



Eastern Waikato Waste Management and Minimisation Plan

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Foreword

This document is our Joint Waste Management and Minimisation Plan. It sets out how we are going to work together to manage waste over the next ten years for the benefit of everyone in the community.

Managing waste within our districts is an important Council responsibility. While we have been recycling and recovering more and more of our waste, there is more we can still do, and it will be important to make sure we do this in ways that are efficient and that benefit our communities as well as the environment.

Each Council is required under the Waste Minimisation Act to produce a Waste Management and Minimisation Plan, which shows how they plan to manage their waste. The Act also allows Councils to join together in waste planning. The three East Waikato Councils: Hauraki, Matamata-Piako and Thames-Coromandel, believe there are benefits in working together and so have produced this Joint Waste Management and Minimisation Plan.

This Plan describes how we currently manage our waste in each of the three districts, how the Councils suggest our communities should manage our waste in the future, and what we can all do to make this happen. The Plan is split into three parts Part A the strategy, Part B the action plan and Part C supporting information.

We think the plan sets out a positive path which, if we all work together, will help us to better protect the environment and provide better services.

Summary

As required by the Waste Management Act, this Waste Management and Minimisation Plan has been developed to “protect the environment from harm, and to provide environmental, social, economic and cultural benefits”. The vision and goals of the Plan are consistent, and give effect to, the current 2010 New Zealand Waste Strategy goals of:

- Reducing the harmful effects of waste
- Improving the efficiency of resource use

In summary, the purpose of this Plan is to:

- Present the three Councils’ vision and long-term goals of managing and minimising waste in the districts
- Set strategies, objectives, policies and activities/methods to achieve these goals
- Provide information on how the Councils’ intends to fund the activities of the WMMP over the next six years
- Help to meet legal requirements of councils in respect of waste management

In preparing this Plan, a Waste Assessment (included in Part C) was carried out to identify the key waste issues and challenges facing the three districts in the Eastern Waikato.

Our vision is to: ***“Minimise waste to landfill and maximise community benefit”***

A key part of working towards this vision involves considering the role of waste in the wider economy – including issues of resource efficiency and viewing waste as a resource, rather than as an issue to be managed. It is proposed that the Councils continue to provide a range of waste management and minimisation services similar to those currently in place. In addition it is proposed that part of the Councils’ role may be to provide appropriate regulatory and economic incentive frameworks to steer activity. The Councils’ role is likely to be wide-ranging and is expected to encompass the following:

- The Councils will continue existing activities and seek new activities to divert waste from landfill
- The Councils will aim to control and regulate waste collections to ensure maximum waste is diverted from landfill and to minimise environmental impact
- The Councils will endeavour to fund waste management activities in a way that promotes waste minimisation and recycling, at the same time minimising cost to the ratepayer
- The Councils will work with community groups, the private sector, and other local authorities to achieve waste minimisation goals
- The Councils will continue to educate the community about the benefits of waste minimisation with a view to increasing engagement and participation in minimisation activities.

Specific actions have been identified in the Action Plan (Part B) to help address the above issues and challenges. The Action Plan reflects the three Councils’ commitment to waste management and minimisation to not only meet legislative requirements but to respond to the communities’ demand for services and infrastructure.

Part A: The Strategy

1.0 Introduction

This Waste Management and Minimisation Plan (WMMP) sets out the three East Waikato Councils' (Hauraki, Matamata-Piako and Thames-Coromandel) plan for how waste in our community will be managed. It has been prepared in accordance with the requirements of the Waste Minimisation Act 2008 (WMA).

1.1 What is waste and why is it a problem?

Most of the things we do, buy and consume generate some form of waste; this costs money when we have to throw things away. Moreover, if we don't manage it properly, it can cause problems with the environment and with people's health.

The Waste Minimisation Act defines waste as:

"material that has no further use and is disposed of or discarded"

The Act also describes 'waste minimisation' as **reducing waste** and increasing the **reuse, recycling, and recovery** of waste and diverted material. 'Diverted material' is anything that is no longer required for its original purpose, but still has value through reuse or recycling. For example – your empty drink aluminium can is waste to you, but is worth money to metal recycling companies and so becomes 'diverted material' if it is recycled.

Our WMMP covers all solid waste and diverted material in the districts, whether they are managed by council or not. This includes hazardous wastes like chemicals and the outputs from wastewater treatment plants. Liquid and gaseous wastes are not included except where they interact with solid waste systems. This does not necessarily mean that the councils are going to have direct involvement in the management of all waste – but there is a responsibility for the councils to at least consider all waste in their districts, and to suggest areas where other groups, such as businesses or householders, could take action themselves.

1.2 Why do we need a plan?

Managing waste and ensuring good outcomes for the community can be a complex task. We need to look after the environment, take care of people's health, and make sure that this is done at an acceptable cost to the community. To achieve these outcomes will require all parts of the community to work together.

City and district councils have a statutory role in managing waste. Councils are required under the Waste Minimisation Act 2008 (WMA) to promote effective and efficient waste management and minimisation within their district. A key part of doing this is to adopt a Waste Management and Minimisation Plan (WMMP). Councils also have obligations under the Health Act 1956 to ensure that our waste management systems protect public health.

This WMMP sets the priorities and strategic framework for managing waste in our districts. Once the plan is adopted, the actions will be carried forward into our long term and annual plans to ensure the resourcing is available to deliver the plan's goals and objectives.

In line with the requirement of section 50 of the WMA, our WMMP needs to be reviewed at least every six years after its adoption. Councils may elect to review any or all aspects of the Plan at any time prior to this, if they consider circumstances justify such a review.

The previous Joint Waste Management and Minimisation Plan was adopted in 2012. It focused on the potential for the three Councils to work together. The tendering and award of a shared waste collection, transport and related services contract in 2013 was a positive step in realising the benefits of the councils working together. The introduction of wheeled bins and separate glass collection at the kerbside has resulted in an increase in the amount of materials recycled from our districts.

1.3 What does the plan have to contain?

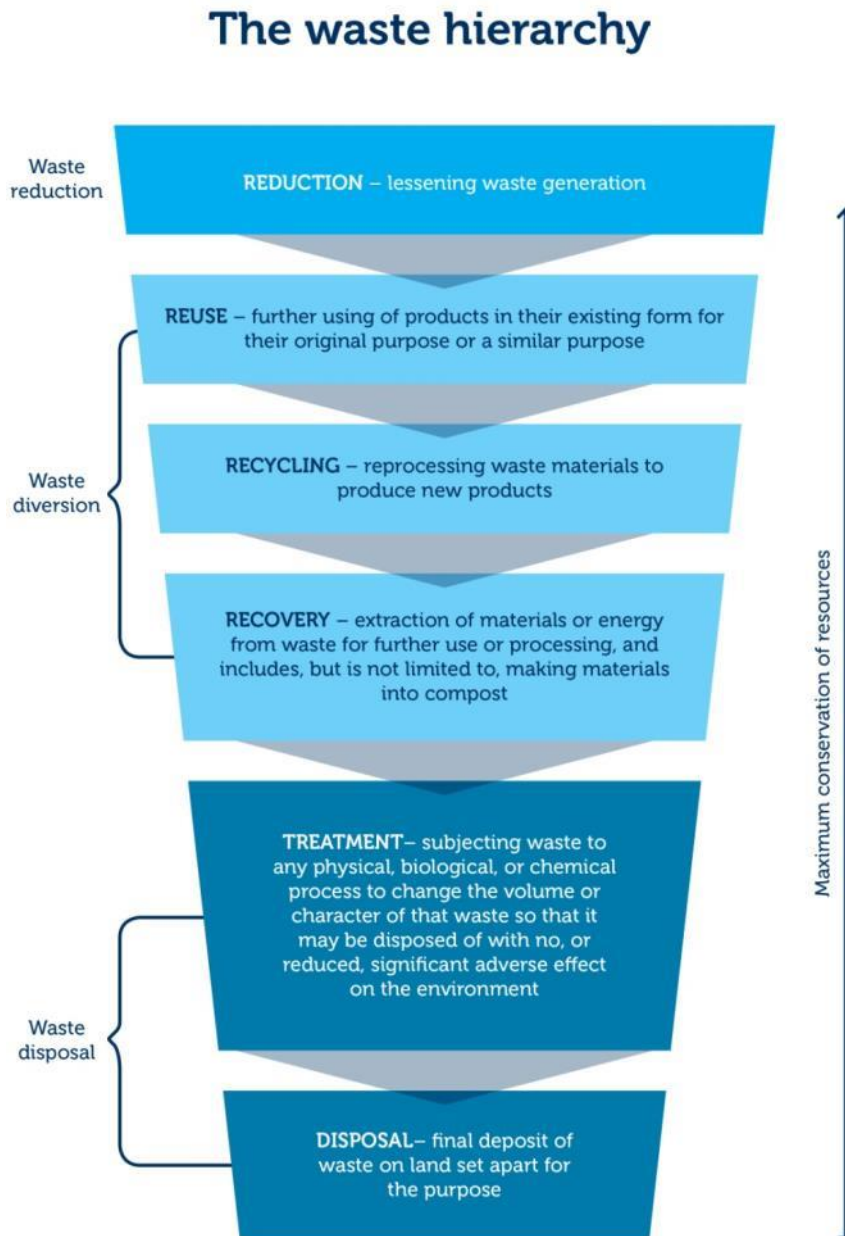
The plan must meet requirements set out in the Waste Minimisation Act, including to:

- Consider the 'Waste Hierarchy' which sets priorities for how we should manage waste (see Figure 1)
- Ensure waste does not create a 'nuisance'
- 'Have regard to' the New Zealand Waste Strategy and other key government policies, which emphasise reducing harm and improving the efficiency of resource use
- Consider the outcomes of the 'Waste Assessment' (this is a review of all information that we have about the current waste situation in 2017, including rubbish from households and businesses)
- Follow the Special Consultative Procedure set out in the Local Government Act (2002).

1.3.1 The waste hierarchy

The 'waste hierarchy' refers to the idea that reducing, reusing, recycling and recovering waste is preferable to disposal (which in New Zealand usually means a landfill). The waste hierarchy can be shown like this:

Figure 1: The waste hierarchy



Source: www.mfe.govt.nz

1.4 Other relevant strategies and plans

As well as aligning to Councils' Long Term Plans and Annual Plans, the joint WMMP must also support or align with other strategies and plans; in particular each Council's Solid Waste asset or activity management plans.

Recent relevant government policy for local government has focused on the following areas:

- fiscal responsibility, transparency and accountability;
- efficiency; through service reviews, joint working, and amalgamation;
- sustainable procurement, with a particular focus on innovation and partnership working; and
- economic growth.

Other key strategies related to waste include the New Zealand Waste Strategy (2010) which has two goals – to reduce harm, and to improve resource efficiency.

There is also the Waikato Regional Waste and Resource Efficiency Strategy (2015-2018), which has a vision of “working together towards a zero waste region”. The regional strategy recognises waste as a resource, and includes two key goals:

- to protect our communities, land, water and air from harmful and hazardous wastes
- to encourage resource efficiency and beneficial reuse that creates sustainable, economic growth.

As active members of the Waikato and Bay of Plenty Waste Liaison Group and the Waikato Waste Advisory Group, the councils will seek to support the regional waste strategy through our waste management and minimisation activities.

In order to address some of the waste issues effectively and efficiently it makes sense for councils to collaborate to gain efficiencies, share risk and achieve greater outcomes for our communities.

Where appropriate, the Councils will work with other territorial and regional councils, private and community sectors, and central government to achieve shared goals and objectives.

1.5 The structure of our plan

This plan is in three parts

Part A: The Strategy: This contains the core elements of the strategy including vision, goals, objectives, and targets. It essentially sets out what we are aiming to achieve, and the broad framework for working towards the vision.

Part B: Action Plan: The action plan sets out the proposed specific actions to be taken to achieve the goals, objectives, and targets set out in Part A. Part B also sets out how we will monitor and report on our actions and how they will be funded.

Part C: Supporting Information: This part contains a glossary of terms and the Waste Assessment which provides the background information that has informed the development of our WMMP.

2.0 Vision, goals, objectives and targets

This section sets out what we want to try and achieve through our plan. The vision from the previous Eastern Waikato WMMP is proposed to remain.

2.1 Our vision

“Minimise waste to landfill and maximise community benefit”

This vision reflects the aspirations of the Eastern Waikato community. By focusing on minimising waste to landfill the vision encompasses the intent of the waste hierarchy and the national goal of reducing harm. Similarly, by emphasising community benefit the vision implies taking actions that will reduce cost, improve resource efficiency, encourage local economic development and take care of human and environmental health. This accounts for the national goal of resource efficiency, and well as the requirements to protect human health.

2.2 Goals and objectives

The goals of this Plan focus on developing a range of waste management services to ensure sustainable management; conservation of resources; and protection of the environment and public health. Council has developed four specific goals which consider local issues, regional and national priorities, and feedback from the community gained through previous consultative processes.

Goal 1: To actively promote waste reduction

Code	Objectives
CO1:	Reduce the total quantity of waste to landfill, with an emphasis on wastes that cause the most harm
CO2:	To work at local, regional and national levels with other organisations, including businesses and territorial authorities, to actively promote waste reduction

Goal 2: Increase the recovery and reuse of resources

Code	Objectives
CO3:	Prioritise waste reduction, reuse and recovery and recycling initiatives which align with other community objectives such as social and business development; and environmental protection
CO4:	To investigate and develop private and community sector partnerships and arrangements which contribute positively to the WMMP’s vision and goals including delivering beneficial economic, environmental, social and cultural outcomes

Goal 3: To maintain cost-effective sustainable waste services

Code	Objectives
CO5:	To work with service providers to identify efficiencies while maintaining or improving

service levels
CO6: To look for opportunities to recover the value of waste materials locally
CO7: To take actions that will improve information on waste and recovered material activities in the districts, including both Council-contracted and private sector activities in order to help identify opportunities for improvement
CO8: Work with the waste sector and the community to increase the range of reuse, recycling and recovery options available in the district, maximising the economic benefit to the community

Goal 4: To minimise harm to the environment and public health

Code	Objectives
CO9:	Consider the environmental impact of all options and ensure that the overall environmental impact is taken into account in decision making
CO10:	To consider the public health impacts of all waste management options and seek to choose options which effectively protect human health and safety

2.3 Targets

The targets have been set based on the action plan in Section 6.0 and estimates that we have made of how much impact the actions should have. It has estimated that an additional 4800 tonnes of waste could be diverted from landfill, this equates to approximately 13% of the amount of waste currently sent to landfill from the districts.

The targets have been structured to align with the draft Indicators in the National Waste Data Framework. The targets will be reviewed when more accurate data becomes available about our waste. The targets are focused on the objective to "Reduce the total quantity of waste to landfill, with an emphasis on wastes that cause the most harm" as it is possible to quantify results related to this objective and track progress.

District	Target
Thames Coromandel	A 13% reduction in the total quantity of waste sent to landfills from 688kg per person per annum to 599kg per person by 2022.
	A 5% decrease in kerbside household waste to landfill from approximately 131kg per person per annum to 124kg per person per annum by 2022.
Hauraki	A 13% reduction in the total quantity of waste sent to landfills from 363kg per person per annum to 316kg per person by 2022.
	A 5% decrease in kerbside household waste to landfill from approximately 78kg per person per annum to 74kg per person per annum by 2022.
Matamata-Piako	A 13% reduction in the total quantity of waste sent to landfills from 404kg per person per annum to 351kg per person by 2022.
	A 5% decrease in kerbside household waste to landfill from approximately 62kg per person per annum to 59kg per person per annum by 2022.

3.0 What we have considered

In preparing this WMMP we have taken into account a wide range of considerations including the following:

- Information on the waste we generate and manage in our districts
- Projections of how our population and economy might change over time
- Residents and ratepayer surveys and other resident feedback
- The waste hierarchy
- Public health

The detail of the above information is contained in the Waste Assessment which is presented in Part C.

We have also taken into account a large number of plans, policies and legislation and their requirements. These include the following:

- The Waste Minimisation Act (WMA) 2008
- The Local Government Act (LGA) 2002
- The Hazardous Substances and New Organisms (HSNO) Act 1996
- The Resource Management Act (RMA) 1991
- The Health Act 1956
- The Health and Safety at Work Act 2015
- Climate Change (Emission Trading) Amendment Act 2008
- The New Zealand Waste Strategy (NZWS)
- Waste Assessments and Waste Management and Minimisation Planning: A Guide for Territorial Authorities (2015)
- Regional Policy Statement for the Waikato Region
- Waikato Waste and Resource Efficiency Strategy (2016-18)
- The Councils' Long Term Plans

Further information on the above plans, policies and legislation and how it has been considered in the formulation on this plan is contained in the Waste Assessment (included in Part C).

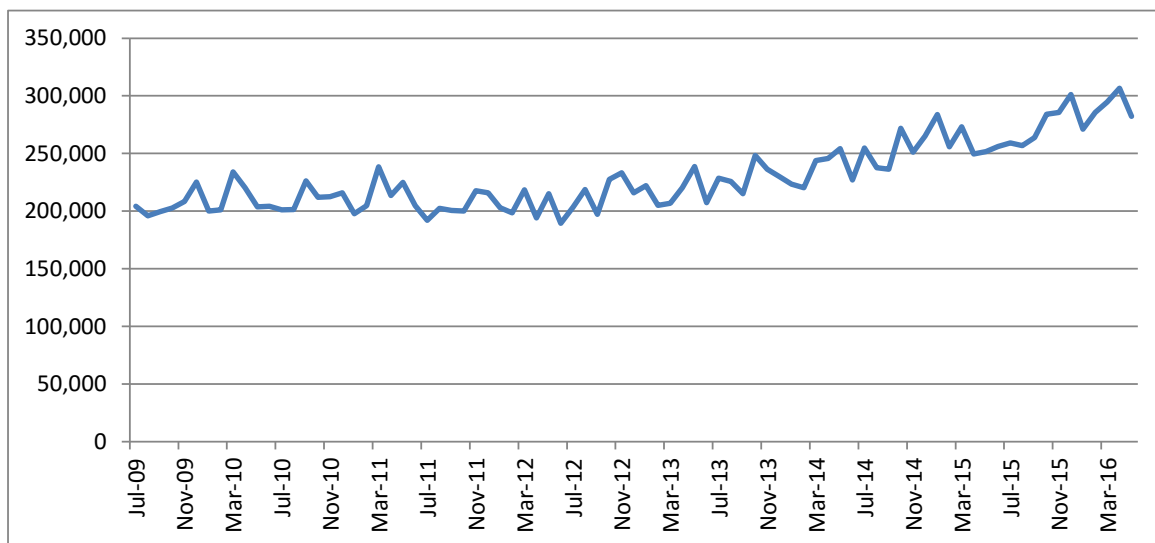
4.0 The waste situation

4.1 Long term and global considerations

Across the globe there is an increasing understanding of the need to improve resource efficiency and reduce waste. We live on one planet with finite natural resources and we cannot consume at current levels without a change in the way we use resources. We could all benefit from changing the way we purchase, use and dispose of products, thereby reducing costs, and reducing waste. Progress is being made through the actions of individuals, communities and industries and who are seeking to reduce waste in wide range of innovative ways.

In New Zealand the amount of waste going to landfill has been increasing relatively rapidly since the end of 2012, as shown in Figure 2.

Figure 2: Waste disposed at Class 1 Landfills in New Zealand (tonnes per month)



4.2 Our districts

The quantities of landfilled waste and diverted materials were determined through analysis of Council records, landfill records provided by Tirohia Landfill, and information provided by private waste and recycling operators.

4.2.1 How much waste is there?

The amount of waste going to landfill is presented in Table 1. **Error! Reference source not found..**

Table 1: Waste to landfill 2015-16

Waste to landfill	TCDC (Tonnes per annum)	HDC (Tonnes per annum)	MPDC (Tonnes per annum)
Council-controlled waste streams			
Transfer station and kerbside rubbish	13,409	3,570	4,728
Biosolids to landfill	1,485	33	0
Commercial operator-controlled	3,129	2,862	8,022

waste to landfill

TOTAL Waste to landfill	18,023	6,465	12,750
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In the Eastern Waikato we are throwing away about 37,238 tonnes of material into landfills each year.

4.2.2 Per capita comparisons

The size of the population and economy determine the amount and type of waste generated, therefore waste disposal per capita is set out in Table 2 .

Table 2: Waste disposal per capita

Calculation of per capita waste to Class 1 landfills	TCDC	HDC	MPDC
Population (Stats NZ 2013 census)	26,178	17,808	31,536
Total waste to Class 1 landfill (tonnes per year)	18,023	6,465	12,750
Tonnes/capita/annum of waste to Class 1 landfills	0.688	0.363	0.404

Per capita waste disposal is substantially higher in TCD than the other two districts. A significant factor in this is the large number of visitors to the district. As the census data relates to the number of 'usually resident' individuals, it does not include visitors to the district. The differences also relate to the levels and types of economic activity in each district and the amount of waste being disposed of through other routes such as on farm burial.

The Council provided kerbside collection services are a key element of the waste management in the districts. Table 3 presents data about the amount of rubbish and recycling per property served and per person resident in the district.

Table 3: Council provided kerbside collection service statistics

	TCDC	HDC	MPDC
Number of properties	26,765	9,553	14,180
% of properties with Council kerbside services	91%	73%	66%
Domestic kerbside rubbish 2015/16 (tonnes per year)	3,442	1,388	1,954
kg/person/year of domestic kerbside rubbish	131	78	62
kerbside rubbish per property served (kg)	141	200	210
Domestic kerbside recycling 2015/16 (tonnes per year)	3,950	1,388	2,042
kg/person/year of domestic kerbside recycling	151	78	65
kerbside recycling per property served (kg)	162	200	219

4.3 Key issues

The Waste Assessment looked across all aspects of waste management in the districts (including some of the data presented in this section), and identified the main areas where we could improve our effectiveness and efficiency in managing and minimising waste. Issues under council's area of control are:

- Council, the community and private sector need to work together to achieve Councils' goals and objectives. To make this happen, Council needs to find ways to engage the community about good waste practices.
- Regulation to help prevent negative behaviour and improve data collection in relation to certain waste streams. Information relating to quantity, composition or source needs to be improved to enable better decision making about waste minimisation options.
- A need for improved resource recovery facilities within the districts. There are opportunities to target materials for recovery and reuse including e-waste, construction and demolition waste, biosolids and re-usable items like furniture.
- The need exists to better understand rural business waste streams to improve access to services, and support rural community and rural business initiatives. Recent studies have shown that some rural properties surveyed still use farm pits to burn and bury their farm waste. These disposal practices are harmful to the environment and may also cause damage to peoples' health. Further regional and national studies concerning these issues are currently underway and the Councils will leverage the findings to help address local issues.
- We need to produce less waste in the first place, and encourage those who do produce waste to take greater responsibility for reducing it. Recycling still being thrown in to rubbish bins even with a recycling collection available. Education and awareness will drive improved outcomes along with appropriate service provision and pricing.
- Protecting public health is one of the fundamental reasons for local authority involvement in waste management in New Zealand. Key factors include the following:
 - Storage, collection, safe treatment and disposal of wastes
 - Unsafe on-site disposal of wastes (i.e. burning or burying waste)
 - Medical and sanitary waste from households and healthcare operators
 - Management of hazardous wastes

Addressing these issues is a key focus of the WMMP.

Regional/National issues: Other significant issues have been identified where regional or national co-operation is likely to improve outcomes, for example:

- Advocating for product stewardship (producer responsibility)- waste streams such as E-waste, agricultural chemicals and their containers; and tyres require central government to activate product stewardship and other regulatory mechanisms in order to achieve better waste management outcomes. Councils are likely to have greater influence on achieving product stewardship by presenting a unified voice.
- Medical waste- as home based healthcare is increased across the region, medical waste issues will increase. Working together provides the best opportunities to support Waikato District Health Board to establish a medical waste management scheme to support those utilising home healthcare.

- Targeted education and behaviour change campaigns. Providing consistent messaging across the region will support education and behaviour change outcomes. Communities often cross district boundaries, consistent education and engagement messages are more effective when implemented over a wider area.
- Supporting the development of waste processing capacity, particularly around understanding market influences

Part B: Action Plan

5.0 Introduction

The following Action Plan sets out how the three Councils intend to work towards the vision, goals, and objectives, and address the issues outlined in Part A of the WMMP.

