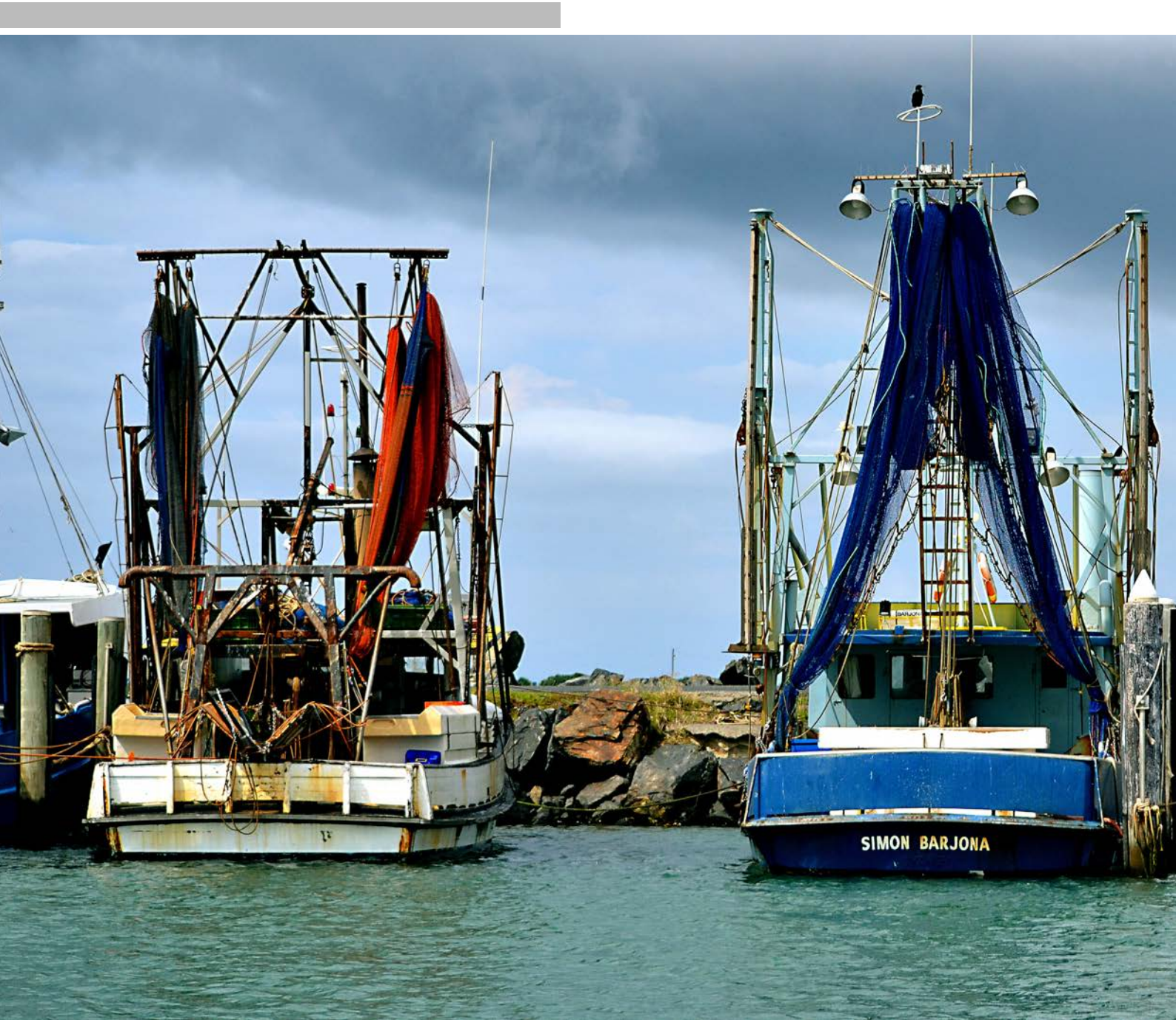


Coffs Coast Region

RESOURCE RECOVERY AND WASTE
MANAGEMENT STRATEGY

2015 - 2027





This project is a NSW
EPA Waste Less, Recycle
More initiative funded
from the waste levy.





CONTENTS

INTRODUCTION	4
POLICY CONTEXT	6
COFFS COAST REGIONAL STRATEGY	8
WHERE ARE WE TODAY?	10
POPULATION AND DEMOGRAPHIC INFORMATION	10
SUMMARY OF COUNCIL SERVICES AND INFRASTRUCTURE IN 2014/15	11
WASTE GENERATION	13
WASTE FORECAST	13
WASTE COMPOSITION	14
WASTE PERFORMANCE ASSESSMENT	15
WHERE DO WE WANT TO GET TO?	16
MIDWASTE STRATEGY	17
KEY RESULT AREAS	17
HOW WILL THE REGION GET THERE?	20
ASSESSMENT OF OPTIONS	21
COLLECTION OUTCOMES	21
PROCESSING OUTCOMES	21
DISPOSAL OUTCOMES	21
KEY AREAS OF FOCUS	22
HOW WILL THE STRATEGY BE IMPLEMENTED?	29
APPENDIX A - GLOSSARY OF TERMS	30

INTRODUCTION

As the economy grows and the consumption of goods and services increases, the quantities and types of waste we produce has expanded and diversified. In response, waste management practices have changed and adapted to the developing markets, policy and legislative requirements and community expectation. The tide of change is persistent as older solutions, such as landfill, are becoming less acceptable and the benefits from reuse and recycling activities become more attractive.

The traditional view of waste management was a linear transition, produce – consume – dispose, which polarised opinion between the need for increased consumption to drive economic growth and waste minimisation. This is no longer the case as digital consumption grows – i.e. music and movie downloads or online newspapers, this changes consumption patterns. The increased demand for materials and the greater need to recirculate resources is changing the face of waste management across the globe. The proliferation of high-tech smart devices in our lives, and their use of rare metals, has accentuated the global push towards a Circular Economy - where resource scarcity drives innovative waste management and recycling solutions. Locally and across the State the Coffs Coast region has been recognised as an early adopter through the application of new and emerging technologies to deliver greater resource recovery.

¹ In NSW, 'recycling rate' refers to the proportion of the waste stream which is reprocessed to make the same or different products and put back into the economy. It does not include energy recovered from waste.

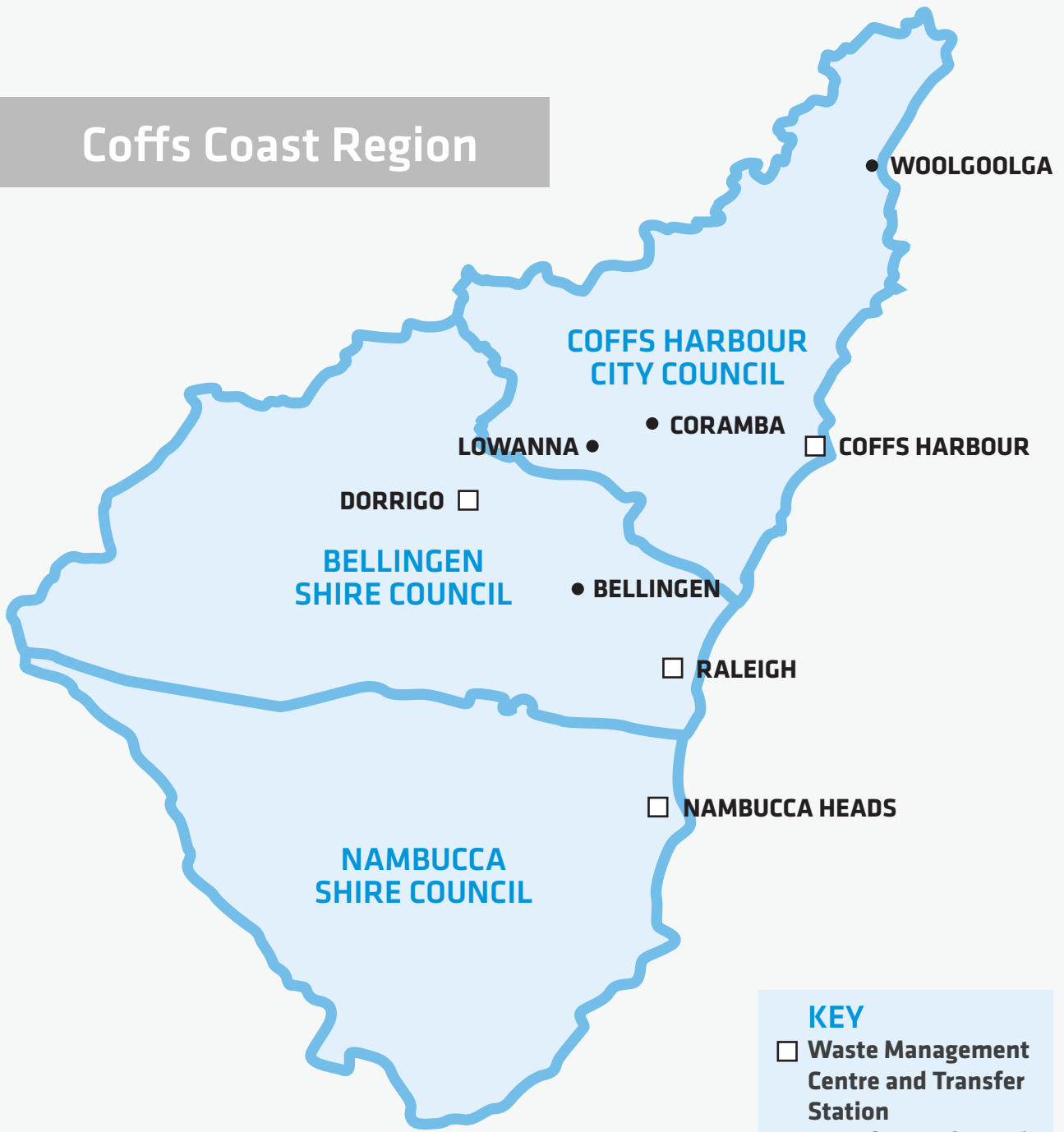
To develop a strategy for the next 12 years it is important to think about the future needs and requirements for the waste which is likely to be generated in the region. Whilst Council waste services are the most significant factor in determining how waste is managed locally, it is important that businesses, residents and members of the community also take responsibility for the waste they generate. We all have influence over the type and quantity of waste we generate. Recycling is accepted as a responsible approach to waste management; by collecting waste for recycling, resources are processed and made into new products. As such, effective waste management is also an opportunity to create positive economic, social and environmental change; managing waste should no longer be seen as a problem.

