



Hunter / Central Coast Waste Avoidance and Resource Recovery Strategy

2017-2021





Regional Strategy prepared by Hunter Joint Organisation of Councils:



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INTRODUCTION

In February 2016 the Australian population reached 24 million people. Waste generation rates are a function of population growth, the level of urbanisation, and per capita income. Australians now produce 50 million tonnes of waste each year, averaging about two tonnes per person.

(Mike Ritchie – MRA Consulting)

Waste avoidance and resource recovery sit at the very core of sustainability. In Australia waste is being generated at ever increasing rates and recovering the maximum amount of materials from these growing waste streams is more important than ever. The ideal is not to create waste in the first place and the disposal of waste to landfill is a last resort.

Over the past decade, strong efforts have been made by both federal and state governments to reduce waste by imposing levies and providing incentives to reduce waste to landfill. This applies to business, industry, householders and local communities.

Councils have a primary responsibility to provide services to collect and manage some of this waste whilst at the same time having a role in influencing the amount of waste that is generated in the first place and taking action to reduce or manage it differently.

While waste disposal places a burden on the environment the valuable resources that could be used to make alternative products or energy may be lost at the same time. Taking responsibility for the waste production, no matter how small it may seem, can make a difference.

Responsible waste management is an opportunity to create change. The challenge is managing future economic growth at the same time as reducing waste generation.

This document is the Hunter / Central Coast Region Waste Avoidance and Recovery Strategy. Councils participating in this strategy are Central Coast, Cessnock, Dungog, Lake Macquarie, Maitland, Muswellbrook, Newcastle, Port Stephens, Singleton and Upper Hunter Councils (Refer Figure 1).

This group of councils are working together to deliver change in waste management practice and to promote responsible waste management practice that considers the waste management hierarchy (Figure 2).

This strategy covers the period from 2017 to 2021 and provides a framework for regional activity and service delivery towards meeting progressive targets. This strategy, and particularly the Action Plan provided at Appendix C, identifies activities that some or all of the participating Hunter councils are committed to pursuing.

Figure 1 – Hunter / Central Coast Region participating Councils



STRATEGIC DRIVERS

National and state legislation and policies addressing all waste streams (municipal, commercial & industrial, and construction & demolition) set the framework that local and regional activities must reflect (see Table 1).

Australia's National Waste Policy targets six key areas for action, including improving data for waste and resource recovery; reducing the risk for hazard of waste; sustainability of resources; improving market conditions for waste and recovered resources; taking responsibility for reducing waste; and material consumption across the supply chain.

The NSW strategy is consistent with Australia's National Waste Policy. At a state level waste is recognised as an important issue in *NSW 2021: A plan to make NSW number one and the NSW Waste Avoidance and Recovery Strategy* (NSW strategy 2014–2021). The NSW strategy contains goals to 'protect the natural environment' and 'to increase opportunities

for people to look after their own neighborhoods and environments'. There are also targets for litter reduction per capita and increasing recycling.

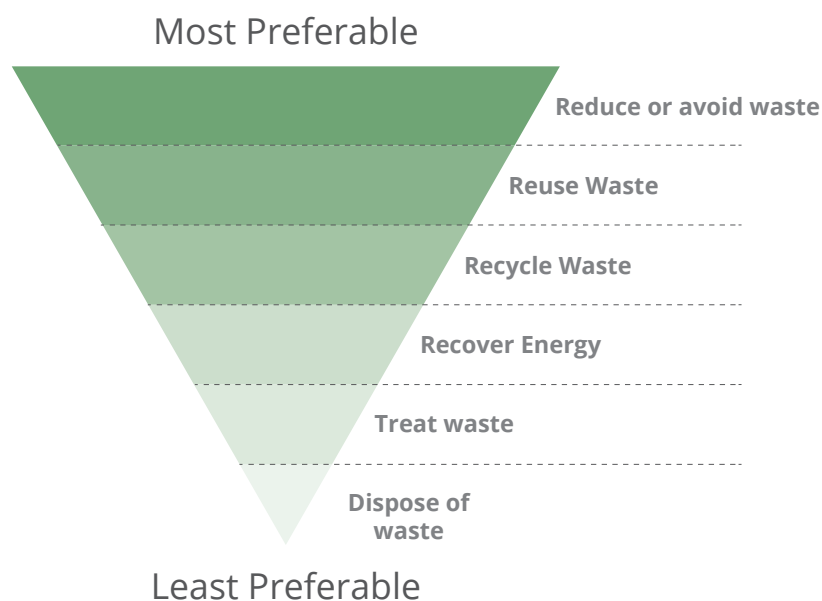
The NSW WARR Strategy 2016 is supported by a *Waste Less Recycle More (WLRM) Initiative*, which funds programs in the waste and resource recovery sector including waste and recycling infrastructure, problem wastes, local community programs, illegal dumping and littering. The WLRM 2017-21 Extension provides a \$337 million grants and funding package across nine distinct funding streams.

The National Policy and NSW Strategy are based on the waste hierarchy principles as a guide to sustainable waste management. The waste hierarchy presents a number of waste management options in their order of priority. It stresses the importance of preventing waste being created in the first instance, with waste prevention as the main priority and disposal as the lowest priority. Producing recyclable material of a high quality is also important so that the amount that must be further treated or disposed of is minimised.

TABLE 1 – KEY POLICY DRIVERS IN NSW

Key policy/ plan	Summary	Key targets/action/notes for councils
Premier's Priorities in Action	The NSW Government has committed to 12 priorities to make NSW a better place to live and work. Under keeping our environment clean – reducing litter is a key issue.	Reduce litter by 40% by 2020
NSW Waste Avoidance and Resource Recovery Strategy 2014–2021 (WARR Strategy)	The WARR Strategy includes long-term targets for the following five key result areas: <ul style="list-style-type: none"> • avoid and reduce waste generation • increase recycling and divert more waste from landfill • manage problem wastes better • reduce litter • reduce illegal dumping. 	Councils need to contribute to meeting WARR strategy targets by 2021–22. Key targets are: <ul style="list-style-type: none"> • reduce the rate of waste generation per capita in NSW • increase recycling rates for: <ul style="list-style-type: none"> – MSW 70% – C&I 70% – C&D 80% • establish or upgrade 86 drop-off facilities or services for managing household problem wastes • increase waste diverted from landfill to 75%
Waste Less, Recycle More	The NSW Government's \$465.7 million waste and recycling initiative has been extended with a further \$337 million over 4 years from 2017-21. This will help to continue the work already underway to modernise the waste sector in NSW, deliver waste and recycling services to the community and ensure a clean environment.	Waste Less, Recycle More provides funding for business recycling, organics collections, market development, managing problem wastes, new waste infrastructure, local councils and programs to tackle illegal dumping and litter. Funding is available for: <ul style="list-style-type: none"> • \$4.5 Million for regional coordination and strategy for the greater Sydney region • \$8million for Voluntary Regional Waste Groups • \$48 waste and recycling infrastructure fund The 2017–21 Waste Less, Recycle More extension brochure provides more details on the programs, priorities and grants under the extended program.

Figure 2 – The Waste Hierarchy (source NSW WARR Strategy 2014-21)



The waste hierarchy provides guidance on the order of preference of approaches to achieve efficient resource use.

Central Coast Council Joins the Waste Region

During early 2017 agreement was reached between Hunter Joint Organisation of Councils, NSW EPA and Central Coast Council (formerly Gosford City and Wyong Shire Councils), for Central Coast Council to join the Hunter Region Councils and create the Hunter/Central Coast Waste Region, which now represents a population of approximately 965,000 residents, with continued strong population growth, and corresponding waste generation, predicted over the next 30 years.

Summary of the key successes and challenges from the previous four years

Key successes from the implementation of the Strategy were:

- Development of an Organics Infrastructure Needs Analysis Report to investigate opportunities for regional partnerships and contracts for the provision of organics collections services
- Mapping and supporting documentation for development of the regional Community Recycling Centre (CRC) network resulting in 8 Councils out of 9 securing CRC funding
- Roll out of the regional waste education brand campaign “Small Acts Big Change”
- Roll out of other regional education and engagement programs, including Charitable Recyclers Working Party Training, a campaign on

responsible donating, a Charity recycling grant working with St Vincent de Paul and ongoing use of a roving performance troupe (Waste Wrappers) to deliver recycling messages at events across the region

- Development of a Regional Data Strategy and a centralised Regional Data Hub
- Development and implementation of a Regional Capacity Building Program.

Regional Data Strategy developed to align data quality and protocols across the region providing a consistent dataset to inform strategic decisions. Outcomes included agreement to review and align weighbridge codes, agreement on diversion targets and development of a council data reporting survey. Also, the baseline of 30% MSW diversion from landfill in 2014/15 has risen to 40% in 2013/14 and would have been 43% in 2014/15 without the April 2015

All member councils involved in regional waste education brand campaign “Small Acts Big Change” and ongoing momentum is being built via the dedicated website and social media presence. Dedicated Facebook page viewed by 27,500 people with about 80 posts over 2015/16 and 573 people engaged (liked or shared) and Small Acts Big Change website had 4,265 viewers



THIS DOCUMENT

The Hunter/Central Coast Waste Avoidance and Recovery Strategy establishes the regional vision, objectives and targets for waste avoidance and recovery in the Hunter / Central Coast Region, reflecting issues of common interest and supporting individual council waste strategies and actions. The Strategy includes a Regional Action Plan (Appendix C) which articulates the actions of participating Councils, the EPA and Hunter Joint Organisation of Councils which will be undertaken to see continued resource recovery.

