

# Whangārei District Waste Assessment

Prepared by Whangarei District Council

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## Table of contents

### **Part 1 - The waste situation**

<b>1</b>	<b>Policy context</b>	<b>5</b>
1.1	Statutory Requirements for WA and WMMP	6
1.2	Local Policy	6
1.2.1	Council's Long Term Plan (2021-31)	6
1.2.2	Solid Waste Activity Management Plan	7
1.2.3	Solid Waste Management Bylaw 2013	7
1.3	Regional Policy	7
1.3.1	Northland Regional Policy Statement	7
1.3.2	Northland Proposed Regional Plans	7
1.4	National Policy	8
1.4.1	Waste Minimisation Act 2008	8
1.4.2	The New Zealand Waste Strategy 2010	9
1.4.3	Other National Policy	10
<b>2</b>	<b>Waste Quantity and Composition</b>	<b>12</b>
2.1	Population	12
2.2	Waste Composition	12
2.2.1	Composition of Domestic Kerbside Waste	14
2.3	Waste Quantities	15
2.3.1	Kerbside Waste Quantities	15
2.3.2	Waste quantities at rural rubbish and recycling Transfer Stations	16
2.3.3	Per capita disposal of waste - comparison with other areas	16
2.3.4	Unquantified Waste	17
2.4	Collection and Drop off System Performance	17
2.5	Waste Quantity and Composition Data - Issues and Constraints	18
<b>3</b>	<b>Waste Infrastructure and services</b>	<b>19</b>
3.1	Collection	19
3.1.1	Residential Collection	20
3.1.2	Commercial or Industrial Waste	20
3.1.3	Litter and Illegal Dumping	20
3.2	Waste Transfer and Processing	20
3.2.1	Rural Rubbish and Recycling Stations	20
3.2.2	Re:Sort	21
3.2.3	Other Processing	21
3.3	Landfills	22
3.3.1	Closed Landfills	22
3.4	Costs for Waste Management	23
3.4.1	Council Funding	23
3.4.2	User Charges	23
3.5	Waste Infrastructure - Issues Identified	24
<b>4</b>	<b>Delivery of Waste Minimisation and Management Services</b>	<b>25</b>
<b>5</b>	<b>Forecast of Future Demand</b>	<b>26</b>
<b>Part 2 – Where do we want to be</b>		
<b>6</b>	<b>Background</b>	<b>28</b>
6.1	Vision, Goals, Objectives and Targets	29
6.2	Council's Intended Role	32
6.3	Protecting Public Health	33

## **Part 3 – How are we going to get there**

<b>7</b>	<b>Options Identification and Analysis</b>	<b>33</b>
7.1	Introduction	33
7.1.1	Collection Options	34
7.1.2	Physical Infrastructure Options	36
7.1.3	Options to Manage the Negative Impacts of Waste	36
7.1.4	Education Options	37
7.1.5	Policy Options	37
<b>8</b>	<b>Statement of Proposals</b>	<b>40</b>
<b>9</b>	<b>Consultation with the Medical Officer of Health</b>	<b>42</b>

## Introduction

This Waste Assessment establishes the planning foundations for a Waste Management and Minimisation Plan (WMMP) for Whangārei District by describing the waste situation, setting the vision, goals objectives and targets for the district, and developing options for meeting future demand. Much of the information presented in this Waste Assessment will be summarised in the final WMMP.

This Waste Assessment contains three parts:

- Part 1 – the waste situation (where are we now?)  
This covers policy context, the current waste situation, including waste flows, waste infrastructure and services, and forecast of future demand. This will be summarised in the final WMMP.
- Part 2 – where do we want to be?  
Part 2 includes the vision, goals, objectives and targets for the waste assessment, which will form part the draft WMMP.
- Part 3 – how are we going to get there?  
Part 3 identifies options and assesses the suitability of each option (as required by Section 51 of the Waste Management Act 2008 (WMA)) and includes a summary of the outcome of consultation with the Medical Officer of Health. The preferred options from the Part 3 assessment will be presented in the WMMP.