The Action Plan aims to set out clear, practical initiatives that each Council will implement, either on our own or jointly. While the action plan forms part of the WMMP it is intended to be a useful 'living' documents that can be regularly updated to reflect current plans and progress. Under the WMA the plans can be updated without triggering the need for a formal review of the WMMP, as long as the changes are not significant and do not alter the direction and intent of the strategy as set out in Part A.

5.1 Considerations

This Action Plan is a strategic document outlining high level intentions for actions to meet our obligations under the WMA. Further work will be required to determine the costs and feasibility of some projects, which may impact how, when or if they are implemented.

In some instances, the delivery of the actions set out in this Action Plan will depend on the development or amendment of contractual arrangements with providers. The nature of these contractual arrangements cannot be pre-empted and may impact the nature, timing or cost of these projects or services.

5.2 Councils' intended role

The Councils are responsible for a range of contracts, facilities and programmes to provide waste management and minimisation services to the residents and ratepayers. The Councils intend to oversee, facilitate and manage a range of programmes and interventions to achieve effective and efficient waste management and minimisation within the districts. The Councils will continue to work together and with other organisations to deliver the vision, goals and objectives set out in this plan.

6.0 Action plan

Collections

Title	Description	New or existing action	Timeframe	Funding	Strategic goals & hierarchy position	Contribution to targets
Kerbside dry recycling collection	Continue to collect existing range of commodities from kerbside	Existing	Ongoing	Rates and revenue from recyclables	Goal 1: To actively promote waste reduction Goal 2: Increase the recovery and reuse of resources Goal 3: To maintain cost-effective sustainable waste services Goal 4: To minimise harm to the environment and public health Hierarchy: Recycle	Approximately 7400 tonnes per annum diverted currently
Explore opportunities to extend recycling services to businesses	Work with contractors/private and community sector operators as appropriate to extend recycling collections to businesses and rural properties. Key materials are likely to include paper, cardboard, and plastics	New	2018	User charges would be used to fund additional services	Goals 1,2,3 and 4 Hierarchy: Recycle	It is assumed that approximately 1,000 additional tonnes per annum could be diverted

and rural properties						
Kerbside rubbish collection	<p>Continue to collect waste from households weekly based on user pays bags. User charged services help incentivise recycling/recovery</p> <p>Options for providing bags with a smaller volume will be investigated.</p> <p>Options for providing subsidised bags to target groups will be investigated.</p> <p>Consideration shall be given to extending or reducing kerbside service provision depending on demand in a particular area</p>	Existing service	<p>Ongoing provision of kerbside rubbish collection services</p> <p>Review bag charges annually and service coverage by 2019</p>	User charges/ rates	<p>Goals 1,2,3 and 4</p> <p>Hierarchy: Reduction</p> <p>Hierarchy: Disposal</p>	N/A
Investigate wheeled bins for rubbish	<p>Investigate offering wheeled bins for rubbish collection. Wheeled bins could be provided on a user-charges basis (pay per lift/ pay by volume). This may be appropriate for some areas but not others.</p> <p>User charged services help incentivise recycling/recovery</p>	New	Investigate by 2020	User charges / rates would be used to fund additional services	<p>Goal 3 and 4</p> <p>Hierarchy: Disposal</p>	N/A

Infrastructure

Title	Description	New or existing action	Timeframe	Funding	Strategic goals & hierarchy Position	Contribution to targets
Continue to provide drop off facilities	Drop off facilities for waste and recycling are provided in a number of places in Thames-Coromandel District. These services would continue to be provided	Existing	Ongoing	Rates and user charges	Goal 3 and 4 <i>Hierarchy: Recycle/ Disposal</i>	Included in transfer station figures
Expand the number /capacity of drop off facilities and public place recycling bins	Establish additional drop off sites based on identified needs, and consider providing additional capacity at popular sites	Enhancement of existing actions	Ongoing	User charges	Goal 3 and 4 <i>Hierarchy: Recycle/ Disposal</i>	Included in transfer station figures
Transfer station operations	<p>Continue to provide transfer station services for the public and commercial users</p> <p>There will be regular review of the following aspects.</p> <ul style="list-style-type: none"> • more staff/staff training and incentives • differential pricing tools • changed layout/traffic management (e.g. meet and greet) • more reuse and recycling options • introducing incentives for the contractor etc. • reviewing operating hours 	Existing/enhancement of existing actions	Ongoing	User charges and rates	Goals 1,2,3 and 4 <i>Hierarchy: Recycle/ Disposal</i>	Approximately 11,500 tonnes per annum diverted currently (including greenwaste). It is assumed that approximately 2,800 additional tonnes per annum could be diverted i.e. 20% of the current residual waste stream at RTS sites
Capital works	Undertake capital works at transfer stations	Existing	Ongoing	Capital	Goals 1,2,3 and 4	Included in transfer

	<p>to improve traffic flow, address health and safety issues, increase ability to separate and store materials</p> <p>The capital works programme will be undertaken on a case by case basis</p> <p>Materials which may be targeted for enhanced separation include: timber, concrete and rubble, reusable items, e-waste, hazardous wastes, tyres etc.</p>			budgets	Hierarchy: Recycle/ Disposal	station figures
Enhance reuse	Work with community organisations/private sector to establish or expand reuse centres at or adjacent to selected transfer stations where feasible	New/Enhance existing arrangements	Ongoing	User charges/ income from sales/ Waste Levy funding	Goal 1,2,3,4 Hierarchy: Reuse	Not quantifiable
Processing facilities for particular waste streams	Investigate, and if feasibility support establishment of additional processing/disposal capacity in the East Waikato for waste streams for example: biosolids, construction and demolition waste, e-waste and/or garden waste	New	Investigation carried out as opportunities and needs arise	To be determined. May include a split of council and private sector funding/ Waste Minimisation Fund	Goal 1,2,3,4	Not quantifiable

Leadership and Management

Title	Description	New or existing action	Timeframe	Funding	Strategic goals & hierarchy position	Contribution to targets
Review and evaluation of Joint WMMP	Undertake to jointly review and evaluate the WMMP and related policies on a 6 yearly cycle, or earlier as necessary Review and report on achievement of WMMP objectives and targets annually	Existing	Review completed by 2023	Rates	N/A	No direct impacts
Wider cooperation	Liaison with regional council, other district councils, and private and community sector to identify areas for joint working and resource sharing. It is desired to work positively with all sectors, and find ways of working to maximise the contributions of different parties.	Existing	Ongoing	Rates	N/A	It is assumed that approximately 500 additional tonnes per annum could be diverted
Joint contract manager	Joint resourcing of staff to oversee contract administration including contractor liaison, responding to issues, evaluation of KPIs, management reporting etc.	Existing	Ongoing	Rates	Goal 3	Supports programmed actions
Education and awareness	Provide waste education services to the community including (but not limited to): <ul style="list-style-type: none"> • primary and secondary schools education • home composting • waste prevention information • food waste prevention 	Existing and expanded	Ongoing	Rates/Levy funding/Waste Minimisation Fund	Goal 1,2,3 and 4 Hierarchy: Reuse	It is assumed that approximately 500 additional tonnes per annum could be diverted
Joint disposal contract	Negotiate a joint contract for disposal of residual wastes from the East Waikato councils	Enhancement of existing actions	2020	User charges and rates	Goal 3 Hierarchy: Disposal	N/A

Supporting reuse shops	Measures may include a subsidised rate for disposal of rubbish dumped at charity reuse shops	Enhancement of existing actions	2017	User charges and rates	Goal 3 Hierarchy: Disposal	N/A
Supporting and promoting waste minimisation at local events	Working with event organisers to reduce waste and recycle	Enhancement of existing actions	2017	User charges and rates	Goals 1 and 2 Hierarchy: Recycle	Included in education and awareness figures

Regulation and Data Collection

Title	Description	New or existing action	Timeframe	Funding	Strategic goals & hierarchy position	Contribution to targets
Standardise data collection	Standardising waste data collection systems across the districts to facilitate accurate monitoring and reporting. Align with National Waste Data Framework	Enhancement of existing actions	2018	Rates and user charges	N/A	Supports programmed actions
Waste composition analyses	Undertake waste composition analyses on a regular basis to ascertain what materials could be diverted and measure progress. Analyses of kerbside waste and transfer station wastes to be conducted	Enhancement of existing actions	2018	Rates and user charges	N/A	Supports programmed actions
Review solid waste bylaws	Review solid waste bylaws across the three districts to standardise approach, and introduce/revise bylaws as appropriate. Bylaw issues considered may include: <ul style="list-style-type: none"> • presentation of materials at kerbside • restrictions on materials collected • event waste management plans • construction waste management plans • licensing of private waste collectors / facility operators to enhance standards and improve information for monitoring and management. 	Existing	2018	Rates and fines/fees	N/A	Supports programmed actions

Sub-regional, Regional, National Collaboration

Reference & Title	Description	New or existing action	Timeframe		Funding	Strategic goals & hierarchy position	Contribution to targets
Advocate for enhanced Produce Stewardship	Work with territorial and regional councils and other organisations to promote enhanced product stewardship schemes including accredited and priority product schemes under the WMA 2008	Existing	Existing	Ongoing	Rates	Goal 2 and 4 Hierarchy: Recycling	Not quantifiable
Medical waste collection	Encourage and support Waikato District Health Board to establish appropriate schemes for the management of medical waste from home healthcare and medical facilities	New	2022		Rates	Goal 4 Hierarchy: Disposal	Not quantifiable
Rural waste collections	Encourage and support anticipated initiatives aiming to improve the collection and recovery of rural waste streams	New	2022		Rates	Goal 4 Hierarchy: Disposal and Recycling	Not quantifiable
Targeted education & engagement:	Support the development and use of targeted campaigns for specific waste streams for example rural waste, C&D waste or food waste	New	Ongoing		Rates	Goal 1 Hierarchy: Reduction	Included in education and awareness figures

7.0 Monitoring evaluating and reporting progress

7.1 Monitoring and reporting

A Joint Solid Waste Committee, made up of two councillors from each of the three districts, has been established to oversee the development of the WMMP. The implementation will be undertaken by Council officers. Regular reporting will be done through the relevant Committee in each Council.

This WMMP contains 24 actions with timeframes (refer to Section 6.0), as well as a set of waste minimisation targets (refer to Section 2.3). Specific metrics for each action will be developed and agreed as part of their implementation. The implementation of the National Waste Data Framework will contribute to the development of a set of standard indicators for benchmarking and reporting purposes.

8.0 Funding the plan

The Waste Minimisation Act 2008 (s43) requires that the Councils include information about how the implementation of this Plan will be funded, as well as information about any grants made and expenditure of waste levy funds.

8.1 Funding local actions

There are a range of options available to local councils to fund the activities set out in this plan. These include:

- Uniform Annual General Charge (UAGC) - a charge that is paid by all ratepayers
- User Charges - includes charges for user-pays collections as well as transfer station gate fees. Councils can charge fees for a service that are higher or lower than required to recover the costs to provide the service, providing the incentives or disincentives will promote waste minimisation.
- Targeted rates - a charge applied to those properties receiving a particular council service
- Waste levy funding - The Government redistributes funds from the \$10 per tonne waste levy to local authorities on a per capita basis. By law 50% of the money collected through the levy must be returned to councils. This money must be applied to waste minimisation activities
- Waste Minimisation Fund - Most of the remaining 50% of the levy money collected is redistributed to specific projects approved by the Ministry for the Environment. Anyone can apply to the WMF for funding for projects
- Sale of recovered materials - The sale of recovered materials can be used to help offset the cost of some initiatives
- Private sector funding - The private sector may undertake to fund/supply certain waste minimisation activities, for example in order to look to generate income from the sale of recovered materials etc. Council may look to work with private sector service providers where this will assist in achieving the WMMP goals.

Funding considerations take into account a number factors including:

- Prioritising harmful wastes
- Waste minimisation and reduction of residual waste to landfill
- Full-cost pricing - 'polluter pays' i.e. that the environmental effects of production, distribution, consumption and disposal of goods and services should be consistently costed, and charged as closely as possible to the point they occur to ensure that price incentives cover all costs
- Public good vs. private good component of a particular service
- Protection of public health
- Affordability
- Cost effectiveness

The potential sources of funding for each of the actions are noted in the tables in Section 6.0 of the WMMP. Budgets to deliver the activities set out in this plan will be carefully developed through our Annual Plan and Long Term Plan processes. The approach taken will be to implement as many of the activities as possible while controlling costs and, where possible, taking advantage of cost savings and efficiencies. It is anticipated that by setting appropriate user charges, reducing costs through avoided disposal, more efficient service delivery from joint

working, and targeted application of waste levy money, the increased levels of waste minimisation as set out in this WMMP will be able to be achieved at an acceptable cost to the community.

8.2 Funding regional, sub-regional and national actions

There are a range of waste issues that make sense to collaborate on at a sub-regional, regional or national level where efficiencies can be made through collaborative funding.

Each Council will provide funding towards agreed regional and national projects through their Annual and Long Term Plans. This may be funded from rates, waste levy funding, user charges, or other sources as determined by each council.

8.3 Waste levy funding

Council receive, based on population, a share of national waste levy funds from the Ministry for the Environment. The WMA requires that all waste levy funding received by Councils must be spent on matters to promote waste minimisation and in accordance with their WMMP.

Waste levy funds can be spent on ongoing waste minimisation services, new services, or an expansion of existing services. The funding can be used on education and communication, services, policy research and reporting, to provide grants, to support contract costs, or as infrastructure capital.

Waste levy funds will be used for a range of waste minimisation activities and services as set out in the Action Plans – including participating in regional, sub-regional and national activities.

In addition, we may make an application for contestable waste levy funds from the Waste Minimisation Fund, either separately, with other Councils, or with another party. The Waste Minimisation Fund provides additional waste levy funds for waste minimisation activities.

8.4 Funding business and community actions

Councils have the ability under the WMA (s47) to provide grants and advances of money to any person, organisation or group for the purposes of promoting or achieving waste management and minimisation, as long as this is authorised by the WMMP.

The Councils intend to continue making grants and advances at their discretion, to projects which align with and further the objectives of this WMMP.

Part C: Supporting Information

A.1.0 Glossary of Terms

C&D waste	Waste generated from the construction or demolition of a building including the preparation and/or clearance of the property or site. This excludes materials such as clay, soil and rock when those materials are associated with infrastructure such as road construction and maintenance, but includes building-related infrastructure.
Cleanfill	A cleanfill (properly referred to as a Class 4 landfill) is any disposal facility that accepts only cleanfill material. This is defined as material that, when buried, will have no adverse environmental effect on people or the environment.
Disposal	Final deposit of waste into or onto land, or incineration
Diverted material	Anything that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.
Domestic waste	Waste from domestic activity in households.
Drop off points	Facilities for the disposal of rubbish and commingled recycling available at all times
ETS	Emissions Trading Scheme
Food waste	Any food scraps – from preparing meals or leftovers
Green waste	Waste largely from the garden – hedge clippings, tree/bush prunings, lawn clippings
Hazardous waste	Waste that can cause harm or damage, to people or the environment, like strong chemicals.
ICI	Industrial, Commercial, Institutional
Landfill	Tip or dump. A disposal facility as defined in S.7 of the Waste Minimisation Act 2008, excluding incineration. Includes, by definition in the WMA, only those facilities that accept 'household waste'. Properly referred to as a Class 1 landfill
LGA	Local Government Act 2002
LTP	Long Term Plan
Managed fill	A disposal site requiring a resource consent to accept well-defined types of non-household waste, e.g. low-level contaminated soils or industrial by-products. Properly referred to as a Class 2 or 3 landfill.
MfE	Ministry for the Environment
MGB	Mobile garbage bin – wheelie bin.
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
New Zealand Waste Strategy (NZWS)	A document produced by the Ministry for the Environment in 2010. Currently being reviewed.
Putrescible waste	Bio-degradable material that can be recovered through composting, digestion or other similar processes.
Rates	Includes Uniform Annual General Charge (UAGC), targeted rates, and general rates

Recovery	extraction of materials or energy from waste or diverted material for further use or processing; includes making waste or diverted material into compost
Recycling	The reprocessing of waste or diverted material to produce new materials
Reduction	lessening waste generation, including by using products more efficiently or by redesigning products
Reuse	The further use of waste or diverted material in its existing form for the original purpose or other purposes
RRP	Resource Recovery Park
RTS	Refuse Transfer Station
Rubbish /Refuse	Waste, that currently has little other management options other than disposal to landfill
Service Delivery Review	As defined by s17A of the LGA 2002. Councils are required to review the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions. A review under subsection (1) must consider options for the governance, funding, and delivery of infrastructure, services, and regulatory functions.
TA	Territorial Authority (a city or district council)
Transfer station	Where waste can be sorted for recycling or reprocessing, or is dumped and put in to larger trucks for transport to landfill
Treatment	<ul style="list-style-type: none"> a) means subjecting waste to any physical, biological, or chemical process to change its volume or character so that it may be disposed of with no or reduced adverse effect on the environment; but b) does not include dilution of waste
Waste	<p>Means, according to the WMA:</p> <ul style="list-style-type: none"> a) Anything disposed of or discarded, and b) Includes a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and c) To avoid doubt, includes any component or element of diverted material, if the component or element is disposed or discarded.
Waste Assessment (WA)	A document summarising the current situation of waste management in a locality, with facts and figures, and required under the Waste Minimisation Act.
Waste hierarchy	A list of waste management options with decreasing priority – usually shown as ‘reduce, reuse, recycle, reprocess, treat, dispose’
WMA	Waste Minimisation Act (2008)
WMMP	A Waste Management and Minimisation Plan as defined by s43 of the Waste Minimisation Act 2008

A.2.0 Appendix Waste Assessment



Waste Assessment

Prepared by Thames-Coromandel District Council, Hauraki District Council and Matamata-Piako District Council

June 2017

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1.0 Introduction

This Joint Waste Assessment has been prepared by Thames-Coromandel District Council, Hauraki District Council and Matamata-Piako District Council in accordance with the requirements of the Waste Minimisation Act 2008 (WMA). This document provides background information and data to support the Councils' waste management and minimisation planning process.

1.1 Structure of this Document

This document is arranged into several sections designed to help construct a picture of waste management in our districts. The key sections are outlined below.

Introduction

The introduction covers a few topics that set the scene. This includes clarifying the purpose of this Waste Assessment, its scope, the legislative context, and key documents that have informed the assessment.

Waikato

This section presents a brief overview of key aspects of the region's geography, economy, and demographics that influence the quantities and types of waste generated and potential opportunities. It also provides an overview of regional waste facilities, and initiatives that may be of relevance to how we manage our waste.

Our Districts

This section presents a brief overview of key aspects of the districts' geography, economy, and demographics that influence the quantities and types of waste generated and potential opportunities.

Waste Infrastructure, Services, Data and Performance Measurement

These sections examine how waste is currently managed, where waste comes from, how much there is, its composition, and where it goes. The focus of these sections is on the sub-regional picture.

Gap Analysis and Future Demand

This section provides an analysis of what is likely to influence demand for waste and recovery services in the region and identifies key gaps in current and future service provision and in the Councils' ability to promote effective and efficient waste management and minimisation.

Statement of Options & Councils' Proposed Role

These sections develop options available for meeting the forecast future demand and identify the Councils' proposed role in ensuring that future demand is met, and that the Councils are able to meet their statutory obligations.

Statement of Proposals

The statement of proposals sets out what actions are proposed to be taken forward in the Waste Management and Minimisation Plan (WMMP).

Appendices

This section includes the statement from the Medical Officer of Health as well as additional detail on relevant legislation.

1.2 Purpose of this Waste Assessment

This Waste Assessment is intended to provide an initial step towards the development of a WMMP and sets out the information necessary to identify the key issues and priority actions that will be included in the draft WMMP.

Section 51 of the WMA outlines the requirements of a waste assessment, which must include:

- a description of the collection, recycling, recovery, treatment, and disposal services provided within the territorial authority's district
- a forecast of future demands
- a statement of options
- a statement of the territorial authority's intended role in meeting demands
- a statement of the territorial authority's proposals for meeting the forecast demands
- a statement about the extent to which the proposals will protect public health, and promote effective and efficient waste management and minimisation.

1.3 Legislative Context

The principal solid waste legislation in New Zealand is the Waste Minimisation Act 2008 (WMA). The stated purpose of the WMA is to:

- “encourage waste minimisation and a decrease in waste disposal in order to
- (a) protect the environment from harm; and
 - (b) provide environmental, social, economic, and cultural benefits.”

To further its aims, the WMA requires TAs to promote effective and efficient waste management and minimisation within their district. To achieve this, all TAs are required by the legislation to adopt a WMMP.

Section 45 of the WMA allows for two or more TAs to jointly prepare and adopt a WMMP. This joint waste assessment has been prepared in accordance with this section of the Act.

The WMA requires every TA to complete a formal review of its existing waste management and minimisation plan at least every six years. The review must be consistent with WMA sections 50 and 51. Section 50 of the WMA also requires all TAs to prepare a 'waste assessment' prior to reviewing its existing plan. This document has been prepared in fulfilment of that requirement. The Council's existing Waste Assessment was written in 2011 and the WMMP was adopted in February 2012.

Further detail on key waste-related legislation is contained in Appendix A.2.0.

1.4 Scope

1.4.1 General

As well as fulfilling the statutory requirements of the WMA, this Waste Assessment will build a foundation that will enable the Councils to update their WMMP in an informed and effective manner. In preparing this document, reference has been made to the Ministry for the

Environment's 'Waste Management and Minimisation Planning: Guidance for Territorial Authorities'¹.

A key issue for this Waste Assessment will be forming a clear picture of waste flows and management options in the districts. The WMA requires that a waste assessment must contain:

“A description of the collection, recycling, recovery, treatment, and disposal services provided within the territorial authority's district (whether by the territorial authority or otherwise)”.

This means that this Waste Assessment must take into consideration all waste and recycling services carried out by private waste operators as well as the TAs' own services. While the Council has reliable data on the waste flows that it controls, data on those services provided by private industry is limited. Reliable, regular data on waste flows is important if the TA chooses to include waste reduction targets in their WMMP. Without data, targets cannot be readily measured.

The New Zealand Waste Strategy 2010 also makes clear that TAs have a statutory obligation (under the WMA) to promote effective and efficient waste management and minimisation in their district. This applies to all waste and materials flows in the district, not just those controlled by councils.

1.4.2 Period of Waste Assessment

The WMA requires WMMPs to be reviewed at least every six years, but it is considered prudent to take a longer-term view. The horizon for the WMMP is not fixed but is assumed to be centred on a 10-year timeframe, in line with Councils' Long Term Plans (LTPs). For some assets and services, it is necessary to consider a longer timeframe and so this is taken into account where appropriate.

1.4.3 Consideration of Solid, Liquid and Gaseous Wastes

In line with the Councils' previous WMMP, this Waste Assessment is focused on solid waste that is disposed of to land or diverted from land disposal.

The guidance provided by the Ministry for the Environment on preparing Waste Management and Minimisation Plans states that:

“Councils need to determine the scope of their WMMP in terms of which wastes and diverted materials are to be considered within the plan”.

The guidance further suggests that liquid or gaseous wastes that are directly managed by a TA, or are disposed of to landfill, should be seriously considered for inclusion in a WMMP.

Other wastes that could potentially be within the scope of the WMMP include gas from landfills and the management of biosolids from wastewater treatment plant (WWTP) processes.

Tirohia landfill is the only active Class 1 landfill in the area and it has a landfill gas capture system. The captured gas is used to generate power.

Biosolids from the WWTP processes are disposed of at Tirohia landfill and so it is reasonable to consider them in the context of this assessment. In addition, there are some liquid hazardous

¹ Ministry for the Environment (2015), Waste Management and Minimisation Planning: Guidance for Territorial Authorities

wastes that are managed through solid waste facilities. Apart from these waste streams this Waste Assessment and the subsequent WMMP will focus primarily on solid waste.

1.4.4 Public Health Issues

Protecting public health is one of the original reasons for local authority involvement in waste management. The New Zealand Waste Strategy 2010 contains the twin high-level goals of “Reducing the harmful effects of waste”, and “Improving the efficiency of resource use”. In terms of addressing waste management in a strategic context, protection of public health can be considered one of the components entailed in “reducing harm”.

Protection of public health is currently addressed by a number of pieces of legislation. Discussion of the implications of the legislation is contained in Appendix A.2.0.