This document is the Coffs Coast Region Resource Recovery & Waste Management Strategy, 2015-2027 developed by Coffs Harbour City Council, Nambucca Shire Council and Bellingen Shire Council. Our three Councils have been working collaboratively since 2002, through joint contracts, to deliver improvements to waste management and implement a focused approach that considers the principles of the waste management hierarchy. Our commitment to managing waste more proactively is illustrated by being one of the first groups of Councils in New South Wales (NSW) to invest in Alternative Waste Technologies (AWT). We can also boast some of the best recycling rate statistics in NSW –77.5% for domestic Municipal Solid Waste (MSW) across the region in 2013/14.

Commencing in 2015 this Strategy provides a regional framework for delivering waste management services and initiatives through to 2027, and sets targets that will ensure Coffs Coast remains a leading region. The Strategy is broken down into a series of 7 Key Result Areas; each of which have associated objectives and measures which all of the participating Councils are committed to pursuing. These Key Result Areas form the strategic direction for waste services in the region, detailing how they can be improved and how the Councils can help residents and businesses to manage their waste better.



Coffs Coast Region



PARTICIPATING COUNCILS IN COFFS COAST WASTE SERVICES



POLICY CONTEXT

Waste is managed in a range of different ways by Councils to accommodate local environmental conditions, individual Council policies and a range of other operational considerations. There is a variety of National and State legislation that sets out the requirements for managing waste arising from municipal, commercial and industrial, and construction and demolition sources, as well as legislation governing protection of the natural environment.

Australia's current National Waste Policy targets six key areas for action. These involve taking shared responsibility for reducing the impact from waste, improving the market for resource recovery, adopting the sustainability principle of 'waste less', reducing hazards and risks, tailoring solutions to regional and local needs and improving national waste and resource recovery data to inform decision making.

At a State level the NSW Waste Avoidance and Resource Recovery (WARR) Act 2001 sets out the framework for the development of waste strategies for NSW. The most recent of which, **NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-21**, is a high level framework for setting priorities, long term direction and defining the role of Local Government in achieving the stated targets. The NSW WARR Strategy 2014-21 contains six key areas with stated targets to be achieved by 2021/22.

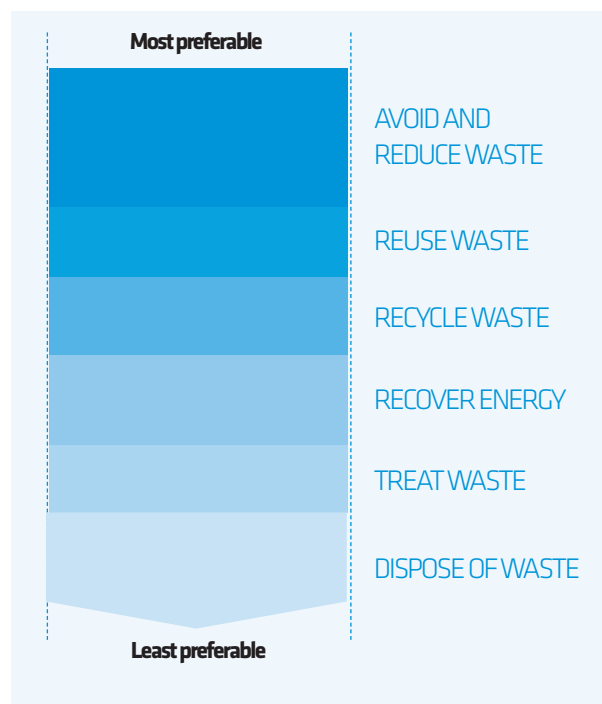


Local Councils are encouraged to contribute towards meeting these targets, which are to:

1. **Avoid and reduce waste generation**
 - Reduce the rate of waste generation per person by 2021/22
2. **Increase recycling of:**
 - Municipal Solid Waste (MSW) to 70% by 2021/22
 - Commercial and Industrial Waste (C&I) to 70% by 2021/22
 - Construction and Demolition Waste (C&D) to 80% by 2021/22
3. **Divert more waste from landfill**
 - Increase waste diverted from landfill to 75% by 2021/22
4. **Manage ‘problem waste’ better**
 - Establish or upgrade 86 drop off facilities or services for managing household problem wastes (across NSW) by 2021/22
5. **Reduce litter**
 - By 2016/17 reduce the number of litter items by 40% compared to 2011/12 levels and then continue to reduce by 2021/22
6. **Reduce illegal dumping**
 - Implement the NSW Illegal Dumping Strategy 2014-16 and establish baseline data to allow target setting

NSW 2021: A plan to make NSW number one is a document which sets the government’s agenda for change in NSW. It directed the NSW Environment Protection Authority (EPA) to lead the regions of NSW, including the Midwaste Region (of which Coffs Coast is a sub region), with the development of regional waste avoidance and resource recovery strategies in 2013/14. The NSW EPA has assisted with the development of better services and infrastructure by funding public and private initiatives, through grant programmes such as the ‘Waste Less Recycle More’ initiative.

National Policy and NSW Strategy are based on the concept of sustainable waste management and guided by the principles of the waste hierarchy. The waste hierarchy sets out the preference for waste management solutions; stressing the importance of waste avoidance and minimisation and seeking to recover the highest value from materials. Producing recyclable material of a high quality is important so that further processing or disposal is minimised or avoided.



THE WASTE HIERARCHY²

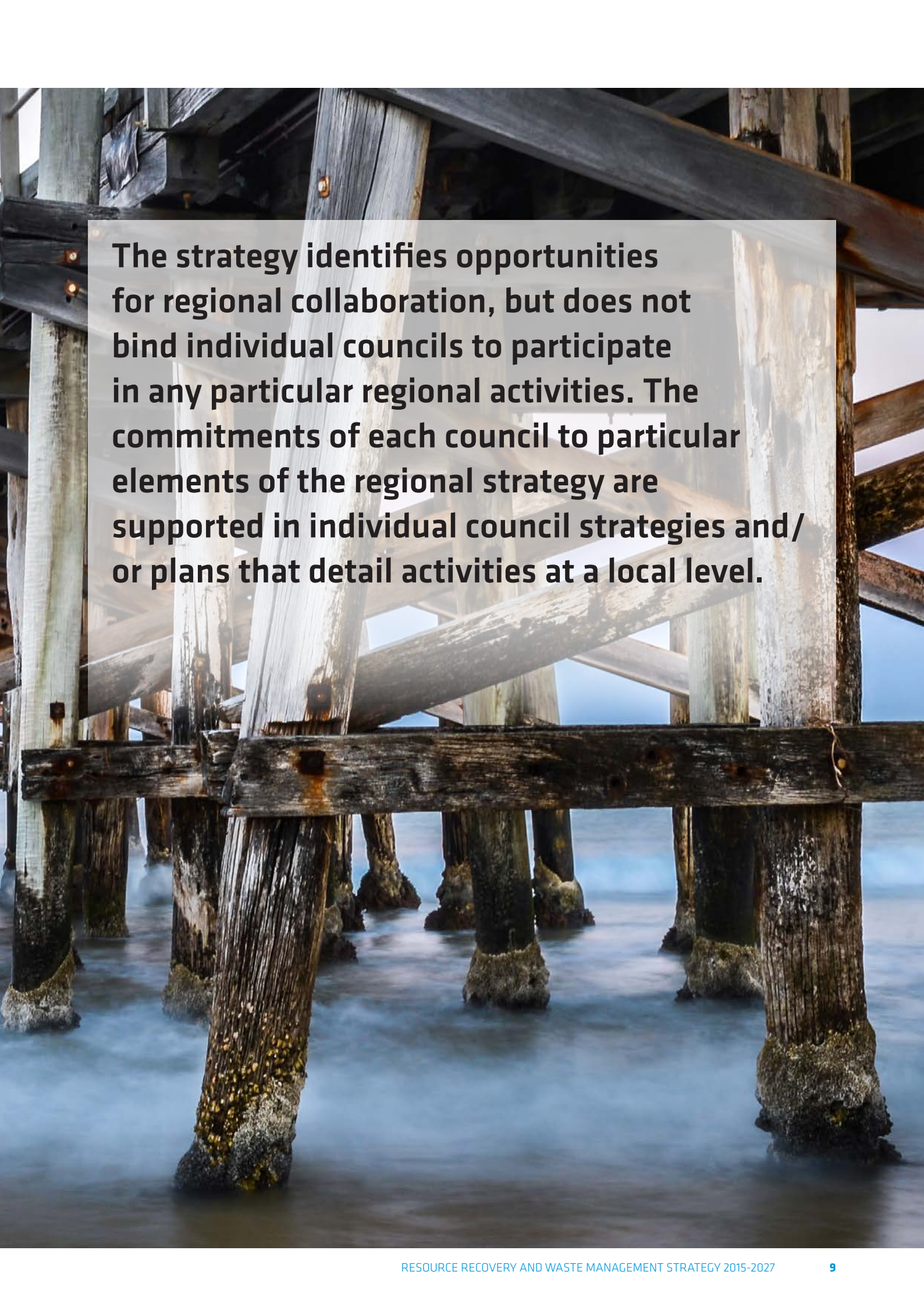
² Adopted from NSW Waste Avoidance and Resource Recovery Strategy 2014-2021