Developed in consultation with officers from participating Hunter / Central Coast Region Councils, this strategy details the local and regional intent to manage our resources more effectively.

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 documented in individual council strategies and/or plans that detail activities at a local level.

It primarily focuses on the municipal waste stream (MSW), as required by the NSW EPA, and is the only waste stream over which local government has control, through the delivery of services and education to local communities. Member councils have identified opportunities for collaboration in other waste sectors, particularly Commercial & Industrial; which will be explored during implementation of this strategy.

WHERE ARE WE TODAY?

SUMMARY OF COUNCIL SERVICES AND INFRASTRUCTURE IN 2011-12

The baseline year for this strategy, set by State requirements, is 2011-12. At that time, the nine councils in the Hunter region (Central Coast Council was not a member of the original Waste Region) offered a range of waste collection services for their residents and businesses. All councils offered a weekly residual waste collection service and a fortnightly recycling service (collecting paper and card, glass, plastic and metals). In 2011/12, Newcastle and Muswellbrook councils provided fortnightly kerbside collections of garden organics (vegetation) materials, whilst Dungog, Lake Macquarie, Muswellbrook, Newcastle, Port Stephens, Upper Hunter and Singleton provided periodic kerbside collections of bulky materials from domestic premises for either landfilling or recycling.

Residual waste collection and recycling services were also available to commercial organisations.

The councils provided drop-off facilities where businesses and residents can take waste items for recycling or disposal such as bulky household items and garden organic waste. These drop-off facilities handled approximately 38,000 tonnes of residual waste in 2011-12 and 18,000 tonnes of garden organics. In 2015/16 these facilities handled approximately 35,000 tonnes of residual waste and 12,000 tonnes of garden organics.

The residual waste from Port Stephens was treated at the SUEZ Advanced Resource Recovery Technology (ARRT) Facility in Raymond Terrace and this is still the case in 2016/17. This facility extracts some ferrous metals for recycling, produces a compost-like output and an inert fraction that is landfilled. The remaining councils send residual waste to landfill. Details of landfill and resource recovery sites around the region are provided in Table B2 in Appendix B.

COUNCILS SERVICES AND INFRASTRUCTURE IN 2016/17

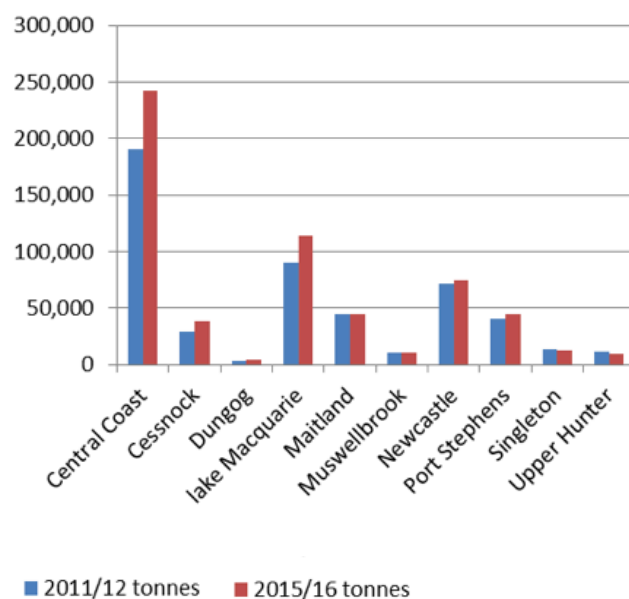
Specific details of council services available and waste management sites in 2016/17 are provided in Tables B1 and B2 in Appendix B. Notable service level changes which have occurred since the 2014-17 strategy was adopted are:

- Several councils now offer the option of a 360 litre yellow recycling bin to residents
- Lake Macquarie introduced a garden organics service in 2013
- Maitland, Singleton and Cessnock councils' introduced a garden organics (vegetation) collection service in March 2017
- New waste and recycling contracts were implemented in Dungog and Port Stephens in 2016/17
- Tenders for new waste and recycling contracts are planned at Upper Hunter, Muswellbrook and Singleton Councils
- Infrastructure development in the region also progressed with the provision of dedicated Waste Less Recycle More funding to:
 - Commence construction of seven new Community Recycling Centres (CRCs) to supplement the regional network of CRCs which currently includes facilities in Lake Macquarie, Port Stephens, and Singleton.
 - Commence construction of the Cessnock Waste Management Centre and Landfill Extension Project, and due to be operational in late 2017
 - Commence construction of a new organics processing facility in Lake Macquarie
 - Upgrade the Mt Vincent Waste Management Centre (Maitland) and construct a CRC at the Mount Vincent site
 - Commence construction of a ninth landfill cell at Summerhill Waste Management Centre

WASTE GENERATION

In 2011-12, the Hunter councils managed a total of 314,946 tonnes of MSW. This had risen to 351,276 tonnes of MSW in 2015/16 (NB these historic totals do not include Central Coast Council). The breakdown of these tonnages for each council is presented in Figure 3 below. The total MSW generated across the region is, however, likely to be higher than this given some waste is processed at facilities that are not managed by local government (Please note MSW tonnages include waste generating commercial businesses that utilise the Council supplied kerbside collection services, about 12,000 businesses regionally).

Figure 3: Total MSW by Council for 2011/12 and 2015/16



MUNICIPAL WASTE FORECAST

The Hunter/Central Coast population was 922,894 in 2011-12 (ABS 30 June 2010) and had risen to 965,810 by 2015/16 (ABS 30 June 2015). Regional population is expected to continue increasing by approximately 1.5% per annum by 2021-22 (DPI population forecast). Assuming that waste generation continues to grow proportionately to population, it is anticipated that MSW will likely grow to around 569,524 tonnes by 2021-22. Population is also likely to grow beyond this period, which will continue to impact on the amount of waste that must be managed. MSW growth estimates for each council are provided in Table 2



Table 2: MSW 2021-22 forecast for each Council (tonnes) based on an estimated 1.5% annual population increase

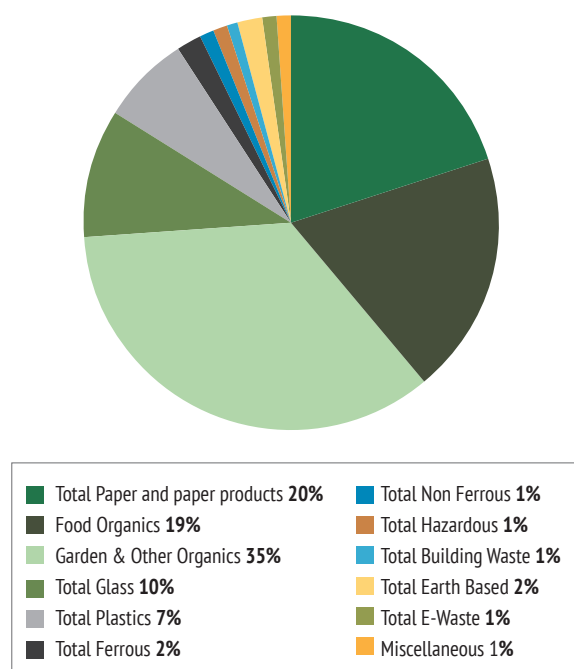
Council	Tonnes	
	2011-2012	2021-2022
Central Coast	190,296	218,840
Cessnock	29,368	33,579
Dungog	3,428	3,919
Lake Macquarie	88,354	101,023
Maitland	45,181	51,587
Muswellbrook	11,814	13,508
Newcastle	66,368	75,885
Port Stephens	37,340	42,694
Singleton	13,535	15,476
Upper Hunter	11,381	13,013
Total	451,929	569,524

Waste Composition

Residual MSW waste (i.e. all MSW that is disposed of at landfill) is primarily made up of material such as plastic, paper and compostable waste such as organic

garden and food waste. Over 70% of this waste is estimated as being able to be diverted – meaning it could either be recycled or recovered. Figure 4 shows the combined domestic residual waste composition for the nine Hunter councils based on audit data compiled from 2011 and provided by EPA.

Figure 4: Hunter Domestic Residual Waste Composition 2011/12



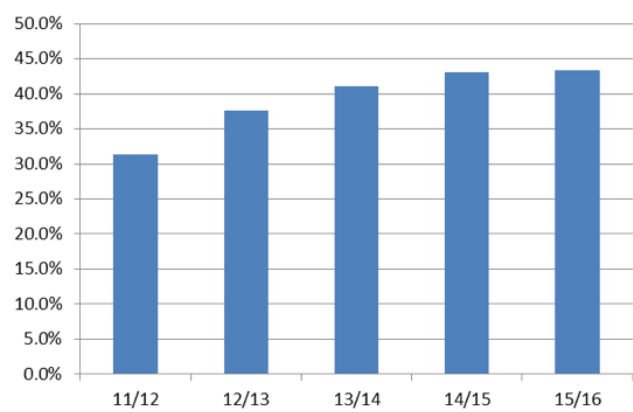
The baseline resource recovery performance in 2011-12 was 31%. The region is now recovering almost 44%.



