Short	Medium	Additional commercial services implemented.
2.3	Organics	Investigation of joint initiatives to divert organics from Landfill.	Medium	Low	Feasibility assessment
		Investigate opportunities for self-haul green waste to be processed at other facilities and continue at current facilities.	Ongoing	Low	Increased volumes of green waste processed.
2.4	Private sector	Continual encouragement for private operators to service the commercial and industrial sector in general waste, hazardous waste and recycling services.	Ongoing	Low	Support competitive private sector involvement in waste management.
2.5	Concrete	Investigate opportunities to increase the volumes of concrete separated, processed	Ongoing	Low	Increased volumes of concrete processed.
2.6	Asbestos	Continue to provide a safe and secure area for asbestos disposal.	Ongoing	Low	Compliant disposal of asbestos
2.7	Scrap tyres	Investigate and research opportunities for scrap tyre treatment and or disposal.	Short	Low	Sustainable and economical system for the treatment and or disposal of scrap tyre.
2.8	Tip Shop	Continue and promote the operation of a tip shop at the	Ongoing	Low	Tip shop operation
2.9	Public place	Review the current public place bin locations, bin types and servicing level	Short	Low	Continuation of public place service to the community.

Table 14 Action Plan – Service Level

Objective		Action	Timeframe	Cost	Performance indicators / targets
1.1	Infrastructure rationalisation and improvement	Upgrade 3 resource recovery centres (landfills) to meet DES compliance requirements as well as waste levy requirements	Short	High	Establishment of three major resource recovery centres (landfill) All require additional infrastructure to increase operational capacity
		Investigate and establishment of a regional network of resource recovery centres (transfer stations / bulk bin areas)	Ongoing	High	Network of resource recovery centres established.
		Investigate and establish a new resource recovery centre on the eastern side of Emerald.	Medium	High	New resource recovery centre established.
		Review current resource recovery facility infrastructure and implement upgrades where required.	Short	Medium	Upgrade of resource recovery centre.
1.2	Waste data	Install weighbridges at the resource recovery centres (landfills) that are licensed to accept over 10,000 tonnes per annum (Blackwater).	Short	Medium	Weighbridge installed and operating.
		Install weighbridges at the resource recovery centres (landfills) that are licensed to accept over 5,000 tonnes per annum (Tier1).	Long	High	Weighbridge installed and operating, if exemption not granted.
1.3	Long term waste disposal option	Investigate the establishment of one resource recovery centre (landfill) for the region.	Ongoing	High	Environmental management of legacy landfills to the satisfaction of the Regulator.
1.4	Asset management	Ongoing site management, closure and rehabilitation of old landfill facilities.	Ongoing	High	Environmental management of legacy landfills to the satisfaction of the Regulator.
1.5	Emissions Control	Evaluate benefits from capture or reuse of landfill gas	Medium	Low	Report with recommendations for future implementation at new landfill.

Table 15 Action Plan – Education

Objective		Action	Timeframe	Cost	Performance indicators
3.1	Awareness	<p>Upgrade CHRC webpage with updated waste information including:</p> <ul style="list-style-type: none"> - educational information; - awareness of resource recovery opportunities available at all facilities; - promote school kids for increased habit of separating, reducing and recycling waste from source; - collaborate with media to disseminate awareness songs, talk shows and others; - engage in community events and deliver education programs for 4R's, illegal dumping and littering; and - disseminate information regarding new operating hours and restricted access to facilities through pamphlets 	Short	Low	Webpage upgraded.
3.2	Kerbside recycling	Educational material on the types of materials which can be included in the bin and information on contamination	Short	Low	Materials developed, and program implemented for
		Investigate opportunities to reduce the percentage of contamination in the kerbside recycling stream. Through bin assessments and awareness campaigns.	Short	Low	Reduction the percentage of contamination presented in bins.
3.3	Council staff	Provide resource recovery education to all staff to diversion opportunities.	Short	Low	Training implemented