1.4.4.1 Key Waste Management Public Health Issues

Key issues that are likely to be of concern in terms of public health include the following:

- Population health profile and characteristics
- Meeting the requirements of the Health Act 1956
- Management of putrescible wastes
- Management of nappy and sanitary wastes
- Potential for dog/seagull/vermin strike
- Timely collection of material
- Locations of waste activities
- Management of spillage
- Litter and illegal dumping
- Medical waste from households and healthcare operators
- Storage of wastes
- Management of biosolids/sludges from WWTP
- Management of hazardous wastes (including asbestos, e-waste, etc.)
- Private on-site management of wastes (i.e. burning, burying)
- Closed landfill management including air and water discharges, odours and vermin
- Health and safety considerations relating to collection and handling.

1.4.4.2 Management of Public Health Issues

From a strategic perspective, the public health issues listed above are likely to apply to a greater or lesser extent to virtually all options under consideration. For example, illegal dumping tends to take place ubiquitously, irrespective of whatever waste collection and transfer station systems are in place. Some systems may exacerbate the problem (infrequent collection, user-charges, inconveniently located facilities etc.) but, by the same token, the issues can be managed through methods such as enforcement, education and by providing convenient facilities.

In most cases, public health issues will be able to be addressed through setting appropriate performance standards for waste service contracts. It is also important to ensure performance is monitored and reported on and that there are appropriate structures within the contracts for addressing issues that arise. There is expected to be added emphasis on workplace health and safety under the Health and Safety at Work Act 2015. This legislation could impact on the choice

of collection methodologies and working practices and the design of waste facilities, for example.

In addition, public health impacts will be able to be managed through consideration of potential effects of planning decisions, especially for vulnerable groups. That is, potential issues will be identified prior to implementation so they can be mitigated for.

1.5 Strategic Context

1.5.1 New Zealand Waste Strategy

The New Zealand Waste Strategy: Reducing Harm, Improving Efficiency (NZWS) is the Government's core policy document concerning waste management and minimisation in New Zealand. The two goals of the NZWS are:

1. Reducing the harmful effects of waste
2. Improving the efficiency of resource use

The NZWS provides high-level, flexible direction to guide the use of the tools available to manage and minimise waste in New Zealand. These tools include:

- The Waste Minimisation Act 2008
- Local Government Act 2002
- Hazardous Substances and New Organisms Act 1996
- Resource Management Act 1991
- Climate Change Response Act 2002 and Climate Change Amendment Act 2008
- International conventions
- Ministry for the Environment guidelines, codes of practice
- Voluntary initiatives

The nature of the NZWS means that councils are able to decide on solutions to waste management and minimisation that are relevant and appropriate to local situations and desired community outcomes.

Section 44 of the WMA requires councils to have regard to the NZWS when preparing their WMMP.

For the purpose of this Waste Assessment, the council has given regard to the NZWS and the current WMMP (2012).

1.5.2 International Commitments

New Zealand is party to the following key international agreements:

1. Montreal Protocol – to protect the ozone layer by phasing out the production of numerous substances
2. Basel Convention – to reduce the movement of hazardous wastes between nations
3. Stockholm Convention – to eliminate or restrict the production and use of persistent organic pollutants
4. Waigani Convention – bans export of hazardous or radioactive waste to Pacific Islands Forum countries

1.5.3 National Projects

A number of national projects are underway, aimed at assisting TAs, business and the public to adopt waste management and minimisation principles in a consistent fashion.

1.5.3.1 National Waste Data Framework Project

The National Waste Data Framework (NWDF) is an on-going project seeking to improve the quality of data related to solid waste in New Zealand. The development of the NWDF took the following form:

- A staged development approach, focusing initially on the most important elements while also setting out a clear 'upgrade' path to include other elements.
- The first stage of the Framework (which has been completed) includes data on waste disposed of at levied disposal sites (Class 1 landfills) and information on waste services and infrastructure as well as other areas where practicable.
- Subsequent stages of the Framework will include more detailed data on diverted materials and waste disposed of at non-levied disposal sites.

WasteMINZ (the professional body for Waste Management in New Zealand) is now working on the implementation phase. The Framework will only be successful if it is widely adopted and correctly applied. The Council intends to be a part of the implementation of the NWDF by using the categories and terminology of the Framework in the Waste Assessment and the forthcoming WMMP.

1.5.3.2 National Standardisation of Colours for Bins

Until recently, councils and businesses in New Zealand had used a variety of colours to indicate what waste streams can be placed in what bins. This was viewed as possibly creating confusion when colours were used inconsistently and increasing the likelihood of contamination.

In October 2015 WasteMINZ, the Glass Packaging Forum, and councils around New Zealand agreed on a standardised set of colours for mobile recycling and rubbish bins, crates and internal office bins. Companies wishing to implement nationwide recycling schemes are strongly encouraged to use these colours both for their bins and on their signage. This will ensure that the colours used are consistent with both public place recycling and household recycling. The recommended colours are:

For bin bodies on wheeled bins, black or dark green should be used. These colours maximise the amount of recycled content used in the production of the bins.

For bin lids, crates and internal office bins:

- Red should be used for rubbish
- Yellow should be used for commingled recycling (glass, plastic, metal and paper combined)
- Lime green should be used for food waste and food waste/garden (referring to green) waste combined; noting that food waste-only collections are strongly encouraged to use a smaller bin size than combined food and garden collections.
- Dark Green should be used for garden waste.

- Light Blue should be used for commingled glass collections (white, brown, green glass combined).
- Grey should be used for paper and cardboard recycling.

The Councils support the adoption of the standard colours for recycling and rubbish and will seek to implement the standard in future communications and container choices.

1.5.3.3 Rural Waste Minimisation Project

Environment Canterbury is leading the New Zealand Rural Waste Minimisation Project to better understand the nature of waste on farms and to begin to identify alternatives to burning, burial and bulk storage of waste. The project has the following objectives:

1. To determine the impacts on and risks to New Zealand's natural resources (land, water and air), economy, and social and cultural wellbeing from current rural waste burning, burying and stockpiling practices.
2. To identify new waste minimisation options for rural waste management and assess the technical and economic feasibility of these.
3. To develop implementation plans with service providers for feasible waste minimisation options.

Practical outcomes from this project could facilitate the development of rural waste solutions in our districts.

1.6 Local and Regional Planning Context

This Waste Assessment and the resulting WMMP will have been prepared within a local and regional planning context whereby the actions and objectives identified in the Waste Assessment and WMMP reflect, intersect with, and are expressed through other planning documents. Key planning documents and waste-related goals and objectives are noted in the following sections.

2.0 Waikato Region

This section presents a brief overview of key aspects of the region's geography, economy, and demographics. These key aspects influence the quantities and types of waste generated and potential opportunities for the Council to manage and minimise these wastes in an effective and efficient manner.

2.1 Overview

Local authorities in the region comprise 11 territorial authorities and the Waikato Regional Council.

Figure 1: Map of Region and Territorial Authority Areas



Source: www.waikatoregion.govt.nz

In 2006, an estimated 588,000 tonnes of waste was disposed of to landfill in the Waikato region. This increased to more than 700,000 tonnes in 2010 – an estimated 19 per cent increase over this period.

Tirohia landfill in Paeroa and North Waikato Regional landfill near Hampton Downs receive significant quantities of waste from outside the region, including Auckland and Bay of Plenty regions, but also from places as far away as Gisborne. The Waikato region also sends recyclable materials to neighbouring regions for processing.

2.1.1 Regional Council Plans

The Regional Waste Strategy (2015 – 2018) presents a regional position on managing solid waste, hazardous liquid wastes and other harmful wastes in the Waikato Region. The Strategy has a vision of “working together towards a zero waste region”.

The Strategy also contains ten strategic guiding principles:

1. Prioritising waste prevention and reduction

2. Exploring onshore and sustainable solutions
3. Closed loop or cyclical solutions
4. Recognising kaitiakitanga (stewardship)
5. Keeping the big issues in front of decision makers
6. Supporting the valuable role of community enterprise
7. Working collaboratively with others to share responsibilities
8. Advocating for product stewardship
9. Getting the most from external funding
10. Exploring how to lower barriers to waste minimisation

The Strategy identifies focus areas and associated initiatives which are listed below.

Focus area A: Improve waste data and information management

- Initiative A1: Implement waste data and information network
- Initiative A2: Conduct waste and infrastructure studies

Focus area B: Review regulatory environment governing waste

- Initiative B1: Review of regulations related to waste activities including resource consents for landfills, cleanfills, and other waste related activities in the region.

Focus area C: Reduce the harmful impacts of waste

- Initiative C1: Provide education and support towards agrichemical collections and disposal options
- Initiative C2: Support initiatives that divert harmful and hazardous wastes from the environment

Focus area D: Increase resource efficiency and beneficial reuse

- Initiative D1: Facilitate a coordinated approach to increase resource recovery and beneficial reuse opportunities in the region
- Initiative D2: Support industry sectors to reduce use of resources and generation of waste

Focus area E: Stimulate research and innovation

- Initiative E1: Support research projects that explore the development and application of sustainable, innovative, alternative solutions to waste disposal.
- Initiative E2: Facilitate projects focused on market development opportunities for recovered, recycled or reusable resources

Focus area F: Foster partnerships, collaboration and funding

- Initiative F1: Work with local authorities and other councils to support collaborative waste minimisation objectives
- Initiative F2: Build relationships with relevant central government agencies, industry associations and tertiary and research institutes

- Initiative F3: Support industry and community engagement with the Waste Minimisation Fund

The Waste Strategy Advisory Group (WSAG) was established and includes representation from industry, local authorities, community enterprises, Auckland Council, Bay of Plenty Regional Council, and the Ministry for the Environment. The role of the WSAG is to monitor and review the effectiveness of the strategy, provide feedback, advice, and recommend changes, and to report back to their respective organisations.

2.1.2 Cross-Regional Collaboration

The Bay of Plenty and Waikato regional councils are working together on a number of pan-regional collaborative projects that have been identified as priority actions by the constituent councils. The areas of collaborative work include:

- Waste assessments and waste management and minimisation planning
- Solid waste bylaws, licensing and data
- Education and communication
- Procurement
- Rural waste

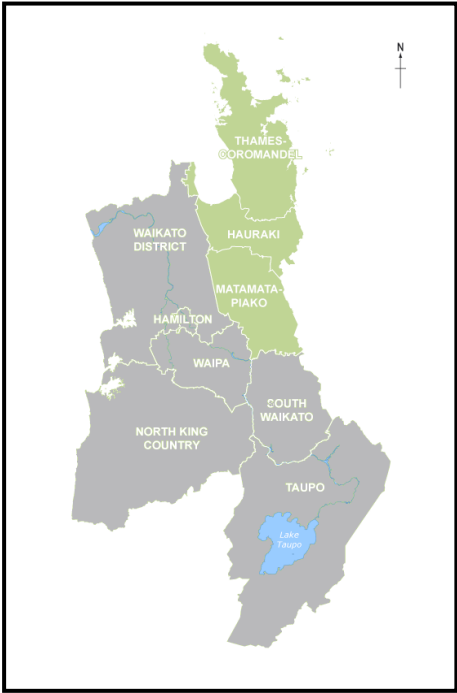
Projects are currently under way for the first two of these priorities and there is also on-going collaborative work among the constituent councils of the two regions on rural waste, tyres and education and communication.

3.0 Our Districts

This section presents a brief overview of key aspects of the Districts' geography, economy, and demographics. These key aspects influence the quantities and types of waste generated and potential opportunities for the Councils to manage and minimise these wastes in an effective and efficient manner.

As adjoining districts in the Waikato region (shown in Figure 1), Thames-Coromandel District Council (TCDC), Hauraki District Council (HDC) and Matamata-Piako District Council (MPDC) (the Councils/the Districts) have grouped together in order to prepare a joint Waste Assessment. The Councils have previously undertaken a joint Waste Assessment and a joint Waste Management and Minimisation Plan (WMMP). Since 2013 a shared solid waste services contract has been in place between the three Councils and Smart Environmental Ltd.

Figure 1: Eastern Waikato Councils



Source: Adapted from Map Produced by Waikato Regional Council

3.1 Thames-Coromandel District

The Thames-Coromandel District has a land area of 2580 km², the area is well-known for spectacular beaches, native bush and large parks and reserves and over half of the land within the District is either Department of Conservation or Crown land.

The usually resident population of 26,178 (2013 census data), is characterised with a relatively high proportion of older people².

In 2013 there were 12,201 occupied dwellings and 11,946 unoccupied dwellings. As an attractive holiday destination many units are occasional or secondary residences (i.e. holiday homes and

² 27.0 percent of people in Thames-Coromandel District are aged 65 years and over, compared with 14.3 percent of the total New Zealand population. 2013 Census

baches); the peak population in the summer holidays is significantly larger than the rest of the year. The median age (half are younger, and half older, than this age) is 51.1 years for people in Thames-Coromandel District. For New Zealand as a whole, the median age is 38.0 years. The number of people aged 65+ is forecast to increase to over 40% by 2045.³ The result of this changing profile of the population is that people aged between 15 and 64 years of age are projected to decline from around 57% to under 50%. This may have a flow-on effect to the make-up of the district's work force. The ageing population contribute to a decline in the average household size, decreasing from around 2.2 residents per household in 2013 to around 2.0 in 2045.

The 2015 updated population projection increases from 27,340 in 2013 to a peak of 29,316 in 2034 before declining to 22,197 in 2063.⁴

The Thames Coromandel District has a relatively diversified industry structure, with five industries employing over 1,000 MECs⁵ in 2014.⁴ Retail trade is the largest employer in the territorial authority with 1,789 MECs, but is projected to decrease to 1,389 MECs in 2061. Employment in accommodation and food services are projected to increase marginally from 1,504 MECs to 1,611 MECs by 2061, overtaking the number employed in agriculture, forestry and fishing. Construction is another industry with projected high growth rates, projected to be the third highest industry by employment by 2061. In 2014, the healthcare and social assistance industry had the third highest number in employment, but is projected to decline to sixth position by 2061, with the manufacturing and agricultural industries projected to employ more people. Employment in transport industry is projected to grow significantly by 55% from 463 MECs in 2014 to 715 MECs in 2061.

3.1.1 District Strategies and Plans

The following strategies and plans in-place in TCDC have provided useful context and background:

- Solid Waste Asset Management Plan for the Thames-Coromandel District Council
- 2015/2016 Annual Report
- Thames-Coromandel District Council 2015-2025 Ten Year Plan

3.2 Hauraki District

The Hauraki District covers a total of 1,144 km². The population projections recently completed by Rationale⁶ show a steady increase in the District population over the next thirty years. By 1 June 2018 it is estimated that the usually resident population of the Hauraki District will be 20,650. It is estimated that the population will reach 22,300 by 2028.

By June 2016 the Hauraki District had 9,715 dwellings. It is estimated to have 10,320 dwellings by 2018/19, reaching 11,457 by 2028/29.

³ Rationale - Thames - Coromandel District Projections for Resident Population, Dwellings and Rating Units to 2045 (April 2014)

⁴ Waikato Regional Council Technical Report 2016/03 Land use, demographic and economic projections for the Waikato region, 2013 to 2063

⁵ Modified employment counts (MECs) are employment counts adjusted to reflect estimates of the number of working proprietors.

⁶ Hauraki District Council Growth Projections Summary 2018-48 (May 2017)

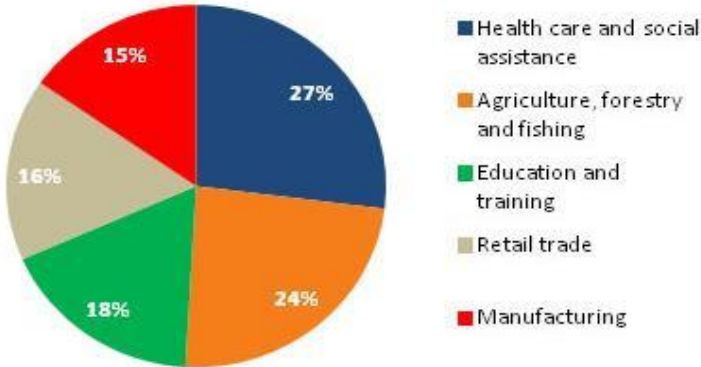
There are a higher proportion of residents between 45-64 and 65+ compared to the rest of New Zealand. The median age is 45.5 years for people in Hauraki District, for New Zealand as a whole, the median age is 38.0 years. In 2013 the proportion of people aged 65 and over made up around 22% of the Hauraki District total population. This is above the national average of 14%. This trend is projected to continue and the proportion of people aged 65 or over in the District expected to increase to 38% by 2048.

The result of this changing profile of the population is that people aged between 15 and 64 years of age are forecast to decline from 57% in 2018 to around 45% in 2048. This results in a net decrease in the number of people in this age bracket which may have a flow-on effect to the make-up of the work force in the district. **Error! Bookmark not defined.**

The three largest urban centres in the District are Waihi, Paeroa and Ngatea. While Hauraki does not have the same level of peak season visitor influx as Thames-Coromandel there are high visitor numbers in Whiritoa.

The Hauraki District supports a range of economic activities, including: a strong agricultural sector, which is predominantly dairy farming, beef and sheep and gold and silver mining.

Figure 2: Top 5 Industries in Hauraki District



(Graphical information from Statistics NZ 2013)

The Hauraki District is currently heavily dependent on agriculture, with over 1,570 MECs in 2014, or just over one in five people employed in agriculture. Although agriculture is projected to remain the dominant employer by 2061, there is considerable growth of employment in manufacturing in the district, projected to grow from 795 MECs in 2014 to 1,084 in 2061. This is a considerable increase for this region, constituting the greatest percentage growth of employment in manufacturing for the Waikato region. The health care and social assistance industry is the second largest industry in 2014 with 864 MECs. However, it is projected to be overtaken by the manufacturing industry to become the third largest in terms of employment by 2061, reaching 911 MECs by 2061. As in the other areas with relatively substantial population and economic growth, quite substantial increases in construction industry employment are projected. The fifth largest industry, retail trade, is projected to decline in employment, continuing the downward trend to 560 MECs in 2014, and to 472 MECs by 2061.⁴

3.2.1 District Strategies and Plans

The following strategies and plans in-place in HDC have provided useful context and background:

- Solid Waste Activity Plan
- Hauraki District Plan

- Infrastructure Strategy
- Hauraki District Council Financial Strategy 2015-25

3.3 Matamata-Piako District

The Matamata-Piako District covers approximately 1755 km² of mostly flat land and is situated in the eastern part of the Waikato region bordering Hauraki, Waikato, South Waikato, Waipa, and Western Bay of Plenty Districts.

The total population of the district is 31,536 people (2013 census data). In 2013 there were 12,318 occupied dwellings and 909 unoccupied dwellings. The median age is 40.5 years for people in Matamata-Piako District. For New Zealand as a whole, the median age is 38.0 years.⁷

The 2018 population projection has the district population increasing over the entire projection period, from 34,980 in 2018 to 36,950 in 2048.⁸

Council has adopted a 'medium' growth scenario for the district as being the most appropriate for its long term planning. This is consistent with recommendations from Statistics New Zealand.

The populations of Morrinsville and Matamata are predicted to grow from 7,800 and 8,000 in 2018 to approximately 8,300–8,400 residents each by 2028, and 8,800 each by the year 2048. Te Aroha is predicted to grow to 4,400 people by 2028, and 4,300 by the year 2048. The population in the rural settlement areas is also projected to increase, although at a slower growth rate of 0.2% or 26 people per year. Overall, this is a 4.45% total and 0.4% annual average growth rate for 2018 to 2028 and 5.63% total and 0.2% annual average growth rate for 2018 to 2048.

Age structure

In 2013 the proportion of people aged over 65 made up around 18% of the district's total population, which was higher than the national average of 14%. The number of people aged 65+ is forecast to increase to between 31% and 34% in 2048. The result of this changing age structure is that people aged between 15 and 64 years of age are forecast to decline from 60% to around 50%. This results in a net decrease in the number of people in this age bracket which may have a flow-on effect to the make-up of the work force in the district.

Dwellings

The number of dwellings is projected to increase from 14,315 in 2018 to 15,253 by 2028 and to 16,950 in 2048. Factors such as the aging population contribute to a decline in the average household size, decreasing from around 2.48 residents per household in 2018 to 2.44 in 2028 and 2.29 in 2048.

District Economy

The economic drivers for the district include dairy farming, dairy manufacturing, wholesale and retail, meat processing and poultry processing. Other large industries include chemical and fertiliser manufacturing. These industries greatly influence the quantity and type of waste generated in the Matamata-Piako District. Manufacturing is projected to remain the largest industry in employment, above agriculture, out to 2061.⁴ In 2014, there were 3,749 MECs in

⁷ http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-a-place.aspx?request_value=13688&tabname=Ageandsex#

⁸ Rationale - Matamata-Piako District Projections for Resident Population, Dwellings and Rating Units to 2048 (May 2017)

manufacturing and 3,772 MECs in agriculture, out of the district’s total of 16,127 employees. These two industries employ just under half (46.6%) of Matamata-Piako’s employees.

Construction is third largest, in terms of numbers employed, with 1,368 MECs in 2014. This industry is projected to increase to 1,820 MECs in 2061. The retail trade industry was the fourth largest employer in 2014. It had 1,270 MECs in 2014 and is projected to decrease marginally to 1,129 by 2061.⁴

3.3.1 District Strategies and Plans

Matamata-Piako District Council has developed a vision for its Long-Term Plan 2018-28 of:

Matamata-Piako – The Place of Choice.

Lifestyle • Opportunities • Home

The vision is supported by the following Community Outcomes which relate to solid waste, and which have associated targets and performance measures, they are shown in the following table.

Connected Infrastructure	Healthy Communities	Environmental Sustainability
Infrastructure and services are fit for purpose and affordable, now and in the future.	Our community is safe, healthy and connected.	We support environmentally friendly practices and technologies.
Quality infrastructure is provided to support community wellbeing.	We encourage the use and development of our facilities.	
We have positive partnerships with external providers of infrastructure to our communities.	We engage with our regional and national partners to ensure positive environmental outcomes for our community.	

The following strategies and plans in-place in MPDC have provided useful context and background:

- Solid Waste Activity Plan
- Long-Term Plan 2015-2025
- Annual Report.

3.4 Implications of Economic and Demographic Trends for the Three Districts

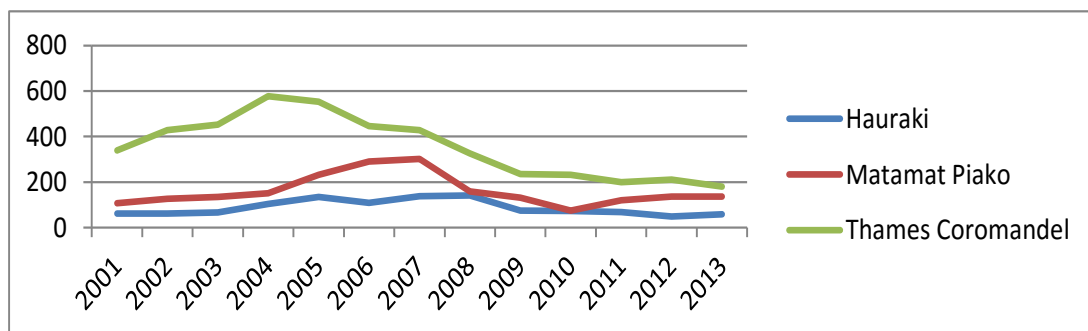
From a waste management perspective there are several key issues which are faced by the Districts. These issues are considered further in the Statement of Options (Section 10.0):

- **Population fluxes:** these are as a result of temporary residents and tourism during the summer months and public holidays and lead to highly variable tonnages and set-out rates during the year. This is predominantly an issue in Thames-Coromandel but to a lesser extent in some areas of Matamata-Piako and Hauraki. Seasonal fluctuations in population put pressure on infrastructure and resourcing and create challenges in optimising peak and off peak service levels.
- **Ageing populations:** projections for all three Districts show that they are growing areas for ageing resident populations as people choose to retire there and younger residents leave. This change in the demographic makeup will mean that the Council and other

service providers are going to have to cater for a larger number of older persons in our communities. This factor may also have a flow-on effect to the makeup of the work force in the District. The Councils also expect that the average number of residents per household will reduce over time. Although smaller households generate less waste per household they generate more waste per capita. As a result, a stable population occupying a greater number of households will lead to an increase in waste generation.

- **Rural/urban:** there is a significant area of rural land in all three Districts, amongst which there are scattered urban communities. Although this in itself is similar across the Districts, the needs and desires of the different communities are likely to be variable.
- **Increase in number of dwellings:** The number of building consents is expected to rise in the coming years. Recent data for the number of building consents in each district is shown in the chart below. Increased construction activity results in an increase in related waste generation.

