



Waste Reduction and Recycling Plan 2016-2019

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1. Purpose

The *Waste Reduction and Recycling Act 2011* (“*WRR Act*”) requires Local Governments in Queensland to prepare, adopt and implement a Waste Reduction and Recycling Plan (“*WRR Plan*”) which addresses all aspects of waste management in its local government area. The *WRR Plan* must go out for public consultation for a period of 28 days and all submissions must be considered by Council prior to updating and adopting the final plan.

This *WRR Plan* has been prepared by Douglas Shire Council (“*Douglas*”) in accordance with the *WRR Act* and was open for public consultation from Tuesday 12 January 2016 until Tuesday 9 February 2016.

2. Reference

- *Waste Reduction and Recycling Act 2011*
- The Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)

3. Regulatory Framework

The legislative framework for waste management in Queensland consists of national and state legislation, strategies and policies.

3.1 Waste Reduction and Recycling Act 2011

The Waste Reduction and Recycling Act 2011 (*WRR Act*) establishes a framework to promote waste avoidance and reduction and encourage resource recovery and efficiency.

The objectives of the *WRR Act* are:

- (a) to promote waste avoidance and reduction, and resource recovery and efficiency actions;
- (b) to reduce the consumption of natural resources and minimise the disposal of waste by encouraging waste avoidance and the recovery, re-use and recycling of waste;
- (c) to minimise the overall impact of waste generation and disposal;
- (d) to ensure a shared responsibility between government, business and industry and the community in waste management and resource recovery;
- (e) to support and implement national frameworks, objectives and priorities for waste management and resource recovery.

3.2 Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)

The Queensland Waste Avoidance and Resource Productivity Strategy (“*Queensland’s Waste Strategy*”) provides direction for waste management and resource recovery in Queensland until 2024. The vision for the strategy is for Queensland to become a national leader in avoiding unnecessary consumption and waste generation. To achieve this, the strategy sets a framework of principles and objectives.

The strategy is underpinned by five guiding 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 and disposal;
4. Recognising regional differences and opportunities; and
5. Full lifecycle management of resources.

The Strategy has four objectives to achieve these principles:

1. Driving cultural change: all stakeholders recognise their role in meeting the vision of the waste strategy, and are informed and empowered to participate in achieving its goals and objectives;
2. Avoidance and minimisation: Queensland will realise all opportunities (environmental, economic and social) from maximising sustainable consumption and production;

3. Reuse, recovery and recycling: Queensland will optimise economic benefits from reuse, recovery and recycling; and
4. Management, treatment and disposal: Queensland will reduce the impact of waste on human health and the environment through improved waste practices.

The Strategy is informed by the resource management hierarchy, which sets out the order of preference for managing waste – from avoiding, to reusing, recovering, treating and disposing of waste as the least preferable option (Figure 1).

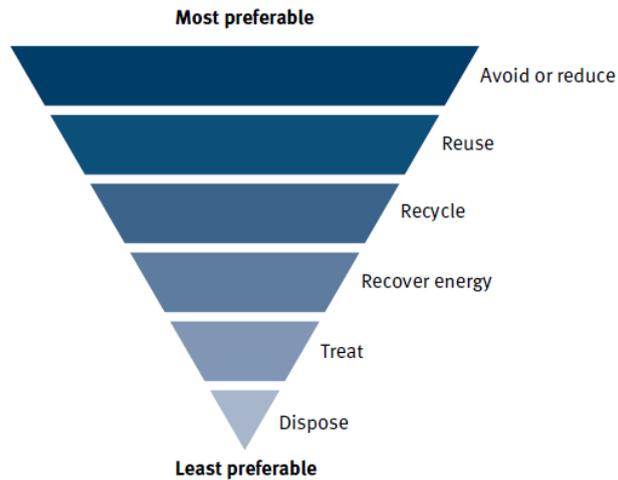


Figure 1: The Waste and Resource Management Hierarchy

The *WRR Act* details the meaning of the waste and resource management hierarchy:

- (a) Avoid unnecessary resource consumption;
- (b) Reduce waste generation and disposal;
- (c) Reuse waste resources without further manufacturing;
- (d) Recycle waste resources to make the same or different products;
- (e) Recover waste resources, including the recovery of energy;
- (f) Treat waste before disposal, including reducing the hazardous nature of waste;
- (g) Dispose of waste only if there is no viable alternative.¹

¹ Waste Reduction and Recycling Act 2011, s9.