WASTE PERFORMANCE ASSESSMENT

In the baseline year (2011-12) Hunter-Central Coast residents recycled and composted just over 31% of the waste they generated. Figure 5 details the total resource recovery rate from the baseline in 2011-12 to 2015/16 for all councils (including the metals and compost like output from the SUEZ ARRT facility for Port Stephens).

Figure 5 – Total Resource Recovery (including AWT) 2011/12 – 2015/16



There is still a large proportion of material in the kerbside waste bins that could be separated for recycling, and a number of Councils will implement new services in the coming years to capture these resources.

Lake Macquarie City Council plans to implement a Food Organics and Garden Organics (FOGO) collection system in 2017/18, and Maitland, Singleton and Cessnock Councils plan to enhance their new joint garden organics (GO) services, with a full FOGO service within 5-7 years.

In order to meet a NSW recycling target for MSW of 70% recycling there needs to be an increase in recycling performance. From a baseline performance in 2011-12 of 31% (including materials diverted via the SUEZZ ART Facility) meeting the 70% target will require diverting an additional 157,000 tonnes of municipal waste from landfill regionally.

WHERE DO WE WANT TO GET TO?

The ten councils of the Hunter/Central Coast waste region have developed a vision and strategic framework to guide waste management in the region. The framework groups activities into priority areas (themes) to clearly articulate actions and desired outcomes of the regional strategy.

VISION

To implement an evolving, adaptive and sustainable waste management system for the Hunter / Central Coast Region that uses resources more efficiently to benefit the whole community.

Based on the principle that all waste materials must be treated as valuable and finite resources. The region will utilise a 'whole of life cycle' approach to:

- deliver and advocate for a coordinated, integrated and consistent approach to waste planning and resource recovery
- manage waste as a valuable resource
- provide an efficient, cost effective and integrated network of services and infrastructure
- encourage innovative thinking and approaches to resource recovery
- ensure an integrated / holistic approach to compliance, enforcement and education on illegal waste disposal



THEMES

To deliver this vision, eight themes have been identified to address the range of activities that, when combined, will provide a clear direction for waste management until 2021 and beyond. Each theme has specific objectives and targets that set the framework for future waste management activity in the region

The planned annual reviews of the Action Plan and periodic review of this strategy recognises that actions will be progressively implemented and progress towards targets will take some time. Many of these are complementary to the NSW strategy and others also place a responsibility on the Hunter councils to lead by example in terms of their own internal waste management processes and to develop greater collaboration in the delivery of services.

THEME 1: AVOIDANCE AND WASTE REDUCTION

Objective	1a Reduce the generation of waste by supporting and enabling waste avoidance and reuse behaviours through community education, engagement and involvement
Target	Reduce waste generation per capita consistently to achieve a 4% reduction by 2021-22 from the 2011-12 baseline (KPI: kg/capita/year)

THEME 2: INCREASED RECYCLING

Objective	2a Maximise the volume and quality of material inputs in kerbside and drop-off collection systems 2b Improve understanding of waste stream composition 2c Recover maximum levels of food and garden organics 2d Increase the range of options and support available to community and businesses to recycle waste materials
Targets	Achieve a regional resource recovery rate for MSW of 70% by 2021-22 from a 2011-12 baseline

THEME 3: DIVERSION OF WASTE FROM LANDFILL

Objective	3a Maximise the volume and quality of material inputs in kerbside and drop-off collection systems 3b Improve understanding of waste stream composition 3c Recover maximum levels of food and garden organics 3d Increase the range of options and support available to community and businesses to recycle waste materials
Target	Achieve a landfill diversion rate of 75% by 2021-22 from a 2011-12 baseline

THEME 4: MANAGING PROBLEM HOUSEHOLD WASTES

Objective	4a Ensure adequate community access to the regional network of facilities that accept and manage problem wastes 4b To have an educated community on problem wastes and their management
Target	Provide facilities for core problem waste in all council areas by 2021-22

THEME 5: REDUCING LITTER

Objective	5a	Minimise the environmental, social and economic impacts of littering through community education, enforcement, deterrents and installation of appropriate infrastructure
	5b	Move towards a more strategic and integrated approach to litter prevention and management
Target	Reduce the volume of litter by 40% by 2020	

THEME 6: REDUCING ILLEGAL DUMPING

Objective	6a	Minimise the social, environmental and economic impacts of illegal dumping through community education, enforcement, installation of deterrents and clean-up activities
	6b	Support state initiatives and programs on illegal dumping
Target	Reduce illegal dumping incidents by 30% of the 2010-11 levels by 2020-21 RID targets: <ul style="list-style-type: none"> • 30% increase in clean-up costs paid for by offender • 30% decrease in problem waste incidents • 15% increase in PINs issued 	

THEME 7: GOVERNANCE AND LEADING BY EXAMPLE

Objective	7a	Consistent, regular and timely implementation of the Hunter WARR Strategy that facilitates ongoing collaboration and adaptive management.
	7b	Enhance a long-term and integrated planning, reporting and governance approach to waste management
	7c	Councils in the region show leadership through internal and external waste management strategies
	7d	Extend regional and sub-regional collaboration in procurement opportunities
	7e	Collect, collate and analyse data to support decision making
	7f	Manage overarching regional approaches to education and communications activities
	7g	Provide a regional branding platform for education and communication initiatives
Targets	Formally review the Regional Waste Strategy in 2021-22 Formally review Action Plan every year until 30 June 2021 Incorporate waste management into council Integrated Planning and Reporting Processes	

THEME 8: INFRASTRUCTURE AND PLANNING

Objective	8a	Best practice management of new and existing services and facilities
	8b	Optimise the long-term efficiency and capacity of waste management infrastructure and services across Hunter / Central Coast Councils
	8c	Land use planning integrates best practice resource recovery principles
Target	N/A	

HOW WILL THE REGION GET THERE?

ASSESS HOW TO DELIVER THE STRATEGIC FRAMEWORK

In order to achieve the region's vision for sustainable waste management in the Hunter / Central Coast Region, participating councils will work together to implement change.

The preferred approach to delivery of Themes 1 to 3 were considered through a formal options appraisal process during 2016, which assessed the extent to which different waste management options are able to meet the strategic objectives as well as considering other criteria such as cost, environmental impact, social and performance based criteria.

The options modeling and assessment process has therefore focused on how to achieve the objectives and targets set out against themes 1 – Avoidance and Waste Reduction, Theme 2 – Increased recycling and resource recovery and Theme 3 – Diversion of waste from landfill.

For delivery of objectives and targets relating to Themes 4, 5 and 6, options modeling and assessment has not been carried out. Instead, it is important to continue local policy and practice, further investigate opportunities for regional collaboration, adopt relevant elements of state policies, and put in place clear regional actions to deliver them. Progressing Themes 7 and 8 involves consideration of how councils can make changes to their own internal operations along with formal and informal ways in which the Hunter group of councils can work together to deliver services efficiently and provide consistent messages to householders and business regarding services.

LEARNINGS FROM 2014-17

Key stakeholders were interviewed as part of the strategy review process and the key achievements from the last four years of the regional coordination program were reported to be that:

- Both Mayors and GMs are committed to continuing to work on regional waste outcomes and that GMs have expressed confidence in regional projects
- Regional education staff and resources are seen to be valuable to all councils and a core part of the strategy
- The networking opportunities provided by HCED, through the many avenues offered, are well used and appreciated by councils

- In the Hunter region there is a lack of processing infrastructure, and without firm legislative drivers it has been difficult to make viable business cases for major changes to collection and processing systems. Collection contracts and systems need to be better aligned to take advantage of economies of scale relating to collection and processing infrastructure.

OPTIONS ASSESSMENT

As part of the original strategy development process and during delivery of the strategy during 2014-17, councils have identified a range of options and activities which will assist to achieve the strategy objectives and targets. These options are focused on activities which the councils have most ability to influence and primarily focus on the municipal waste streams.

These areas include:

- waste prevention
- provision of waste management collection infrastructure (kerbside collection and drop off)
- treatment and processing methods and technologies
- waste disposal

The options were also developed by taking the higher levels of the waste hierarchy into account, namely waste avoidance, reduction, reuse, and recycling. Focusing on these key areas will help to achieve the strategy priorities of reducing waste, increasing recycling and composting and diverting more waste from landfill.

The following options (Table 3) were modeled to understand the potential impact on delivery of the strategy objectives and targets. In particular they were assessed against their ability to impact on recycling performance, contribute to landfill diversion, cost and from an overall technical implementation perspective.

Management options were modeled to test the following parameters:

- current capacity of site infrastructure, in order to identify the 'trigger points' when system changes are required
- assess what improvement is potentially available to individual council and regional recycling rates and diversion from landfill rates
- impact of haulage cost from any additional transportation required for waste treatment

- impact of the waste levy costs across the regional levy area and metro levy area from any proposed options that will move tonnage across the waste management system and divert from landfill to other disposal options.

The baseline year for the modeling was 2014/15 and represented the available annual data set (at the time) for waste from kerbside container collections, clean-up service and self-haul waste. All scenarios are forecast up to and beyond the NSW EPA state targets set in 2020/21.

With these timescales it is prudent to incorporate any committed waste management changes into the comparable baseline position. This is called the 'Planned' scenario and includes the short term introduction of Garden Organics in three councils as well as the contract option for introducing Food Organics in 2025/26. As such all scenarios modeled are reported up to 2025/26 and incorporate the long-term impact of these changes. The other assumptions incorporated into the Planned baseline model are below. All of the assumptions for 'Planned' scenario have been applied to all subsequent scenarios. Please note that Central Coast Council was not included in the modeling work undertaken during the last strategy period.