Figure 3: Building Consents Issued



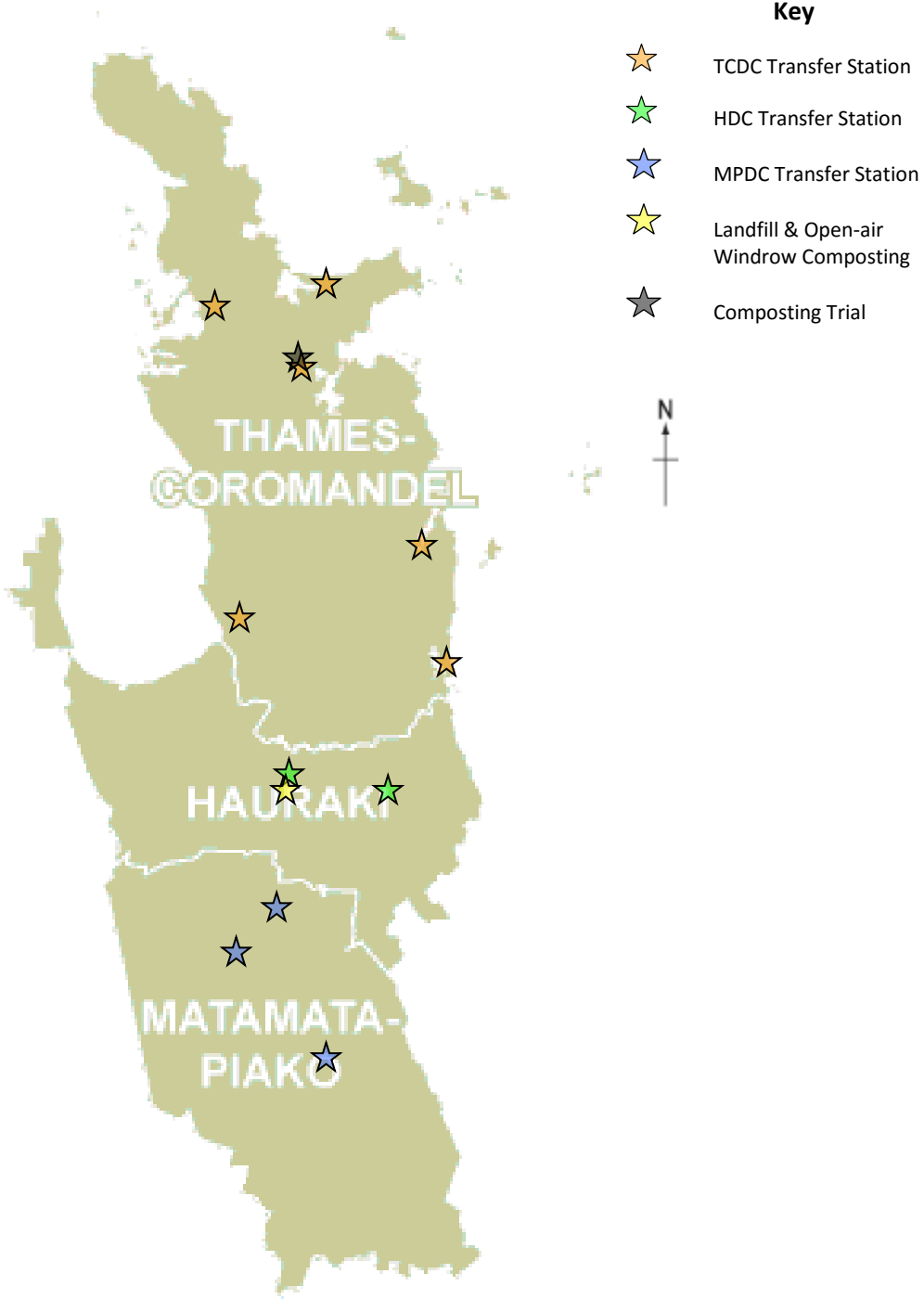
4.0 Waste Infrastructure

The information presented throughout this Section provides a summary of key strategic waste facilities that currently service households and businesses in the three Districts.

The facilities available in the eastern Waikato area are a combination of those owned, operated and/or managed by the Councils, and those that are owned and/or operated by commercial entities or community groups.

This inventory is not to be considered exhaustive, particularly with respect to the commercial waste industry as these services are subject to change. It is also recognised that there are many small private operators and second-hand goods dealers that are not specifically listed. However, the data is considered accurate enough for the purposes of determining future strategy and to meet the needs of the WMA.

Figure 4: Waste Facilities



The inventory of facilities and services has been generally categorised with reference to the waste hierarchy (as defined by the WMA).

4.1 Disposal Facilities

In April 2016, the Waste Management Institute of New Zealand (WasteMINZ) released the final version of the Technical Guidelines for Disposal to Land.⁹ These guidelines set out new standards for disposal of waste to land and, if the Regional Council implements the new guidelines, then there will be significant changes to the operation of cleanfill sites in the region, including tighter controls.

The definitions of the four classes of landfills provided in the Guidelines are summarised in below.

Class 1 - Municipal Landfill

A Class 1 landfill is a site that accepts municipal solid waste. A Class 1 landfill generally also accepts C&D waste, some industrial wastes, and contaminated soils. Class 1 landfills often use managed fill and clean fill materials they accept as daily cover. A Class 1 landfill is the equivalent of a “disposal facility” as defined in the WMA.

Class 2 - C&D/Industrial Landfill

A Class 2 landfill is a site that accepts non-putrescible wastes including construction and demolition wastes, inert industrial wastes, managed fill, and clean fill. C&D waste and industrial wastes from some activities may generate leachates with chemical characteristics that are not necessarily organic. Hence, there is usually a need for an increased level of environmental protection at Class 2 sites.

Class 3 – Managed Fill

A Class 3 landfill accepts managed fill materials. These comprise predominantly clean fill materials, but may also include other inert materials and soils with chemical contaminants at concentrations greater than local natural background concentrations.

Class 4 - Cleanfill

A cleanfill is a landfill that accepts only cleanfill materials. The principal control on contaminant discharges to the environment from clean fills is the waste acceptance criteria.

4.1.1 Class 1 Landfills

There is one Class 1 landfill disposal facility (as defined above) in the area, located at Tirohia. A high proportion of residual waste is transported from all three Districts to Tirohia Municipal Landfill for disposal. This landfill site is privately owned and operated by Waste Management Ltd.

It is estimated that remaining landfill capacity is in excess of 25 years and it is consented until approximately 2035. Waste streams accepted at the site include non-hazardous residential, commercial, and industrial solid waste, including special wastes. Sludges with less than 20% solid by weight are prohibited.

All three Districts hold a contract with Waste Management Ltd for the disposal of residual waste to landfill. The contracts started in July 2013 and are due to expire in June 2020.

This is the only operational landfill disposal facility across the three Districts. Other landfills within reasonable proximity to the three districts include:

⁹ Technical Guidelines for the Disposal to Land. WasteMINZ , April 2016

- Hampton Downs Landfill, owned and operated by EnviroNZ (Consented to 2030)
- Tokoroa Landfill, owned by South Waikato District Council
- Rotorua Landfill, owned by Rotorua District Council (Consented to 2030. Currently mothballed while undergoing feasibility assessment.)

It is considered that there is sufficient landfill capacity in the region for the term of this Waste Management and Minimisation Plan.

4.1.2 Class 2-4 Landfills

Research estimates that waste disposed of to land other than in Class 1 landfills accounts for approximately 70% of all waste disposed of, and these operators are not required currently to pay the waste levy to central government.¹⁰ Other disposal sites include Class 2-4 landfills and farm dumps.

The Waikato Regional Council defines cleanfills as a permitted activity for anything up to 2,500 m³ per annum. A resource consent is required for any facility that exceeds this volume, and any fill that intends to accept material other than cleanfill.

For this reason, and because few of these cleanfills are open to the public and many are temporary or short term associated with roading projects, it is very difficult to assess these sites accurately. In practical terms, the lack of precise data about disposal of waste to Class 2-4 landfills makes it impossible to reliably monitor any changes over time in the disposal of major waste streams, such as construction and demolition waste.

Active cleanfill sites in the Eastern Waikato Districts include:

- James Drainage, Coromandel
- Tirohia Landfill, Tirohia

In the Ministry for Environment's 2002 "A Guide to the Management of Cleanfills" 'cleanfill' is defined as: "Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:

- combustible, putrescible, degradable, or leachable components
- hazardous substances
- products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices
- materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances
- liquid waste."

Class 2 landfills can be an issue for effective and efficient waste management as, for some materials, Class 2 landfills are competing directly with other options such as composting sites and Class 1 landfills. However, Class 2 landfills are much less costly than Class 1 landfills to

¹⁰ Ministry for the Environment (2014) Review of the Effectiveness of the Waste Disposal Levy. The report estimates 56% of material disposed to land goes to non-levied facilities, 15% to farm dumps and 29% to levied facilities.

establish and require much lower levels of engineering investment to prevent discharges into the environment. Class 2 landfills also have lower compliance costs than Class 1 landfills and are not required to pay the waste levy. Because of these differing cost structures, Class 2 landfills can charge less for disposal than Class 1 landfills. Increasing disposal prices could have the result of simply driving more waste to Class 2-4 disposal sites rather than incentivising recovery.

Currently there is no Class 2 or 3 sites in the Eastern Waikato Districts.

4.2 Transfer Facilities

Across the three Districts there are 12 refuse transfer stations in total. Waste can be dropped off at these sites by the public and commercial collectors after paying a gate fee, and the waste is subsequently compacted before transport to a Class 1 landfill. The Councils own all sites. The opening hours and days for transfer stations, by district, are shown in Table 2. TCDC transfer stations have extended opening hours during the summer peak period.

There is some variation in both the materials accepted and the charges administered across the Districts. Each Council sets charges.

Smart Environmental Ltd is contracted to operate and maintain the transfer stations. Smart Environmental are responsible for removal of all materials from the sites and all operations on the sites. In TCDC and MPDC the income from the gate fees is retained by Council whilst in HDC the income is retained by Smart Environmental.

Table 1: Matamata-Piako District Refuse Transfer Stations: Opening Hours and Days

	Mangawhero Rd, Matamata	Roache Rd, Morrinsville	State Highway 26, Waihou
Monday	Closed	10.00 – 16.00	Closed
Tuesday	10.00 – 16.00	10.00 – 16.00	Closed
Wednesday	10.00 – 16.00	Closed	10.00 – 16.00
Thursday	Closed	10.00 – 16.00	Closed
Friday	10.00 – 16.00	Closed	10.00 – 16.00
Saturday	10.00 – 16.00	10.00 – 16.00	Closed
Sunday	10.00 – 16.00	10.00 – 16.00	10.00 – 16.00

Table 2: Thames Coromandel District Refuse Transfer Stations: Opening Hours and Days

Opening Hours (Non-Peak)							
	Coromandel	Matarangi	Tairua	Pauanui	Whitianga	Whangamata	Thames
Monday	Closed	13:30 to 17:30	13:30 to 17:30	Closed	08:30 to 14:30	08:30 to 14:30	08:30 to 14:30
Tuesday	11:00 to 16:30	Closed	Closed	13:30 to 17:30	08:30 to 14:30	08:30 to 14:30	08:30 to 14:30
Wednesday	Closed	Closed	Closed	Closed	08:30 to 14:30	08:30 to 14:30	08:30 to 14:30

Thursday	11:00 to 16:30	13:30 to 17:30	13:30 to 17:30	Closed	08:30 to 14:30	08:30 to 14:30	08:30 to 14:30
Friday	Closed	Closed	Closed	13:30 to 17:30	08:30 to 14:30	08:30 to 14:30	08:30 to 14:30
Saturday	11:00 to 17:30	10:00 to 17:30	10:00 to 17:30	10:00 to 17:30	10:30 to 17:30	10:30 to 17:30	10:30 to 17:30
Sunday	11:00 to 17:30	10:00 to 17:30	10:00 to 17:30	10:00 to 17:30	10:30 to 17:30	10:30 to 17:30	10:30 to 17:30
Opening Hours (Summer time)							
	Coromandel	Matarangi	Tairua	Pauanui	Whitianga	Whangamata	Thames
Monday	11:00 to 16:30	12:30 to 17:30	12:30 to 17:30	12:30 to 17:30	08:30 to 17:30	08:30 to 16:00	08:30 to 14:30
Tuesday	11:00 to 16:30	12:30 to 17:30	12:30 to 17:30	12:30 to 17:30	08:30 to 17:30	08:30 to 16:00	08:30 to 14:30
Wednesday	11:00 to 16:30	12:30 to 17:30	12:30 to 17:30	12:30 to 17:30	08:30 to 17:30	08:30 to 16:00	08:30 to 14:30
Thursday	11:00 to 16:30	12:30 to 17:30	12:30 to 17:30	12:30 to 17:30	08:30 to 17:30	08:30 to 16:00	08:30 to 14:30
Friday	11:00 to 16:30	12:30 to 17:30	12:30 to 17:30	12:30 to 17:30	08:30 to 17:30	08:30 to 16:00	08:30 to 14:30
Saturday	10:30 to 17:30	10:30 to 17:30	10:30 to 17:30	10:30 to 17:30	10:30 to 17:30	10:30 to 17:30	10:30 to 17:30
Sunday	10:30 to 18:30	10:30 to 18:30	10:30 to 18:30	10:30 to 18:30	10:30 to 18:30	10:30 to 18:30	10:30 to 18:30

Table 3: Hauraki District Refuse Transfer Stations: Opening Hours and Days

	Grey Street, Paeroa	Dean Crescent, Waihi
Monday	12:30 to 17:30	10.00 – 16.00
Tuesday	12:30 to 17:30	Closed
Wednesday	Closed	10.00 – 16.00
Thursday	12:30 to 17:30	Closed
Friday	12:30 to 17:30	10.00 – 16.00
Saturday	12:30 to 17:30	10.00 – 16.00
Sunday	12:30 to 17:30	10.00 – 16.00

4.3 Hazardous Waste Facilities and Services

The hazardous waste market comprises both liquid and solid wastes that, in general, require further treatment before conventional disposal methods can be used. The most common types of hazardous waste include:

- Organic liquids, such as those removed from septic tanks and industrial cesspits
- Solvents and oils, particularly those containing volatile organic compounds
- Hydrocarbon-containing wastes, such as inks, glues and greases
- Contaminated soils (lightly contaminated soils may not require treatment prior to landfill disposal)
- Chemical wastes, such as pesticides and agricultural chemicals
- Medical and quarantine wastes
- Wastes containing heavy metals, such as timber preservatives
- Contaminated packaging associated with these wastes.

A range of treatment processes are used before hazardous wastes can be safely disposed.

Most disposal is either to Class 1 landfills or through the trade waste system. Some of these treatments result in trans-media effects, with liquid wastes being disposed of as solids after treatment. A very small proportion of hazardous wastes are 'intractable', and require exporting for treatment. These include polychlorinated biphenyls, pesticides, and persistent organic pollutants.

Domestic quantities of hazardous waste can be taken to the Refuse Transfer Stations.

4.3.1 Agrecovery Rural Recycling Programme

The Agrecovery programme provides New Zealand's primary sector with responsible and sustainable systems for the recovery of 'on farm' plastics and the disposal of unwanted chemicals.

Details of current collection sites can be found on their website:
<http://www.agrecovery.co.nz/resources/sites-and-events/waikato/>

4.4 Recycling and Reprocessing Facilities

There are several waste processing and recycling facilities available in the region or in neighbouring regions. These are listed below.

Table 4: Recycling & Processing Facilities

Name/Operator	Type	Key services/waste streams	Location
Smart Environmental Ltd	MRF and bulking station	Sorting and bulking of recyclables	Kopu, TCDC
TCDC	Trial composting facility	Green waste, biosolids	Whitianga

Visy	Materials Recycling Facility	Glass and other materials sorting	Onehunga, Auckland
Envirofert	Composting Facility, Cleanfill	Green waste, food wastes, clean plasterboard	Tuakau
Living Earth	Composting Facility, Landfill	Green waste and food wastes	Tirohia
South Waikato Achievement Trust	Dismantling site	Electronic waste	Tokoroa
SIMS Pacific	Scrap yard	metals	Auckland
Oji Fibre Solutions	Materials Recycling Facility	Paper and card	Auckland

4.4.1 Assessment of Recycling and Reprocessing Facilities

Within the context of current legislative and policy arrangements there is reasonable provision for recycling and recovery within the region – although there is still scope for greater levels of recovery. The cost of separate collection and transport compared to the cost of landfilling is a barrier for greater recovery.

5.0 Waste Services

5.1 Council-Contracted Waste Collection Services

The current Council kerbside collection services are carried out under contract by Smart Environmental Limited:

- The kerbside refuse collection service is weekly across all authorities, except for the summer peak period in parts of the Thames-Coromandel and Whiritoa in HDC which have an increased collection frequency;
- Recyclables are collected fortnightly on the same day as refuse collections. Glass is collected in crates and other recyclable materials (Plastics 1 – 7, aluminium & steel cans, paper, and cardboard) in wheeled bins. The contracts provide for Smart Environmental ownership of the recyclable materials;
- The refuse collection is a user-pays bag system. There is no limit on the number of pre-paid bags that can be put out for collection;
- There are no Council kerbside green waste or food waste collections in place.

The contract is not due to expire until August 2023.

Table 5: Council Kerbside Refuse Collections

Council	Kerbside collection service	Charges/funding
TCDC	Weekly collections of pre-paid blue bags	\$2.40 for 60L bags or \$1.20 for 30L bags
HDC	Weekly collections of pre-paid 60 litre yellow bags	\$2.20 for 60L bags
MPDC	Weekly collections of pre-paid 60 litre black bags	52 bags provided with rates via a voucher Additional user pays bags purchased for \$3.00 each.

5.1.1 Thames-Coromandel District Council

The Council provides kerbside refuse and recycling collection services to the majority of the district. During off-peak times the rubbish and recycling collection, which takes place on the same day, is weekly. During the peak period this collection is increased to three times per week in some of the busiest areas.

5.1.2 Hauraki District Council

The kerbside collection service operates in the following urban areas: Ngatea, Paeroa, Turua, Kerepehi, Waihi, Waikino, Karangahake, Mackaytown and Whiritoa.

5.1.3 Matamata-Piako District Council

The Council provides kerbside refuse and recycling collection services in the main urban centres: Matamata, Te Aroha, Morrisville and the following rural townships: Waharoa, Kutia, Walton, Waihou, Waitoa, Mangateparu and Tahuna.

5.2 Other Council Services

In addition to the kerbside collection services described above and the transfer station services detailed in Section 4.2, there are other waste-related programmes and services provided by the Councils e.g. rates-funded clean ups of illegal dumping, and provision of litter bins in public places.

5.2.1 Drop-off Facilities for Rubbish and Recycling

In the Thames-Coromandel District there are 6 sites with 24 hours per day, seven days per week drop-off facilities for rubbish and recycling. Smart Environmental Ltd are contracted to dispose of rubbish and manage recyclables from drop-off facilities.

There are no drop-off facilities in either HDC or MPDC with the exception of a temporary drop-off point for recyclable glass located in Whiritoa in HDC during the summer period.

5.2.2 Waste Education and Minimisation Programmes

All three Councils' provide financial support for the work done in schools by Enviroschools Waikato, Paper4trees and the Zero Waste Education Trust.

The Enviroschools programme is coordinated by the Regional Council and enables schools to integrate sustainability into the curriculum. It supports and empowers children and young people to plan, design and implement sustainability actions that are important to them and their communities. The number of schools active in the Enviroschools programme for each District is currently 10 in Thames Coromandel, 9 in Hauraki and 10 in Matamata-Piako.

The Zero Waste Education (ZWE) programme has been educating children about the topic of sustainable resource use since 1993. They arrange school visits which aim to engage and educate children about waste management.

Paper4trees is an environmental education programme run by EERST (Environmental Education for Resource Sustainability Trust), encouraging schools and preschools to reduce the amount of paper and cardboard waste they send to landfill.

5.2.3 Solid Waste Bylaws

The Councils also have responsibilities and powers as regulators through the statutory obligations placed upon them by the WMA. The Councils operate in the role of regulator with respect to:

- management of litter and illegal dumping under the Litter Act 1979
- trade waste requirements
- nuisance related bylaws.

Waste-related bylaws must not be inconsistent with the Councils' WMMP.

New Solid Waste bylaws are being developed for each of the Councils.

5.2.4 Litter Control and Enforcement

The Councils use either internal resources or local contractors to clear up any illegally dumped waste. If there are small amounts the bylaw enforcement officer will pick it up. The contractor engaged by council will depend on what is required by the job in hand for example the size of load, the content of the load (e.g. carcasses, e-waste etc.). Where possible Council prosecutes the responsible parties.

Litter on the state highways is the responsibility of the New Zealand Transport Agency.

5.2.5 Public Litter Bins and Public Place Cleaning

In TCDC litter bins are managed under the Parks Contract. There are approximately 600 litter bins in the District. TCDC has installed "LoveNZ" public place recycling bins at various locations in Whangamata, Hot Water Beach, Whitianga and Hahei. These bins are designed to collect plastic bottles and cans.

In HDC the litter bins are managed by council using the Construction and Maintenance department.

In MPDC the litter bins are managed by a subcontractor.

In the town centres of the three districts the Councils provide a street cleaning service on a regular basis. Each of the Councils support the community organised litter picks by providing free disposal of collected waste.

5.2.6 Abandoned Vehicles

Depending on their location abandoned vehicles are managed by New Zealand Transport Agency (on the State Highways) or by the councils' contractors (if they are on reserve land or local roads). There have been approximately 75 reports to TCDC of abandoned vehicles in the last year.

5.3 Proportion of Properties Receiving Council Kerbside Services

Each council provides services to a different proportion of properties within its district. This information along with the amount of waste and recycling per property served is presented in Table 6.

Table 6: Proportion of Properties Receiving Council Kerbside Recycling Services

	TCDC	HDC	MPDC
Number of properties	26,765	9,553	14,180
% of properties with Council kerbside services	91%	73%	66%
Domestic kerbside rubbish 2015/16 (tonnes per year)	3,442	1,388	1,954
kg/person/year of domestic kerbside rubbish	131	78	62
kerbside rubbish per property served (kg)	141	200	210

Domestic kerbside recycling 2015/16 (tonnes per year)	3,950	1,388	2,042
kg/person/year of domestic kerbside recycling	151	78	65
kerbside recycling per property served (kg)	162	200	219

5.4 Non-Council Services

There are several non-Council waste and recycling service providers operating in the districts. All known operators offering a kerbside residual, recycling and/or organics collection in the Districts are shown in Table 7.

Table 7: Private Collection Operators

Operator	Service	TCDC	HDC	MPDC
Smart Environmental Ltd	Recycling/Refuse	✓	✓	✓
Clean-it Skips	Refuse	✓		
Waste Management Ltd	Recycling/Refuse	✓	✓	✓
Wheelie Bin Services	Refuse			✓
EnviroNZ	Recycling/Refuse		✓	✓

In addition, there is the usual complement of scrap metal dealers, salvage yards and second-hand and charity stores in all three Districts. An assessment of these services is outside the scope of this Waste Assessment.

All three Councils have supported the Waikato region Waste Exchange programme (<http://www.nothrow.co.nz/>) which encourages the exchange of unwanted materials.

Reuse the Seagull Centre Trust is based in Thames. They focus on reusable household items such as furniture, whitegoods and electronics, clothes, crockery and utensils, and toys. The centre has been running since 2006 and is now located at the entrance to the Thames transfer station which helps provide good profile when households are taking loads to the transfer station. The Seagull Centre is well patronised and has been steadily growing its operations since its inception. It started with only a \$50,000 start-up grant from TCDC and a lease of Council land, and now employs 12 staff and a team of volunteers, under a charity formed in 2008 and overseen by a dedicated group of trustees.

The Goldmine, is a reuse shop based at the Coromandel Refuse Transfer Station. It was recently established by the Coromandel Independent Living Trust. The aim of the shop is to divert materials from landfill and provide employment and training for the local community.

6.0 Situation Review

6.1.1 Definitions Used in this Section

The terminology that is used in this section to distinguish sites where waste is disposed of to land are taken from the National Waste Data Framework which, in turn, are based on those in the WasteMINZ Technical Guidelines for Disposal to Land (summarised in section 4.1).