4. Douglas Shire - Community Profile

Douglas Shire is located in Far North Queensland and covers approximately 2427 square kilometers see Map 1 below. Two World Heritage Areas (the Wet Tropics World Heritage Area and the Great Barrier Reef World Heritage Area), cover 80% of the Shire, and the interface between the two is unique to the wet tropics. The entire coastline of Douglas Shire adjoins the Great Barrier Marine Park, of which the Great Barrier Reef is internationally recognised for its outstanding biodiversity.

Douglas Shire has a population of approximately 12,000. Population density is greatest in Port Douglas where the majority of the housing type is tourist accommodation or resort style living. There is noticeable seasonal variation in population due to the influx of tourists during certain times of the year.

The tourism and sugar industries are the principal sources of economic activity, employment and population growth in Douglas Shire. The development and construction industry and the retail service sectors are dependent on these important income generating industries. Other primary production activities, such as fisheries, although important, are relatively minor in comparison.

Douglas Shire is not expected to have any significant population growth in the next 3 years, the capacity for growth constrained by the need for expensive infrastructure upgrades and limited supply of unconstrained land.

5. Current Services and Infrastructure

Douglas provides services and facilities for waste disposal throughout the Shire. These include a kerbside collection service to properties within the collection service area, four transfer stations and one active landfill. Properties outside the kerbside collection service area are levied a Special Refuse Charge to enable utilisation of Transfer Stations located throughout the Shire, and one Transfer Station in the adjacent local government area of Cook Shire.

5.1 Kerbside Collection Service

Council's kerbside collection service is available to 7182 residential and 511 commercial properties within the Shire (2015/16). This consists of a weekly service of 240L wheelie bins and a fortnightly service of 240L co-mingled recycling bins; for paper, cardboard, glass, plastics 1-5 and steel and aluminium cans.

Waste from the kerbside collection service is delivered to Killaloe Transfer Station for transport to SUEZ's Advanced Resource Recovery Technology (ARRT) Facility in Cairns for processing. Recyclables collected in the kerbside collection are transported directly to the Material Recovery Facility (MRF) in Cairns. Items are sorted and separated into plastics, paper, steel and aluminium, baled and transported to Brisbane for recycling. Glass is separated and crushed to be used in water and waste operations by Cairns Regional Council where possible.