## Scope

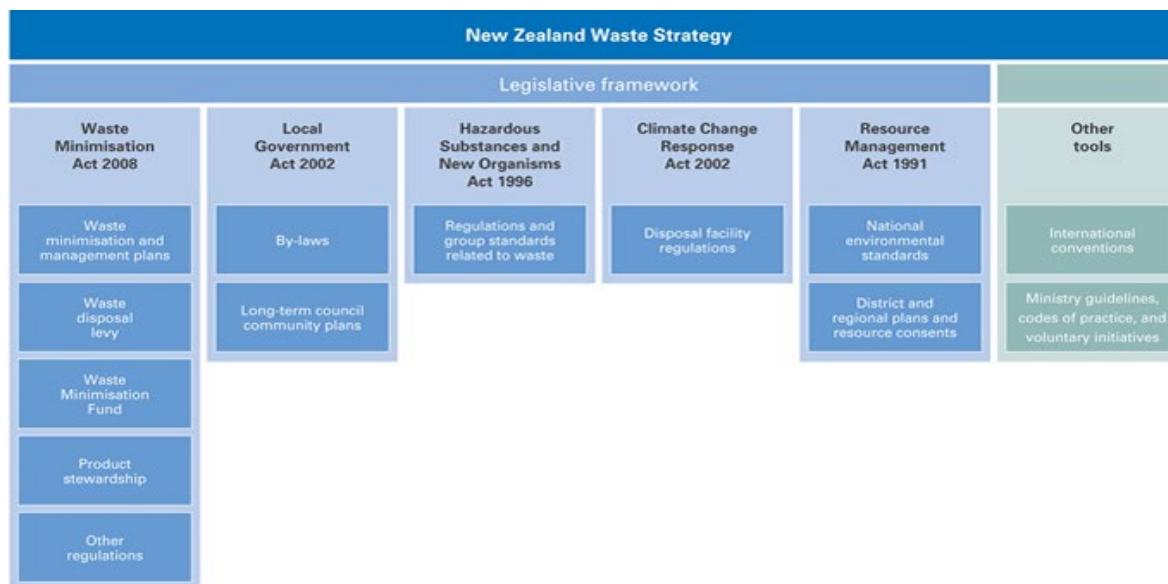
This Waste Assessment and the associated Waste Management and Minimisation Plan covers solid waste generated in the Whangārei District. The focus is on materials entering the waste management system (collection, processing and disposal). Other materials, such as industrial by-products and materials re-used or disposed of on site, are relevant but not specifically addressed due to a lack of available information include.

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 council's Long-Term Plans (LTPs). For some assets and services, it is necessary to consider a longer timeframe and so this is considered where appropriate.

## Part 1 – The waste situation

### 1. Policy context

The New Zealand Waste Strategy<sup>1</sup> (NZWS) provides a useful summary of the New Zealand policy context for waste minimisation and management. A diagram from the NZWS laying out the policy context is reproduced as Figure 1.



**Figure 1** Policy Context for Waste Management and Minimisation in New Zealand<sup>1</sup>

There is wide a range of statutory documents and associated policy that impacts on waste minimisation and management in the Whangārei District. These are summarised in Table 1 and the remainder of Section 1.

**Table 1** Selected Relevant Policy for waste in Whangārei District

Whangārei District	Northland Region	National
Whangārei Long Term Plan 2021-2031	Northland Regional Council Proposed Regional Plan	Waste Minimisation Act 2008
Whangārei Solid Waste Asset Management Plan	Northland Regional Air Quality Plan	Health Act 1956
Whangārei Solid Waste Management Bylaw 2013	Northland Regional Coastal Plan	Hazardous Substances and New Organisms Act 1996
Whangārei District Plan	Northland Regional Water and Soil Plan	Resource Management Act 1991
		Local Government Act 2002
		Emissions Reduction Plan
		NZ Waste Strategy 2010

<sup>1</sup> The New Zealand Waste Strategy: Reducing harm, improving efficiency (ME1027), 2010.