COFFS COAST REGIONAL STRATEGY

The Coffs Coast Councils and communities have achieved a great deal in recent times with regards to better management of domestic waste and this Strategy sets out a range of measures that will cement the region's position as a leader in recycling, landfill diversion and resource conservation. Member Councils have also identified opportunities for a collaborative approach to address C&I and C&D waste. Activities focussed on these wastes also feature in a range of service and infrastructure options we are considering for further investigation.

This Strategy has been developed in consultation with officers and Members from all participating Councils. The development of the Strategy has been led by Council officers with oversight from the General Managers of the participating Councils. This Strategy is subject to review in 2020 and then on a five yearly basis, or at such times the member Councils view most appropriate.

The image shows a close-up, low-angle view of a weathered wooden pier structure extending over the ocean. The wooden beams and posts are dark and show signs of age and decay. The water below is a soft, blue-grey color, and the sky in the background is a pale, hazy blue. A semi-transparent white text box is centered over the image, containing the following text:

The strategy identifies opportunities for regional collaboration, but does not bind individual councils to participate in any particular regional activities. The commitments of each council to particular elements of the regional strategy are supported in individual council strategies and/or plans that detail activities at a local level.

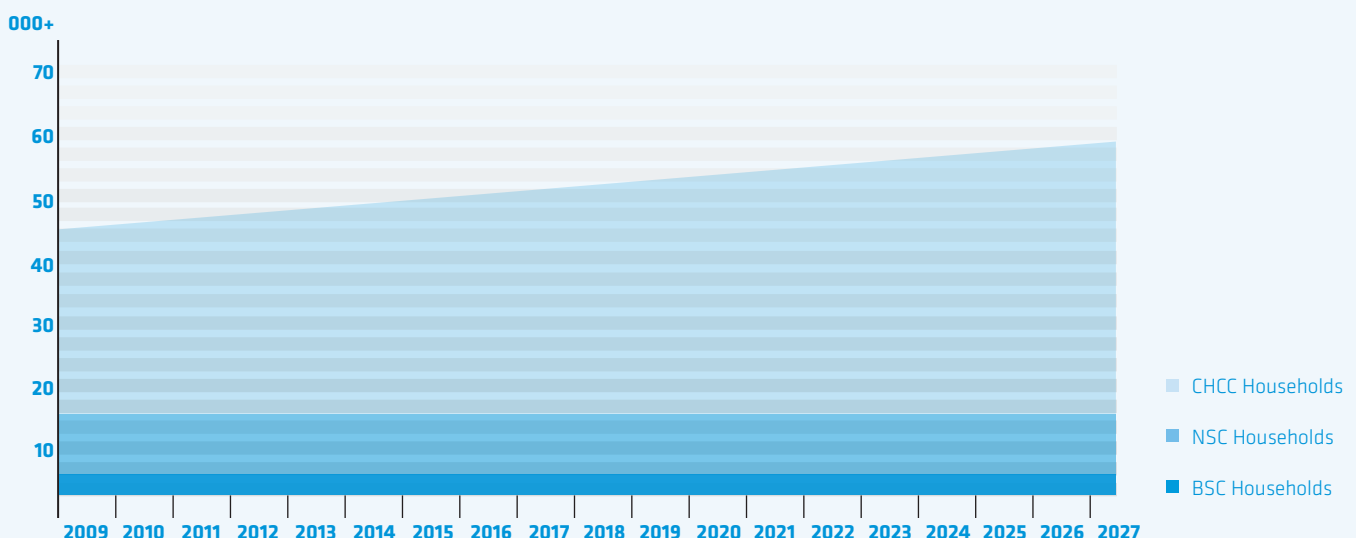
WHERE ARE WE TODAY?

POPULATION AND DEMOGRAPHIC INFORMATION

In 2014/15 the total population across the region was 104,000 with total households at 48,481³. Coffs Harbour City Council (CHCC) Local Government Area (LGA) is the most populated with 72,382 individuals, greater than that of Nambucca Shire Council (NSC) LGA (18,717) and Bellingen Shire Council (BSC) LGA (12,854). CHCC with a much larger urban centre has the highest population growth with a forecasted annual rate of increase of 1.4%, whereas BSC and NSC have an annual increase of 0.4%.

The projected increase in households across the region is shown below, the majority of which would be expected to require a waste collection service.

Total households:

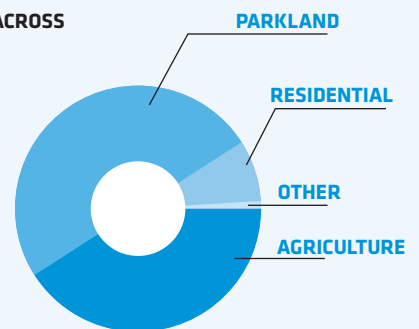


PROJECTED HOUSEHOLD GROWTH ACROSS THE REGION DURING THE LIFETIME OF THE STRATEGY

The region covers a total of 4,270km², over 50% of which comprises national parks and state forests and approximately 30% of which is used for agricultural purposes. The main population centres are Coffs Harbour (26,140 residents), Toormina (6,077 residents), Woolgoolga (5,054 residents) in CHCC and Bellingen (3,038 residents) and Nambucca Heads (6,222 residents).

Land use:

TYPES OF LAND USE ACROSS COFFS COAST REGION



³ Australian Bureau of Statistics based on 2011 census data



SUMMARY OF COUNCIL SERVICES AND INFRASTRUCTURE IN 2014/15

COLLECTIONS

The standard service uses 240 litre Mobile Garbage Bins (MGBs) collected using a single manned side lift compaction vehicle. Options for additional or larger bins (general / organic / recycling) are available to residents and businesses at an additional cost. The bulk bins, typically used in multi-unit dwellings are collected weekly using a rear loader collection vehicle.

Due to the rural nature of much of the region there is a large number of properties that are not on a scheduled collection route and therefore do not have a kerbside collection service. Residents of these properties drop their waste and recycling off at transfer stations and landfill facilities located throughout the region.

Businesses are offered the same collection service as households and in some instances may also choose to have larger capacity bins if required. Those that require more frequent services request these from a private commercial collection contractor. Council collections for the selected businesses are made with the same vehicle as the domestic MSW collections to limit distances travelled and travel times. Commercial collection services are offered by private contractors as 'wet waste' or 'dry waste' collections to reflect the acceptance criteria at the Biomass Solutions Alternative Waste Treatment (AWT) plant or at the landfill.

TRANSFER STATIONS

A transfer station is a location where waste can be dropped off and is bulked for more efficient onward transport. A network of transfer stations is operated by the three Councils. These provide domestic waste drop-off facilities which accept general waste, recycling and garden organics, with some also accepting waste from businesses. Three of these transfer stations are planned to be upgraded to accept a range of 'problem wastes' through the NSW EPA Community Recycling Centre grants programme.