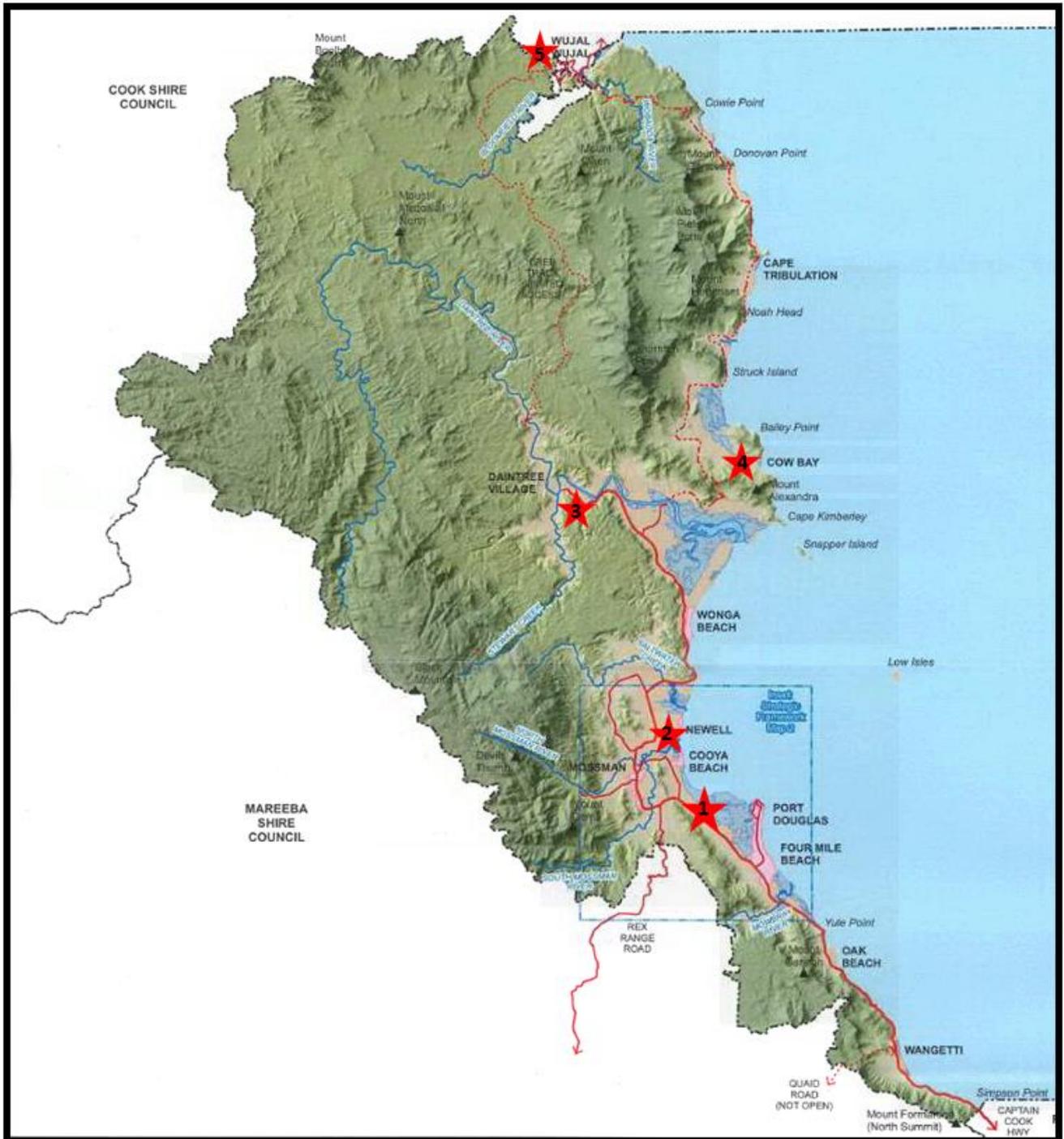
5.2 Transfer Stations and Landfill

Killaloe Transfer Station and Landfill is the primary facility in Douglas Shire, with the three remaining Transfer Stations servicing remote areas of the Shire, see Map 1 for location of each facility. All facilities are supervised during opening hours and are secured when closed.

Eligible properties which are outside of the kerbside collection service area are issued a Special Refuse Card for utilisation of Transfer Stations for disposal of waste and recyclables. A total of 358 properties were levied a Special Refuse Charge in July 2015, which included 39 lots south of the Daintree River, 297 lots between north of Forest Creek Road to the first section of the Bloomfield Road and 22 lots in the northern most area of the Shire, near Degarra.

The population of residents near the town of Degarra is unable to access waste facilities within Douglas Shire due to location. Council has arrangements with the adjacent local government area of Cook Shire for Douglas residents to utilise a Transfer Station close to the shire border, Ayton Transfer Station.

Map 1 – Douglas Shire Local Government Area



Transfer Stations and Landfills

1. Killaloe Transfer Station and Landfill
2. Newell Beach Transfer Station
3. Daintree Transfer Station
4. Cow Bay Transfer Station
5. Ayton Transfer Station – Cook Shire LGA

5.2.1 Killaloe Transfer Station

Killaloe Transfer Station (“Killaloe”) is located on Dump Road, Killaloe. It is open 8am-6pm Monday to Saturday and 9am-6pm Sunday, Closed Christmas Day.

Waste acceptance criteria for Killaloe:

- Domestic and commercial treatable waste;
- Co-mingled recyclables – plastic, glass bottles, cans and cardboard;
- Dry inert landfill items;
- Wet Cell Batteries;
- Solvents (<25L);
- Motor Oil (<25L);
- Tyres;
- White Goods;
- Regulated waste containers;
- Asbestos for on site disposal;
- Chemical Drums (DrumMuster);
- Car bodies and scrap metal;
- Gas cylinders and fire extinguishers;
- Clean fill; and
- Green waste for storage and processing on site.

Treatable waste collected in the kerbside collection service is taken to Killaloe and deposited into the Treatable Waste Bay (Bay 5). This waste, along with treatable waste self-hauled to Killaloe, is regularly loaded into a 30m Roll on Roll off bin (RoRo) for transport to the ARRF in Cairns for processing into compost.

Recyclables from the kerbside collection service are transported directly to the MRF in Cairns, while recyclables received at Killaloe are loaded into a bulk bin at Killaloe for transport to the MRF.