		Climate Change Response Act 2002 NZ Emissions Trading Scheme
		Building for Climate Change – Proposed Amendments to the Building Act 2004

## 1.1 Statutory Requirements for WA and WMMP

This Waste Assessment establishes the planning foundations for the Whangārei Waste Management and Minimisation Plan (WMMP) by describing the waste situation, setting the vision, goals objectives and targets for the district, and developing options for meeting future demand.

A WMMP must contain a summary of the Council’s objectives, policies and targets for waste management and minimisation. The plan should clearly communicate how the Council will deliver on these objectives.

Section 43 of the WMA states that a WMMP must provide for:

- a *objectives and policies for achieving effective and efficient waste management and minimisation within the territorial authority’s district*
- b *methods for achieving effective and efficient waste management and minimisation within the territorial authority’s district, including -*
  - i *collection, recovery, recycling, treatment, and disposal services for the district to meet its current and future waste management and minimisation needs (whether provided by the territorial authority or otherwise); and*
  - ii *any waste management and minimisation facilities provided, or to be provided, by the territorial authority; and*
  - iii *any waste management and minimisation activities, including any educational or public awareness activities, provided, or to be provided, by the territorial authority*
- c *how implementing the plan is to be funded*
- d *if the territorial authority wishes to make grants or advances of money in accordance with section 47, the framework for doing so.*

A WMMP must have regard to the waste hierarchy, the New Zealand Waste Strategy, and a Council’s most recent waste assessment.

## 1.2 Local Policy

### 1.2.1 Council’s Long Term Plan (2021-31)

Whangarei District Council (WDC) must produce a Long Term Plan (LTP) every three years. The LTP must include information on activities, goods or services provided by Council, and specific funding and financial management policies and information.

The WDC 2021 LTP notes several Community Outcomes – a set of aspirations or goals agreed with the Whangārei community. They are:

Efficient and resilient core services

- it is easy and safe for everyone to travel around the District
- there are opportunities to walk and cycle
- the District is well prepared for growth and can adapt to change

- services are supplied in ways that benefit the environment.

Caring for the environment

- communities work to keep the environment clean and healthy
- access to the coast is protected
- open spaces in parks and streets are places where nature thrives
- the District is positively adapting to climate change.

Positive about the future

- the District has productive land, people and a thriving City Centre
- there is a fair urban/rural balance
- Council has clear, simple documents and rules
- the District embraces new technology and opportunities.

Proud to be local

- the District is neat, tidy and looks attractive
- public areas feel safe and are safe
- there is always something to do and see
- there are opportunities for people of all abilities, ages and life stages to be active
- all our cultures are valued and celebrated.

## **1.2.2 Solid Waste Activity Management Plan**

The Solid Waste Activity Management Plan focuses on the Council owned solid waste infrastructure and the services provided by Council.

## **1.2.3 Solid Waste Management Bylaw 2013**

The Solid Waste Management Bylaw is intended to help ensure that waste is collected and disposed of efficiently. It is designed to cover collection requirements, recycling, the ownership of the solid waste stream and the storage, separation, transfer and management of solid waste. It covers all household and commercial waste and contains a schedule which lists 'special waste' such as toxic and chemical waste, offal and odorous waste.

## **1.3 Regional Policy**

### **1.3.1 Northland Regional Policy Statement**

The Northland Regional Policy Statement provides a broad direction and framework for managing Northland's natural and physical resources. These include land, water, air, soil, minerals, plants, animals and all built structures.

The Regional Policy Statement includes Policy 5.2.1, to *Encourage development and activities to efficiently use resources, particularly network resources, water and energy, and promote the reduction and reuse of waste.*

### **1.3.2 Northland Proposed Regional Plans**

The Northland Regional Council's Proposed Regional Plan is operational. It sets out the rules for various waste related activities in Northland including disposal of waste to land, composting, operation of waste transfer stations.

## **1.4 National Policy**

### **1.4.1 Waste Minimisation Act 2008**

The Waste Minimisation Act 2008 (WMA) sets a framework to encourage a reduction in the amount of waste generated and disposed of in New Zealand, minimising the environmental harm of waste and providing economic, social and cultural benefits for New Zealand. Some of the significant elements of the Act are highlighted in the following sections.