Table 3 – Scenarios modelled in 2016 for contribution to strategy objectives and targets

Scenario	Description
Planned scenario	<p>Introduction of GO service in 2016/17 and FOGO in 2025/26 for: Cessnock, Maitland and Singleton</p> <p>Introduction of FO in the GO in 2018/19 for Lake Macquarie</p> <p>Closure of Maitland (Mount Vincent) landfill in 2017/18 keep as waste transfer station</p>
Option 1 – Upper Hunter Garden Organics Service	Upper Hunter introduce GO service in 2017/18 & Merriwa Landfill closes but remains as a Transfer Station
Option 1a – Muswellbrook Food organics and Garden Organics (FOGO) collection service and 1b Upper Hunter and Muswellbrook FOGO collection service	<p>Introduction of FO in the GO in 2018/19 for:</p> <ul style="list-style-type: none"> • Option 1a Muswellbrook • Option 1b Upper Hunter (based on Option 1) <p>All FOGO sent to Muswellbrook Organics facility</p>
Option 2 – Reduced residual bin size	<p>Reduced residual bin capacity in 2017/18</p> <p>Includes: Cessnock, Maitland, Singleton, Muswellbrook and Upper Hunter</p>
Option 3 – Introduction of EfW plant at Huntlee / Weston	<p>Direct all permitted residual waste to a new theoretical EFW plant in Huntlee in 2020/21.</p> <p>Includes: Cessnock, Maitland, Singleton and Lake Macquarie</p> <p>Note: NSW EPA policy document on EFW restricts the proportion of MSW residual waste permitted to be sent to EFW based on the collection services provided</p>
Option 4 – Introduction of EfW plant at Eraring	Direct all permitted residual waste to a new EFW theoretical plant in Eraring in 2020/21. Includes: Lake Macquarie and Newcastle
Option 4a – Combination EfW at Huntlee and Eraring	<p>Direct all permitted residual waste to a new theoretical EFW plant in Huntlee in 2020/21. Includes: Cessnock, Maitland, Singleton</p> <p>Direct all permitted residual waste to a new theoretical EFW plant in Eraring in 2020/21. Includes: Lake Macquarie and Newcastle</p>

Option 5 – Clean-up waste recovery	Direct all clean-up waste to individual council sites for processing for materials recovery in 2018/19. Includes councils with clean-up services: Dungog, Lake Macquarie, Muswellbrook, Newcastle, Port Stephens, Singleton and Upper Hunter
Option 6 – Targeting soft plastics in the dry-recycling bin	Target soft plastics in the dry recycling bin in 2018/19 for recovery through the MRF. Includes: All councils
Option 7 – Send residual waste to AWT	Residual to AWT facility at Newline Road in 2020/21. Includes: Cessnock, Dungog, Maitland, Singleton
Option 8 – Adjusted landfill capacity to account for C&I wastes	Adjust landfill volumes to deduct the annual tonnage of C&I or C&D waste not included in the model. Includes: Dungog, Lake Macquarie, Maitland, Muswellbrook, Newcastle, Singleton, Upper Hunter (Scone Landfill only)
Option 9 – Regional Education	Implementation of regional education program. Includes: All councils
Option 9a – Regional Education and Targeting soft plastics	Implementation of regional education program. Includes: All councils Target soft plastics in the dry recycling bin in 2018/19 for recovery through the MRF. Includes: All councils

REGIONAL AND LOCAL OUTCOMES

Based on the analysis of management options, the following was determined:

- Biggest cumulative regional gain for recycling – Option 7 Residual to AWT (reaching 52.5% in 2020/21)
- Biggest cumulative regional gain for landfill diversion – Option 4a Huntlee and Earraring EFW (reaching 58.9% in 2020/21)
- The best performing council scenario - Option 7: Maitland reached 72% recycling in 2020/21 with the use of AWT
- The worst performing council scenario – Option 5: Upper Hunter starting at 25% recycling and remained static

The above diversion assessments did not take into account system costs, it should be noted that the introduction of FOGO services to many councils will increase diversions and assist with managing costs to communities.

HOW WILL THE STRATEGY THEMES BE ADDRESSED?

This section provides a summary of how the different themes of the strategy will be delivered and is supported by a detailed Action Plan (Appendix C), to be reviewed annually, which sets out:

- the key actions required to deliver each objective
- who is going to be responsible for implementing the actions
- when the action will be implemented

THEME 1: AVOIDANCE AND WASTE REDUCTION

The delivery of this theme depends on four main elements:

1. raising awareness of problems associated with increasing waste generation levels
2. providing advice on how to avoid waste generation through the different decisions and choices about the things we buy and use
3. lobbying for extended product stewardship, manufacturing standards and other measures to avoid waste generation in manufacturing
4. providing opportunities for the reuse of items and materials which can not be avoided

Ways to prevent waste include:

- deciding not to upgrade products when existing ones still work
- not buying items that are heavily packaged, have a short lifespan or are 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
- composting organic food and garden waste at home

The options to help deliver the objectives under this theme are mainly based around communications and the provision of advice on specific waste streams, such as food waste, junk mail and electrical items.

In addition the development of a regional reuse and waste minimisation program can help in the provision of facilities that can support the reuse of materials (e.g. collaborating with Men Sheds or establishing re-use shops at waste management facilities) and improve industrial ecology. Supporting community organisations that are involved in these activities will also be important.

THEME 2: INCREASED RECYCLING

This theme is focused on seeking to maximise the amount of waste that is recycled. The options and actions related to this theme therefore include:

- increasing the performance of existing dry recycling and organic waste services, using targeted communications campaigns and collection and processing service improvements
- expanding the range of materials that can be collected for recycling, which is likely to focus on the collection of organics (both food and garden wastes)
- lobbying federal and state governments to diversify product stewardship schemes and increase target quotas for existing schemes

While these elements will provide the core activities to support this theme, there is a need to improve the data collected about recycling, particularly in relation to C&I and C&D streams, to allow performance to be benchmarked across the region and improvements to be identified. Improved data of materials capture rates and recognition rates would allow more effective targeting of communications and promotional campaigns to be designed - e.g. to focus on specific materials or areas where the collection system effectiveness can be improved.

The scenario assessment demonstrates that the improved performance of current systems combined with the addition of kerbside food and garden collection schemes can improve the regional recycling rate for MSW to approximately 52% in 2020/21.

THEME 3: DIVERSION OF WASTE FROM LANDFILL

Landfill diversion comes about as a result of a range of reuse, recycling and alternative waste treatment options, so activities identified under Themes 1 and 2 will all contribute to the targets under this theme. As a result, the objectives and actions under this theme complement the recycling initiatives already identified and are focused on specific activities that increase the opportunities to divert waste away from landfill, such as reuse shops at waste sites and supporting the development of new markets for recycled products.

In addition to reuse and recycling activities, alternative treatment technologies can provide a further opportunity to divert waste from landfill and recover resources. However, it is important that such technologies are considered with a full appreciation of the levels of reuse and recycling that can be achieved before residual waste is subjected to alternative treatments. This is because reuse and recycling will affect the composition and quantity of residual waste that may need to be treated. Therefore, the feasibility of alternative treatment technologies, such as waste to energy, will need to be considered after waste avoidance initiatives identified in Theme 1, the enhancement of reuse and recycling services

under Theme 2 have been implemented. In addition, the performance levels that can be achieved with technologies such as waste to energy are currently uncertain. Working towards the regional recycling target will make a significant contribution to achieving the landfill diversion target of 75% by 2021-22.

The analysis of options focused primarily on MSW. It is recognised that there is a role for the Hunter Joint Organisation of Councils to influence the amount of C&I and C&D material that is sent to landfill. The Environment Protection Authority can play an important role in improving the data on the amount and type of C&I and C&D material received at landfill sites and separated for recycling and recovery in the Hunter Region. There is also a role for the EPA and local councils to work with businesses to promote market development activities and industrial ecology opportunities.

THEME 4: MANAGING PROBLEM HOUSEHOLD WASTES

Problem household wastes can include paint, batteries, smoke detectors, fluorescent lamps, gas bottles, motor oils and fluids, and other toxic and hazardous household products. Problem household wastes can cause harm to human health and the environment if they are managed inappropriately. However, due to their nature they can be difficult to recycle and recover, and the cost of doing so can be uneconomic.

The strategy to manage these wastes is to increase the quantity that is separated from household residual waste and recycling streams, and ensure they are treated appropriately.

Hunter / Central Coast councils will continue to support NSW initiatives including:

- the development and upgrading of permanent drop-off facilities (three permanent facilities are operational with another six under construction)
- event-based collections for the low-volume, high-toxicity materials
- trialling alternative collection methods, such as mobile collection facilities

Hunter Joint Organisation of Councils will continue to look at opportunities to capture problem wastes both through local initiatives and regional collaboration.

THEME 5: REDUCING LITTER

Littering has a detrimental effect on the environment and can have a negative impact on community well-being. As a result, the regional strategy includes litter reduction as a core element of the strategy vision. Reducing littering is fundamentally a behavioural change issue (i.e. making littering socially unacceptable). The primary means the councils will use to bring about the required behaviour change are consistent with the Draft NSW Illegal Dumping Strategy 2017-21. These being:

- rewarding responsible behaviour
- education and awareness
- infrastructure
- regulation and enforcement
- evaluation and monitoring

A Regional Litter Plan and accompanying Regional Litter Implementation Plan was developed and approved by the EPA in 2016. The plan received the endorsement of all Council General Managers in the region. Initial funding was received to deliver the Regional Recreational Parks project and the Regional Litter Baseline Costings study (2017).