Killaloe Transfer Station receives approximately 7,000 tonnes of Municipal Solid Waste, approximately 4,680 tonnes of Commercial and Industrial Waste and 1,480 tonnes of Construction and Demolition Waste annually. Approximately 3,400 tonnes of this waste is deposited into Killaloe landfill each year.²

Transfer station operators separate and recover recyclable items from the waste stream where possible in an effort to increase landfill diversion rates. Reusable items are also being sorted and stored at Killaloe in preparation for the establishment of a recycle shop at the time of drafting this WRR Plan.

5.2.2 Killaloe Landfill

Killaloe landfill is located adjacent to Killaloe Transfer Station on Dump Road, Killaloe. Waste acceptance criteria is restricted to solid inert waste and asbestos sheeting. Approximately 3,400 tonnes of waste and 17 tonnes of asbestos was deposited into Killaloe Landfill in 2014/15.

² Volumes of residual waste sent to landfill after being exported from Douglas Shire for processing have not been included in this calculation.

5.2.3 Newell Beach Transfer Station

Newell Beach Transfer Station is located on Rankine Street, Newell Beach. It is open from 8am-12 noon on Monday, 1pm-5pm on Wednesdays and 8am-12 noon on Fridays and Saturdays, closed Christmas Day.

Waste acceptance for temporary storage includes:

- Co-mingled recyclables including cardboard;
- Dry inert landfill items;
- Scrap metal and white goods;
- Car bodies;
- Wet Cell Batteries;
- Gas bottles;
- Solvents (<25L); and
- Green waste from domestic users for storage and processing on site.

Newell Beach Transfer Station receives approximately 120 tonnes of dry inert items which is transported to Killaloe landfill each year. Other items are either transported to Killaloe Transfer Station or directly offsite for processing.

A recycling program consisting of 240L wheelie bins has been implemented at Newell Beach Transfer Station in an effort to increase landfill diversion rates. Success of this program will be monitored throughout 2015/16.

5.2.4 Daintree Transfer Station

Daintree Transfer Station is located on Mossman-Daintree Road, Daintree. It is open from 2-6pm on Wednesdays and 7am-12pm on Saturdays, closed Christmas Day, Box Day and New Years Day.

Waste acceptance for temporary storage includes:

- Domestic and commercial treatable waste;
- Dry inert landfill items;
- Co-mingled recyclables including cardboard;
- Green waste from domestic users;
- Chemical Drums (drumMuster);
- Solvents (<25L); and
- Gas bottles.

Daintree Transfer Station receives approximately 27 tonnes of dry inert items which is transported to Killaloe landfill each year. Other items are either transported to Killaloe or Newell Beach Transfer Stations as required.

A recycling program consisting of 240L wheelie bins has been implemented at Daintree Transfer Station in an effort to increase landfill diversion rates. Success of this program will be monitored throughout 2015/16.

5.2.5 Cow Bay Transfer Station

Cow Bay Transfer Station is located on Quandong Road, Cow Bay. It is open from 7.30am-3.30pm on Mondays, 9am-6pm on Wednesdays and 7am-12pm Fridays and Saturdays, Closed Christmas Day.

Cow Bay Transfer Station services the community north of Forest Creek, which includes approximately 30 commercial users.

Waste acceptance for temporary storage includes:

- Domestic and commercial treatable waste, including cardboard;
- Co-mingled recyclables – plastic, glass bottles and cans;
- Dry inert landfill items;
- Car bodies and scrap metal;

- Wet Cell Batteries;
- Gas bottles;
- Motor Oil (<25L);
- Solvents (<25L)
- Tyres; and
- White Goods.

Cow Bay Transfer Station receives approximately 270 tonnes of treatable waste and approximately 160 tonnes of dry inert items which is transported to Killaloe each year. Other items are either transported to Killaloe or Newell Beach Transfer Stations, or directly offsite for processing.