For local government planning purposes, the most important metrics relating to solid waste are the tonnage and composition of waste disposed of to landfill and the tonnage and composition of 'diverted materials'. The Waste Minimisation Act 2008 makes a clear distinction between these two types of 'waste' materials, with 'diverted materials being defined in the Act as *"any thing that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded"*.

Measurements of waste disposed of to landfill are more readily compiled and more reliable than measurements of diverted materials. Waste to landfill is a well-defined, discrete material flow, handled by a relatively small number of operators with all material generally being weighed and recorded at a common point – the landfill weighbridge.

On the other hand, there is no consensus on the boundaries of what constitutes a 'diverted material'. Some materials, such as scrap metal and cardboard collected for recycling, are widely accepted as being diverted materials, but for other materials, such as those handled by second-hand dealers, there is no such agreement. Compounding the difficulties of quantifying diverted materials is the large number of businesses operating in the industry (usually undocumented) and the wide range of unrelated disposal pathways for the materials. The commercial sensitivity of quantitative information is another major complication, with many businesses in the industry being reluctant to voluntarily provide data.

As a result of these factors, this summary of waste data and waste flows will focus on waste disposed of to landfill. No data is available related to either the source of waste or the composition.

Data on diverted materials will be limited to Council-controlled recycling systems (i.e. kerbside recycling and transfer station drop-offs). No attempt has been made to quantify other diverted materials, such as:

- Scrap metal
- Concrete
- Construction and demolition materials such as timber
- Organic waste used for stock feed
- Landscaping waste
- Tyres
- Second-hand goods
- Timber processing waste used for hog fuel

6.1.2 Waste and Recycling Quantities

The quantities of landfilled waste and diverted materials were determined through analysis of Council records, landfill records provided by Tirohia Landfill, and information provided by private waste and recycling operators. The results for waste to landfill are presented in Table 1. Neither

daily nor final landfill cover material has been included in the data. The estimates of waste controlled by commercial waste operators are based on data from the 2012 Waste assessment.

Table 8: Waste to Landfill 2015-16

WASTE TO LANDFILL	TCDC (Tonnes per annum)	HDC (Tonnes per annum)	MPDC (Tonnes per annum)
Council-controlled waste streams			
Transfer station and kerbside rubbish	13,409	3,570	4,728
Special waste to landfill	1,485	33	0
Commercial operator-controlled waste to landfill	3,129	2,862	8022
TOTAL – WASTE TO LANDFILL	18,023	6,465	12,750

6.1.3 Waste Composition

There is no information available relating to the composition of waste to landfill from Thames-Coromandel District. The composition of solid waste from Hauraki District was measured for Council by Waste Not Consulting in 2006. At the time, there was no kerbside recycling service and so the composition is not suitable for use in the current assessment.

The composition of solid waste from Matamata-Piako District was measured for Council by Waste Not Consulting in 2010. The results of the analysis are shown in Table 9 for:

- 1) The composition of the Council’s kerbside refuse bag collection
- 2) The composition of the overall waste stream from the District being disposed of to landfill.

Table 9: Matamata-Piako District Waste Composition

	MPDC kerbside refuse 2010	All waste to landfill from MPD 2010
Paper	12.0%	13.2%
Plastics	13.0%	10.9%
Organics (food and greenwaste)	46.8%	30.1%

Ferrous metals	3.1%	4.0%
Non-ferrous metals	0.9%	0.9%
Glass	2.6%	4.6%
Textiles	3.7%	4.6%
Nappies & sanitary	14.5%	5.3%
Rubble, concrete, etc.	1.5%	9.9%
Timber	0.3%	12.8%
Rubber	0.5%	0.9%
Potentially hazardous	1.1%	2.6%
TOTAL	100.0%	100.0%

Organic material, which includes primarily food waste and greenwaste, comprised the largest proportion of both the kerbside refuse and the overall waste stream to landfill.

Paper, plastics and materials classified as 'Nappies & sanitary' all comprised similar proportions of the kerbside refuse, between 12% and 15%. All other materials in the kerbside refuse comprised less than 4% of the total.

Paper, plastics and timber all comprised similar proportions of the kerbside refuse, between 11% and 13%. All other materials in the kerbside refuse comprised less than 6% of the total.

6.1.4 Composition of Kerbside Mixed Recycling

The data regarding composition of kerbside mixed recyclables comes from the Smart Environmental Materials Recovery Facility where the waste from the wheelie bins is sorted.

Table 10: Composition of Kerbside Recycling sorted at the Materials Recovery Facility

Composition of kerbside recycling – 2016	% of total
Mixed paper	70.0%
Plastic containers	9.6%
Aluminium cans	2.2%
Steel cans	5.6%
Contamination	10.3%

6.1.5 Council Market Share of Kerbside Waste Services

In all three districts, kerbside refuse collection services are provided by both Council and private waste operators. While the Councils' services are used primarily by residential properties, anecdotal evidence suggests that the private waste operators' services are also used by a significant proportion of commercial properties.

A council's market share of kerbside refuse collection services affects the financial parameters of the council's collection and may affect the success of council's waste reduction initiatives. Householders using a private user-pays bin collection service have no economic incentive to reduce the quantity of refuse they dispose of through the service. On the other hand, householders who use the user-pays council bag services can save money by reducing their waste to landfill.

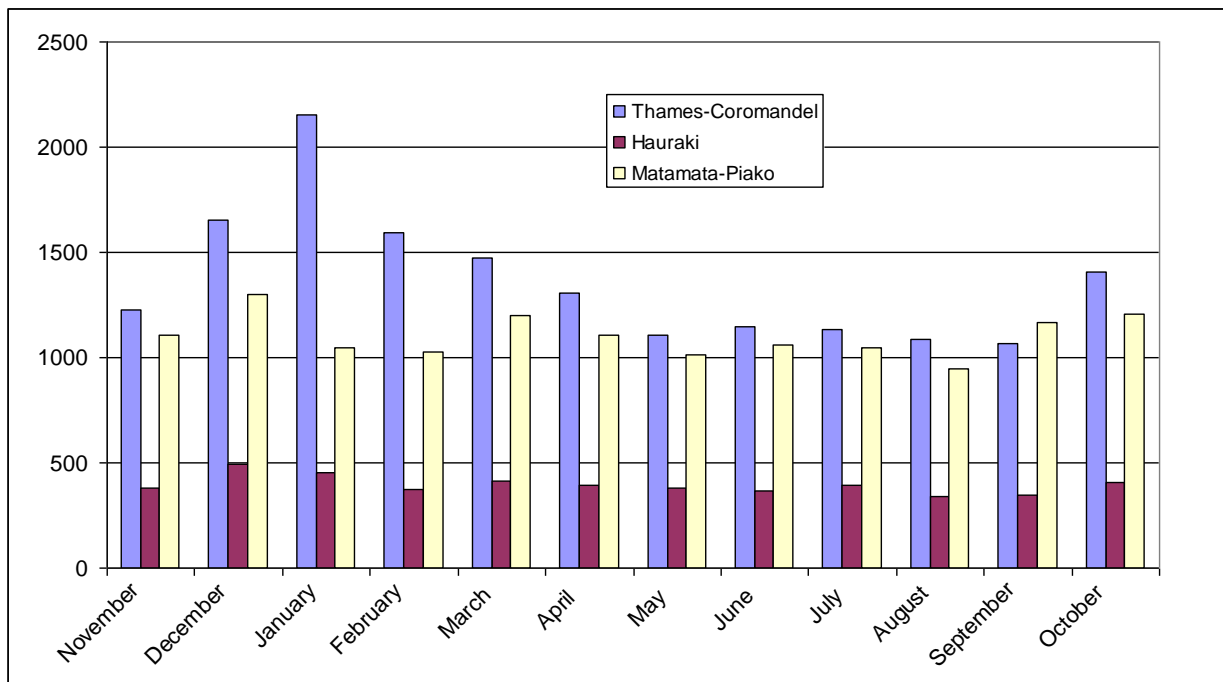
The 2012 Waste Assessment found that there is a substantial variation in the Councils' market share of kerbside refuse services. Whereas TCDC's kerbside services account for over 80% of the total kerbside refuse market, MPDC controls slightly over 20%. HDC's kerbside services account for 51% of all kerbside refuse services. TCDC provides kerbside services to a high proportion of properties, which provides private waste operators with less of an opportunity to establish an economically-viable collection service. Geographical factors are another influencing factor, as sparsely-populated areas or those with difficult terrain are less economically viable and hence less attractive to private waste operators.

6.1.6 Seasonality of Waste Generation

The generation and disposal is recognised as being subject to seasonal variations. In most parts of New Zealand, waste disposal reaches an annual peak in December, declines towards the middle of winter, and then increases again towards the end of the year. This pattern primarily relates to the annual cycles of commercial and manufacturing activity.

In Figure 4 below, the monthly tonnages of waste to landfill from each district are compared.

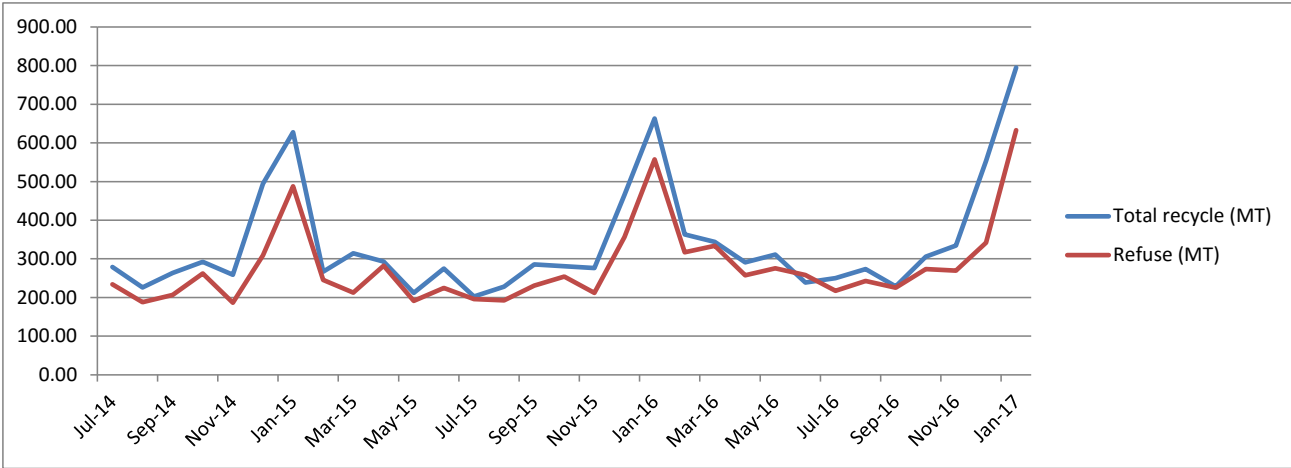
Figure 4: Comparison of Monthly Landfill Tonnages



While Hauraki and Matamata-Piako display a similar disposal pattern to most other parts of New Zealand, with waste disposal in December being the highest of any month of the year. Thames-Coromandel, on the other hand, peaks in January, when visitor numbers are the greatest. The large number of visitors in the district in January results in increased commercial and residential waste activity, and therefore more waste from these sources.

This January peak in waste and recycling caused by visitor numbers is illustrated by Figure 5, which shows the monthly tonnage of Council’s kerbside collections.

Figure 5: TCDC Kerbside Collection (metric tonnes)



6.2 Farm Waste Disposed of On-site

Very little research has been conducted on the quantity of waste generated on farms and disposed of on-site. There are two substantive pieces of research, including one conducted in the Waikato and Bay of Plenty in 2014¹¹ and a 2013 study of farm waste in Canterbury¹². The Canterbury study found that 92% of the farms surveyed practised one of the “3B” methods (burn, bury, or bulk store indefinitely) for on-site disposal of waste.¹³ The studies calculated average annual tonnages of waste for four different types of farm in the regions. As farm waste from a specific type of farms is likely to be similar around the country, the data is considered to be suitable for applying to other regions, if the correct number of farm types is used for the calculations.

The presence of hazardous wastes including agrichemicals and containers, treated timber, paints solvents, and used oil was noted in the study, and the management techniques applied to these was variable and often of concern.

The data from the Canterbury report was applied nationally, on a regional basis, in a 2014 study that produced a database of non-municipal landfills for the Ministry for the Environment.¹⁴ The

¹¹ GHD (2014) *Rural Waste Surveys Data Analysis Waikato & Bay of Plenty*, Waikato Regional Council Technical Report 2014/55, July 2014

¹² GHD (2013), *Non-natural rural wastes - Site survey data analysis*, Environment Canterbury Report No.R13/52

¹³ GHD (2013), *Non-natural rural wastes - Site survey data analysis*, Environment Canterbury Report No.R13/52

¹⁴ Tonkin & Taylor (2014), *New Zealand Non-Municipal Landfill Database*, prepared for Ministry for the Environment

report considered “non-municipal landfills” to include “cleanfills, industrial fills, construction and demolition fills, and farm dumps”.

Based on the data contained in the 2013 Canterbury and 2014 Waikato/BOP and national studies, the 2,838 farms in the districts are estimated to have generated an average of 37 tonnes of waste per farm per annum. .

Table 11: Estimated On-farm Disposal of Farm Waste in Districts

	Dairy	Livestock	Other	TOTAL	Waste disposed of (tonnes)
Number of farms HDC (2012)	432	228	135	795	29,415
Number of farms MPDC (2012)	999	321	261	1581	58,497
Number of farms TCDC (2012)	87	201	174	462	17,094

7.0 Performance Measurement

7.1 Current Performance Measurement

This section provides comparisons of several waste metrics between districts and other territorial authorities. The data from the other districts has been taken from a variety of research projects undertaken by Eunomia Research & Consulting and Waste Not Consulting.

7.1.1 Per Capita Waste to Class 1 Landfills

The total quantity of waste disposed of at Class 1 landfills in a given area is related to a number of factors, including:

- the size and levels of affluence of the population
- the extent and nature of waste collection and disposal activities and services
- the extent and nature of resource recovery activities and services
- the level and types of economic activity
- the relationship between the costs of landfill disposal and the value of recovered materials
- the availability and cost of disposal alternatives, such as Class 2-4 landfills
- seasonal fluctuations in population (including tourism).

By combining Statistics NZ population estimates and the Class 1 landfill waste data then the per capita per annum waste to landfill in 2016 from the districts can be calculated as in Table 2 below. The estimate includes special wastes but excludes non-levied cleanfill materials.

Table 12: Waste Disposal per Capita

Calculation of per capita waste to Class 1 landfills	TCDC	HDC	MPDC
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Population (Stats NZ 2013 census)	26,178	17,808	31,536
Total waste to Class 1 landfill (tonnes per year)	18,023	6,465	12,750
Tonnes/capita/annum of waste to Class 1 landfills	0.688	0.363	0.404

Per capita waste disposal is substantially higher in TCD than the other two districts. A significant factor in this is the large number of visitors to the district and the resulting size of the tourism and hospitality industry. As the census data relates to the number of 'usually resident' individuals, it does not include visitors to the district. The differences also relate to the levels and types of economic activity in each district and the amount of waste being disposed of through other routes such as on farm burial.

The data for 2012 is shown in the table below for comparison. MPDC and TCDC have seen the waste disposal per capita decrease whilst it has increased slightly in HDC.

Table 13: Waste Disposal per Capita in 2012

Calculation of per capita waste to Class 1 landfills	TCDC	HDC	MPDC
Population (Stats NZ 2006 census)	25,941	17,190	30,483
Total waste to Class 1 landfill (tonnes per year)	18,029	6,202	13,234
Tonnes/capita/annum of waste to Class 1 landfills	0.695	0.361	0.434

7.1.2 Comparisons with Other Districts – Waste to Landfill

Table 14 compares the weight of waste per capita for a number of districts with three districts.

Table 14: Per Capita Waste to Class 1 Landfills Compared to Other Districts

Overall waste to landfill (excluding cleanfill and cover materials)	Tonnes per capita per annum
Gisborne District 2010	0.305
Waimakariri District 2012	0.311
Westland District 2011	0.331
Carterton/Masterton/South Wairarapa Districts 2015	0.352
Hauraki District	0.363

Ashburton District 2014-15	0.366
Matamata District	0.404
Tauranga and WBoP District 2010	0.452
Napier/Hastings 2012	0.483
Southland region 2011	0.500
Wellington City & Porirua City 2015	0.507
Christchurch City 2012	0.524
Taupo District 2013	0.528
Kāpiti Coast District 2015	0.584
Wellington region 2015	0.608
New Plymouth District 2010	0.664
Hamilton City	0.668
Thames Coromandel District	0.688
Queenstown Lakes District 2012	0.735
Auckland region 2012	0.800
Upper Hutt City & Hutt City 2015	0.874

The districts with the lowest per capita waste generation tend to be rural areas or urban areas with relatively low levels of manufacturing activity. The areas with the highest per capita waste generation are those with significant primary manufacturing activity or with large numbers of tourists.

TCDC produces a relatively large amount of waste per capita due to the large number of tourist and non-residents visiting the district.

7.1.3 Per Capita Domestic Kerbside Refuse to Class 1 Landfills

The quantity of domestic kerbside refuse disposed of per capita per annum has been found to vary considerably between different areas. There are several reasons for this variation.

Kerbside refuse services are used primarily by residential properties, with small-scale commercial businesses comprising a relatively small proportion of collections (typically about 5-10%). In districts where more businesses use kerbside wheelie bin collection services - which can be related to the scale of commercial enterprises and the services offered by private waste collectors - the per capita quantity of kerbside refuse can be higher. Currently there is relatively

little data in most areas on the proportion of businesses that use kerbside collection services, so it is not possible to provide data solely on residential use of kerbside services.

The type of service provided by the local territorial authority has a considerable effect on the per capita quantity of kerbside refuse. Councils that provide wheelie bins (particularly 240-litre wheelie bins) or rates-funded bag collections generally have higher per capita collection rates than councils that provide user-pays bags. The effect of rates-funded bag collections is reduced in those areas where the council limits the number of bags that can be set out on a weekly basis.

Evidence indicates that the most important factor determining the per capita quantity of kerbside refuse is the proportion of households that use private wheelie bin collection services. Households that use private wheelie bins, particularly larger, 240-litre wheelie bins, tend to set out greater quantities of refuse than households that use refuse bags. Thus, in general terms the higher the proportion of households that use private wheelie bins in a given area, the greater the per capita quantity of kerbside refuse generated.

Other options that are available to households for the disposal of household refuse include burning, burying, or delivery direct to a disposal facility. The effect of these on per capita disposal rates varies between areas, with residents of rural areas being more likely to use one of these options.

The disposal rate of domestic kerbside refuse per capita for each district is shown in Table 15.

Table 15: Domestic kerbside refuse per capita

Calculation of per capita waste to Class 1 landfills	<i>TCDC</i>	<i>HDC</i>	<i>MPDC</i>
Population (Stats NZ 2013 census)	26,178	17,808	31,536
Domestic kerbside refuse 2015/16 (tonnes per year)	3,442	1,388	1,954
Kg/capita/annum of domestic kerbside refuse	131	78	62

7.1.4 Per Capita Kerbside Recycling

Per capita kerbside recycling rates for district/city are calculated in Table 16.

Table 16: Domestic Kerbside Recycling per Capita

Calculation of per capita kerbside recycling	<i>TCDC</i>	<i>HDC</i>	<i>MPDC</i>
Population (Stats NZ 2013 census)	26,178	17,808	31,536
Domestic kerbside recycling 2015/16 (tonnes per year)	3,950	1,388	2,042
Kg/capita/annum of domestic kerbside recycling	151	78	65

In HDC and MPDC there is a relatively large portion of the population which does not receive a kerbside recycling collection and therefore the per capita rates are lower.

Table 17: Per Capita Kerbside Recycling – Kg/Capita/Annum

District	Kg/capita/ annum	System type
Napier City Council	52 kg	Fortnightly bags or crates
Wellington region	53 kg	Various systems
Ashburton District	62 kg	Weekly bags or crates depending on area
Tauranga City Council	65 kg	Private wheelie bin collection service
Invercargill City Council	69 kg	Fortnightly 240-litre wheeled bin, commingled
Waipa District	73 kg	Weekly/Fortnightly 55-litre crate, separate paper collection
Waikato District	74 kg	Weekly 55-litre crate, separate paper collection
Dunedin City	77 kg	Fortnightly 240-litre wheeled bin, fortnightly crate for glass
Horowhenua District	81 kg	Weekly crate
Auckland Council	84 kg	Fortnightly 240-litre commingled wheelie bins or 140-litre wheelie bin with separate paper collection
Waimakariri District Council	85 kg	Fortnightly 240-litre wheeled bin, commingled
Hamilton City Council	86 kg	Weekly 45-litre crate, separate paper collection
Palmerston North City	87 kg	Fortnightly 240-litre wheeled bin for commingled materials alternating with 45-litre crate for glass
Christchurch	109 kg	Fortnightly 240-litre wheeled bin

While data on kerbside recycling collections is readily available, accurate and reliable data relating to the total quantity of diverted materials, which includes commercial recycling, is not available for most districts.

7.1.5 Data Gaps

There are several gaps in the data, for example:

- The lack of recent reliable composition studies makes estimating the potential for further diversion and the current rate of diversion from landfill difficult.
- The lack of reliable data regarding the Activity Source of waste generated.
- The councils' share of the domestic refuse kerbside market is also unknown.

Addressing these gaps will increase our understanding of the problems and improve our ability to monitor the flow of waste in the districts. The information will help us to make better decisions about waste management services and infrastructure.

8.0 Future Demand and Gap Analysis

8.1 Future Demand

There are a wide range of factors that are likely to affect future demand for waste minimisation and management. The extent to which these influence demand could vary over time and in different localities. This means that predicting future demand has inherent uncertainties. Key factors are likely to include the following:

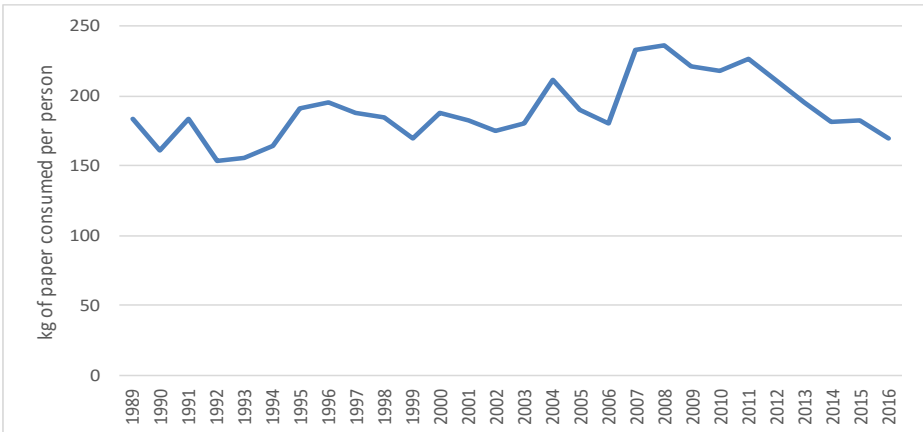
- Overall population growth
- Economic activity
- Changes in waste management approaches
- Community expectations
- Changes in consumption patterns and behaviour

The economic and population profile in each of the Districts is described in Section 3.0. The projections for population and economic growth are anticipated to result in growth in the overall amount of waste generated. Changes in the demographic or economic profile of an area will also influence the quantity and composition of the waste generated however there is insufficient data to predict the impact of such changes.

Community expectations relating to recycling and waste minimisation are anticipated to lead to increased demand for recycling services due to increased awareness of the importance of resource efficiency. The provision of user-pays bags seems to be considered a satisfactory system by residents in all three districts, and has the capacity to cope with future demand. There have been some issues highlighted with bird, dog and vermin strike. One of the options to address this could be the provision of wheeled bin based collection services. Another service that may be extended is waste drop-off facilities provide a flexible waste collection service, particularly for visitors to the area or those households which do not have a kerbside collection service.

Consumption habits will affect the waste and recyclables generation rates. For example, in the last decade there has been a reduction in paper consumption as shown in Figure 6.

Figure 6: Apparent Paper and Paperboard Consumption per Capita (kg per annum)¹⁵



¹⁵ Based on data from the Ministry for Primary Industry

Although all three districts have, to varying degrees, rolled out various waste prevention initiatives, there has not been a significant drive in this area. Some examples of waste prevention initiatives used by other councils that could be initiated by the Councils include: home composting, 'Real Nappies', Love Food Hate Waste campaigns, and waste exchange and re-use schemes. Councils' involvement could range from simply educating residents by providing information on waste prevention through to subsidising schemes, e.g. 'real nappy' trial packs or composting bins.