WASTE MANAGEMENT FACILITIES AND TRANSFER STATIONS

Coffs Coast Resource Recovery Park (CCRRP), MSW, C&I and C&D

31A Englands Road, Coffs Harbour

Coramba Transfer Station – MSW only

East Bank Road, Coramba

Lowanna Transfer Station – MSW only

Lowanna Road, Lowanna

Woolgoolga Transfer Station – MSW only (no organics accepted)

11 Willis Road, Woolgoolga

Raleigh Waste Centre, MSW, C&I and C&D

Short Cut Road, Urunga

Dorrigo Waste Management Depot, MSW, C&I and C&D

Old Coramba Road, Dorrigo

Bellingen Transfer Facility, MSW only

Bowraville Road, Bellingen

Nambucca Waste Management Facility, MSW, C&I and C&D

711 Old Coast Road, Nambucca Heads

WASTE MANAGEMENT SITES ACROSS THE COFFS COAST REGION

New Community Recycling Centres at Englands Road, Coffs Harbour, Raleigh and Nambucca will accept the following 'core' list of wastes from households⁴:

- Paints (oil and water based)
- Motor oils
- Cooking, hydraulic and transmission oils
- Household single use batteries
- Car batteries (lead acid)
- Fluorescent and compact florescent lighting (mercury containing lamps)
- Household pesticides and herbicides
- Gas cylinders (including fire extinguishers)
- Smoke detectors

⁴ Some Transfer Stations across the region already offer collection of some of these materials



WASTE PROCESSING INFRASTRUCTURE

At the Coffs Coast Resource Recovery Park (CCRRP) at Englands Road there is a landfill and three waste processing facilities that accept and process the contents of the red, yellow and green lidded bins. The mixed recycling (yellow lidded bin) is received into the Materials Recovery Facility (MRF) where the different materials are sorted using a mixture of hand picking and machinery, and then baled for resale.

The Englands Road MRF separates the following materials for recycling:

- Clean paper and cardboard
- Steel
- Aluminium
- Rigid plastics (Types 1 to 5)
- Glass (coloured, clear and fines)
- Polystyrene
- Liquid paperboard (Tetra paks)

The green lidded food and organics bin is sent to the Englands Road Biomass Solutions organics processing plant where it is treated through an In-Vessel Composting (IVC) process. The incoming food and organic material is shredded and placed into enclosed bays. The composting material is routinely turned and aerated in a controlled manner to assist the composting process. The resulting compost is nutrient rich and is sold to the agricultural and landscaping sectors.

General waste from the red lidded bin is sent to the Englands Road Biomass Solutions AWT plant where it is processed to remove contaminants and then treated in an autoclave to reduce the putrescible portion of the waste (that portion of the waste which would otherwise decay). This process stabilises the organic or putrescible waste, driving off a significant portion of the moisture. The waste is then further processed to remove metals for recycling, and then screened to produce an organic product suitable for use as a soil additive, and a residual portion that requires landfill disposal. Advantages of this technology are that the potential for the waste to generate greenhouse gases during decomposition, is significantly reduced, as well as greatly reducing the quantity of waste sent to landfill.

LANDFILL

The types and quantities of waste we produce can cause some significant environmental issues; organic wastes decompose generating methane gas, and chemicals can leach out of waste polluting water course and adjacent land. Modern landfills are licensed by the NSW EPA and are engineered to contain the waste, manage drainage and in some cases capture escaping gases. All Councils are required to routinely monitor environmental conditions in and around these facilities to ensure any environmental impact is minimised.

There are four Council operated landfill sites in the region; one in Coffs Harbour at Englands Road, two in Bellingen Shire and one in Nambucca Shire. The Englands Road site accepts a range of waste types conforming to the General Solid Waste classification, including asbestos. It is also the primary disposal point for the waste generated by the AWT which cannot be recycled – 12,500 tonnes in 2013/14. The Englands Road landfill is reaching capacity and, based on current disposal rates, will not be able to accept waste past 2020.

Bellingen Shire Council operates a landfill at Raleigh which accepted 1,845 tonnes of waste in 2013/14. Based on its current capacity, at current waste input rates, the site has remaining space to continue operating for approximately 18 years. BSC also operates a small scale landfill in Dorrigo which is co-located with a transfer station. The site accepted 760 tonnes in the 2013/14 financial year of bulky type wastes, and has a current capacity which will last approximately 10 years.

Nambucca Shire Council operates a landfill at Nambucca Heads which accepts mixed building and demolition waste, clean fill, bulky kerbside goods, asbestos and biosolids. The site accepted approximately 3,596 tonnes in 2013/14. The first stage of this landfill has a remaining capacity which would give it an operational life of 20 years at current waste input rates. The remaining two stages (to be developed) will allow for a further 80 years of capacity, based on current waste input rates.



WASTE GENERATION

In 2013/14, CCWS managed an estimated total of 57,300 tonnes of MSW; 14,635 tonnes of this was sent to landfill, either directly at regional landfills or as reject or residual from the Biomass AWT plant. All remaining waste was processed for recycling or recovery. In total this equates to approximately 550kg of MSW waste generated for each resident or 1,198 tonnes generated for each household every year.

C&I and C&D waste streams offer significant potential for improvement in recycling performance. C&I tonnages recorded than the MSW and C&D tonnages are much lower with only 9,464 tonnes recorded for 2013/14, of which 3,134 tonnes (33%) was either recycled or composted.

However a significant proportion of the C&I waste being generated in the region is not disposed of at Council sites, influenced primarily by current disposal charges and restrictions on what types of waste can be accepted at Englands Road landfill. C&D waste is the largest stream of waste within the region with a total of 67,314 tonnes recorded in 2013/14, of which 51,736 tonnes (77%) was recycled or reused as engineering or remediation materials at landfill sites.

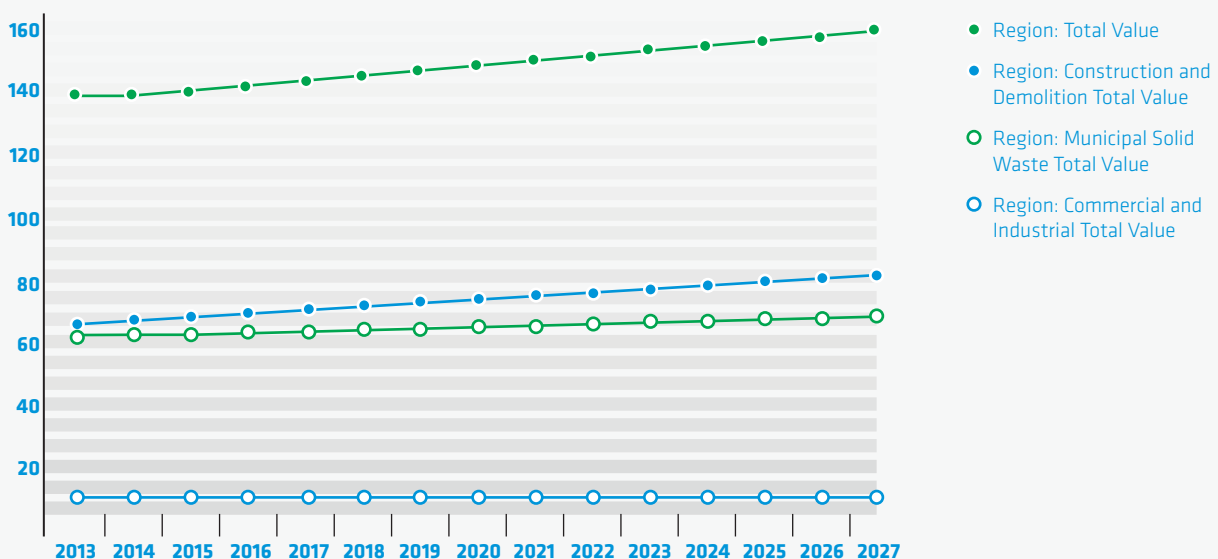
WASTE FORECAST

For modelling purposes a waste forecast has been generated based on historical waste data (from 2009 to 2013) and population growth trends. The graph shows total waste projections for the region and a breakdown of the three principal waste streams.