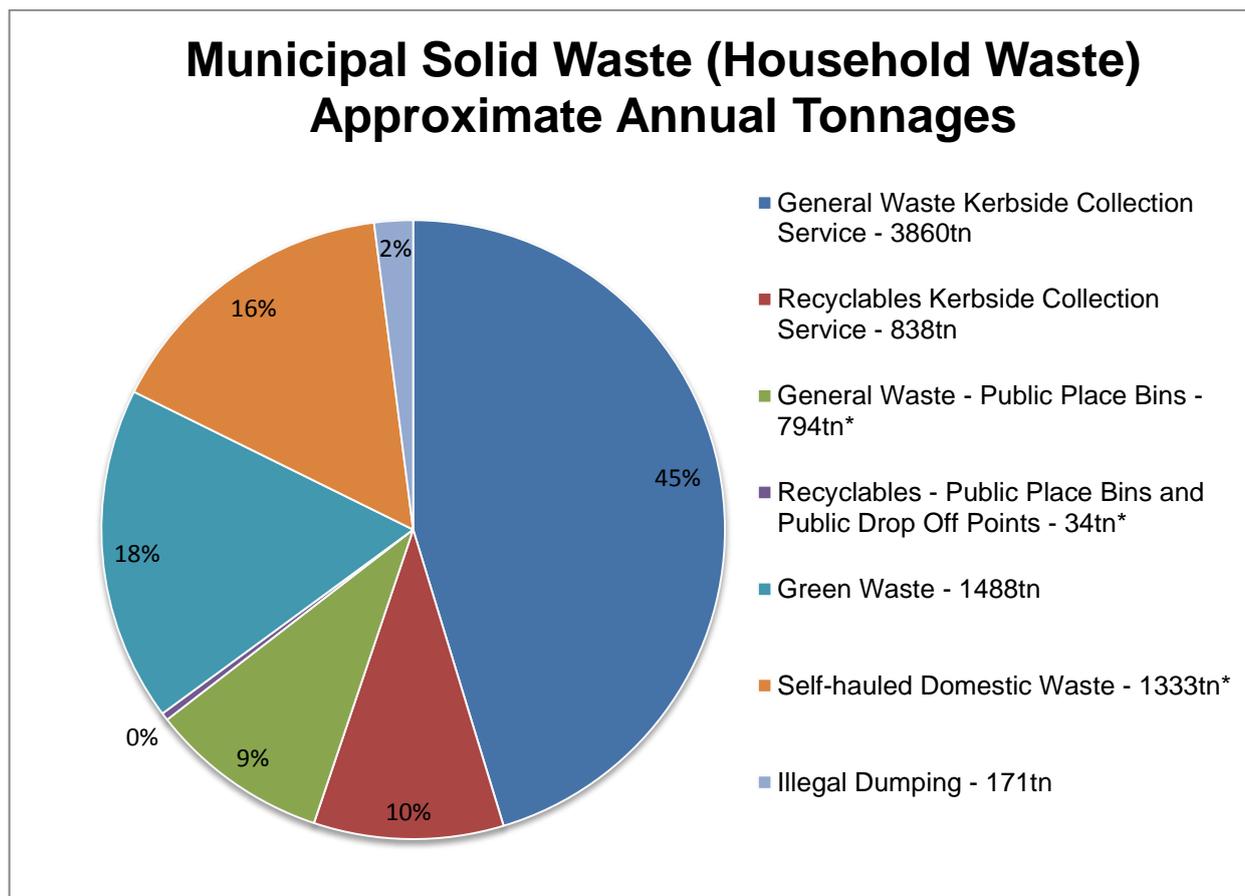
Operations at the Cow Bay Transfer Station are currently under review due to unsustainable volumes of waste received at the facility, particularly in the tourist season.

6. Waste Profile for Douglas Shire

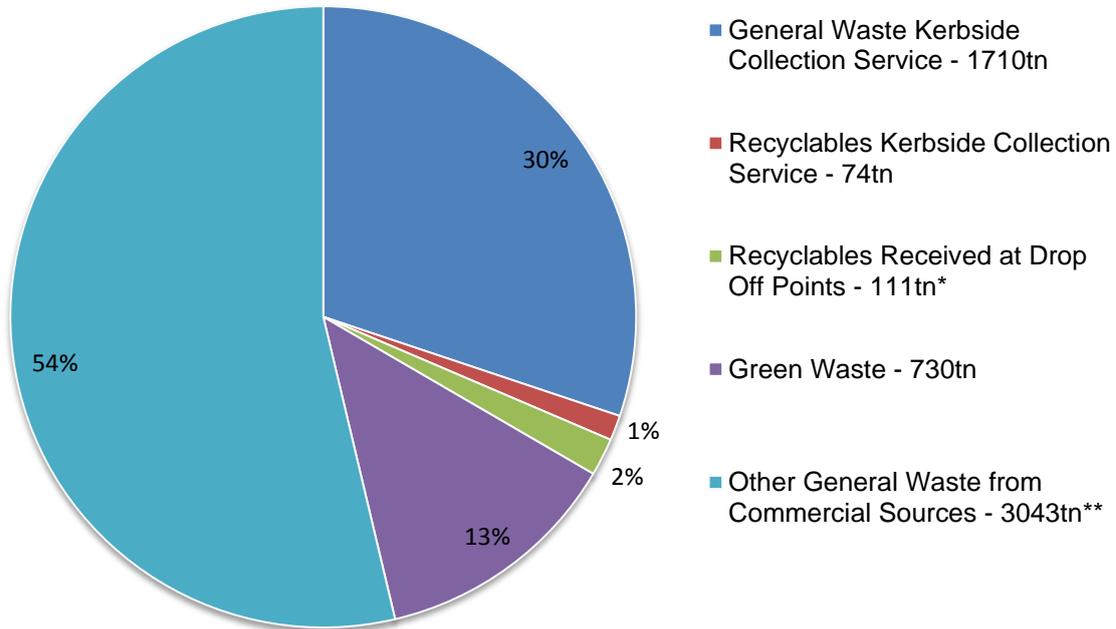
The waste profile for Douglas Shire is presented below in Table 1, represented by approximate annual tonnages of Municipal Solid Waste (“MSW”), Commercial and Industrial (“C&I”) and Construction and Demolition (“C&D”).