#### **1.4.1.1 Waste Management and Minimisation Plans**

Territorial authorities, such as Whangarei District Council, are required by the WMA to promote waste management and minimisation within their district. Part of this responsibility involves the creation and adoption of a Waste Management and Minimisation Plan (WMMP), updated every six years, which details current and planned objectives and policies, methods and funding for achieving effective and efficient waste management and minimisation. This plan must also have regard for the New Zealand Waste Strategy (see below). The Plan must also consider the following methods of waste management and minimisation (listed in descending order of importance):

- Reduction;
- Reuse;
- Recycling;
- Recovery;
- Treatment; and
- Disposal.

#### **1.4.1.2 Waste Disposal Levy**

The WMA created the Waste Disposal Levy which is currently set at \$30 per tonne (excluding GST) on all waste sent to class 1 municipal waste landfills. The rate for class 1 landfills is progressively increasing up to \$60 per tonne from 1 July 2024.

Class 2 construction and demolition fills are subject to a levy of \$20 per tonne (excluding GST) on all waste sent to landfill from 1 July 2022, and \$30 per tonne from 1 July 2024. Class 3/4 (managed and controlled fills) are subject to a levy of \$10 per tonne from 1 July 2023.

The purpose of the levy is to:

- raise revenue for the promotion and achievement of waste minimisation
- recognise that disposal imposes costs on the environment, society and the economy.

Half of the levy money goes to territorial authorities to spend on promoting or achieving the waste minimisation activities set out in their waste management and minimisation plans. The remaining levy money (minus administration costs) is put into the Waste Minimisation Fund, a contestable fund used to support projects that increase the reuse, recovery and recycling of materials.

#### **1.4.1.3 Bans on hard to recycle plastics**

Following the plastic bag ban in 2019, the Government announced plans to phase-out of a range of single-use plastic items and hard-to-recycle plastic packaging by mid-2025.

From the 1<sup>st</sup> October 2022, it is illegal to provide, sell or manufacture the following plastic products in Aotearoa New Zealand:

- PVC food trays and containers (plastic type #3)
- Polystyrene takeaway food and drink packaging (plastic type #6)



- Expanded polystyrene food and drink packaging (plastic type #6)
- Plastic with pro-degradant additives, e.g. oxo and photo degradable plastics (subset of plastic type #7)
- Plastic drink stirrers (all plastic types)
- Plastic stemmed cotton buds (all plastic types)

From the 1<sup>st</sup> of July 2023 the following items will be added to the list:

- single-use plastic cutlery and tableware
- single-use plastic produce bags
- plastic produce labels (unless specified exceptions apply)
- single-use plastic drinking straws (unless specified exceptions apply)

Further regulations are expected in 2025 which will prohibit all PVC and polystyrene food and beverage packaging.

#### **1.4.1.4 Product stewardship schemes for priority products**

In July 2020, the Government declared six products as priorities for regulated product stewardship schemes. Product stewardship is a process whereby those involved in the life cycle of a product or service are also involved in identifying and managing its environmental impacts, from the development and manufacture of the product through to its use and final disposal. Product stewardship moves responsibility for waste to those involved in the production and supply of the product (and its packaging) and indirectly to the consumer by ensuring the costs of its end-of-life treatment are reflected in the purchase price.

The priority products are: plastic packaging, tyres, electrical and electronic products (e-waste including large batteries), agrichemicals and their containers, refrigerants, farm plastics.<sup>2</sup>

As soon as is practicable after a product is declared a priority product, a product stewardship scheme for that product must be developed and accreditation obtained. The Ministry for Environment is working with stakeholders to co-design product stewardship schemes for each priority product group.

#### **1.4.2 The New Zealand Waste Strategy 2010**

Central government have signalled that they are looking to review the NZ Waste strategy to support a move towards a more circular economy. Ministry for Environment (MfE) describes that *“a circular economy will aid the transition from an extractive, economic model to one that is more regenerative and equitable. This will include less of a reliance on imported materials and bolster the resilience of the economy. Perhaps the most important value of a circular economy for New Zealand’s waste is the potential alignment with the te ao Māori world view. This ideology is vital for sustainable and equitable use of our natural resources.”* The MfE’s ‘Emissions Reduction Plan Discussion Document’ describes a circular economy as merging together mātauranga Māori and an ideal way forward for New Zealand’s waste problem.