Table 16 Action Plan – Policy

Objective		Action	Timeframe	Cost	Performance indicators
4.1	Waste data	Implement waste data capture system for the 3 landfills; - Emerald; - Blackwater; and - Tieri	Short	Low	Waste data capture system
		Implement a waste audit and assessment plan to investigate opportunities for increased recycling and to identify if waste reduction programs are effective.	Ongoing	Low	Annual waste audit for kerbside waste and recycling.
4.2	Kerbside collection	Manage Councils existing contracts and review future options.	Short	Low	Provide kerbside service to the community and commercial premises.
4.3	Environmental compliance	The three remaining resource recovery centres (landfills) are to be operated and managed in an environmental compliant manner	Short	Medium	EA licence compliance
4.4	Waste collection and disposal fees, including rates charged to properties.	Review and establish a full costs model for all aspects of Councils waste management services (kerbside, transfer stations, bulk bin areas and landfills).	Short	Low	Sustainable pricing model implemented
		Establish higher disposal fees for the disposal of mixed waste where no separation of recyclables has occurred.	Short	Low	Increase in recyclables being separated at disposal facilities.
4.5	Recyclables	Research and develop market opportunities for recyclable materials including but not limited to: - Glass bottles; - Building materials; - Polystyrene; - Plastic film; - Inert materials; - Organics.	Ongoing	Low	Increase in local markets. Promote the use of the container deposit scheme.
4.6	Alternative waste technologie	Keep up to date of changing technologies	Ongoing	Low	Knowledge of potential opportunities
4.7	State and Regional initiatives	Keep up to date of opportunities to work with or seek funding for waste initiatives.	Ongoing	Low	Communication with relevant parties.

5.1 Review of Plan

The performance against the plan will be monitored and reviewed regularly. The results achieved against each of the actions set in this plan will be monitored on an annual basis. In addition, the plan will be reviewed every three years and actions updated.

Appendix 1 Glossary

Alternative Waste Technology (AWT)

Waste processing infrastructure using mechanical, biological and/or thermal processes as an alternative to, or pre-treatment prior to landfill.

Construction and Demolition Waste (C&D)

Unwanted materials produced directly or incidentally by building or demolition activities.

Commercial and Industrial Waste (C&I)

Unwanted materials produced from commercial and or industrial premises from their activities.

Legacy Landfills

Formers landfill facilities that are no longer accepting waste for disposal to land and are still part of Councils environmental monitoring responsibility.

Materials Recovery Facility (MRF)

Facility for the sorting or mixing of recyclable materials predominantly from the yellow lidded kerbside bins.

Household Waste (MSW)

Waste from households collected by Council at the kerbside in the red lidded bin

Appendix 2 Waste Reduction and Recycling Act 2011 – WRRP requirements

Section	Requirement	Location in WRRP
123(2)(a)	Waste reduction and recycling targets for: (i) waste generated by the local government in carrying out its activities; and (ii) waste generated by households in the local government's local government area; and (iii) other waste generated in the local government's local government area other than by the local government;	Section 2
123(2)(b)	Actions to be taken to improve waste reduction and recycling of: (i) waste generated by the local government in carrying out its activities; and (ii) waste generated by households in the local government's local government area; and (iii) other waste generated in the local government's local government area other than by the local government;	Section 6
123(2)(c)	Details of current and proposed waste infrastructure	Section 2, 6 and 7
123(2)(d)	The management and monitoring of the local government's performance under the plans;	Section 7 and Section 8
123(2)(e)	Information about achieving continuous improvement in waste management;	Section 7
123(2)(f)	Other matters prescribed under a regulation about the requirements for a local government's waste reduction and recycling plans.	
124(1)	A local government, in preparing or adopting a waste reduction and recycling plan for its local government area, must have	
124(1)(a)	Current and predicted information about the following matters relating to its area— (i) population profiles; (ii) residential, industrial and commercial development; (iii) amounts and types of waste generated;	Section 2
124(1)(b)	The services, markets and facilities relevant to dealing with different types and amounts of waste	All sections
124(1)(c)	The waste and resource management hierarchy	All sections
124(1)(d)	The waste and resource management principles	All sections
124(1)(e)	How the goals and targets of the State's waste management strategy will be achieved	Sections 3, 5, 6 and 7