THEME 6: REDUCING ILLEGAL DUMPING

Illegal dumping can cause serious pollution, harm to human health and major detriment to local amenity. It can range from the dumping of household rubbish to the large scale disposal of C&I and C&D wastes. Quantifying the true extent of illegal dumping is difficult because, as it is an illegal activity, it is often carried out in remote and secluded locations, which in turn, means incidents are often only identified well after the dumping has occurred, having implications for enforcement.

The Hunter Region was identified in the NSW WARR Strategy as one of the regions to reduce the incidence of illegal dumping. As a result the Hunter / Central Coast RID Squad was instigated in 2014, and has received funding to continue until 2021.

Both the RID Squad and participating Hunter / Central Coast councils will continue to review data on illegal dumping to identify local initiatives for reducing illegal dumping and opportunities for regional collaboration. Port Stephens Council will continue to deliver its Illegal Waste Compliance Project.

THEME 7: GOVERNANCE AND LEADING BY EXAMPLE

The implementation of the strategy needs to be clearly structured and managed to ensure the objectives and targets are delivered in line with the Action Plan. Participating Hunter councils are committed to the successful implementation of elements of the strategy that align with their individual waste strategies and programs. Clear governance procedures setting out roles, responsibilities and commitments of each to the constituent councils are required. Therefore it is key for a successful implementation, that the partnership between the ten councils is defined and the resources each council can commit to particular regional actions are clearly identified.

Alongside sound governance arrangements, there is a need for the councils to lead by example and make sure that their procedures, actions and behaviours are consistent with the strategy vision, in particular with regards to delivering a “sustainable waste management system” and “using resources more efficiently”. The councils will, therefore, develop systems to ensure that sustainable resources management principles are built into the councils’ future procurement and purchasing decisions.

In addition, the councils will continue to implement waste avoidance and recycling schemes across their operations with an objective to meet recycling and waste diversion targets in line with those for the broader strategy targets.

THEME 8: INFRASTRUCTURE AND PLANNING

The scenario modelling process undertaken in 2016 identified that there may be opportunities to work together to provide landfill and organics processing capacity across the region. This will be explored further as part of a more detailed feasibility assessment.

Councils will be provided support to implement best practice management of new and existing services and facilities, and the long-term efficiency and capacity of waste management infrastructure and services will be optimized. Plans for new facilities will be developed and the delivery of existing facility masterplans will be supported.

Land use planning that integrates best practice resource recovery principles and integrates regional approaches with state-wide better practice policies and guidelines will be supported. Improved planning for waste management during natural disasters will be developed and implemented. A collaborative approach to gaining funding for new strategically planned infrastructure will be rolled out.

Councils will be supported to make positive changes to work practice through capacity building programs aimed at operational and management staff.

HOW TO MEASURE SUCCESS?

Over the lifetime of this strategy the participating regional councils will implement relevant elements of the Action Plan and work with the community, businesses and industry to help them achieve the vision and objectives within this strategy. This may include establishing new 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.

Some initiatives will be quicker and easier to track and identify success factors than others.

Monitoring of how we have performed against delivery of the vision and objectives in the strategy will take place on an annual basis according to the following set of

performance indicators (Table 4). Data will be collected and calculated in accordance with state or federal requirements where relevant and in a consistent manner across the participating councils. In some cases data will be required from other sources, such as the NSW EPA, to enable the performance indicators to be calculated.

The performance against these indicators will be monitored by each council and reported annually to the Regional Coordinator and member councils¹³ in line with existing state and federal reporting requirements.

The Strategy and Action Plan was externally evaluated and collaboratively reviewed in 2016/17, and will be reviewed again in 2020/21. The Action Plan will be reviewed on an annual basis.



Table 4 – Key performance measures proposed to track progress against strategy targets

TOPIC	INDICATOR	UNIT/METRIC
Household Waste Generation	Amount of household waste generated per person	Kg per capita per year
Total Waste Landfilled	Total Waste to Landfill	Total Tonnage
Recycling Rate (MSW)	Proportion of waste recycled	% of waste generated that is recycled per year
Recycling Rate (C&I, C&D)	Proportion of waste recycled	% of waste generated that is recycled per year
Landfill Diversion	Proportion of waste diverted from landfill	% of waste diverted from landfill per year
Problem Waste	Provision of Problem Waste facilities	Number of facilities provided
Litter Reduction	Volume of litter items	To be determined
Illegal Dumping	Number of illegal dumping incidents, increase in clean-up costs paid for by offender, decrease in problem waste incidents and increase in PINs issued	Number of illegal dumping incidents reported per year Increase in clean-up costs paid for by offender per year Decrease in problem waste incidents per year Increase in PINs issued per year
Recycling rate (Council operations)	Proportion of waste recycled	% of waste recycled per year



APPENDIX A - GLOSSARY OF TERMS

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).
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 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 usable 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).
Gap analysis	An assessment of current performance against required performance (targets) and quantification of the shortfall. As part of the Gap Analysis, there is an identification of what measures need to be implemented to address the gap in performance.
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. The Green lidded bin may also be used for food waste depending on the facility where the materials are taken for processing and the availability of downstream markets for the processed materials.
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 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 generally will be landfilled.
Municipal solid waste (MSW)	Solid waste from households and local government operations, including waste placed at the kerbside for council collection and waste collected by councils from municipal parks and gardens, street sweepings, council engineering works and public council 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	Proportion of an overall waste stream which is reprocessed, recycled and put back into the economy.
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):

- 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) $\text{Waste generation} = \text{Landsteed} + \text{Diverted}$ (Total recycled, reused or reprocessed).

Waste management system

Waste materials from MSW, C&I and C&D sectors that are collected kerbside, recovered from the waste stream for recycling or energy recovery or disposed to landfill.

Yellow 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 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.

APPENDIX B - DATA TABLES

Table B1: 2016-17 Council Kerbside Collection Services

COUNCIL NAME	SERVICE	COLLECTION	PRIMARY BIN SIZE (L)#	OPERATOR
Central Coast	Residual	Weekly	120 / 140	Remondis
	Recycling	Fortnightly	240 / 360	Remondis
	Garden Organic	Fortnightly	240	Remondis
	Clean-up	6 x on-call clean-ups per annum (maximum 2 cubic metres)		
Cessnock	Residual	Weekly	240	Cessnock
	Recycling	Fortnightly	240 / 360	Solo
	Garden Organic	Fortnightly	240	Solo
	Food Organic	N/A	N/A	N/A
	Clean-up	4 x vouchers per household p.a. (500kgs each)		
Dungog	Residual	Weekly	240	JR Richards
	Recycling	Fortnightly	240	JR Richards
	Garden Organic	N/A	N/A	N/A
	Food Organic	N/A	N/A	N/A
	Clean-up	N/A	N/A	JR Richards
Lake Macquarie	Residual	Weekly	240/140	Lake Macquarie
	Recycling	Fortnightly	140/240/360	Solo
	Garden Organic	Fortnightly	140/240	Solo
	Food Organic	N/A	N/A	N/A
	Clean-up	6 monthly	N/A	Lake Macquarie
Maitland	Residual	Weekly	240	Maitland
	Recycling	Fortnightly	240	Solo
	Option 360	Solo	N/A	N/A
	Garden Organic	Fortnightly	240	Solo
	Clean-up	1 x voucher p.a. (400kgs)		
Muswellbrook	Residual	Weekly	140	JR Richards
	Recycling	Fortnightly	240	JR Richards
	Garden Organic	Fortnightly	240	JR Richards
	Food Organic	N/A	N/A	N/A
	Clean-up	N/A	N/A	JR Richards
Newcastle	Residual	Weekly	140	Newcastle
	Recycling	Fortnightly	240	Solo
	Garden Organic	Fortnightly	240	Newcastle
	Food Organic	N/A	N/A	N/A
	Clean-up	Self haul voucher or on-call	N/A	Newcastle

Table B1: 2016-17 Council Kerbside Collection Services

COUNCIL NAME	SERVICE	COLLECTION	PRIMARY BIN SIZE (L)#	OPERATOR
Port Stephens	Residual	Weekly	240	SUEZ
	Recycling	Fortnightly	240 Option for 360	Collection SUEZ Processing SOLO
	Garden Organic	Annual	N/A	N/A
	Food Organic	N/A	N/A	N/A
	Clean-up	On call	N/A	SUEZ
Singleton	Residual	Weekly	240	Transpacific
	Recycling	Fortnightly	240 Optional 360	Solo
	Garden Organic	Fortnightly	240	Solo
	Food Organic	N/A	N/A	N/A
	Clean-up	Annual	N/A	Transpacific
Upper Hunter	Residual	Weekly	240	Transpacific and JJ Richards
	Recycling	Fortnightly	240	JJ Richards
	Garden Organic	N/A	N/A	N/A
	Food Organic	N/A	N/A	N/A
	Clean-up	N/A	N/A	N/A