A new national strategy is expected to include a proposal to establish a nationally coordinated long-term behaviour change and education program to support both central and local government. The strategy may also include waste reduction targets which will apply to both central and local government.

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<sup>2</sup> Details of the definitions and requirements for priority products can be found here: [Corrigendum—Declaration of Priority Products Notice 2020 – 2020-go4533 – New Zealand Gazette](#)

At the time of writing this Waste Assessment the new strategy has not yet been published, so we must fall back onto the existing document to consider Government direction.

While the Waste Minimisation Act (2008) outlines the regulatory requirements of businesses and organisations, the New Zealand Waste Strategy provides high-level strategic direction around where to focus effort to manage waste, and ways in which this can be achieved. The key aim of the Strategy is to 'Reduce Harm, Improving Efficiency'. This aim is further defined as:

- Reducing the harmful effects of waste on both the environment and human health, and
- Improving the efficiency of resource use to reduce the impact on the environment and human health and gain any potential economic benefits.

The strategy highlights other tools and legislative requirements that businesses and organisations should consider when reviewing waste management.

### **1.4.3 Other National Policy**

As noted in Table 1 there are several other policy documents of relevance to waste minimisation and management in Whangārei. These noted below with content drawn from the MfE Guide for Waste Management and Minimisation Planning<sup>3</sup>.

#### **1.4.3.1 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.

#### **1.4.3.2 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 onto 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 and offshore installations into the coastal marine area

Under section 31 of the RMA, councils' responsibility includes controlling the effects of land-use activities that could create adverse effects on the natural and physical resources of their

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<sup>3</sup> Waste Assessments and Waste Management and Minimisation Planning – A Guide for Territorial Authorities, MfE 2015.

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 in district planning documents, defining 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 (i.e. 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.

#### **1.4.3.3 Climate Change Response Act 2002, New Zealand ETS**

The Climate Change Response Act 2002 and associated regulations is the Government's principle 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.

Class 1 municipal landfill operators are required to surrender emission units to cover the greenhouse gas emissions generated from the waste disposed of at the landfill.

#### **1.4.3.4 Litter Act 1979**

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 can be used to address illegal dumping issues that may be included in the scope of a Council's waste minimisation and management plan.

#### **1.4.3.5 Health Act 1956**

The Health Act 1956 places obligations on Councils (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). The Act specifically identifies certain waste management practices as nuisances (section 29) and offensive trades (Third Schedule). The Health Act enables Councils to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.

## 2 Waste Quantity and Composition

### 2.1 Population

Draft population projections for Whangārei show the current 2023 population is 101,530 people and the number of households is 39,164. Assuming medium growth, the population of the Whangārei District is estimated to reach 110,000 people by 2033, with 43,000 households.