Historical and future waste projections:

2013 > > > 2027

000+ TONNES

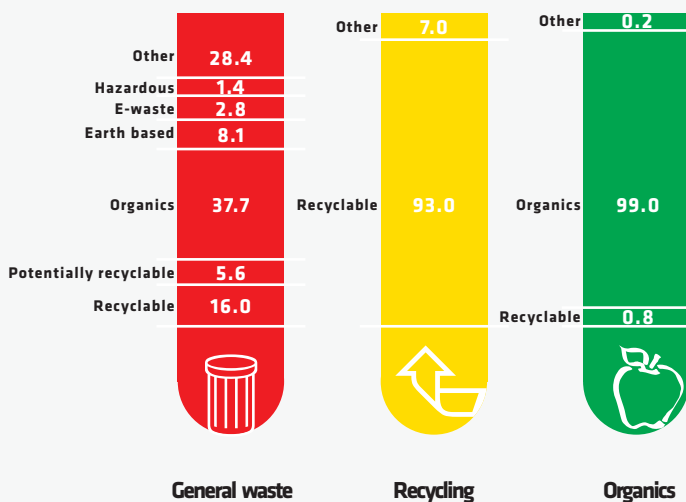


WASTE FORECAST FOR MSW, C&I AND C&D FOR COFFS COAST REGION

WASTE COMPOSITION

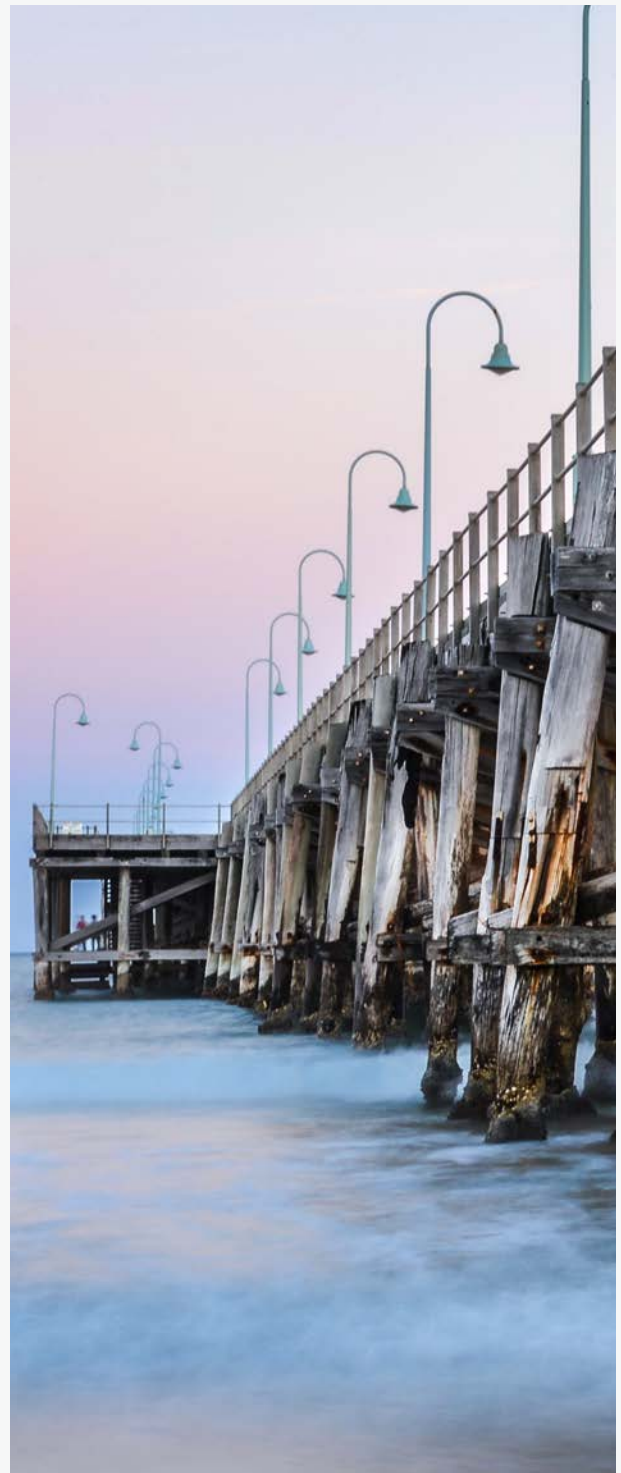
From time to time Councils in the region conduct independent waste audits of domestic kerbside collections to determine the composition of the material being disposed of. The most recent audit was completed in 2014 prior to this Strategy being prepared. This audit assessed the contents of the general waste, recycling and organics MGBs collected from households and had a particular focus on the quantity of recyclable waste still in the general waste stream and the level of non-recyclable and non-compostable materials in the recycling and organics streams.

The resulting waste composition data indicates that there is still significant potential to capture additional recycling (16%) and organics (38%) from the general waste bin. There were also opportunities for diversion of textiles (comprising 5% of general waste) and for e-waste and hazardous waste categories (comprising over 4% of the general waste).



THE TYPES OF WASTE FOUND IN THE 3 BIN KERBSIDE COLLECTION SYSTEM⁵

⁵ Midwaste (Northern Sub-region) domestic kerbside audits 2011





WASTE PERFORMANCE ASSESSMENT

In 2013/14 residents recycled and composted over 58% of the waste they produced through kerbside collections and drop off sites. Over 77% of waste produced was diverted from landfill after processing the general waste in the AWT contributing to increased diversion.

		BELLINGEN SHIRE COUNCIL	COFFS HARBOUR CITY COUNCIL	NAMBUCCA SHIRE COUNCIL	CCWS
Kerbside Collections	General Waste	1,350	12,202	2,950	16,453
	Organics	1,424	10,725	2,901	15,099
	Recycling	1,072	8,660	2,072	11,804
Transfer Stations	General Waste	1,554 ^a	3,085	231	4,870
	Organics	610	1,628	226	2,464
	Recycling	689	2,498	656 ^b	3,843
Bulky Waste		237	1,793	439	2,469
% Collected for Recycling and composting		54.7%	57.9%	62.3%	58.3%
Total Generated		6,935	40,590	9,475	57,000
Total Landfilled (post AWT)		1,639	9,209	1,972	12,820
Total Diverted		5,296	31,381	7,503	44,180
Diversion Rate		76.4%	77.3%	79.2%	77.5%

57,000
tonnes
of waste
generated by
residents

77%
waste
generated
was diverted
from landfill

MSW WASTE TONNAGE AND DIVERSION RATES FOR 2013/14

^a Tonnage data based on Waste Levy Guidelines Vehicle and Volumetric conversion factors.

^b Includes recycled problem wastes (batteries, scrap metal, gas bottles, hazardous chemicals, oil and electronic wastes)



WHERE DO WE WANT TO GET TO?

The three Coffs Coast Councils have set out the vision for waste management in the region and grouped future activities into a series of priority areas, or Key Result Areas.



Our vision for this Coffs Coast Strategy is:

The regional councils will innovate and collaborate to provide waste services that demonstrate leadership, a culture of continuous improvement and a community focus that delivers social, environmental and economic benefits.



MIDWASTE STRATEGY

The Coffs Coast region forms the northern sub-region of the Midwaste Regional Waste Forum and contributes to the delivery of the Midwaste Regional Waste Avoidance and Resource Recovery Strategy 2014-2021. For context, the vision and key quantifiable targets of the Midwaste Regional Strategy are as follows:

“Midwaste member Councils will use Innovative approaches for increasing Diversion rates to meet the NSW WARR Strategy targets; prioritising waste Avoidance and behaviour change, Sustainable regional solutions, collaboration, and consideration of appropriate Technology for positive Environmental, social and economic outcomes.”

The key quantifiable waste targets are:

- Reduce the amount of waste generation per person by 2021;
- Increase the recycling rate for MSW from 53% in 2011/12 to 60% in 2017, 70% in 2021; and
- Increase waste diverted from landfill from 63% in 2011 to 70% in 2017, 75% in 2021.

The Midwaste Strategy adopted the targets in the NSW WARR Strategy 2014-21 and sets out an implementation plan against the six key result areas.

KEY RESULT AREAS

To deliver the Coffs Coast vision, seven Key Results Areas have been identified. These cover a range of activities and priority work areas, which set out a clear direction for the development of waste management practices over the coming years. Each KRA has specific objectives and key performance indicators (KPIs).

The first 6 KRAs reflect the focus of the NSW WARR Strategy. This includes placing a responsibility on the participating Councils to lead by example in terms of their own internal waste management, and to work together to deliver services. The seventh KRA focuses on strategic management of waste management infrastructure across the region.

Monitoring of progress against KPIs is critical to assess the progress against delivering the vision and objectives in this Strategy. A number of indicators relevant to each of the KRAs are given below. Data will be collected and calculated in accordance with state and federal requirements where relevant and in a consistent manner.

KRA 1: AVOID AND REDUCE WASTE GENERATION

Objective

1.1 Reduce the quantity of waste generation per person

Key Performance Indicators

- 1.1.1 Reduce the quantity of waste generation per person from 2013/14 levels by 2021/22 and then again by 2027/28
- 1.1.2 Conduct quarterly collation and evaluation of regional data across all 3 waste streams (MSW, C&I and C&D) to improve data integrity
- 1.1.3 Implement a region-wide education program across all 3 waste streams (MSW, C&I and C&D)
- 1.1.4 Implement at least 2 avoidance / reuse projects annually within the region
- 1.1.5 Expand and promote the Bowerhouse reuse centre as a regional reuse hub

Measurable Data Requirements

- Total tonnage of waste generated, by stream
- Population and number of residential dwellings

KRA 2: INCREASE RECYCLING

Objective

- 2.1 Increase the recycling rate for MSW
- 2.2 Increase the recycling rate for C&I
- 2.3 Increase the recycling rate for C&D

Key Performance Indicators

- 2.1.1 Recycling rate for MSW from 74% in 2013/14 to 75% by 2021/22 and then to 76% by 2027/28
- 2.2.1 Recycling rate for C&I from 52% in 2013/14 to 65% by 2021/22 and then to 70% by 2027/28
- 2.3.1 Recycling rate for C&D from 76% in 2013/14 to 78% by 2021/22 and then to 80% by 2027/28