8.1.1 Changes in Waste Management Approaches

There are a range of drivers that mean methods and priorities for waste management are likely to continue to evolve, with an increasing emphasis on diversion of waste from landfill and recovery of material value. These drivers include:

- Statutory requirement in the Waste Minimisation Act 2008 to encourage waste minimisation and decrease waste disposal – with a specific duty for TAs to promote effective and efficient waste management and minimisation and to consider the waste hierarchy in formulating their WMMPs.
- Requirement in the New Zealand Waste Strategy 2010 to reduce harm from waste and increase the efficiency of resource use.
- Increased cost of landfill. Landfill costs have risen in the past due to higher environmental standards under the RMA, introduction of the Waste Disposal Levy (currently \$10 per tonne) and the New Zealand Emissions Trading Scheme. While these have not been strong drivers to date, there remains the potential for their values to be increased and to incentivise diversion from landfill
- Collection systems. In brief, more convenient systems encourage more material. An increase in the numbers of large wheeled bins used for refuse collection, for example, drives an increase in the quantities of material disposed of through them. Conversely, more convenient recycling systems with more capacity help drive an increase in the amount of recycling recovered.
- Waste industry capabilities. As the nature of the waste sector continues to evolve, the waste industry is changing to reflect a greater emphasis on recovery and is developing models and ways of working that will help enable effective waste minimisation in cost-effective ways.
- Local policy drivers, including actions and targets in the WMMP, bylaws, and licensing.
- Recycling and recovered materials markets. Recovery of materials from the waste stream for recycling and reuse is heavily dependent on the recovered materials having an economic value. This particularly holds true for recovery of materials by the private sector. Markets for recycled commodities are influenced by prevailing economic conditions and most significantly by commodity prices for the equivalent virgin materials. The risk is linked to the wider global economy through international markets.

8.1.2 Summary of Demand Factors

The analysis of factors driving demand for waste services in the future suggests that changes in demand will occur over time but that no dramatic shifts are expected. If new waste

management approaches are introduced, this could shift material between disposal and recovery management routes.

Population and economic growth will drive moderate increases in the waste generated. The biggest change in demand is likely to come about through changes in individual behaviour and within the waste management industry, with economic, technological and policy drivers leading to increased waste diversion and waste minimisation.

8.2 Future Demand – Gap Analysis

The aim of waste planning at a territorial authority level is to achieve effective and efficient waste management and minimisation. Priority waste streams that could be targeted to further reduce waste to landfill include:

- Construction and demolition waste
- Re-usable or resalable items
- Kerbside recyclables both from domestic and commercial properties
- Organic waste, particularly food waste both from domestic and commercial properties
- Rural and farm waste is a relatively unknown quantity and increased awareness of the problems associated with improper disposal may drive demand for better services
- E-waste (whiteware, electrical items and batteries etc.)
- Waste tyres may not be a large proportion of the waste stream, however the effectiveness of the management of this waste stream is unknown. Issues with management of this waste stream have recently been highlighted nationally
- Biosolids

The following sections highlight some of the opportunities with these waste streams.

8.2.1 Rural and Farm Waste

A study of farm waste management practices in the Waikato and Bay of Plenty was carried out in 2014. This study found that a very large number of farms use one of the ‘three B’ methods of waste management – bury, burn, or bulk storage on property. The study also estimated that there would be an average of 37 tonnes of waste disposed of on each farm property.

The methods currently used to manage farm wastes are far from ideal and have a negative impact on the environment. Farmers generally agreed that these methods are not ideal and would like to have access to better options. However the ‘three Bs’ are perceived to have ‘no cost’ compared to alternatives that do have an associated financial cost.

The study concluded that better information, education and awareness of existing alternatives are required. A better understanding of the risks and associated indirect costs involved in the current ‘three B’ practices would support this.

There are a number of non-farm rural properties that currently aren’t able to access services from the private sector; however the level of demand for service is not currently known.

8.2.2 Construction and Demolition Wastes

Construction and demolition waste is an area that has received relatively little attention in the planning and operation of waste services in the districts to date, however it is an area that may have significant potential for diversion.

In Hauraki District, in 2006, approximately 19% of all waste to landfill from the district was classified as 'rubble' or 'wood waste', the majority of this of which would be from construction and demolition projects. The corresponding figure for Matamata-Piako nearly 23% based on a study carried out in 2010. Thames Coromandel district does not have any available waste composition data, however it could be expected that the quantities of these materials would be higher due to the relatively large growth of new housing in the district. Anecdotally a large proportion of the material going through the transfer stations is wood waste, which is consistent with this view.

Much construction and demolition material can be reclaimed and there is a need to provide options for the legitimate controlled disposal of genuine cleanfill material.

Potential options for addressing construction and demolition waste issues include:

- Promotion and differential pricing for separation of construction and demolition wastes at transfer stations
- Establishment of legitimate cleanfill facilities
- Education and promotion of waste reduction at building sites
- Introduction of bylaws requiring site waste management plans on construction sites
- Establishment of a cleanfill bylaw governing what can be disposed of in cleanfill sites
- Provision of source separation services for construction projects
- Audits of transfer stations to determine target material quantities and diversion potential

8.2.3 Kerbside Recyclable Commodities

Recyclable commodities include glass, paper, plastics, and metals.

8.2.3.1 Households

While the performance of the recycling collection systems is comparable with other localities there is still room for improvement.

Options for increasing captures of recyclable materials include:

- Provision and promotion of additional drop off facilities
- Bylaws constraining disposal of recyclables in refuse
- Education
- Increase targeting and separation of commodities at transfer stations – (e.g. variable pricing, additional sorting staff etc.)

8.2.3.2 Commercial Sources

Council does not currently target commercial recyclables however businesses may use the service. The private sector is generally expected to provide commercial recycling services to businesses. However there is no obligation for the private sector to do so (nor for businesses to engage such services). Where provision of private sector services is insufficient there are several options open to council:

- Offer commercial (user pays) recycling services to business

- Use a bylaw to establish a requirement for private sector operators in the districts to provide recycling services alongside commercial waste services. This could be done through an operator licensing scheme.
- Work with the private sector to promote recycling services to commercial customers
- Increase targeting and separation of recyclable materials at transfer stations – (e.g. variable pricing, additional sorting staff etc.)

8.2.4 Organic Wastes

Organic wastes include garden/green waste, food waste and food processing wastes.

At present all three authorities provide facilities to separate greenwaste at the transfer stations. There are no council or commercial collections targeting food waste or food processing wastes. Organic (food waste and green waste made up 46.8% of kerbside collected refuse in Matamata-Piako and 30.1% of the overall waste to landfill. The corresponding figures for Hauraki were: 38.5% and 29.4%. While TCDC does not have any composition data, it can be expected that the proportion of organic wastes would be in the same order of magnitude. Targeting of organic wastes offers the potential to reduce the total tonnage of waste and the potential harm from disposal in landfill. Furthermore, there is opportunity recover the materials for beneficial use in gardening, horticulture and agriculture.

Potential initiatives to target organic wastes include:

- Kerbside collection of food and/or garden waste from households
- Collection of catering and/or food processing wastes from business
- Promotion and differential pricing for separation of garden wastes at transfer stations
- Bylaws constraining disposal of organics in refuse
- Education and promotion of food waste avoidance and home composting

8.2.5 Reusable Goods

The Seagull Centre Trust in Thames and Goldmine in Coromandel currently provides an outlet for reusable household items such as furniture, whitegoods and electronics, clothes, crockery and utensils, and toys that would otherwise be sent to landfill. There is clear opportunity to establish similar operations in other centres. Reuse operations do not necessarily divert significant tonnage but they do divert valuable materials, provide low cost goods for the community and provide employment.

Options for diverting reusable goods include:

- Establishing reuse centres on or near transfer stations
- Encouraging the avoidance of disposal of re-usable goods
- Establishing e-waste drop off centres at transfer stations/reuse centres

8.2.6 Hazardous Wastes

Potentially hazardous household wastes such as paint, oil, and chemicals are collected separately at transfer stations. Promoting the service to the public may increase the volume collected. Undertaking more detailed monitoring and reporting of hazardous waste types and quantities will help us to better manage this waste stream.

8.2.6.1 Asbestos Removal

Some commonly used products that contain asbestos include roof tiles, wall claddings, fencing, vinyl floor coverings, sprayed fire protection, decorative ceilings, roofing membranes, adhesives, and paints. The most likely point of exposure is during building or demolition work.

Tirohia landfill is the only site consented to dispose of asbestos in the area.

8.2.6.2 Medical Waste

The Pharmacy Practice Handbook states:¹⁶

4.1.16 Disposal of Unused, Returned or Expired Medicines

Members of the public should be encouraged to return unused and expired medicines to their local pharmacy for disposal. Medicines, and devices such as diabetic needles and syringes, should not be disposed of as part of normal household refuse because of the potential for misuse and because municipal waste disposal in landfills is not the disposal method of choice for many pharmaceutical types. Handling and disposal should comply with the guidelines in NZ Standard 4304:2002 – Management of Healthcare Waste.

Recently there have been numerous cases of needles and other medical waste being found in the recyclable materials being sorted at the Materials Recovery Facility. This poses a health risk to those working at the facility. Improved understanding and awareness of appropriate disposal methods for medical waste is required.

The Waikato DHB is currently working on implementing improved waste management practices such as increased separation and recycling of waste at its health care sites in the Eastern Waikato.

8.2.6.3 E-waste

Most broadly defined, e-waste (or 'WEEE' – 'waste electrical and electronic equipment') includes everything that uses electric current, such as computers, all types of electrical appliances including air conditioners, washing machines, refrigerators, small household appliances and tools, mobile devices including phones, medical equipment, lamps, and batteries.

It is estimated that New Zealand disposes of some 72,000–85,500 tonnes of e-waste per year.¹⁷ With increasing use of electrical products that have short life spans, e-waste is a growing concern. Without a national product stewardship scheme, the e-waste treatment and collection system will continue to be somewhat precarious. Currently, companies tend to cherry-pick the more valuable items, such as computers and mobile phones. As a result, the more difficult or expensive items to treat, such as CRT TVs and domestic batteries, will often still be sent to landfill.

¹⁶ <https://nzpharmacy.wordpress.com/2009/06/09/disposal-of-unwanted-medicines/>

¹⁷ MfE "Priority waste streams for product stewardship intervention A DISCUSSION DOCUMENT" May 2014

Currently there are no recycling facilities for e-waste operating within the Eastern Waikato. There are organisations working with e-waste to disassemble e-waste to make the materials ready for export and recycling. The cost of appropriate treatment of e-waste may need to be subsidised in order to increase demand for the service.

8.2.7 Biosolids

As noted in Section 1.4, this Waste Assessment focuses on solid wastes, and excludes liquid and gaseous wastes, except where these are considered to have implications for solid waste management. These exceptions include biosolids from waste water treatment facilities that will require processing or disposal. In TCDC a trial has been conducted on composting of biosolids together with greenwaste. There is the possibility of extending this trial to process more of the biosolids from the district. Beneficial reuse of biosolids is something that could be examined further.

9.0 Review of the 2012 Eastern Waikato Waste Management and Minimisation Plan

The 2012 Eastern Waikato Waste Management and Minimisation Plan was the first time that the three councils had produced a joint WMMP.

9.1 Data

In 2012 it was found that the three districts together send approximately 37,500 tonnes of rubbish to landfill each year, while we recycled and composted about half as much – nearly 17,000 tonnes. The table below shows how much each of the districts sends to landfill and recycle¹⁸.

Table 18: Tonnes of Rubbish and Recycling by Council 2012

Calculation of per capita kerbside recycling	<i>TCDC</i>	<i>HDC</i>	<i>MPDC</i>
Total rubbish	18,028	6,202	13,234
Total recycling	11,366	2,230	3,111
Total	29,394	8432	16345
Percent recycled/composted	39%	26%	19%

9.2 Key Issues

Establishing joint working and joint procurement of key council waste services including collection, transfer station operation and disposal was the key issue for the 2012 WMMP. The other issues that were highlighted are still key issues for the three districts i.e. regulation, data quality, specific material streams including construction and demolition waste, hazardous wastes and organic wastes.

The 2012 WMMP gave little consideration to the issues of rural or healthcare waste.

9.3 Actions

The majority of actions set out associated with joint working were carried out and the three Councils now have a Shared Services contract for the key waste services.

The 2012 WMMP had an appropriate range of actions in the plan beyond establishing joint working. The majority of these actions have been undertaken however the amount of resources put into some of the actions has been limited in some cases. Therefore, the Action Plan is still relevant to the current situation in many regards.

The Action Plan is provided with a commentary on each action is provided in Appendix A.4

¹⁸ Figures are based on the best available data at the time of writing. Changes to waste flows or the obtaining of more accurate data will alter the above figures.

9.4 Progress

Establishing the shared services contract and changing the kerbside collection system to one involving wheeled bins was the major focus of the three Councils after the 2012 WMMP was adopted. This resulted in some of the other actions and initiatives making slow or no progress.

The Goldmine reuse shop has been established at Coromandel Refuse Transfer Station which has been a successful outcome.

The governance of the solid waste activity is handled separately by the individual Councils through the appropriate committee structure within each Council. This arrangement is an effective way to allow local Councillors to influence the waste services in their communities.

10.0 Statement of Options

This section sets out the range of options available to the Council to address the key issues that have been identified in this Waste Assessment. An initial assessment is made of the strategic importance of each option, the impact of the option on current and future demand for waste services, and the Councils' role in implementing the option. Options presented in this section would need to be fully researched, and the cost implications understood before being implemented.

10.1 Key Issues to Be Addressed by WMMP

Based on the work we have undertaken, including the Waste Assessment, the Councils believe that the key issues for the districts are:

- Landfill disposal costs will rise
- We need to produce less waste in the first place, and encourage those who do produce waste to take greater responsibility for reducing it
- Recycling still being thrown in to rubbish bins even with a recycling collection available
- A need for more/improved facilities for managing waste within the region
- Varying demand through the region – summer visitors, rural customers, businesses
- A lack of data on waste flows and composition in the districts – particularly in respect of waste and recovered materials managed by the private sector
- There are opportunities to target materials for recovery and reuse including e-waste, construction and demolition waste, and reusable items like furniture

10.2 Regulation

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
R1	Introduce a by-law or other regulatory mechanism to encourage more source-separation of wastes such as C&D	<p>Social/Cultural: social and cultural impacts would depend how this is implemented – e.g. a high level of community involvement would have a positive social and cultural impact</p> <p>Environmental: additional recyclable or cleanfill material could be diverted from the residual waste stream</p> <p>Economic: the construction industry may experience additional costs in separating these wastes at source</p>	<p>Analysis shows that there is a large proportion of C&D waste still going to landfill</p> <p>Demand for alternative services will increase – such as C&D waste recycling and access to cleanfill disposal</p>	The Councils may wish to lead on the provision of more C&D waste processing and recycling facilities, or to work with the community and private sector to encourage the development of these services
R2	By-law to regulate private waste collectors. This could stipulate that a residual waste service must always be provided in conjunction with a recycling service.	<p>Social/Cultural: This would make it more difficult for householders to avoid the obligation to recycle</p> <p>Environmental: additional recyclable material could be diverted from the residual waste stream</p> <p>Economic: the private waste collection industry may experience additional costs in separately collecting recyclables</p>	Private collectors usually just offer large wheeled bin services. These tend to discourage recycling. A requirement to provide recycling alongside refuse could enhance diversion	Investigate bylaw and other management options
R3	Review existing bylaws to ensure they are effective and enforceable	<p>Social/Cultural: no assessment possible at this stage</p> <p>Environmental: no assessment possible at this stage</p> <p>Economic: no assessment possible at this stage</p>	Bylaws can govern who can use the service, what material they are allowed to put in each collection stream and when and how material must be placed out for collection. Could increase information about disposal practices and could	Conduct review

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
			potentially guard against environmental degradation through illegal disposal.	

10.3 Measuring and Monitoring

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
M1	Status quo – occasional composition audits, participation surveys, and monitoring of waste flows through contracts	Cultural/Social/Environmental/ Economic: no new impacts	Would not impact on status quo prediction of demand	Maintain existing service arrangements.
M2	Increase monitoring to provide more information in certain areas, such as commercial waste composition, and waste management in rural areas, transfer station data, construction and demolition waste	<p>Social/Cultural: could raise awareness of waste management in areas which currently very little is known.</p> <p>Environment: if data highlights areas where additional services could be provided or certain customer groups targeted, then diversion of waste from landfill could be increased.</p> <p>Economic: if the above is achieved, transport and disposal costs would be reduced. There may be additional costs for new programmes put in place.</p>	<p>Analysis of available data has shown that there are gaps in knowledge and understanding of several waste streams in each of the Districts.</p> <p>Availability of more data, and tailoring of services accordingly, could increase demand for recycling services and reduce waste to landfill.</p>	The Councils to initiate and oversee research, studies and audits and feed results in to future iterations of WMMP and action plans.

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
M3	Undertake an audit of transfer station waste flows	<p>Social/Cultural: No impact.</p> <p>Environmental: The extent for environmental benefit through provision of improved services at the transfer stations depends upon a greater understanding of the residual waste composition.</p> <p>Economic: This would be a relatively low-cost exercise which would allow future funding to be most strategically spent.</p>	In acting upon data presented from the audit, this would ensure that the services more effectively meet both the current and future demand.	Council will lead, but may require specialist technical assistance to undertake the audit.

10.4 Education and Engagement

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
EE1	Development of a 'Waste Prevention' section on the Councils' website. This resource will provide information regarding a range of waste prevention initiatives.	<p>Social/cultural: As a non-targeted resource this will only benefit those residents who are deliberately seeking information, and therefore arguably already interested in waste prevention measures. However, it may inspire community projects which may be further-reaching.</p> <p>Environmental: Limited positive environmental impact because waste prevention will not be encouraged.</p> <p>Economic: The cost to Councils for provision of this information resource is minimal.</p>	Limited impact on the demand for future waste services.	Requires limited commitment from Council, but nevertheless demonstrates their interest in the waste prevention agenda to residents

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
EE2	Inform the community and actively engage with the community to promote waste prevention initiatives	<p>Social/Cultural: community will be more aware of options, more engaged in the waste management process and should take a higher level of ownership of the issue</p> <p>Environmental: diversion from residual waste should increase with resultant reduction in environmental impact</p> <p>Economic: providing more frequent and detailed information to community will require more budget within the Council.</p>	Community should reduce their reliance on residual waste collections. Demand for recycling services will increase.	Council to produce and deliver more information, and work more closely with the community through focus groups and proactive consultation processes

10.5 Collection & Services

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
CS1	Increase kerbside collection services to more properties in each district	<p>Cultural/Social: Improved service levels</p> <p>Environmental: may result in reduced overall disposal, and opportunities to enhance recycling</p> <p>Economic: Will cost council more to provide services to outlying properties. Rural households would however benefit through reduced disposal costs.</p>	Servicing more properties would give councils a chance to gain market share from the private sector and reduce the number of wheelie bins in use resulting in a decrease in residual waste and an increase in recycling.	A cost benefit evaluation needs to be done for each new area it is proposed to add to the service. Council would have to provide the service (through variation to the contract), but may be able to recoup some costs through user pays charges, or targeted rates.

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
CS2	Provide a food and or greenwaste collection to householders and businesses	<p>Social/Cultural: may discourage home composting but would also serve to inform residents about the extent of food wastage and change behaviour.</p> <p>Environmental: additional collection services required. Additional processing facilities may be necessary. It would reduce the environmental impact of waste. Waste avoidance and resource recovery would improve.</p> <p>Economic: there would be a cost for additional service and processing facility, or transport to existing processing facility. Economic benefit through beneficial use of organic materials, and reduced landfill costs. Can support less frequent collection of residual waste but this may not be appropriate for TCDC due to high proportion of non-residents.</p>	There would be reduced demand for residual collection and disposal	<p>Design and procurement of services. Collection could be in conjunction with garden waste collection for householders – Council would need to assess relative cost/benefit of various collection options.</p> <p>Council(s) could be sole lead, or could work in partnership with community to provide services.</p>
CS3	Council residual waste collections – continue status quo	Cultural/Social/Environmental/ Economic: no new impacts	Would not impact on status quo prediction of demand	Maintain existing service arrangements.
CS4	Council residual waste collections – change service configuration to further reduce the quantity of waste collected; for example reducing	Cultural/Social: international experience shows that residual waste collections are most successfully reduced (e.g. frequency reduced to fortnightly or container size reduced) when paired with the introduction of a food waste collection. The other mechanisms that could reduce waste quantities collected – e.g. change from MGBs to bags or introducing user pays are not appropriate given the	Analysis shows that a large amount of recyclables is still in the residual waste stream. Experience suggests that only restricting access to the residual waste service will change this significantly.	Specify service changes and alter service delivery. Service changes could be developed in partnership with the community, or with the Council having sole responsibility

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
	service frequency to fortnightly.	<p>current user-pays bag system in place. There is potential for problems with increased fly tipping although there is little evidence to suggest this is likely to be a significant issue</p> <p>Environmental: reducing residual waste to landfill and encouraging more diversion of recycling will help to recover more materials and to achieve environmental goals</p> <p>Economic: there would be savings on residual waste collection, transport, and disposal, but more would need to be spent on recycling/recovery services.</p>	<p>Would reduce future service demand for residual collection but could increase demand for recycling/composting services. Business customers may be lost to alternative service providers who may not provide recycling services, therefore diverting waste to residual instead – this customer group may require a different approach altogether.</p>	
CS5	Council residual waste collections – introduce wheeled bin collections	<p>Cultural/Social: This would require households to have wheeled bins, a topic which is known to commonly cause a division of opinions held by residents.</p> <p>Environmental: may provide increased capacity to householders but does avoid refuse being attacked by dogs and vermin.</p> <p>Economic: the refuse quantity may potentially increase, but money would be saved from reduced spills to clear up.</p>	<p>The introduction of wheeled bins may assist with logistical arrangements. The option of varying sizes would help to ensure that households were not supplied with too much capacity for their residual waste arisings.</p>	<p>Specify service changes and alter service delivery. Service changes could be developed in partnership with the community, or with the Council having sole responsibility</p>
CS6	Other waste streams - provide ongoing alternative option for some C&D	<p>Social/Cultural: no impacts identified</p> <p>Environment: less waste would be transported to landfill for disposal. If Cleanfill Guidelines are</p>	<p>C&D waste is a large proportion of waste going to landfill.</p>	<p>Council could lead in development of alternative, or could work with private and community sectors in</p>

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
	wastes e.g. cleanfill disposal	<p>applied and materials restricted, little environmental impact. Enforcement of District Plan rules relating to clean fill disposal could result in a decrease in improperly disposed of C&D materials, which might currently be disposed of in 'clean fill' sites.</p> <p>Economic: disposal costs would be reduced</p>		partnership for development, and/or with other local councils and regional council for a regional solution.
CS7	Actively encourage home composting of food and garden waste. Provide shredding services in more remote parts of the Districts.	<p>Social/Cultural: community will be more informed about garden waste options, and rural communities will be more able to use their own garden waste following shredding. Potential for community involvement through 'composting champions'.</p> <p>Environmental: diversion from residual waste should increase to a limited degree, with a resultant reduction in environmental impact</p> <p>Economic: there would be a small cost to Council in encouraging home composting (potentially contracting a composting champion and/or subsidising home composting bins) and providing shredding services. Cost of the greenwaste processing may reduce slightly if less tonnage is collected through the transfer stations due to home management.</p>	Customers will be more likely to divert green waste from landfill, and manage it in ways that keeps it from the Council waste stream thus reducing demand for Council service	<p>Council could provide education and training on composting or provide subsidised compost bins</p> <p>Council could contract a mulching service for greenwaste.</p>

10.6 Infrastructure

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
IN1	Compost Biosolids from WWTPs together with greenwaste and/or other organic wastes (e.g. food wastes)	<p>Social/Cultural: potential social/cultural impacts if the biosolids are incorporated into an organic waste process such as composting where the product needs a market outlet</p> <p>Environmental: The environmental impact of disposal will depend on which option is chosen. Processing in to a soil improver product will mitigate a large proportion of the environmental impact.</p> <p>Economic: cost to dispose of or process the biosolids will vary depending what option is chosen.</p>	If putrescible waste is processed within the districts it would not need to go to landfill	Councils need to carry out investigations and make decision on preferred options for biosolids disposal
IN2	Renegotiate disposal contracts with Tirohia and enter discussions with Hampton Downs to maximise cost savings and flexibility	<p>Social/Cultural: no change in impacts</p> <p>Environment: no new impacts</p> <p>Economic: Landfill costs are likely to rise in future due to the impact of the ETS and increases in the Waste Levy</p>	Both Tirohia and Hampton downs have significant capacity remaining. Accessing both landfills will provide increased flexibility. Councils should avoid being locked into long term fixed tonnage contracts as this reduces incentive to reduce waste and may be a costlier long-term option	Council to initiate negotiations before current arrangements expire in 2020.
IN3	Provide (additional) drop-off facilities	Social/Cultural: there is a possibility of negative social impacts as recycling drop-off areas can	Analysis of data shows that there is still	Councils would lead on provision of these facilities.