Table 1 – Waste Profile for Douglas Shire

Municipal Solid Waste (MSW)	Commercial and Industrial Waste (C&I)	Construction and Demolition Waste (C&D)
8518tn	5668tn	1480tn



Commercial & Industrial Waste Approximate Annual Tonnages



*Some volumes are based on deemed weights and percentages.

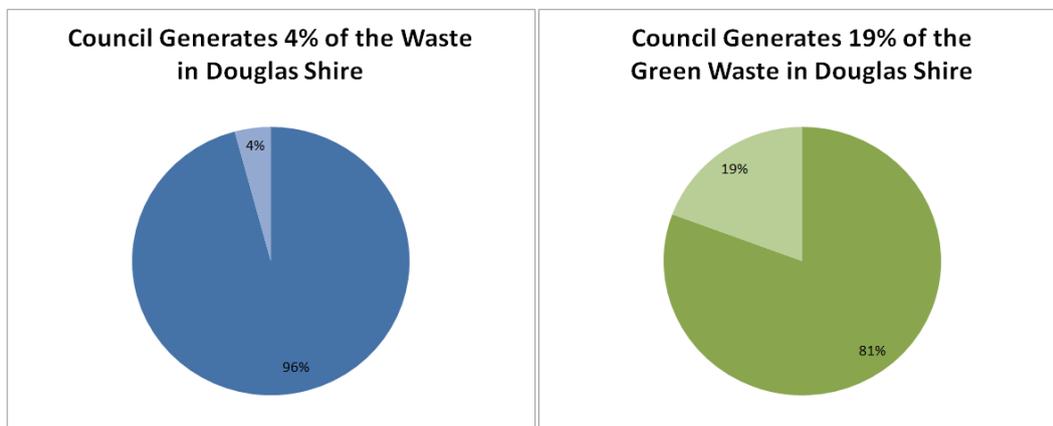
**Includes C&I received at all Council Transfer Stations.

6.1 Waste Generated by Douglas Shire Council

Volumes of waste generated by Douglas Shire Council in carrying out its activities are shown below in Table 2.³

Table 2 – Waste Generated by Douglas Shire Council

	Waste (Council Offices and Depots)	Recycling (Council Offices and Depots)	Green Waste (Parks and Gardens)
Approx. Annual Tonnage	548tn	4.5tn	686tn
Percentage of Total Volumes	4.4%	0.4%	31%



³ Volumes of residual waste sent to landfill after being exported from Douglas Shire for processing have not been included in this calculation.

7. Recovery Baselines

Recovery baselines for Douglas Shire are shown below in Table 3.⁴

Table 3 – Recovery Baselines for Douglas Shire

Waste Stream	Douglas Shire's 2014/15 Recovery Baseline
Municipal Solid Waste (MSW)	90%
Commercial and Industrial Waste (C&I)	80%
Construction and Demolition Waste (C&D)	1.2%

Waste reduction and recycling targets identified below in Table 5 include increased recovery rates at Transfer Stations; this includes Construction and Demolition waste which currently has a low level recovery baseline.

8. Queensland's Waste Strategy

The strategy sets targets for improving resource recovery and recycling rates and reducing landfill disposal. These targets take account of different circumstances in metropolitan, regional and remote parts of Queensland.