Measurable Data Requirements

- Total tonnage of waste collected, by stream
- Tonnage of MSW waste diverted by recycling, composting and recovery
- Tonnage of C&I waste diverted by recycling, composting and recovery
- Tonnage of C&D waste diverted by recycling, composting and recovery

KRA 3: DIVERT MORE WASTE FROM LANDFILL

Objective

- 3.1 Increase total waste diverted from landfill
- 3.2 Maximise the life of current landfill capacity within the Council areas by diverting waste from landfill

Key Performance Indicators

- 3.1.1 Increase the landfill diversion rate from 74% in 2013/14 to 76% by 2021/22 and further to 77% in 2027/28
- 3.1.2 Monitor and review opportunities for supplementary or new technologies that maximise landfill diversion by 2021/22

Measurable Data Requirements

- As for KRA 2, and
- Total tonnage for waste sent for energy recovery

KRA 4: MANAGE PROBLEM WASTES BETTER

Objective

- 4.1 Establish or upgrade three separate facilities and services for managing household problem wastes by end 2015/2016
- 4.2 Educate the community on problem wastes, their management, and use of Community Recycling Centres

Key Performance Indicators

- 4.1.1 Have three operational Community Recycling Centres in the region by June 2016
- 4.2.1 Assist with implementation of a regional education program (as part of the Midwaste region) including problem waste disposal, by June 2017

Measurable Data Requirements

- Tonnage of problem waste collected, by stream



KRA 5: REDUCE LITTER

Objective

5.1 Assist with regional and state anti-litter campaigns to engage and educate the local community and visitors on the value of litter reduction in our environment

Key Performance Indicators

- 5.1.1 Assist with establishing baseline data to allow quantifiable target setting for the Midwaste region by 2017
- 5.1.2 Incorporate anti-littering messaging into local and region-wide education campaigns
- 5.1.3 Develop at least 4 partnerships with other organisations to establish ongoing coastal community clean-ups
- 5.1.4 Develop event based recycling opportunities and introduce across the region by 2017

Measurable Data Requirements

- Tonnage of litter waste collected⁶
- Number of reported litter incidents and litter items

KRA 6: REDUCE ILLEGAL DUMPING

Objective

- 6.1 Reduce the incidence of illegal dumping in the region by 2021
- 6.2 Collaborate with the NSW EPA and other agencies to tackle illegal dumping

Key Performance Indicators

- 6.1.1 Establish baseline data to allow quantifiable target setting by 2017
- 6.2.1 Assist with delivering annual and /or on-going communication campaigns to reduce illegal dumping

Measures

- Number of reported illegal dumping incidents⁷

KRA 7: INFRASTRUCTURE MANAGEMENT

Objective

- 7.1 Proactively manage the delivery of waste management services across the region for collection, processing and disposal
- 7.2 Secure regional landfill capacity sufficient for the next 50 years
- 7.3 Review governance arrangement for delivery of waste management services

Key Performance Indicators

- 7.1.1 Review of current provision of waste collection services and contract requirements.
- 7.1.2 Review of future provision of waste processing services by 2021 and implement by 2027
- 7.2.1 Confirm best value option for residual waste disposal across the region by 2017, and implement by 2020, including:
 - Expansion at existing landfills
 - Securing a new regional landfill
 - Transfer of waste out of the Coffs Coast Region
- 7.3.1 Investigate the feasibility and review the benefits of a single corporate entity for delivering waste services by 2016 and implement preferred model or structure by 2020

Measures

- Annual tonnage capacity for each processing and disposal facility

It will be important to monitor the progress of the region against these objectives and KPIs. As the Strategy looks at medium and long term issues, it is proposed that an annual Action Plan is used to provide further detail, coordinate activities and then manage its progressive implementation. This will ensure that progress is periodically reviewed and confirm that the strategic aims are still relevant to the region.

⁶ In line with Midwaste baseline requirements when defined.

⁷ In compliance with current and future requirements of the NSW WARR Strategy in relation to illegal dumping incidents.

HOW WILL THE REGION GET THERE?

The Coffs Coast Councils will need to work together to make change happen and achieve the region's vision for sustainable waste management. As a group, the three councils have been collaborating for over 10 years, with substantial gains in diversion from landfill over this time. There are a number of actions that the Coffs Coast Councils can take to support the strategic direction of the region, ensure long term disposal facility security and deliver cost effective waste services into the future.

Based on the existing conditions across the region including services, current infrastructure and contractual arrangements, a number of options were conceived and considered through a formal appraisal process. This process assessed the extent to which different waste management options were able to meet the strategic objectives as well as considering other criteria such as cost, environmental impact and social impact.

The options considered during the Strategy development were focused around activities which the Councils have the most ability to influence, and primarily

focused on the municipal waste streams and providing processing and /or disposal services for C&I and C&D waste streams collected by other parties. The options considered were grouped into three core areas of waste management:

- Waste collections
- Waste processing methods and treatment technologies
- Waste disposal

Since Coffs Coast region currently employs the best practice MGB solution for waste collections, a key focus in the options assessment was improving how residents use the service through better communication and awareness. Community behaviour change brought about through targeted education is fundamental to achieving the goals of this Strategy, the Midwaste Regional Strategy and ultimately the NSW State Strategy. Improvements in resource consumption and waste management will only occur if we, as a community, continue to change the way we think and act. Understanding and valuing the reasons for change is a pre-requisite for changing behaviour.

Other treatment technologies and processing methods

are available that could help increase recovery or diversion by targeting new materials in the MSW waste stream i.e. contaminated plastics, or the Biomass AWT residues. Currently these technologies are not widely available or proven commercially, so were deemed high risk and were not evaluated in the options assessment. The viability of these technologies will change over time, and as such will need monitoring periodically to identify when they could be viable for the region. The options assessment primarily focussed on C&I and C&D processing and treatment technologies.

Considering waste disposal options, the Coffs Coast Region has specific waste processing infrastructure challenges and mounting pressures on current landfill capacity which need to be addressed. As such the options for waste disposal inside and outside the region were considered.





ASSESSMENT OF OPTIONS

The following options were modelled to determine potential impact on waste flows over the strategy timeframe. They were then assessed against their ability to impact on recycling performance, their contribution to landfill diversion, overall system cost and ease of implementation⁸. Historic and current tonnages of all waste streams were inputted into a waste management tool and future projections were made to assess the long-term impact from each of the options considered.

SYSTEM COMPONENT	OPTIONS CONSIDERED
Collection	Targeting new materials (for example textiles)
	Maximise performance of existing collection systems, focus on increased capture of recyclables at the kerbside / drop-off facilities
Processing	Sorting/processing of C&I Waste
	Sorting/processing of C&D Waste
Disposal/Markets	Utilising existing capacity in region to dispose of residual waste
	Develop a replacement disposal facility anticipating the end of life for Englands Road Landfill around 2020
	Transport of residual waste material out of the region

OPTIONS ASSESSED FOR CONTRIBUTION TO OBJECTIVES AND TARGETS FOR KRA 1-3

⁸ The results of the Options Analysis are set out in a separate detailed officer Background Report which was prepared to document the development of this Strategy.

COLLECTION OUTCOMES

Targeting new materials via the current collection system offers some direct performance improvements, for example a textiles collection will increase recycling rates by approximately 1% based on previous trials. The focus of further education and promotional activity will be twofold, firstly maximise the capture of materials targeted for recycling and secondly, minimise the amount of any unwanted materials found in the recycling bin. Likewise, boosting waste management education to ensure residents fully utilise the current collection systems can deliver between 1-2% improvements on recycling.

Although the assessment of options concluded these measures would deliver some 'easy wins', these will require greater collaboration with community and other stakeholders. In the case of textiles collections, councils needs to ensure any new services fit with the current collection service and donation methods operated by the charity sector.

PROCESSING OUTCOMES

The modelling considered processing C&I or C&D waste currently captured through Council sites and services only. Developing a new material recovery facility to target this waste offered the greatest potential for a major uplift in waste diversion from landfill. However it will require significant investment and needs to be responsive to market needs. The baseline data and modelling indicate there is a viable business prospect for processing and recovering materials from this waste stream, which may interest a commercial partner. The economic value to the region from such commercial ventures should not be overlooked.

DISPOSAL OUTCOMES

The modelling considered several options for long term waste disposal, including utilising capacity within the region, transporting waste to alternative sites outside the region and investing in a new site for additional capacity. Collaboration between Coffs Coast Councils to manage and expand Coffs Coast regional landfill infrastructure and capacity has the greatest potential for generating additional financial benefits. To secure long term landfill capacity, existing sites will require further expansion or a new site to be developed.

KEY AREAS OF FOCUS

Based on the options assessment and wider feedback from the community, an outline of core actions and work areas have been developed for each of the seven KRAs. As an early initiative of the strategic planning process, the community were presented with opportunities to comment on current and future waste management initiatives via a series of workshops and an online survey. This provided a method to collect stakeholder views and input for consideration in developing the Strategy and each of the KRAs.