A range of other bin sizes are also available

Table B2 Waste management sites within the Region

	NAME	LOCATION	TYPE OF MATERIAL SENT	REMAINING CONTRACT TERM/ FACILITY LIFE
Landfill	Buttonderry Waste Management Facility	Hue Hue Road, Jilliby	Residual Waste	50+ years
	Cessnock Waste & Reuse Centre	Old Maitland Rd Cessnock	Residual Waste	2.5 years
	Dungog Waste Facility	Short Street Dungog	Residual Waste	18 years
	Awaba Waste Management Facility	Wilton Road Lake Macquarie	Residual Waste	3 years
	Mt Vincent Road Waste Management Centre	Mt Vincent Road Maitland	Residual Waste	2 years
	Muswellbrook waste management facility	Muswellbrook	Residual Waste	20 years
	Summerhill Waste Management Centre	141 Minmi Road Newcastle	Residual Waste	50 years
	Singleton Waste Depot	53 Dyring Road Singleton	Residual Waste	50 years
	Scone Waste Facility	Noblet Rd, Scone	Residual	TBC
	Woy Woy Waste Management Facility	Nagari Road, Woy Woy	Residual Waste	17 years

Table B2 Waste management sites within the Region (cont)

	NAME	LOCATION	TYPE OF MATERIAL SENT	REMAINING CONTRACT TERM/ FACILITY LIFE
	Aberdeen Waste Facility	Wells Gully Rd, Aberdeen	Residual	TBC
	Merriwa Waste Facility	Depot Rd, Merriwa	Residual	10 years
	Murrurundi Waste Facility	Paradise Ln, Murrurundi	Residual	2-3 years
Transfer/ bulking	Muswellbrook waste management facility	Muswellbrook	Residual Waste and Dry Recycling	N/A
	Denman Transfer station	Rosemont Rd Muswellbrook	Residual Waste and Dry Recycling	N/A
	Greta Transfer station	Holingshed St, Greta	Residual Waste	N/A
	Kincumber Waste Transfer Station	-	Residual waste Dry Recycling Vegetation	N/A
	Weston Organics Transfer Station	2-6 Styles St Weston, NSW	Vegetation for recycling	N/A
	Salamander Bay Waste Transfer Station	Tarrant Rd, Port Stephens	Residual Waste and Dry Recycling	N/A
	Cassilis Transfer Station	Golden HWY, Cassilis	Residual waste and dry recycling	N/A
	Gateshead MRF	Oakdale Rd Lake Macquarie	Dry Recycling	Contract finish June 2023
Organics	Awaba Green Waste Processing (Remondis)	Wilton Road Lake Macquarie	Garden waste to vegetation for recycling	New facility under construction
	ANL processing facility (accepts vegetation from Cessnock, Maitland and Singleton)	Pindimar Road, Tea Gardens	Vegetation for recycling	2023
Alternative Waste Treatment	SUEZ ARRT Facility	Newline Road, Raymond Terrace	Residual	Current PSC contract until 2027

APPENDIX C – REGIONAL ACTION PLAN

THEME 1 - WASTE AVOIDANCE, REUSE AND REPAIR

TARGET:

Reduce waste generation per capita consistently to achieve a 4% reduction by 2021-22 from the 2011-12 baseline (KPI: kg/capita/year)

OBJECTIVE

1. Reduce the generation of waste by supporting and enabling waste avoidance and reuse behaviours through community education, engagement and involvement

Proposed actions	Lead	Support	Funding	Which Years
1.1.1 Design and deliver regional education and communications campaigns that incorporate waste avoidance, reuse and/or repair behaviours.	Shared lead - Hunter Councils and Councils	N/A	Regional Coordination Support Fund, Regional BWRP	Ongoing
1.1.2 Deliver local community education workshops on reuse, repair and upcycling	Participating Councils	Hunter Councils	Council resources, WLRM grant streams	Year 1 - 2017/18 and Year 2- 2018/19
1.1.3 Develop and implement a regional program to promote reuse through existing charities, businesses and on-line platforms	Hunter Councils	Councils	Regional Coordination Support Fund, Regional BWRP	Ongoing
1.1.4 Support (promote) the concepts of the circular economy and industrial ecology	Hunter Councils	Participating Councils	Regional Coordination Support Fund, Regional BWRP	Ongoing
1.1.5 Support (promote) local community based resale, repair and reuse initiatives	Participating Councils	Hunter Councils	Regional Coordination Support Fund, Regional BWRP, Council resources	Ongoing
1.1.6 Partner with SSROC to include Hunter / Central Coast in the Sydney Community Recycling Network (covers Hunter to Illawarra and Blue Mountains)	Hunter Councils and SSROC	Participating councils	Regional Coordination Support Fund, Regional BWRP	Year 1 - 2017/18
1.1.7 Incorporate waste avoidance and reuse into council internal waste management initiatives	Participating Councils	Hunter Councils	Council resources	Ongoing

THEME 2 - INCREASED RECYCLING

TARGET:

Achieve a regional resource recovery rate for MSW of 70% by 2021-22 from a 2011-12 baseline

OBJECTIVE

2.1 Maximise the volume and quality of material inputs in kerbside and drop-off collection systems

Proposed actions	Lead	Support	Funding	Which Years
2.1.1 Design and deliver regional education and communications campaigns that incorporate improved recycling behaviours.	Shared lead - Hunter Councils and Councils	N/A	Regional Coordination Support Fund, Regional BWRP	Ongoing
2.1.2 Provide an option for the uptake of 360L recycling bins across the region where introduction has been planned	Participating Councils	Hunter Councils	Council resources	2017/18 onwards
2.1.3 Annually review pricing structures and price signals at landfills as an incentive to recycling, resource recovery and diversion	Councils	Hunter Councils	Council resources	Annual
2.1.4 Implement effective signage, education and communications systems to maximise resource recovery at transfer stations and other drop-off facilities	Councils	Hunter Councils	Council resources, WLRM grant funding	2017/18 onwards

OBJECTIVE

2.2 Improved understanding of waste stream composition

Proposed actions	Lead	Support	Funding	Which Years
2.2.1 Provide copies of waste and recycling composition audits for use in regional modelling activities	Councils	Hunter Councils	Council resources	2017/18 and annual
2.2.2 Confirm a standardised regional waste and recycling bin composition methodology (all bins), that incorporate CDS, EfW calorific components and public place litter and recycling bins	Hunter Councils	Participating Councils, EPA	Regional BWRP 18/19	2017/18
2.2.3 Utilise standardised regional audit methodology in local audits conducted 2017-21, and consider sub-regional procurement processes	Participating Councils	Hunter Councils	Regional Coordination Support Fund, Regional BWRP, WLRM grants	2017-21

OBJECTIVE

2.3 Recover maximum levels of food and garden organics

Proposed actions	Lead	Support	Funding	Which Years
2.3.1 Develop or strengthen partnerships with other states, regions, Councils, and industry associations to strengthen market confidence and/or develop markets for recovered resources (recyclables and organics)	Hunter Councils, EPA	Councils, Waste Regions	Regional Coordination Support Fund, Regional BWRf, WLRM grants	Ongoing
2.3.2 Individual Councils to commence introduction of FOGO kerbside collection services (where included in collection contracts)	Councils	Hunter Councils	Council resources	2017/18 and ongoing
2.3.3 Investigate opportunities for sub-regional partnerships and contracts for the provision of organics collections services where proposed in current local waste strategies	Participating Councils	Hunter Councils, Councils	Council resources	2017/18 and ongoing
2.3.4 Provide peer-to-peer support on learnings from planning and implementing FOGO collection services	Participating Councils	Hunter Councils, Councils	Regional Coordination Support Fund, Regional BWRf, Council resources	2017/18 and ongoing

OBJECTIVE

2.4 Increase the range of options and support available to community and businesses to recycle waste materials

Proposed actions	Lead	Support	Funding	Which Years
2.4.1 Provide advice and support to business and industry on recycling and resource recovery initiatives that improve their recycling performance	Councils	Hunter Councils	Council resources	Ongoing
2.4.2 Promote Councils' recycling services to businesses to encourage participation	Councils	Hunter Councils	Council resources	Ongoing
2.4.3 Assess and expand public place recycling opportunities where possible	Councils	Hunter Councils	Council resources	Ongoing
2.4.4 Review ongoing ramifications of CDS implementation processes on kerbside recycling and local infrastructure requirements	Hunter Councils	EPA, Councils	Regional Coordination Support Fund, Regional BWRf, Council resources	2017/18 onwards

THEME 3 - DIVERSION OF WASTE FROM LANDFILL

TARGET:

Achieve a landfill diversion rate of 75% by 2021-22 from a 2011-12 baseline

OBJECTIVE

3.1 Expand the diversion of all types of waste from landfill through education, alternative technology, efficiency gains and innovation

Proposed actions	Lead	Support	Funding	Which Years
3.1.1 Design and deliver regional education and communications campaigns that incorporate landfill diversion related behaviours.	Shared lead - Hunter Councils and Councils	N/A	BWRF 18/19	Ongoing
3.1.2 Promote existing waste and recycling directories for business / industry which emphasise waste to resource connectivity (Industrial Ecology)	Hunter Councils	Councils	Regional Coordination Support Fund	2018/19
3.1.3 Undertake research and report on new and emerging AWT opportunities, particularly waste to energy technologies	Hunter Councils	Councils	Regional Coordination Support Fund	Ongoing
3.1.4 Deliver e-waste recycling collections where viable	All councils	Hunter Councils	NTCRS, Council resources	Ongoing