Table 4 – Targets from the State's Waste Strategy⁵

Waste stream	Measure	2012-13 recovery baseline	2024 target
All general waste	Reduction in per capita generation	1.9 tonnes general waste per person per year	Reduce (by 5%) to 1.8 tonnes per person per year
Municipal solid waste (domestic)	Improved recycling rate	33% state <ul style="list-style-type: none"> 37% metropolitan 30% regional centre 	50% state <ul style="list-style-type: none"> 55% metropolitan 45% regional centre Improve practices as much as practicable for remote areas
Commercial and industrial waste	Improved recycling rate	42% state	55% state
Construction and demolition waste	Improved recycling rate	61% state	80% state
Landfill diversion target	Reduction in the amount of waste going to landfill	4,675,000 tonnes to landfill	Reduce by 15% over life of strategy
Problem or priority wastes	Improved management of each waste	Individual baselines to be developed	Individual measures to be developed

The strategy sets a target for reduction of all general waste generated per person per year by 5%. Differentiated targets are set for municipal solid (household) waste based on geographic location. The strategy proposes a 55% recycling rate in metropolitan areas, 45% in regional areas and 50% across Queensland. Remote areas are to improve recycling rates as much as practicable due to location and distance to facilities.

⁴ Volumes of residual waste sent to landfill after being exported from Douglas Shire for processing have not been included in this calculation.

⁵ Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024).

The Strategy proposes to increase the recycling rate of commercial and industrial waste to 55% across the state, and construction and demolition waste to increase to 80% across the state.

The strategy also identifies the highest priority wastes for action, priority wastes are those with high disposal impacts (such as toxicity or greenhouse gas emissions), social impacts (which cause community concern or impact upon amenity) or whose recovery would present resource savings or business opportunities. The *WRR Act* enables the Queensland Government to work with industry and the community in identifying priority wastes and determining the most appropriate management options for each.

Waste streams identified as priorities for Queensland are shown below in Table 5.

Table 5 – Queensland’s Priority Wastes⁶

Priority waste stream	Priority material
Plastic waste	Agricultural plastics Packaging waste Plastic bottles, bags and other consumer plastics
Organic waste	Households: <ul style="list-style-type: none"> • green waste • food waste Commercial premises: <ul style="list-style-type: none"> • hospitality • food processing
High volume wastes with an existing resource value	Concrete Treated timber Plasterboard
Regional impact waste	Mining and industry development Mattresses Orphan agricultural and veterinary chemicals
Complementary national product stewardship measures	Fluorescent lights Used tyres Used oil

The strategy will be implemented through action plans that may be developed at a government or sectorial level and will complement the objectives and priorities of the Strategy.

Douglas is participating in a Farm Waste Recovery Trial at the time of drafting this report, which aims to collect and recover fertiliser bags to increase landfill diversion rates. Douglas also continues to participate in the DrumMuster collection and recycling scheme, recovering approximately 1700 DrumMuster drums annually.

9. Future projections for Douglas Shire

Douglas Shire is not expected to have any significant population growth in the next 3 years, the capacity for growth constrained by the need for expensive infrastructure upgrades and limited supply of unconstrained land. Additional infrastructure and services are therefore not expected to be required during the timeframe of this WRR Plan; however systems will be implemented to improve waste reduction and recycling performance of Douglas Shire as a whole. This will include the installation of more sophisticated waste tracking systems at Council’s remote Transfer Stations, surveillance system at Killaloe Transfer Station and Landfill and the establishment of a recycling shop at Killaloe Transfer Station to increase landfill diversion rates. Waste audits of commercial premises and public place bins will also be undertaken to determine baseline waste characteristics and inform future decision making.

Future landfill disposal options will be considered during the life of this WRR Plan to prepare for Killaloe

⁶ Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024).

Landfill reaching capacity.

10. Waste Reduction and Recycling Targets

Council has set waste reduction and recycling targets which aim to reduce overall volumes of waste generated within the Shire, increase participation rates in kerbside recycling and result in improved resource recovery rates at Transfer Stations. Targets have been set with regard to the waste and resource management hierarchy, with a view to moving waste up the hierarchy as a priority and in an effort to achieve the goals and targets of the State's Waste Management Strategy. Council's targets and strategies are presented below in Table 5.