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
		<p>sometimes attract fly tipping and other anti-social behaviour. It can be a convenient service, especially for non-residents who may not be within the District on the scheduled collection day.</p> <p>Environmental: recycling could increase and the environmental impact of waste reduced by diverting more waste from landfill</p> <p>Economic: more material would be recovered, and materials would be used more efficiently for a relatively small outlay towards a service.</p>	<p>recyclable material in the household residual waste stream which is going to landfill.</p> <p>Provision of drop-off facilities, particularly in areas with high peak holiday populations, at locations customers visit frequently (e.g. beaches or supermarkets) would encourage further recycling.</p> <p>These could also be provided as public place recycling facilities.</p>	<p>TCDC has particular needs around drop off facilities at peak times. One option for TCDC is to provide temporary drop off sites at the peak times. This will help ease the strain on kerbside services.</p>
IN4	Provide increased capacity for waste drop off	<p>Social/Cultural: there is a possibility of negative social impacts as recycling drop-off areas can sometimes attract fly tipping and other anti-social behaviour. It can be a convenient service, especially for non-residents who may not be within the District on the scheduled collection day.</p> <p>Environmental: reduced illegal dumping</p> <p>Economic: This would reduce costs associated with needed to clean up dumping</p>	<p>There is a need in peak holiday areas to provide drop off facilities for holidaymakers or resident who want an alternative to kerbside collection or transfer stations for waste disposal.</p>	<p>Provision and servicing of sites</p>
IN5	Make site improvements to	<p>Social/Cultural: The sites would appear tidier, better</p>	<p>In terms of managing</p>	<p>Councils would lead on</p>

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
	the current facilities including improved signage, greater areas of hard stand, more cover on site, etc.	<p>managed and more user-friendly.</p> <p>Environmental: The main improvements would be associated with more hard-stand. In the first instance, leaching into groundwater would be reduced and secondly the recyclables would remain cleaner and easier to separate.</p> <p>Economic: Costs would vary depending upon the improvements undertaken – ranging from low cost signage to higher costs associated with hard standing and cover.</p>	waste quantities and types this option would have little impact.	provision of these facility improvements.
IN6	Set-up re-use centres	<p>Social/Cultural: Impacts can be far-reaching including upskilling of labour forces to work in the centres and provision of an inspiring centre which can provide materials for schools and affordable furniture and white goods.</p> <p>Environmental: Reduced waste to landfill and both reduced consumption of new goods are benefits associated with re-use.</p> <p>Economic: Affordable goods available to the public and reduced costs associated with waste to landfill.</p>	Will help to increase capacity at transfer stations by identifying those objects fit for reuse.	Re-use centres are most commonly run by third sector organisations in association with Councils, or with their support.
IN7	<p>Divert more wastes at RTS through:</p> <ul style="list-style-type: none"> • more staff • pricing tools • changed layout 	<p>Social/Cultural: social and cultural impacts would depend how this is implemented – e.g. a high level of community involvement would have a positive social and cultural impact</p> <p>Environmental: additional recyclable or cleanfill material could be diverted from the residual waste</p>	Analysis of data and experience elsewhere suggests that much more waste could be diverted from landfill at the transfer station stage.	Council may wish to lead on the provision of more reuse, recycling and recovery facilities, or to work with the community and private sector to

Ref	Option	Strategic Assessment	Impact on Current/Future Demand	Councils' Role
	<ul style="list-style-type: none"> more reuse and recycling options introducing incentives for the contractor etc. 	<p>stream</p> <p>Economic: increased diversion of waste at the transfer station would probably have additional operational costs. However reduced waste to landfill would have a positive economic benefit.</p>		<p>encourage the development of these services. In this area in particular, there is significant potential to work with the community (e.g. local non-profit community groups).</p>

11.0 Statement of Council's Intended Role

11.1 Statutory Obligations and Powers

Councils have several statutory obligations and powers in respect of the planning and provision of waste services. These include the following:

- Under the WMA each Council “must promote effective and efficient waste management and minimisation within its district” (s 42). The WMA requires TAs to develop and adopt a Waste Management and Minimisation Plan (WMMP).¹⁹
- The WMA also requires TAs to have regard to the New Zealand Waste Strategy 2010. The Strategy has two high levels goals: ‘Reducing the harmful effects of waste’ and ‘Improving the efficiency of resource use’. These goals must be taken into consideration in the development of the Council’s waste strategy.
- Under Section 17A of the Local Government Act 2002 (LGA) local authorities must review the provision of services and must consider options for the governance, funding and delivery of infrastructure, local public services, and local regulation. There is substantial cross over between the section 17A requirements and those of the WMMP process in particular in relation to local authority service provision.
- Under the Local Government Act 2002 (LGA) Councils must consult the public about their plans for managing waste.
- Under the Resource Management Act 1991 (RMA), TA responsibility includes controlling the effects of land-use activities that have the potential to create adverse effects on the natural and physical resources of their district. Facilities involved in the disposal, treatment or use of waste or recoverable materials may carry this potential. Permitted, controlled, discretionary, non-complying and prohibited activities and their controls are specified within district planning documents, thereby defining further land-use-related resource consent requirements for waste-related facilities.
- Under the Litter Act 1979 TAs have powers to make bylaws, issue infringement notices, and require the clean-up of litter from land.
- The Hazardous Substances and New Organisms Act 1996 (the HSNO Act). The HSNO Act provides minimum national standards that may apply to the disposal of a hazardous substance. Under the RMA a regional council or TA may set more stringent controls relating to the use of land for storing, using, disposing of or transporting hazardous substances.
- Under the Health and Safety at Work Act 2015 the Council has a duty to ensure that its contractors are operating in a safe manner.

The Eastern Waikato Councils, in determining their role, need to ensure that their statutory obligations, including those noted above, are met.

11.2 Overall Strategic Direction and Role

The overall strategic direction and role is presented in the Waste Management and Minimisation Plan.

¹⁹ The development of a WMMP in the WMA is a requirement modified from Part 31 of the LGA 1974, but with even greater emphasis on waste minimisation.

12.0 Statement of Proposals

Based on the options identified in this Waste Assessment and the Council's intended role in meeting forecast demand a range of proposals are put forward. Actions and timeframes for delivery of these proposals are identified in the Draft Waste Management and Minimisation Plan.

It is expected that the implementation of these proposals will meet forecast demand for services as well as support the Council's goals and objectives for waste management and minimisation. These goals and objectives will be confirmed as part of the development and adoption of the Waste Management and Minimisation Plan.

12.1 Statement of Extent

In accordance with section 51 (f), a Waste Assessment must include a statement about the extent to which the proposals will (i) ensure that public health is adequately protected, (ii) promote effective and efficient waste management and minimisation.

12.1.1 Protection of Public Health

The Health Act 1956 requires the Council to ensure the provision of waste services adequately protects public health.

The Waste Assessment has identified potential public health issues associated with each of the options, and appropriate initiatives to manage these risks would be a part of any implementation programme.

In respect of Council-provided waste and recycling services, public health issues will be able to be addressed through setting appropriate performance standards for waste service contracts and ensuring performance is monitored and reported on, and that there are appropriate structures within the contracts for addressing issues that arise.

Privately-provided services will be regulated through local bylaws.

Uncontrolled disposal of waste, for example in rural areas and in cleanfills, will be regulated through local and regional bylaws.

It is considered that, subject to any further issues identified by the Medical Officer of Health, the proposals would adequately protect public health.

12.1.2 Effective and Efficient Waste Management and Minimisation

The Waste Assessment has investigated current and future quantities of waste and diverted material, and outlines the Councils' role in meeting the forecast demand for services.

It is considered that the process of forecasting has been robust, and that the Council's intended role in meeting these demands is appropriate in the context of the overall statutory planning framework for the Council.

Therefore, it is considered that the proposals would promote effective and efficient waste management and minimisation.

Appendices

A.1.0 Medical Officer of Health Statement



Draft Eastern Waikato Waste Management and Minimisation Plan May 2017

Submission

Thank you for the opportunity to comment on the draft Eastern Waikato Joint Waste Management and Minimisation Plan (the Plan) and Waste Assessment. Population Health, Waikato DHB has reviewed the Plan, together with the included Waste Assessment, and will make comments on both these documents.

The Waste Assessment is included in Appendix A.2.0 of the Plan in draft form, and contains detailed information which was considered in the development of the Plan (Section 3.0, Draft Eastern Waikato Waste Management and Minimisation Plan). Notably however, the Medical Officer of Health has not been consulted on the Waste Assessment, except as part of the general consultation on the Plan. We would recommend, in the future, that the required consultation with the Medical Officer of Health on the Waste Assessment (under Section 51 of the Waste Minimisation Act, 2008) occurs prior to development of the Plan. This would allow any recommendations to be considered at the time its development.

Population Health recognises that effective waste management is critical for good public health outcomes. From a public health perspective, sanitary collection and disposal of solid waste is essential for:

- Human disease control (for example pathogenic wastes and reducing harbourage of human disease vectors such as rats, fleas, and mosquitoes)
- Control of health nuisances from dust, odour and pest species
- Control of health risks from hazardous wastes such as asbestos
- Prevention of contamination of drinking or recreational water from runoff or leachate
- Public safety, in terms of uncluttered thoroughfares.

We commend the Plan's vision to, "minimise waste to landfill, and maximise community benefit". This aligns with a public health perspective. Additionally the specific goal, "to minimise harm to the environment and public health", ensures that consideration of public health issues is a key aspect of the Plan.

The Waste Assessment was thorough, but it noted gaps in the waste data, particularly relating to the composition of the various waste streams. It is only through a clear understanding of the amount and composition of the various waste streams that plans can be put in place to minimise waste to landfill. We believe that this issue needs to be addressed going forward. We therefore support the proposed action to undertake waste composition analyses on a regular basis to ascertain what materials could be diverted.

Waste minimisation practices (such as reducing, reusing and recycling), reduce the amount of waste generated and thereby reduce the health hazards associated with waste. We support the proposed actions that are likely to lead to waste minimisation. These include actions to:

- expanding the number/capacity of drop off facilities and public place recycling bins
- exploring opportunities to extend recycling services to businesses and rural property,

Additionally we would recommend working with private waste collectors to encourage them to provide recycling services in conjunction with waste collection where this is not already the case. The Plan includes a proposed action to investigate wheeled bins for rubbish collection. The public health preference is for the use of bins, due to the better isolation of refuse from interference by domestic and wild animals, control of odour, and better isolation from insect pest species such as flies and wasps. We acknowledge that the use of bins can lead to increased waste volumes, but believe that this can be mitigated through careful selection of bin sizes and charging mechanisms for additional waste.

Population Health recognises the potential benefit of incentivising recycling and reducing waste volumes from a user pays rubbish collection service. However, protection of public health includes ensuring that this does not lead to inequities for those who may struggle to afford it. We therefore support the proposed investigation into subsidised bags to particular target groups, where bags are continued to be used.

The Waste Assessment includes information on a single landfill operating within the region, but does not include information on whether there are any closed landfills. We note that the management of closed landfills was included as an action within the 2012 Eastern Waikato Waste Management and Minimisation Plan. Public health risk from leachate is a potential problem from old landfill sites and an appropriate monitoring and care programme is important to enable assessment of any risk from these sites.

The Waste Assessment has provided estimates of on-farm disposal of farm waste within each district. Studies of farm waste have indicated the presence of hazardous wastes with variable management techniques. Poor practices can lead to contamination of the environment with hazardous waste, with associated health risks. We encourage engagement with farmers to help address this issue through education and the identification and removal of barriers to appropriate waste disposal. We are supportive of the proposed action to encourage and support anticipated initiatives which aim to improve the collection and recovery of rural waste streams.

I hope that these comments will add to the utility of the Waste Assessment and be helpful in further development of the Waste Management and Minimisation Plan.

Once again thank you for the opportunity to comment. Population Health recognises that effective waste management contributes to better health outcomes for the community.

About Population Health, Waikato District Health Board

Population Health provides public health services, including health assessment and surveillance, public health capacity development, health improvement advisory services, and health protection and preventative interventions to people within the Waikato District Health Board (DHB) area. The primary goal of Population Health is to promote, improve and protect health with a focus on achieving equity for people living in the Waikato DHB area. This aligns with the strategic outcomes for the Waikato DHB:

- To improve the health of its population
- To reduce or eliminate health inequalities between segments of the population.

Population Health has a strong focus and emphasis on the determinants of health or more simply, the factors that have the greatest influence on health. Opportunities for health begin long before the need for medical care, and starts where we live, learn, work, and play.

The Waikato District Health Board (Waikato DHB) serves a population of 394,340 (2015/2016) (Ref: Waikato District Health Board, 2016. Healthy People Excellent Care: Waikato District Health Board Strategy) people within 10 territorial authorities and two regional councils, stretching from the northern tip of Coromandel Peninsula to south of National Park and from Raglan and Awakino in the west to Waihi in the east. Approximately 60 percent of the Waikato DHB population of lives outside the main urban areas.

Yours Sincerely

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A.2.0 National Legislative and Policy Context

A.2.1 The New Zealand Waste Strategy 2010

The New Zealand Waste Strategy 2010 provides the Government's strategic direction for waste management and minimisation in New Zealand. This strategy was released in 2010 and replaced the 2002 Waste Strategy.

The New Zealand Waste Strategy has two goals. These are to:

- reduce the harmful effects of waste
- improve the efficiency of resource use.

The strategy's goals provide direction to central and local government, businesses (including the waste industry), and communities on where to focus their efforts to manage waste. The strategy's flexible approach ensures waste management and minimisation activities are appropriate for local situations.

Under section 44 of the Waste Management Act 2008, in preparing their waste management and minimisation plan (WMMP) councils must have regard to the New Zealand Waste Strategy, or any government policy on waste management and minimisation that replaces the strategy. Guidance on how councils may achieve this is provided in section 4.4.3.

A copy of the New Zealand Waste Strategy is available on the Ministry's website at: www.mfe.govt.nz/publications/waste/new-zealand-waste-strategy-reducing-harm-improving-efficiency.

A.2.2 Waste Minimisation Act 2008

The purpose of the Waste Minimisation Act 2008 (WMA) is to encourage waste minimisation and a decrease in waste disposal to protect the environment from harm and obtain environmental, economic, social and cultural benefits.

The WMA introduced tools, including:

- waste management and minimisation plan obligations for territorial authorities
- a waste disposal levy to fund waste minimisation initiatives at local and central government levels
- product stewardship provisions.

Part 4 of the WMA is dedicated to the responsibilities of a council. Councils "must promote effective and efficient waste management and minimisation within its district" (section 42).

Part 4 requires councils to develop and adopt a WMMP. The development of a WMMP in the WMA is a requirement modified from Part 31 of the Local Government Act 1974, but with even greater emphasis on waste minimisation.

To support the implementation of a WMMP, section 56 of the WMA also provides councils the ability to:

- develop bylaws
- regulate the deposit, collection and transportation of wastes
- prescribe charges for waste facilities
- control access to waste facilities
- prohibit the removal of waste intended for recycling.

A number of specific clauses in Part 4 relate to the WMMP process. It is essential that those involved in developing a WMMP read and are familiar with the WMA and Part 4 in particular.

The Waste Minimisation Act 2008 (WMA) provides a regulatory framework for waste minimisation that had previously been based on largely voluntary initiatives and the involvement of territorial authorities under previous legislation, including Local Government Act 1974, Local Government Amendment Act (No 4) 1996, and Local Government Act 2002. The purpose of the WMA is to encourage a reduction in the amount of waste disposed of in New Zealand.

In summary, the WMA:

- Clarifies the roles and responsibilities of territorial authorities with respect to waste minimisation e.g. updating Waste Management and Minimisation Plans (WMMPs) and collecting/administering levy funding for waste minimisation projects.
- Requires that a Territorial Authority promote effective and efficient waste management and minimisation within its district (Section 42).
- Requires that when preparing a WMMP a Territorial Authority must consider the following methods of waste management and minimisation in the following order of importance:
 - Reduction
 - Reuse
 - Recycling
 - Recovery
 - Treatment
 - Disposal
 - Put a levy on all waste disposed of in a landfill.
 - Allows for mandatory and accredited voluntary product stewardship schemes.
 - Allows for regulations to be made making it mandatory for certain groups (for example, landfill operators) to report on waste to improve information on waste minimisation.
 - Establishes the Waste Advisory Board to give independent advice to the Minister for the Environment on waste minimisation issues.

Various aspects of the Waste Minimisation Act are discussed in more detail below.

A.2.3 Waste Levy

From 1st July 2009, the Waste Levy came in to effect, adding \$10 per tonne to the cost of landfill disposal at sites which accept household solid waste. The levy has two purposes, which are set out in the Act:

- to raise revenue for promoting and achieving waste minimisation
- to increase the cost of waste disposal to recognise that disposal imposes costs on the environment, society and the economy.

This levy is collected and managed by the Ministry for the Environment (MfE) who distribute half of the revenue collected to territorial authorities (TA) on a population basis to be spent on promoting or achieving waste minimisation as set out in their WMMPs. The other half is retained by the MfE and managed by them as a central contestable fund for waste minimisation initiatives.

Currently the levy is set at \$10/tonne and applies to wastes deposited in landfills accepting household waste. The MfE published a waste disposal levy review in 2014.²⁰ The review indicates that the levy may be extended in the future:

“The levy was never intended to apply exclusively to household waste, but was applied to landfills that accept household waste as a starting point. Information gathered through the review supports consideration being given to extending levy obligations to additional waste disposal sites, to reduce opportunities for levy avoidance and provide greater incentives for waste minimisation.”

A.2.4 Product Stewardship

Under the Waste Minimisation Act 2008, if the Minister for the Environment declares a product to be a priority product, a product stewardship scheme must be developed and accredited to ensure effective reduction, reuse, recycling or recovery of the product and to manage any environmental harm arising from the product when it becomes waste.²¹ No Priority Products have been declared as of February 2017.

The following voluntary product stewardship schemes have been accredited by the Minister for the Environment:²²

- Agrecovery rural recycling programme
- Envirocon product stewardship
- Fonterra Milk for Schools Recycling Programme
- Fuji Xerox Zero Landfill Scheme
- Interface ReEntry Programme
- Plasback
- Public Place Recycling Scheme
- Recovering of Oil Saves the Environment (R.O.S.E. NZ)
- Refrigerant recovery scheme
- RE:MOBILE
- Resene PaintWise
- The Glass Packaging Forum

Further details on each of the above schemes are available on:

<http://www.mfe.govt.nz/waste/product-stewardship/accredited-voluntary-schemes>

A.2.5 Waste Minimisation Fund

The Waste Minimisation Fund has been set up by the Ministry for the Environment to help fund waste minimisation projects and to improve New Zealand’s waste minimisation performance through:

- Investment in infrastructure;
- Investment in waste minimisation systems and
- Increasing educational and promotional capacity.

²⁰ Ministry for the Environment. 2014. Review of the effectiveness of the waste disposal levy, 2014 in accordance with section 39 of the Waste Minimisation Act 2008. Wellington: Ministry for the Environment

²¹ Waste Management Act 2008 2(8)

²² <http://www.mfe.govt.nz/waste/product-stewardship/accredited-voluntary-schemes>

Criteria for the Waste Minimisation Fund have been published:

1. Only waste minimisation projects are eligible for funding. Projects must promote or achieve waste minimisation. Waste minimisation covers the reduction of waste and the reuse, recycling and recovery of waste and diverted material. The scope of the fund includes educational projects that promote waste minimisation activity.
2. Projects must result in new waste minimisation activity, either by implementing new initiatives or a significant expansion in the scope or coverage of existing activities.
3. Funding is not for the ongoing financial support of existing activities, nor is it for the running costs of the existing activities of organisations, individuals, councils or firms.
4. Projects should be for a discrete timeframe of up to three years, after which the project objectives will have been achieved and, where appropriate, the initiative will become self-funding.
5. Funding can be for operational or capital expenditure required to undertake a project.
6. For projects where alternative, more suitable, Government funding streams are available (such as the Sustainable Management Fund, the Contaminated Sites Remediation Fund, or research funding from the Foundation for Research, Science and Technology), applicants should apply to these funding sources before applying to the Waste Minimisation Fund.
7. The applicant must be a legal entity.
8. The fund will not cover the entire cost of the project. Applicants will need part funding from other sources.
9. The minimum grant for feasibility studies will be \$10,000.00. The minimum grant for other projects will be \$50,000.00.

Application assessment criteria have also been published by the Ministry.

A.2.6 Local Government Act 2002

The Local Government Act 2002 (LGA) provides the general framework and powers under which New Zealand's democratically elected and accountable local authorities operate.

The LGA contains various provisions that may apply to councils when preparing their WMMPs, including consultation and bylaw provisions. For example, Part 6 of the LGA refers to planning and decision-making requirements to promote accountability between local authorities and their communities, and a long-term focus for the decisions and activities of the local authority. This part includes requirements for information to be included in the long-term plan (LTP), including summary information about the WMMP.

More information on the LGA can be found at www.dia.govt.nz/better-local-government.

A.2.6.1 Section 17 A Review

Local authorities are now under an obligation to review the cost-effectiveness of current arrangements for meeting community needs for good quality infrastructure, local public services and local regulation. Where a review is undertaken, local authorities must consider options for the

governance, funding and delivery of infrastructure, local public services and local regulation that include, but are not limited to:

- a) in-house delivery
- b) delivery by a CCO, whether wholly owned by the local authority, or a CCO where the local authority is a part owner
- c) another local authority
- d) another person or agency (for example central government, a private sector organisation or a community group).

Local Authorities have three years from 8 August 2014 to complete the first review of each service i.e. they must have completed a first review of all their services by 7 August 2017 (unless something happens to trigger a review before then). Other than completion by the above deadline, there are two statutory triggers for a section 17A review:

- The first occurs when a local authority is considering a significant change to a level of service
- The second occurs where a contract or other binding agreement is within two years of expiration.

Once conducted, a section 17A review has a statutory life of up to six years. Each service must be reviewed at least once every six years unless one of the other events that trigger a review comes into effect.

While the WMMP process is wider in scope – considering all waste service provision in the local authority area – and generally taking a longer term, more strategic approach, there is substantial crossover between the section 17A requirements and those of the WMMP process, in particular in relation to local authority service provision. The S17A review may however take a deeper approach go into more detail in consideration of how services are to be delivered, looking particularly at financial aspects to a level that are not required under the WMMP process.

Because of the level of crossover however it makes sense to undertake the S17A review and the WMMP process in an iterative manner. The WMMP process should set the strategic direction and gather detailed information that can inform both processes.

A.2.7 Resource Management Act 1991

The Resource Management Act 1991 (RMA) promotes sustainable management of natural and physical resources. Although it does not specifically define 'waste', the RMA addresses waste management and minimisation activity through controls on the environmental effects of waste management and minimisation activities and facilities through national, regional and local policy, standards, plans and consent procedures. In this role, the RMA exercises considerable influence over facilities for waste disposal and recycling, recovery, treatment and others in terms of the potential impacts of these facilities on the environment.

Under section 30 of the RMA, regional councils are responsible for controlling the discharge of contaminants into or on to land, air or water. These responsibilities are addressed through regional planning and discharge consent requirements. Other regional council responsibilities that may be relevant to waste and recoverable materials facilities include:

- managing the adverse effects of storing, using, disposing of and transporting hazardous wastes
- the dumping of wastes from ships, aircraft and offshore installations into the coastal marine area

- the allocation and use of water.