OBJECTIVE

3.2 Enhance resource recovery in bulky waste collection services

Proposed actions	Lead	Support	Funding	Which Years
3.2.1 Improve efficiency and diversion of materials from bulk waste (clean-up) services	Councils	SSROC, Hunter Councils	Regional Coordination Support Fund	17/18 and ongoing if successful
3.2.2 Undertake local reviews of bulky waste collection services (clean-up) where planned	Participating Councils	Hunter Councils	Council resources	As planned

THEME 4 - PROBLEM WASTES

TARGET:

Provide facilities for core problem wastes in all council areas by 2021-22

OBJECTIVE

4.1 Ensure adequate community access to the regional network of facilities that accept and manage problem wastes

Proposed actions	Lead	Support	Funding	Which Years
4.1.1 Continue to expand the number of CRC facilities across the regional network to appropriately service the community	Councils	Hunter Councils	WLRM - Problem Waste grants	Ongoing
4.1.2 Advocate on behalf of Councils to expand the number of EPA Funded CRC facilities beyond one per LGA (where required) - including the potential for mobile CRC collections	Hunter JO Board	Hunter Councils, Councils	Regional Coordination Support Fund	17/18 - 18/19
4.1.3 Continue to expand the number of, and access to, localised community recycling stations (CRS) in each LGA	Councils	EPA, Hunter Councils	WLRM problem waste grants	Ongoing
3.1.4 Deliver e-waste recycling collections where viable	All councils	Hunter Councils	NTCRS, Council resources	Ongoing

OBJECTIVE

4.2 To have an educated community on problem wastes and their management

Proposed actions	Lead	Support	Funding	Which Years
4.2.1 Partner to deliver regional education and communications campaigns that enhance understanding about, and separated recovery of, problem wastes.	Shared lead - Hunter Councils and Councils	N/A	Regional BWRP 18/19	Ongoing
4.2.2 Collaboration between Councils, Hunter Councils and EPA to coordinate annual phasing of Chemical CleanOut and other drop-off events	Councils	EPA, Hunter Councils	Regional Coordination Support Fund	17/18 - 20/21
4.2.3 Develop and promote a regional calendar of all local significant special waste collection events	Shared lead - Hunter Councils and Councils	N/A	Regional Coordination Support Fund, Regional BWRP	Annual
4.2.4 Partner with Hunter/Central Coast RID Squad to deliver compliance program to minimise illegal dumping of problem wastes	Hunter Councils, Hunter / CC RID Squad	Councils	Regional Coordination Support Fund, RID Squad	Ongoing

THEME 5 - REDUCING LITTER

TARGET:

Reduce the volume of litter by 40% by 2020

OBJECTIVE

5.1 Minimise the environmental, social and economic impacts of littering through community education, enforcement, deterrents and installation of appropriate infrastructure

Proposed actions	Lead	Support	Funding	Which Years
5.1.1 Research innovative technology and infrastructure approaches to litter management	Hunter Councils	Councils	Regional Coordination Support Fund	Ongoing
5.1.2 Trial innovative technology and infrastructure approaches to litter management	Councils	Hunter Councils	WLRM L-RIP	2017/18 and ongoing
5.1.3 Design and deliver local programs that maximise ongoing community participation in litter collection and prevention	Councils	Hunter Councils	Council resources	Ongoing
5.1.4 Develop a regional approach to programs such as CUAD, that enables councils to manage program risk outside of planned annual events	Hunter Councils, Participating Councils		Regional Coordination Support Fund	2018/19

OBJECTIVE

5.2 Move towards a more strategic and integrated approach to litter prevention and management

Proposed actions	Lead	Support	Funding	Which Years
5.2.1 Progressively implement and revise the Regional Litter Plan to allow for applications to targeted regional funding	Hunter Councils	Councils	WLRM L-RIP grants	2017/18 and ongoing
5.2.2 Advocate to state government to align state, regional and local litter strategy, planning and policy approaches including NSW CDS	Hunter JO Board	Hunter Councils, Councils	Regional Coordination Support Fund	Ongoing
5.2.3 Collaborate on community based programs such as Clean Up Australia Day, Adopt a Road and waterway litter control programs	Participating Councils	Hunter Councils	Council resources	Annually
5.2.4 Undertake a regional litter baseline study to identify the cost of managing litter across the region	Hunter Councils	EPA, Councils	WLRM L-RIP grants	2017/18
5.2.5 Implement an integrated regional approach to litter prevention that encompasses incentives, education and awareness, enforcement, infrastructure and monitoring components	Hunter Councils	Councils	WLRM L-RIP grants	Ongoing

THEME 6 - ILLEGAL DUMPING

TARGET

1. Reduce illegal dumping incidents by 30% of the 2010-11 levels by 2020-21

2. RID targets: 30% increase in clean-up costs paid for by offender; 30% decrease in problem waste incidents; 15% increase in PINs issued
Reduce the volume of litter by 40% by 2020

OBJECTIVE

6.1 Minimise the environmental, social and economic impacts of illegal dumping through community education, enforcement installation of deterrents and clean-up activities

Proposed actions	Lead	Support	Funding	Which Years
6.1.1 Develop and deliver a community engagement program focussing on social responsibility for waste and community reporting of illegal dumping, that complements the compliance focus of the RID Squad and other council initiatives to combat illegal dumping.	EPA, Hunter Councils	RID Squad, Hunter Councils, Councils	Regional Coordination Support Fund	Ongoing

OBJECTIVE

6.2 Support state initiatives and programs on illegal dumping

Proposed actions	Lead	Support	Funding	Which Years
6.2.1 Deliver a collaborative regional illegal dumping compliance program through the Hunter / Central Coast RID squad and the PSC Illegal Waste Program	RID Squad, PSC	Hunter Councils	Regional Coordination Support Fund	2017/18 - 20/21
6.2.2 Provide regular data on local and regional illegal dumping incidents to Hunter Councils and EPA for modelling and management purposes	EPA, RID Squad, Councils	Hunter Councils	RID funding	Ongoing
6.2.3 Support an integrated approach to illegal dumping that encompasses building an evidence base, engagement and capacity building, education and awareness, prevention infrastructure and clean-up, regulation and enforcement, evaluation and monitoring	Hunter Councils, RID Squad, participating Councils	N/A	Regional Coordination Support Fund, RID funding	2017/18 - 20/21
6.2.4 Collaborate with the RID Squad to ensure data is readily available and accessible for EPA reporting purposes and Council updates	Hunter Councils	RID Squad	Regional Coordination Support Fund	2017/18 - 20/21

THEME 7 - GOVERNANCE

OBJECTIVE

7.1 Consistent, regular and timely implementation of the Hunter WARR Strategy that facilitates ongoing collaboration and adaptive management.

Proposed actions	Lead	Support	Funding	Which Years
7.1.1 Submit administrative reports and updates to EPA on the Regional Coordination Support Fund (Hunter / CC WARR Strategy Actions) and the Regional Better Waste and Recycling Program as required	Hunter Councils	EPA, Councils	Regional Coordination, Regional BWRP	ongoing
7.1.2 Review Waste Strategy Group Terms of Reference and update when required	Hunter Councils	Councils	Regional Coordination Support Fund	Year 1 - 2017/18
7.1.3 Develop and implement a monitoring and evaluation plan for use in annual action plan review and formal review in 2020/21	Hunter Councils	Councils	Regional Coordination Support Fund	Year 1 - 2017/18
7.1.4 Facilitate and administer meetings of the Waste Strategy Group (WSG), Hunter Waste Educators Group (HWEG) and other working groups as required	Hunter Councils	Councils	Regional Coordination Support Fund	Ongoing / quarterly
7.1.5 Facilitate the ongoing participation of relevant EPA staff at regional meetings as required	Hunter Councils	EPA, Councils	Regional Coordination Support Fund	Ongoing / quarterly
7.1.6 Provide regular updates to GMAC / JO Board on progress to Strategy actions	Hunter Councils	Councils	Regional Coordination Support Fund	monthly
7.1.7 Undertake research on regions similar to the Hunter/Central Coast to identify and assess successful and transferable approaches to maximising resource recovery rates	Hunter Councils	Councils	Regional Coordination Support Fund	Year 2 - 2018/19
7.1.8 Undertake research to identify recycled organics market development and inter-agency collaboration opportunities in the Region	Hunter Councils	EPA, LLS, Councils	Regional Coordination, Regional BWRP	Ongoing
7.1.9 Develop regional submissions on new / amended policy and legislation as agreed	Hunter Councils	Councils	Regional Coordination Support Fund	Ongoing
7.1.10 Extend the collaborative regional approach to all strategy themes in order to strengthen and support targeted grant applications to all Waste Less Recycle More funding streams	Hunter Councils	Councils	WLRM - all streams	Ongoing
7.1.11 Provide Council BWRP project summaries annually and copies of WLRM grant submissions if required	Councils	Hunter Councils	Regional Coordination, Regional BWRP	Annual, as submitted