Table 5 – Waste Reduction and Recycling Targets

Waste Reduction and Recycling Targets	Strategies to be Implemented to Achieve Targets	Key Performance Indicators to Monitor Performance	Timeframe for Implementation
Target 1 – Identification of Baseline Waste Characteristics for Future Decision Making, Including Resource Allocation.	Strategy 1 – Identifying Baseline Waste Characteristics in Douglas Shire:-		
	S1.1 – Undertaking waste characterisation audits on household, commercial and public place waste receptacles.	KPI 1.1 – Waste Characterisation report completed and results considered for resource allocation.	2015/16 Commencement of Audits. Budget & Resource Allocation 2016/17 for Continuation of Audits and Report.
	S1.2 - Installing waste monitoring systems at remote facilities to more accurately measure and report on volumes of waste types.	KPI 1.2 - Waste monitoring system installed at Newell Beach Transfer Station, and associated manual tracking sheets utilised at Daintree and Cow Bay Transfer Stations.	2015/2016 - Budget Allocated.
Target 2 - Reduction in Waste Generation Throughout the Shire.	Strategy 2 – Development and implementation of education and awareness campaigns:-		
	S2.1 - Development and implementation of a community education campaign targeting the themes of waste reduction and recycling.	KP2.1 - Reduction in waste generated by households and commercial properties within the Local Government Area, including volumes of illegal dumping.	Budget & Resource Allocation 2016/2017. Ongoing.
	S2.2 - Development and implementation of an internal education campaign for Council employees targeting themes of waste reduction and recycling in carrying out activities.	KPI2.2 - Reduction in waste generated by Council in carrying out its activities.	Ongoing – reported on annually.

	S2.3 - Development and implementation of a program to promote residential and commercial (where suitable) composting of organic material.	KPI2.3 – Development and implementation of a program to promote residential and commercial composting of organic material.	Ongoing – reported on annually.
Target 3 – An increase in recycling rates throughout the Shire.	Strategy 3 – Implementation of recycling programs:-		
	S3.1 - Encouraging the responsible use of recycling bins at community events.	KPI3.1 - Increase in volume of uncontaminated recyclable product collected from community events.	2015/2016. Ongoing.
	S3.2 – Encouraging public place recycling.	KPI3.2 – Implementation of more public place recycling bins in areas with high foot traffic.	2015/16. Ongoing.
	S3.3 - Development and Implementation of an Illegal Dumping Strategy.	KPI3.3 – Illegal Dumping Strategy Implemented	2015/2016 and ongoing.
	S3.4 - Introduction of tailored recycling programs for commercial premises and Multi-Unit Dwellings.	KPI3.4 - Increase in recycling programs implemented in commercial premises and Multi-Unit Dwellings.	2015/2016 and ongoing. Budget and resource allocation 2016/17.
Target 4 - Improved resource recovery at Transfer Stations.	Strategy 4 – Increased Resource Recovery		
	S4.1 – Improving the recovery of recyclable items from the waste stream at Transfer Stations.	KPI4.1 - Increased Landfill Diversion Rates.	Ongoing – reported on annually
	S4.2 - Establishment of a recycle shop at Killaloe Transfer Station. This will begin as a give-back shop until feasibility is established.		2015/16 – Feasibility determination 2016/17 – Implementation of recycling shop
	S4.3 – Investigating market opportunities for waste with an existing resource value, particularly concrete and other C&D waste.		Ongoing – reported on annually

S4.4 - Adopting fees and charges which encourage the separation of items from the waste stream.

2016/17 and ongoing.

11. Monitoring of Performance

Council will submit an annual report to the Department of Environment & Heritage Protection within 2 months of the end of each financial year about the operation of the WRR Plan. This will commence after the 2016/17 financial year, being the first full financial year of implementation.

Annual reporting will include an evaluation of performance under the WRR Plan which will assist Douglas in achieving continuous improvement in waste management throughout the Shire.

12. Community Consultation and Adoption

Council's draft Waste Reduction and Recycling Plan (2016-2019) was open for public consultation from Tuesday 12 January 2016 until Tuesday 9 February 2016. Advertising was undertaken on Council's website, social media and in the Port Douglas and Mossman Gazette.

13. Review

This Plan will be reviewed every three years in accordance with the *WRR Act*. Any amendments which will substantially affect the operation of the plan must be adopted by Council if considered appropriate, having regard to changing waste reduction and recycling opportunities, changing circumstances in which the Plan operates and any other matters arising from a review of the Plan.