Under section 31 of the RMA, council responsibility includes controlling the effects of land-use activities that have the potential to create adverse effects on the natural and physical resources of their district. Facilities involved in the disposal, treatment or use of waste or recoverable materials may carry this potential. Permitted, controlled, discretionary, noncomplying and prohibited activities, and their controls, are specified in district planning documents, thereby defining further land-use-related resource consent requirements for waste-related facilities.

In addition, the RMA provides for the development of national policy statements and for the setting of national environmental standards (NES). There is currently one enacted NES that directly influences the management of waste in New Zealand – the Resource Management (National Environmental Standards for Air Quality) Regulations 2004. This NES requires certain landfills (e.g., those with a capacity of more than 1 million tonnes of waste) to collect landfill gases and either flare them or use them as fuel for generating electricity.

Unless exemption criteria are met, the NES for Air Quality also prohibits the lighting of fires and burning of wastes at landfills, the burning of tyres, bitumen burning for road maintenance, burning coated wire or oil, and operating high-temperature hazardous waste incinerators. These prohibitions aim to protect air quality.

A.2.8 New Zealand Emissions Trading Scheme

The Climate Change Response Act 2002 and associated regulations is the Government’s principal response to manage climate change. A key mechanism for this is the New Zealand Emissions Trading Scheme (NZ ETS) The NZ ETS puts a price on greenhouse gas emissions, providing an incentive for people to reduce emissions and plant forests to absorb carbon dioxide. Certain sectors are required to acquire and surrender emission units to account for their direct greenhouse gas emissions or the emissions associated with their products. Landfills that are subject to the waste disposal levy are required to surrender emission units to cover methane emissions generated from landfill. These disposal facilities are required to report the tonnages landfilled annually to calculate emissions.

The NZ ETS was introduced in 2010 and, from 2013, landfills have been required to surrender New Zealand Emissions Units for each tonne of CO₂ (equivalent) that they produce. Until recently however the impact of the NZETS on disposal prices has been limited. There are a number of reasons for this:

- The global price of carbon crashed during the GFC in 2007-8 and has been slow to recover. Prior to the crash it was trading at around \$20 per tonne. The price has been as low as \$2, although since, in June 2015, the Government moved to no longer accept international units in NZETS the NZU price has increased markedly (currently sitting at around \$17 per tonne²³).
- The transitional provisions of the Climate Change Response Act, which were extended in 2013 (but have now been reviewed), mean that landfills have only had to surrender half the number of units they would be required to otherwise. These transitional provisions were removed in January 2017 which will effectively double the price per tonne impact of the ETS.
- Landfills can apply for ‘a methane capture and destruction Unique Emissions Factor (UEF). This means that if landfills have a gas collection system in place and flare or otherwise use the gas (and turn it from Methane into CO₂) they can reduce their liabilities in proportion to

²³ <https://carbonmatch.co.nz/> accessed 25 January 2017

how much gas they capture. Up to 90% capture and destruction can be claimed under the regulations, with large facilities applying for UEF's at the upper end of the range.

Taken together (a low price of carbon, two for one surrender only required, and methane destruction of 80-90%) these mean that the actual cost of compliance with the NZETS has been small for most landfills – particularly those that can claim high rates of gas capture. Disposal facilities have typically imposed charges (in the order of \$5 per tonne) to their customers, but these charges have mostly reflected the costs of scheme administration, compliance, and hedging against risk rather than the actual cost of carbon.

The way the scheme has been structured has also resulted in some inconsistencies in the way it is applied – for example class 2-4 landfills and closed landfills do not have any liabilities under the scheme. Further, the default waste composition (rather than a SWAP) can be used to calculate the theoretical gas production, which means landfill owners have an incentive to import biodegradable waste, which then increases gas production and which can then be captured and offset against ETS liabilities.

Recently, however the scheme has had a greater impact on the cost of landfilling, and this is expected to continue in the medium term. Reasons for this include:

- In June 2015, the Government moved to no longer accept international units in NZETS. This has had a significant impact, as cheap international units which drove the price down cannot be used. Many of these were also of dubious merit as GHG offsets²⁴. This has resulted in a significant rise in the NZU price.
- The transitional provisions relating to two-for-one surrender of NZUs were removed from 1 January 2017, meaning that landfills will need to surrender twice the number of NZUs they do currently – effectively doubling the cost of compliance.
- The United Nations Climate Change Conference, (COP21) held in Paris France in November – December of 2015, established universal (but non-binding) emissions reduction targets for all the nations of the world. The outcomes could result in growing demand for carbon offsets and hence drive up the price of carbon. Balanced against this however is the degree to which the United States will ratify its commitments.

These changes to the scheme mean that many small landfills which do not capture and destroy methane are now beginning to pay a more substantial cost of compliance. The ability of landfills with high rates of gas capture and destruction to buffer the impact of the ETS will mean a widening cost advantage for them relative to those without such ability. This could put further pressure on small (predominantly Council owned) facilities and drive further tonnage towards the large regional facilities (predominantly privately owned).

If for example, the price of carbon were to rise to \$50 per tonne, the liability for a landfill without gas capture will be \$65.50 (based on a default emissions factor of 1.31 tonnes of CO₂e per tonne of waste), whereas for a landfill claiming 90% gas capture (the maximum allowed under the scheme), the liability will be only \$6.55. This type of price differential will mean it will become increasingly cost competitive to transport waste larger distances to the large regional landfills.

More information is available at www.climatechange.govt.nz/emissions-trading-scheme.

²⁴ http://morganfoundation.org.nz/wp-content/uploads/2016/04/ClimateCheat_Report9.pdf

A.2.9 Litter Act 1979

Under the Litter Act it is an offence for any person or body corporate to deposit or leave litter:

- In or on any public place; or
- In or on any private land without the consent of its occupier.

The Act enables Council to appoint Litter Officers with powers to enforce the provisions of the legislation.

The legislative definition of the term "Litter" is wide and includes refuse, rubbish, animal remains, glass, metal, garbage, debris, dirt, filth, rubble, ballast, stones, earth, waste matter or other thing of a like nature.

Any person who commits an offence under the Act is liable to:

- An instant fine of \$400 imposed by the issue of an infringement notice; or a fine not exceeding \$5,000 in the case of an individual or \$20,000 for a body corporate upon conviction in a District Court.
- A term of imprisonment where the litter is of a nature that it may endanger, cause physical injury, disease or infection to any person coming into contact with it.

Under the Litter Act 1979 it is an offence for any person to deposit litter of any kind in a public place, or onto private land without the approval of the owner.

The Litter Act is enforced by territorial authorities, who have the responsibility to monitor litter dumping, act on complaints, and deal with those responsible for litter dumping. Councils reserve the right to prosecute offenders via fines and infringement notices administered by a litter control warden or officer. The maximum fines for littering are \$5,000 for a person and \$20,000 for a corporation.

Council powers under the Litter Act could be used to address illegal dumping issues that may be included in the scope of a council's waste management and minimisation plan.

A.2.10 Health Act 1956

The Health Act 1956 places obligations on TAs (if required by the Minister of Health) to provide sanitary works for the collection and disposal of refuse, for the purpose of public health protection (Part 2 – Powers and duties of local authorities, section 25). It specifically identifies certain waste management practices as nuisances (S 29) and offensive trades (Third Schedule). Section 54 places restrictions on carrying out an offensive trade and requires that the local authority and medical officer of health must give written consent and can impose conditions on the operation. Section 54 only applies where resource consent has not been granted under the RMA. The Health Act enables TAs to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.²⁵

Health Act provisions to remove refuse by local authorities have been repealed.

A.2.11 Hazardous Substances and New Organisms Act 1996 (HSNO Act)

The HSNO Act addresses the management of substances (including their disposal) that pose a significant risk to the environment and/or human health. The Act relates to waste management

²⁵ From: MfE 2009: Waste Management and Minimisation Planning, Guidance for Territorial Authorities.

primarily through controls on the import or manufacture of new hazardous materials and the handling and disposal of hazardous substances.

Depending on the amount of a hazardous substance on site, the HSNO Act sets out requirements for material storage, staff training and certification. These requirements would need to be addressed within operational and health and safety plans for waste facilities. Hazardous substances commonly managed by TAs include used oil, household chemicals, asbestos, agrichemicals, LPG and batteries.

The HSNO Act provides minimum national standards that may apply to the disposal of a hazardous substance. However, under the RMA a regional council or TA may set more stringent controls relating to the use of land for storing, using, disposing of or transporting hazardous substances.²⁶

A.2.12 Health and Safety at Work Act 2015²⁷

The new Health and Safety at Work Act, passed in September 2015 replaces the Health and Safety in Employment Act 1992. The bulk of the Act came into force from 4 April 2016.

The Health and Safety at Work Act introduces the concept of a Person Conducting a Business or Undertaking, known as a PCBU. The Council will have a role to play as a PCBU for waste services and facilities.

The primary duty of care requires all PCBUs to ensure, so far as is reasonably practicable:

1. the health and safety of workers employed or engaged or caused to be employed or engaged, by the PCBU or those workers who are influenced or directed by the PCBU (for example workers and contractors)
2. that the health and safety of other people is not put at risk from work carried out as part of the conduct of the business or undertaking (for example visitors and customers).

The PCBU's specific obligations, so far as is reasonably practicable:

- providing and maintaining a work environment, plant and systems of work that are without risks to health and safety
- ensuring the safe use, handling and storage of plant, structures and substances
- providing adequate facilities at work for the welfare of workers, including ensuring access to those facilities
- providing information, training, instruction or supervision necessary to protect workers and others from risks to their health and safety
- monitoring the health of workers and the conditions at the workplace for the purpose of preventing illness or injury.

A key feature of the new legislation is that cost should no longer be a major consideration in determining the safest course of action that must be taken.

WorkSafe NZ is New Zealand's workplace health and safety regulator.

A.2.13 Other legislation

Other legislation that relates to waste management and/or reduction of harm, or improved resource efficiency from waste products includes:

²⁶ From: MfE 2009: Waste Management and Minimisation Planning, Guidance for Territorial Authorities.

²⁷ <http://www.legislation.govt.nz/act/public/2015/0070/latest/DLM5976660.html#DLM6564701>

- Hazardous Substances and New Organisms Act 1996
- Biosecurity Act 1993
- Radiation Protection Act 1965
- Ozone Layer Protection Act 1996
- Agricultural Chemicals and Veterinary Medicines Act 1997.

For full text copies of the legislation listed above see www.legislation.govt.nz.

A.2.14 International commitments

New Zealand is party to international agreements that have an influence on the requirements of our domestic legislation for waste minimisation and disposal. Some key agreements are the:

- Montreal Protocol
- Basel Convention
- Stockholm Convention
- Waigani Convention
- Minamata Convention.

More information on these international agreements can be found on the Ministry's website at www.mfe.govt.nz/more/international-environmental-agreements.

A.3.0 2012 WMMP Action Plan Review

The Actions Plan from the 2012 WMMP is set out below, a brief update on each of the actions is provided.

Cross-Service Joint Actions

C.1 Waste Policy, Planning and Coordination

Reference & Title	Description	2017 Review
C.1.1 Joint Governance	Establish effective and efficient governance structures to enable appropriate accountability, and to optimise efficiency of decision making and joint working opportunities	The solid waste shared services contract manager is employed by all three Councils. Regular reports on performance are provided to the appropriate committee within each of the three Councils
C.1.2 Review and Evaluation of Joint WMMP	Undertake to jointly review and evaluate the WMMP and related policies on a 6 yearly cycle, or earlier as necessary Review and report on achievement of WMMP objectives and targets annually	The 2017 Waste Assessment and WMMP include review of the 2012 WMMP and annual reports are published by each Council including progress on targets in the WMMP
C1.3 Joint policy and planning staff	Staff appointed to work on joint policy and planning issues	The policy and planning staff from the three Councils have collaborated on the development of the 2017 WMMP
C1.4 Wider Cooperation	Liaison with regional council, other district councils, and private and community sector to identify areas for joint working and progress joint projects including WMF projects. It is desired to work positively with all sectors, and find ways of working to maximise the contributions of different parties.	The Councils are active in the Waikato and Bay of Plenty Waste Liaison Group and have collaborated on a range of projects over the last 5 years. The Councils have also worked with local community groups when the opportunities have been available.

C.2 Procurement and Contract Administration

Reference & Title	Description	2017 Review
C.2.1 Joint Procurement	Joint procurement of key council waste services including collection, transfer station operation and disposal. Joint procurement to take into consideration the potential for partnership working between the private, public and community sectors.	The solid waste shared services contract was jointly procured by the three Councils.

Reference & Title	Description	2017 Review
C.2.2 Joint Contract Administration	Potential joint resourcing of staff to oversee contract administration including contractor liaison, responding to issues, evaluation of KPIs, management reporting etc	The solid waste shared services contract manager is employed by all three Councils.

C.3 Liaison, Communication, Education and Consultation

Reference & Title	Description	2017 Review
C.3.1 Joint Communications	Consistency and standardisation of communications to residents and ratepayers in relation to waste services	The roll out of the new collection services was communicated to residents and ratepayers in a consistent manner with a single website and communications materials for all three Councils.
C.3.2 Education	Provide waste education services to the community including (but not limited to): <ul style="list-style-type: none"> - primary and secondary schools education, - home composting, - waste prevention information - food waste prevention - second-hand Sundays Investigate and if feasible implement a subsidised compost bin programme	Waste education initiatives have focused on the schools and pre-schools in the three districts. Demand for subsidised compost bins has not been high and they have not been provided.
C3.3 Community Liaison and Consultation	Provide appropriate avenues for community, to provide feedback and input into waste services policy and planning. This includes residents, ratepayers, iwi, businesses, and community groups. One option to be investigated is the establishment of community waste forum(s). The structure of the forums would be agreed in consultation with stakeholders.	Community Boards in each of the districts have provided the main avenue for feedback on waste services and policy. Additional forums have been considered and it is believed they would cause confusion about roles and responsibilities of the different forums.
C3.4 Lobby for enhanced Produce Stewardship	Work with territorial and regional councils and other organisations to promote enhanced product stewardship schemes including accredited and priority product schemes under the WMA 2008	The Councils have advocated for enhanced product stewardship. As yet no priority product schemes have been established nationally.
C3.5 Promote waste	Promote waste minimisation and cleaner production initiatives to local businesses	The Councils supported the regional waste exchange network for local

Reference & Title	Description	2017 Review
minimisation to local businesses	to help them reduce waste and improve efficiency of resource use	businesses unfortunately use of the service has been limited
C3.6 Promote specific local waste reduction initiatives	This could include implementing/supporting initiatives to reduce plastic shopping bags, promote re-usable nappies etc	The Councils have supported the "Love Food Hate Waste" campaign which aims to reduce the amount of food waste which people generate
C3.7 Initiate consistent in-house waste minimisation actions across all 3 Councils	This could include consistent recycling facilities and communications, and purchasing policies/procurement criteria that take into account waste minimisation and preference for recycled materials	The Councils have not implemented consistent in-house waste minimisation actions. Actions have been taken by individual offices such as food waste composting and printing reduction

C.4 Development and Enforcement of Solid Waste Bylaws

Reference & Title	Description	2017 Review
C.4.1 Review Solid Waste Bylaws - General	Review solid waste bylaws across the three districts to standardise approach, and introduce/revise bylaws as appropriate. Bylaw issues considered may include presentation of materials, restrictions on materials collected, site waste management plans etc	A regional solid waste bylaw template has been developed. The Councils will consider the template in future Bylaw reviews
C.4.2 Review Solid Waste Bylaws – Operator Licensing	Investigate, and if feasibility established, implement licensing of private waste collectors / facility operators to enhance standards and improve information for monitoring and management. One option is to require private collectors to offer a comparable quality of recycling service alongside refuse collections.	A regional solid waste bylaw template has been developed including operator licensing. The Councils will consider the template in future Bylaw reviews
C.4.3 Review Solid Waste Bylaws – Cleanfills	Investigate, and if feasibility established, implement a bylaw governing depositing of 'cleanfill' materials, with a view to incentivising recovery and improving environmental standards	A regional solid waste bylaw template has been developed. The Councils will consider the template in future Bylaw reviews
C.4.4	Investigate options for effective	A regional solid waste bylaw

Reference & Title	Description	2017 Review
Enforcement of Solid Waste Bylaws	enforcement of bylaws. Options may include delegation of powers to council contractors. Implement most feasible options	template has been developed. The Councils will consider the impact on enforcement during future Bylaw reviews

C.5 Monitoring and Reporting

Reference & Title	Description	New or existing action
C.5.1 Standardise Data Collection	Standardising waste data collection systems across the districts to facilitate accurate monitoring and reporting. Also consider regional and national data requirements	A National Waste Data Framework has been developed. The Councils data is not currently aligned with the framework and improvements to data capture and reporting are still required
C.5.2 Standardise Waste Reporting	Establish agreed protocols, timings, and standards for reporting on waste services so as to optimise efficiency while aligning with each Councils' requirements	Reporting on waste services has been aligned through the solid waste shared services contract
C.5.3 Waste Composition Analyses	Undertake waste composition analyses on a regular basis to ascertain what materials could be diverted and measure progress. Analyses of kerbside waste and transfer station wastes to be conducted	No waste composition analysis have been undertaken since the 2012 WMMP

Shared Services

S.1 Kerbside Services

Reference & Title	Description	2017 Review
S.1.1 Kerbside Dry Recycling Collection	Continue to collect existing range of commodities from kerbside	The kerbside recycling collections continue on a fortnightly basis.
S1.2 Increase Capacity of Kerbside Dry Recycling Containers	Investigate, and if feasibility established, provide extra bins/bags or larger bins (such as wheeled bins) to increase the quantity of recycling that households can set out. Additional bin or bag could target specific materials (e.g. paper or glass). The preferred system will best align with the objectives of the WMMP	The introduction of wheeled bins with the solid waste shared services contract has increased the quantity of materials recycled
S.1.3 Increase the Range of Materials Accepted in the Dry Recycling Collections	Investigate, and if feasibility established, accept additional materials in kerbside collections. Additional materials accepted could include clothing, Tetra-paks, household batteries, plastic bags etc	The introduction of wheeled bins with the solid waste shared services contract has increased range of materials recycled
S.1.4 Extend Recycling Services to Businesses	Work with contractors/private and community sector operators as appropriate to extend recycling collections to businesses. Key materials are likely to include paper, cardboard, and plastics	Data about the composition and quantity of commercial waste is required to make informed decisions about how best to extend services
S.1.5 Organic waste services for Businesses	Work with contractors/private and community sector operators as appropriate to offer organic waste collections to businesses.	Data about the composition and quantity of commercial waste is required to make informed decisions about how best to extend services
S.1.6 Kerbside Food Waste Collection	Investigate providing a weekly user-friendly food waste collection service to households. Food waste is most efficiently collected when it is separate from garden waste	The separate collection of food waste is being trialled in Auckland. Depending on the outcomes of those trials the options for providing such a service in the Eastern Waikato will be considered in the coming years.

Reference & Title	Description	2017 Review
S1.7 User Pays Garden Waste Collection	<p>Investigate offering a user-pays garden waste collection to households</p> <p>Free garden waste collections result in lots of garden waste being collected that was not being thrown out before, which can be very costly. User pays services for garden waste provide a convenient service for households that want it</p>	<p>Commercial garden waste collections are available in many areas and the transfer stations provide an alternative for garden waste disposal so Council collection services are not believed to be required</p>
S.1.8 Kerbside Refuse Collection	<p>Continue to collect waste from households weekly based on user pays sacks.</p> <p>Standardise charging regimes across the districts</p> <p>User charged services help incentivise recycling/recovery</p> <p>Consider reduction of refuse sack capacity once enhanced recycling and organic waste collection programmes established</p> <p>Consider extending service provision to rural properties</p>	<p>The kerbside refuse collections continue on a weekly basis. Charges have not been standardised due to the variable cost of operating in the different districts.</p> <p>Bag sizes and extending the collection areas will be looked at again in the coming years.</p>
S1.9 Offer Wheeled Bins for Residual	<p>Investigate offering wheeled bins for refuse collection. Wheeled bins could be provided on a user-charges basis (pay per lift/ pay by volume). This may be appropriate for some areas but not others.</p> <p>User charged services help incentivise recycling/recovery</p>	<p>The most recent surveys indicated that bags were the preferred receptacle for rubbish. This issue will be looked at again in the coming years.</p>
S.1.10 On-Property Collections of Residual Waste	<p>Investigate, and if feasibility established, implement offering on-property collections of refuse for holiday home owners, pensioners etc</p> <p>This would be an added value service that householders would pay an additional amount for. It could be operated directly by the private sector on a user-pays basis</p>	<p>The bin return service offered by the contractor has not been used by many in the community and demand for on-property collections is low.</p>

S.2 Drop off Services

Reference & Title	Description	2017 Review
S.2.1 Continue to Provide Drop Off Facilities	<p>Drop off facilities for waste and recycling are provided in a number of places in Thames-Coromandel District. These services would continue to be provided</p> <p>These services are presently based mainly on use of the Molok deep storage system, and include afterhours drop off points at some transfer stations</p> <p>Materials collected for recycling include paper, cans, glass, plastic bottles</p>	Drop-off facilities have been serviced more frequently to ensure the service is always available
S.2.2 Expand the Number /Capacity of Drop Off Facilities	Establish additional Molok/other drop off sites based on identified needs, and consider providing additional capacity at popular sites	Additional drop-off facilities have been procured and will be available in 2017 in the Thames Coromandel District where the demand is highest
S.2.3 Provide Temporary Seasonal Recycling Drop-off facilities	Investigate, and if feasibility established, provide additional temporary drop off facilities for recyclables (in particular glass and cans) in key peak season holiday centres	Temporary drop-off facilities have not been required as the kerbside service provides sufficient capacity for the collection of recyclables

S.3 Transfer Stations

Reference & Title	Description	2017 Review
S.3.1 Transfer Station Operations	<p>Continue to provide transfer station services for the public and commercial users</p> <p>Standardise charging regimes across the districts including e-waste charges</p> <p>Standardise materials accepted across the districts including e-waste</p>	The transfer stations continue to provide services for the public and commercial users. Charges have not been standardised due to the variable cost of operating in the different districts.
S.3.2 Capital Works	<p>Undertake capital works at transfer stations to improve traffic flow, health and safety, ability to separate and store materials, and appearance</p> <p>The capital works programme will be undertaken on a case by case basis</p>	Capital works at the transfer stations to improve the facilities is an on-going process

Reference & Title	Description	2017 Review
	Materials which may be targeted for enhanced separation include: organic waste, timber, concrete and rubble, reusable items, e-waste, hazardous wastes, tyres etc.	
S3.3 Enhance Reuse	Work with community organisations/private sector to establish reuse centres at or adjacent to selected transfer stations where feasible	The reuse centre at Thames (Seagull Centre) has expanded since 2012 and a new reuse centre at Coromandel (The Goldmine) has opened in 2017
S3.4 Enhance Transfer Station Management	<p>Improve separation and recover of materials at transfer stations through:</p> <ul style="list-style-type: none"> • more staff/staff training and incentives • differential pricing tools • changed layout/traffic management (e.g. meet and greet) • more reuse and recycling options • introducing incentives for the contractor etc • Reviewing operating hours 	Enhancements to the management of transfer stations is an on-going process

S.4. Processing and Treatment

Reference & Title	Description	2017 Review
S.4.1 Material Recovery Facility for Processing Recyclable Materials	<p>A Material Recovery Facility (MRF) servicing the three districts (and potentially others close by) could improve the efficiency and returns from recyclable materials.</p> <p>It is proposed to investigate this possibility in consultation with private sector providers, and establish a facility if feasible</p>	A Material Recovery Facility was established at Kopu at the start of the solid waste shared services contract
S.4.2 Processing Facilities for Food and Garden Waste	Investigate, and if feasibility established, develop additional processing facilities in the East Waikato for organic wastes in particular food waste	Additional facilities for processing of food and garden waste are not currently required. Separate food waste collections have been considered and are not currently economical.

S.5 Transport

Reference & Title	Description	2017 Review action
S.5.1 Transport of Recyclable/Reco vered Materials to Processing	Transport of recyclable /recovered materials to processing facilities/markets	The solid waste shared services contract includes the transport of recyclable /recovered materials
S.5.2 Transport of Waste to Disposal	Transport of waste to designated disposal facilities	The solid waste shared services contract includes the transport of waste

S.6 Disposal

Reference & Title	Description	2017 Review
S.6.1 Joint Disposal Contract	Negotiate a joint contract for disposal of residual wastes from the East Waikato councils	A new disposal contract was negotiated for the period 2013-2020