Implementing this Strategy will be managed through a series of Action Plans that define specific work areas, guide waste management decisions and co-ordinate activities. These will integrate with council work scheduling and any contract performance reviews. Within the KRA sections below, a variety of activities and opportunities for addressing the challenge of each KRA are presented.



KRA 1: AVOID AND REDUCE WASTE GENERATION

Changing consumer behaviour is a key step towards improving waste avoidance rates. Historically, waste generated per person in Australia has been growing steadily. To reduce this and avoid waste generation; communities need to consume less, encourage design integrity and product stewardship, use materials more efficiently and keep them out of the waste management system. A range of programs will be necessary in order to meet the target of reducing waste generation per person by 2021.

The delivery of this KRA depends on four main elements:

1. Developing education resources and communications to raise awareness of the benefits from waste reduction and examples of problems that are associated with increased waste generation;
2. Advising residents and businesses on waste avoidance measures through the different decisions and choices about the things they buy and use;
3. Lobbying for extended producer responsibility with regards to:
 - Excessive packaging and the use of single use, non-recyclable products;
 - Manufacturing standards and other measures to avoid waste generation in manufacturing; and
4. Providing opportunities for the reuse of items and materials

Ways to prevent waste include:

- Deciding not to upgrade items / products when existing ones still work;
- Not buying items that are heavily packaged, have a short lifespan or are of low quality;
- Buying items that last longer and can be repaired;
- Planning meals and food purchases and using up leftovers to minimise food waste;
- Buying items in refillable containers; and
- Composting organic food and garden waste at home.



The options for the Coffs Coast Councils to help deliver the objectives under this KRA are based around education and communications campaigns that provide advice on specific waste streams, such as food waste, packaging, junk mail and electrical items. There are also opportunities to support community action through initiatives such as 'plastic bag free towns' and 'naked food initiatives', as well as promotion of 'water fill up points' to support bottled water schemes in order to help tackle plastic packaging waste. Other activities such as public screening of environmental films on resource recovery, 'make-do and mend' workshops or 'Swap Shops' help to promote reuse of materials and extend the life of products. The NSW Love Food Hate Waste program, currently supported by the Midwaste region, focuses on giving people the skills to make better purchasing decisions, improve food storage techniques and use leftovers so that food is eaten rather than thrown away.

The development of a regional reuse and waste minimisation program can help by providing facilities that can support the reuse of materials (for example collaborating with Men Sheds or establishing re-use shops at waste management facilities and improve 'industrial ecology' (where the waste from one business is a resource for another)). Existing networks such as the Regional Networks for Effective Waste Management (RENEW) will be engaged to develop these opportunities. Supporting community organisations that are involved in these activities will also be important. Positioning the Bowerhouse at Raleigh as a 'regional reuse hub' can establish a physical centre for launching, promoting and nurturing such community based initiatives into the future.

The options appraisal process estimated that up to 10% reduction in overall MSW generation could be achieved through waste avoidance and reduction. There is also a need to improve the quality of data⁹ regarding the total amounts of waste generated and waste composition in order to support the activities under this KRA.

KRA 2: INCREASE RECYCLING

The Coffs Coast region is already meeting the NSW State 2021 recycling target for MSW of 70% and is approaching the C&D target of 80% by 2021 with the current level of 76%. However, the region wants to remain a leader in this area, and therefore this KRA is focused on seeking to maximise the amount of waste that is recycled. The options and actions related to this KRA therefore include:

- Better source separation for the recycling and organics streams and use of the existing dry and organic recycling services using targeted messaging, education campaigns and collection and processing service improvements;
- Increasing the type and range of materials that can be recycled in the region, which is likely to focus on the collection of textiles and targeting C&I and C&D derived materials;
- Lobbying federal and state governments for improvements to product stewardship schemes, increased diversification and target quotas for existing schemes; and
- Lobbying state government agencies for clarity on evolving regulatory restrictions affecting waste treatment and processing technologies to maintain performance and protect future investment.

As businesses have greater freedom to go to market for waste and recycling services Councils have less influence over the waste generated from C&I sources. In order to increase recycling from this sector the focus for Coffs Coast is in the provision of improved infrastructure and the development of closed loop systems and educational programs.

⁹ Including - consistent measurement of the amounts of all waste types collected, processed and disposed to landfill, an updated residual waste composition assessment, and ongoing assessment of the recycling collection performance.

Such improvements are intended to stimulate the local C&I waste sector, provide some financial benefits to the market and stimulate new and improved services. In doing so, these elements will support this KRA and improve the waste and recycling data collection for the C&I and C&D streams. Coffs Coast are looking to work with commercial stakeholders to facilitate better data collation and reporting, benchmark current performance and implement measures to improve recovery rates for these waste streams. Improved data on materials capture rates would allow more effective targeting of communications and promotional campaigns to be designed - for example to focus on specific materials or areas where the collection system effectiveness can be improved. Whilst C&I and C&D sectors offer significant scope for increased recycling¹⁰ any processing or disposal option needs to be commercially viable and attractive to businesses.



¹⁰ The modelling assessment indicated an increase in regional recycling rate from 74% to above 80% in 2021 with improved infrastructure for C&I and C&D processing.

¹¹ The NSW State Landfill Levy is a tax placed on every tonne of waste which is disposed of to landfill.



KRA 3: DIVERT MORE WASTE FROM LANDFILL

Diverting more waste from landfill will save landfill disposal costs, including the NSW Waste Levy. Increased landfill diversion comes as a direct consequence of the implementation of a range of reuse, recycling and alternative waste processing activities, therefore the actions identified under KRA 1 and 2 will all contribute to the achievement of the targets under this KRA. Accordingly, the objectives and actions under this KRA are focused on specific activities that increase the opportunities to divert waste away from landfill and support the development of new markets for recycled products.

The options assessment undertaken focused on opportunities to influence the amount of MSW, C&I and C&D material that is sent to landfill. The following options and actions were identified that can influence KRA 3:

- Monitor the opportunities for new technologies and their commercial application to the Coffs Coast landfilled waste stream;
- Monitor the opportunities for new technologies and their commercial application to target materials from C&I or C&D sources; and
- Work with C&I waste producers and other businesses through the industrial ecology programme and other networks to identify target materials and diversion opportunities.

Action under KRA 3 has the potential to relieve pressure on the current infrastructure; especially landfill void space. This has particular importance for the landfill space at the Englands Road site, as capacity will run out, at current rates, by 2020 and the associated haulage cost to alternative sites would be an additional burden to the current waste management system.



KRA 4: MANAGE PROBLEM WASTES BETTER

Councils have an obligation to provide waste services to residents on both health and environmental grounds. Problem household wastes can cause harm to human health and the environment if they are managed inappropriately. Such wastes can include paint, batteries, smoke detectors, fluorescent lamps, gas bottles, motor oils and fluids, and other toxic and hazardous household products. Due to their nature they can be difficult to recycle and recover and the cost of doing so can be uneconomic.

The goal of this key result area is to reduce the impact of these materials by separating them from other household waste and recycling streams and treating them appropriately. Coffs Coast Councils will support the broader NSW state initiatives including:

- The development and upgrading of permanent drop-off facilities in each Council area, funded by the NSW EPA;
- Supporting Chemical Clean out events and other collections for low-volume, high-toxicity materials; and
- Consideration of (with possible trials) alternative collection methods, such as mobile collection facilities.

Coffs Coast Councils will continue to look at opportunities to capture problem wastes both through local initiatives and regional collaboration.

KRA 5: REDUCE LITTER

Across Australia, a mix of education and enforcement by State authorities, regional groups and local Councils has been effectively used to target littering. Littering can have a negative impact on community well-being as well as having a detrimental effect on the environment. Both the NSW State strategy and the Midwaste Regional Strategy include litter reduction as a core element and Midwaste have committed to initiating targeted regional anti-litter campaigns utilising social networking and other media opportunities.

In order to reduce litter generation, it is fundamental to make littering a socially unacceptable activity in society. Therefore, the actions the Councils will use to bring about the required behaviour change are:

- Delivering education and awareness raising campaigns in collaboration with Midwaste;
- Reviewing and improving litter collection infrastructure, reducing peoples 'excuse' for littering;
- Organising clean-up initiatives, specifically including at events and in coastal communities; and
- Where education fails, the use of enforcement powers to penalise those who persist in thinking littering is acceptable.

The Coffs Coast Councils will work with Midwaste to undertake a baseline study to help with developing a wider regional litter reduction programme.



KRA 6: REDUCE ILLEGAL DUMPING

Combating illegal dumping is a key priority for the NSW Government and local communities as demonstrated by the funding streams under the current 'Waste Less, Recycle More' Initiative. Illegal dumping can cause serious pollution, harm to human health and major detriment to local amenity. Incidents can range from the dumping of household rubbish to large scale disposal of C&I and C&D wastes.

The Coffs Coast region includes land which is managed by a number of agencies including Forests NSW and the NSW National Parks and Wildlife Service. Remote and secluded locations are often the scene of illegal dumping of waste as it is likely to be unseen. Quantifying the true extent of illegal dumping is difficult because incidents are often only identified well after the dumping has occurred, having implications for successful enforcement.