OBJECTIVE

7.2 Enhance a long-term and integrated planning, reporting and governance approach to waste management

Proposed actions	Lead	Support	Funding	Which Years
7.2.1 Assess and apply the NSW EPA Waste Infrastructure Needs Analysis to inform the future infrastructure needs of the Hunter / CC region	Hunter Councils	Councils, EPA	Regional BWRP	Year 1 onwards
7.2.2 Develop standard regional parameters (lens) for use in council integrated reporting and planning frameworks	Hunter Councils	Councils	Regional Coordination Support Fund	July 2018 and ongoing
7.2.3 Incorporate standard regional waste parameters into relevant council documents	Councils	Hunter Councils	Regional Coordination Support Fund	July 2018 and ongoing
7.2.4 Review waste service contract finish dates and alignment - identify opportunities for joint procurement/collaboration on services	Hunter Councils	Councils	Regional Coordination Support Fund	Dec-17
7.2.5 Extend regional modelling for infrastructure, service provision and aggregation requirements	Hunter Councils	Councils	Regional Coordination, Regional BWRP	July 2018 and ongoing

OBJECTIVE

7.3 Councils in the region show leadership through internal and external waste management strategies

Proposed actions	Lead	Support	Funding	Which Years
7.3.1 Develop and implement strategies to minimise internal Council waste generation and maximise resource recovery, including whole-of-council internal waste management costings and governance frameworks	Councils	Hunter Councils	Regional Coordination Support Fund Council resources	Ongoing
7.3.2 Facilitate peer to peer support to enable all councils to develop internal resource recovery practices, including whole-of-council internal waste management costings and governance frameworks	Hunter Councils	Participating Councils	Regional Coordination Support Fund Council resources	Year 2 - 18/19 onwards
7.3.3 Investigate opportunities for increased use of recycled organics in council operations	Councils	Hunter Councils	Regional Coordination, Regional BWRP, Council resources	Ongoing
7.3.4 Develop and implement local Council waste strategies	Councils	Hunter Councils	Council core funding	Year 1 - 17/18 and ongoing

OBJECTIVE

7.4 Extend regional and sub-regional collaboration in procurement opportunities

Proposed actions	Lead	Support	Funding	Which Years
7.4.1 Facilitate (or support) the development of equitable regional and sub-regional procurement opportunities across all waste streams	Hunter Councils	Councils	Regional Coordination Support Fund	Ongoing
7.4.2 Participate in regional and sub-regional procurement opportunities across all waste streams (including problem wastes)	Councils	Hunter Councils	Regional Coordination, Regional BWRf, Council resources	Ongoing
7.4.3 Support regional participation in product stewardship programs across all waste streams	Hunter Councils	Councils	Regional Coordination, Regional BWRf, Council resources	Ongoing
7.4.4 Investigate potential for alignment of collective disposal, recovery or recycling arrangements for CRC waste post 2021.	Hunter Councils	Councils	Regional Coordination Support Fund	Year 4 - 2020/21

OBJECTIVE

7.5 Collect, collate and analyse data to support decision making

Proposed actions	Lead	Support	Funding	Which Years
7.5.1 Provide s88 reports monthly and WARR reports annually to Regional Coordinator	Councils	Hunter Councils	Council internal	Ongoing
7.5.2 Continue monthly and annual collection, collation and analysis of municipal waste and recycling data and plan for improved capture of waste management data from all sources (including C&D and C&I waste)	Hunter Councils	Councils, EPA	Regional Coordination Support Fund	Ongoing
7.5.3 Collate and review data on problem wastes annually	Hunter Councils	Councils	Regional Coordination, Regional BWRf, Council core funding	August annually
7.5.4 Provide annual data reports and analysis in appropriate format to Councils	Hunter Councils	Councils	Regional Coordination Support Fund	October annually
7.5.5 Investigate opportunities to analyse, model, interpret and visualise data within the region in collaboration with the state government, other regions and tertiary institutions	Hunter Councils	EPA, Regions, Councils	Regional Coordination, Regional BWRf	Ongoing
7.5.6 Use data as evidence to support targeted local and regional WLRM grant applications across all Strategy Themes	Joint lead - Hunter Councils and Councils	N/A	Regional Coordination, Regional BWRf, Council core funding	Ongoing
7.5.7 Revise data strategy and work with members to ensure the ongoing collection, provision and evolution of all data management requirements	Hunter Councils	Councils	Regional Coordination Support Fund	Year 1 - 2017/18

OBJECTIVE

7.6 Manage overarching regional approaches to education and communications activities

Proposed actions	Lead	Support	Funding	Which Years
7.6.1 Ensure effective alignment and linkages between state-wide, regional and local education and communications campaigns.	Hunter Councils	EPA, Councils	Regional Coordination Support Fund	Ongoing
7.6.3 Annually review and revise communications and education campaigns to ensure they are achieving the desired behaviour change	Hunter Councils	Councils	Regional and Council	July 18, 19, 20, 21
7.6.4 Review and share key learnings of EPA social research into behaviour change (including Who Cares about the Environment - 2015) to assess need for targeted social research in the region	Hunter Councils	Councils	Regional BWRP	2017/18
7.6.5 Develop and deliver targeted region-wide social research and monitoring on waste related behaviour change parameters	Hunter Councils	Councils	Regional BWRP	2018/19
7.6.6 Ensure effective linkages and alignment between state-wide, regional and local education and communications campaigns	Hunter Councils	EPA, Councils	Regional Coordination Support Fund	Ongoing
7.7.1 Resource the Small Acts Big Change (SABC) website and online social media presence	Hunter Councils	Participating Councils	Regional Coordination, Regional BWRP	Ongoing
7.7.2 Support councils to develop, disseminate and evaluate regionally relevant education and communications materials and resources	Hunter Councils	Councils, Working Groups, RID Squad	Regional Coordination, Regional BWRP	Ongoing
7.7.3 Deliver local education and communications programs across all strategy themes	Councils	Hunter Councils	Council resources and WLRM grant streams	Ongoing

THEME 8 - INFRASTRUCTURE AND PLANNING

OBJECTIVE

8.1 Best practice management of new and existing services and facilities

Proposed actions	Lead	Support	Funding	Which Years
8.1.1 Advocate to state government to align state, regional and local infrastructure planning and policy approaches	Hunter JO Board	EPA, Hunter Councils, Councils	Regional Coordination Support Fund	2017/18
8.1.2 Develop regional submissions on new / amended policy and legislation where required	Joint lead - Hunter Councils and Councils	N/A	Regional Coordination Support Fund	Ongoing
8.1.3 Apply best endeavours to comply with all relevant EPA guidelines and licencing requirements for waste and resource recovery facility management	Councils	EPA, Hunter Councils	Regional Coordination Support Fund	Ongoing
8.1.4 Support Councils to implement management practices at waste and resource recovery facilities that maximise compliance with EPA guidelines and Environmental Protection Licences	Hunter Councils	EPA, Councils	Regional Coordination Support Fund	Ongoing
8.1.5 Support Councils to implement management practices for closed landfills that maximise compliance with EPA guidelines and Environmental Protection Licences	Hunter Councils	EPA (Hunter), Councils	Regional Coordination Support Fund	2017/18

OBJECTIVE

8.2 Optimise the long-term efficiency and capacity of waste management infrastructure and services across Hunter / Central Coast Councils

Proposed actions	Lead	Support	Funding	Which Years
8.2.1 Liaise with EPA to create shared understandings of Environmental Protection Licence compliance issues across the Hunter / Central Coast Region	Hunter Councils	EPA (Hunter), Councils	Regional Coordination Support Fund	2017/18 and 2018/19
8.2.2 Implement dedicated waste facility masterplans / site management plans	Councils	Hunter Councils	WLRM Infrastructure	Ongoing
8.2.3 Undertake research and modelling activities that inform a long-term strategic approach to infrastructure development and service delivery	Hunter Councils	Councils	Regional Coordination Support Fund / BWRF	2017/18 and 2018/19
8.2.4 Provide capacity building opportunities to council planning and DA staff that support improved risk management through assessment and compliance follow-up in DA planning and consent processes	Hunter Councils	Councils	Regional BWRF	2017/18 ongoing
8.2.5 Provide capacity building and skill sharing opportunities for waste management operational and outdoor staff	Hunter Councils	Councils	Regional BWRF	2017/18 ongoing
8.2.6 Investigate the business case for an aggregated landfill gas collection project under the national Energy Reduction Fund (ERF)	Hunter Councils	OEHL, Councils	Regional Coordination Support Fund	2017/18

OBJECTIVE

8.3 Land use planning integrates best practice resource recovery principles

Proposed actions	Lead	Support	Funding	Which Years
8.3.1 Distribute and facilitate regional understanding and uptake of the revised EPA Better Practice Guide for Waste Management in Multi-Unit Developments and the EPA Waste Not DCP Model Chapter	Hunter Councils	EPA, Councils	Regional Coordination Support Fund / BWRP	2017/18 and 2018/19
8.3.2 Review DCPs and incorporate new or model approaches to ensure planning documents reflect current best practice	Councils	Hunter Councils	Council resources	2017/18 and 2018/19
8.3.3 Develop regional model policy for waste management in new developments (covers infrastructure to servicing needs) in SUDs and MUDs	Hunter Councils	Councils	Regional Coordination Support Fund / BWRP	2018/19
8.3.4 Implement grant funded WLRM infrastructure and capital projects to agreed timeframes	Funded councils	N/A	WLRM Infrastructure (multiple streams)	2017/18 and 2018/19
8.3.5 Research and develop a regional template / guidelines for waste management disaster planning requirements (resilient cities)	Hunter Councils	Councils	Regional Coordination Support Fund	2017/18
8.3.6 Incorporate waste management disaster planning parameters into business continuity plans	Councils	Hunter Councils	Council resources	2018/19 onwards