Baseline data on illegal dumping in the region needs improvement, hence this KRA is focussed on improving data to enable the Councils to better target initiatives to address illegal dumping. Councils will review these data on illegal dumping to identify local initiatives for reducing it. Opportunities for regional collaboration and to engage with community user groups will be explored with a view to increasing passive surveillance and reporting of illegal dumping, whilst collaboration with State government agencies, including the NSW EPA will also be continued.



KRA 7: INFRASTRUCTURE MANAGEMENT

Several of the options assessed highlighted a mix of infrastructure development and operational requirements, or contractual priorities that are specific to the delivery of waste services across Coffs Coast. Coffs Coast Councils recognise the following priority areas that link to the delivery of quality and cost effective services:

- Review of the current capacity at Englands Road landfill, the timeframes for closure and remediation;
- Review and consult on the availability and suitability of alternative disposal sites in the region and develop an action plan for the delivery of regional long term landfill security;
- Develop a detailed business plan for the delivery of waste services across the Coffs Coast region that includes:
 - / A cost benefit appraisal for waste haulage options,
 - / Tendering opportunities for the collection and processing of kerbside waste,
 - / A review of waste processing contracts,
 - / A review of the management of existing sites, and
 - / A cost benefit analysis of the delivery of new infrastructure.

The outcomes of this work will provide a basis for considering the best structure for collaboration as the Councils implement the identified course of action. Accordingly the Councils will undertake a review of the governance arrangements and opportunities for a single delivery entity for Coffs Coast Waste Services.

Pressures on current landfill capacity and the need to find an alternative landfill option is an immediate priority area.

With additional landfill space available at Nambucca Landfill and possibly Raleigh Landfill, options are available in the region. These would require an operational review, including an assessment of future liabilities, and some site upgrade work to gear up for the increased tonnage managed through the current collection and processing contract.

It is imperative that Coffs Coast Councils work together to ensure a suitable and acceptable solution is provided within the available timeframes. In initiating this process it is also prudent to further address the long term landfill requirements of the region and seek to secure landfill space for Coffs Coast waste for the next 50 years.

Moving towards a more integrated service and minimising the future liabilities of the Councils requires some further review and rationalisation of site infrastructure. To reduce operating and environmental management costs it is proposed to cease current landfill operations at the Dorrigo waste management depot. The site will remain open and operate as a conventional transfer station maintaining a suitable level of service to current users. The four transfer stations operated in Coffs Harbour LGA will be reviewed with the option of reducing these to three sites. This will address the current site capacity issues and include some site improvement works to deliver a better service to residents overall.

Alongside the development of new governance arrangements, there is an aspiration for the Coffs Coast Councils to lead by example. In doing so all Councils will ensure that their procedures, actions and behaviours are consistent with the Strategy vision, in particular with regards to delivering “waste services that demonstrate leadership” and that “delivers social, environmental and economic benefits”.





HOW WILL THE STRATEGY BE IMPLEMENTED?

The seven Key Result Areas identified in this Strategy will underpin its successful implementation. By working with the community, businesses and industry the Coffs Coast region will accomplish the vision and achieve the objectives within this Strategy. This will include developing existing collection and processing infrastructure, supporting local community initiatives, developing better ways of working together and improving the data available on how much waste is generated, processed and disposed of to landfill.

Coffs Coast member councils recognise their collective and individual responsibilities for the development and maintenance of waste infrastructure and sustained delivery of waste services, across the region.

The provision and implementation of cost-effective waste management is an imperative and all future changes will seek to address the social, economic and environmental needs of the region – the ‘triple bottom line’ approach.

The process for implementation of this Strategy will be documented in an Action Plan, which will be set for the first half of the Strategy lifespan, i.e. up to June 2021. This will guide the waste management decisions and actions of the Councils over this period, and will be updated annually. In 2020/21 a new Action Plan will have been developed to carry the Strategy outcomes through the second period, to June 2027.



APPENDIX A - GLOSSARY OF TERMS¹³

Alternative waste treatment (AWT)	Generally a facility that applies a combination of mechanical, biological and (sometimes) thermal processes to separate organic materials from a mixed residual waste stream (usually household waste).
Biomass Solutions	Biomass Solutions are the current owner and operator of the AWT plant which process residual waste from the Coffs Coast region.
Capture rate	The proportion of material captured for reuse, recycling or recovery (including composting or energy recovery).
Construction and demolition waste (C&D waste)	Solid waste sourced from construction and demolition works, including building and demolition waste, asphalt waste and excavated natural material.
Commercial and industrial waste (C&I waste)	Solid waste (wet or dry) generated by businesses, industries (including shopping centres, restaurants and offices) and institutions (such as schools, hospitals and government offices) but not C&D waste or MSW.
Diversion rate	The proportion of all recycled materials or those otherwise recovered (through an energy-from-waste facility or composting organic waste) compared with total amount of waste generated.
Energy from waste	The process of recovering energy from waste materials: the energy is used to produce useable heat, steam, electricity or a combination of these.
E-waste	End-of-life electronic equipment, such as televisions, computers, mobile phones, stereos and small electrical appliances (but not white goods).
Green Lidded Bin	Refers to the Australian Standard (AS 4123.7-2006 mobile waste containers – Part 7: colours, markings and designation requirements): bin-lid colours for household kerbside waste and recycling bins. The green lidded bin is for organic materials. These generally include weeds, grass clippings, flowers, leaves, prunings and small branches. In the CCWS region the green lidded bin is also be used for food waste which is taken for processing and sale to downstream markets as compost and mulch products.
Industrial ecology	Using the by-products from the production process of one company as a resource in another.
Landfill	The disposal of waste materials through burial. Modern landfill sites are engineered, lined and fitted with gas capture systems to minimise environmental impact.
Materials recovery facility (MRF)	A materials recovery facility handles a range of recyclables which typically have already been separated from other waste streams (e.g. by householders or businesses at the collection stage). At the MRF the materials are sorted into individual material streams before being sent for recycling. Any components of the incoming material not suitable for recycling will be separated as ‘contaminants’ at the MRF and are then processed via the AWT with any residual materials landfilled.
Municipal solid waste (MSW)	Solid waste from households (collected or self-haul) and local government operations, including bulky household waste placed at the kerbside for Council collection and waste collected by Councils from municipal parks and gardens, street sweepings, Council engineering works and Council public street and park litter bins. This includes materials that are processed, recycled, re-used or recovered.
Problem wastes	Household products and materials in the waste and recycling stream that pose potential harm to the environment and human health and/or make the recovery and recycling of other materials more difficult or uneconomic.

Recycling	Recycling involves the collection, sorting and processing of materials presented for recycling by residents at their kerbside or in public place bins. Materials sorted at a MRF are used in the creation of new recyclable products.
Recycling rate	In NSW, 'recycling rate' refers to the proportion of waste stream which is reprocessed to make the same or different products and put back into the economy. It does not include energy recovered from waste.
Red lidded bin	Refers to the Australian Standard (AS 4123.7-2006 mobile waste containers – Part 7: colours, markings and designation requirements), bin-lid colours for household kerbside waste and recycling bins. The red lidded bin is for residual waste.
Reducing waste	Reducing waste generation by avoiding or preventing the creation of waste, where possible, along the various parts of the supply chain. The aim is to use less material to achieve the same or equivalent outcome.
Resource recovery	Recycling waste material. Recovery may also include extracting embodied energy from waste through thermal processes.
Reuse	Items that do not require processing, and are in a suitable condition and quality to be reused in its original form.
Solid waste	Unwanted solid materials and does not include liquid waste.
Waste	Includes (as defined by the NSW Protection of the Environment Operations Act 1997): <ul style="list-style-type: none"> ▪ Any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment, or ▪ Any discarded, rejected, unwanted, surplus or abandoned substance, or ▪ Any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, processing, recovery or purification by a separate operation from that which produced the substance, or ▪ Any processed, recycled, re-used or recovered substance produced wholly or partly from waste that is applied to land, or used as fuel, but only in the circumstances prescribed by the regulations, or ▪ Any substance prescribed by the regulations to be waste. ▪ A substance is not precluded from being waste for the purposes of this Act merely because it is or may be processed, recycled, re-used or recovered.
Waste avoidance	Waste that does not enter the waste management system.
Waste Generation	The total amount of waste disposed of to landfill and diverted (based on available data)
Waste management system	Waste Generation = Landfilled + Diverted (Total recycled, reused or reprocessed)
Yellow lidded bin	Waste materials from MSW, CGI and CGD sectors that are collected kerbside, recovered from the waste stream for recycling or energy recovery or disposed to landfill.
	Refers to the Australian Standard (AS 4123.7-2006 mobile waste containers – Part 7: colours, markings and designation requirements): bin-lid colours for household kerbside waste and recycling bins. The yellow lidded bin is for dry recyclable materials. These generally include paper, cardboard, glass, some hard plastics and ferrous and non-ferrous metals. The type of recyclable materials collected in the yellow lid bin can vary depending on the facility where the materials are taken for further separation and the availability of downstream markets for the materials.