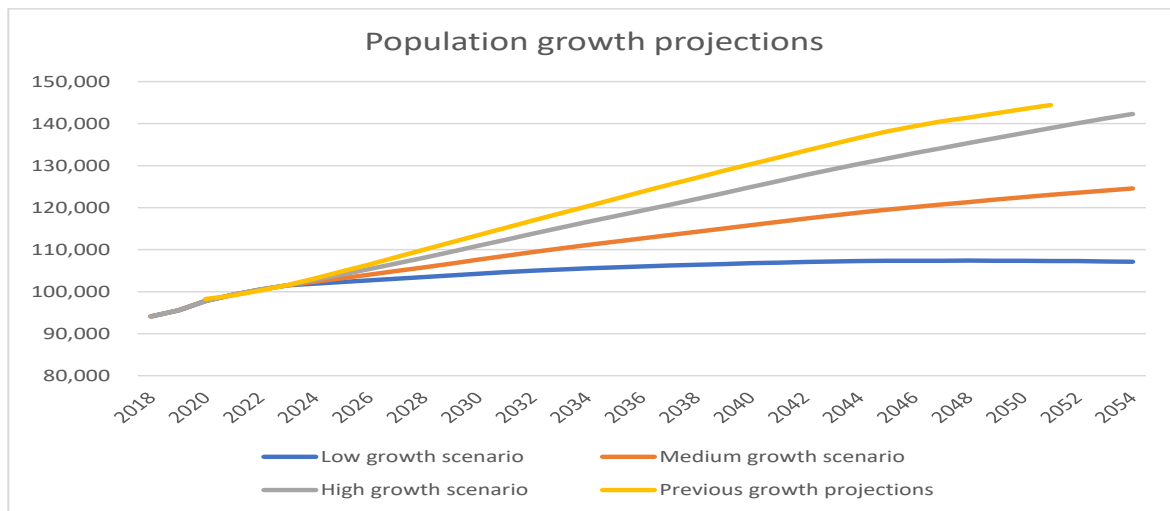


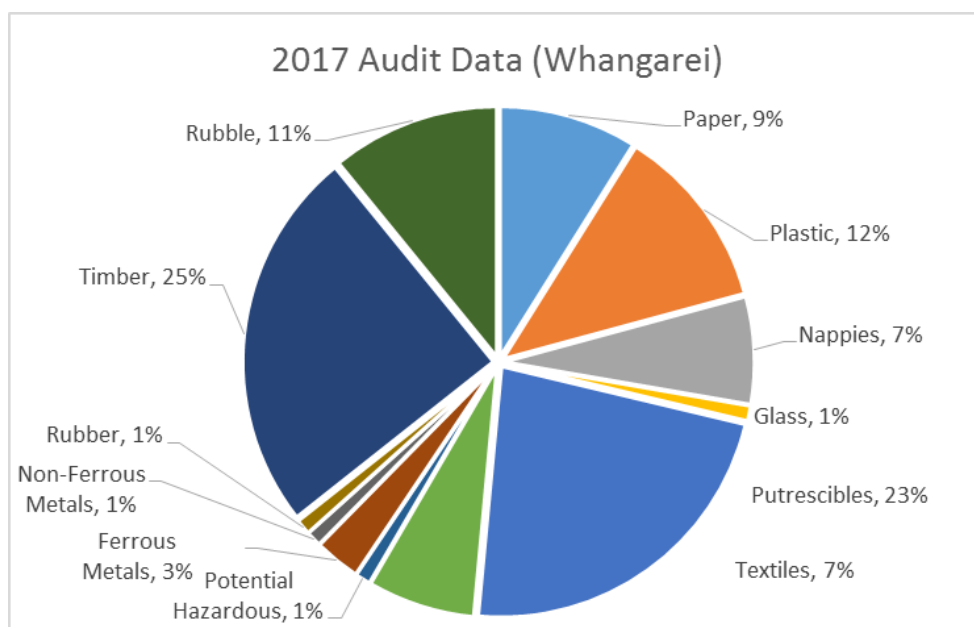
Figure 2: Projected Population

### 2.2 Waste Composition

Waste composition audits provide information about the make-up of a waste stream and can help identify materials that make up large or disproportionate parts of the waste stream to target when forming waste minimisation and management strategies.

**Table 2 Comparison of Waste to Landfill 2008 (Whangārei) 2015 (Generic) and 2017 Waste Composition Data - refuse<sup>4</sup>**

Primary Category	Proportion of total		
	2008	2015	2017
Audit Years	2008	2015	2017
Paper	11%	12%	9%
Plastic	12%	14%	11%
Nappies	6%	6%	7%
Glass	4%	4%	1%
Putrescibles <sup>5</sup>	26%	32%	23%
Textiles	5%	5%	7%
Potential Hazardous	1%	1%	1%
Ferrous Metals	4%	3%	3%
Non-Ferrous Metals	1%	0.5%	1%
Rubber	1%	0.5%	1%
Timber	18%	13%	25%
Rubble	11%	9%	11%
TOTAL	100%	100%	100%



<sup>4</sup> 2008 data sourced from 2012 WMMP, 2017 data is from waste composition surveys.

<sup>5</sup> Waste that decomposes relatively quickly mainly kitchen waste, green waste, dust and pet waste etc.

Figure 3: Refuse Composition 2017<sup>4</sup>

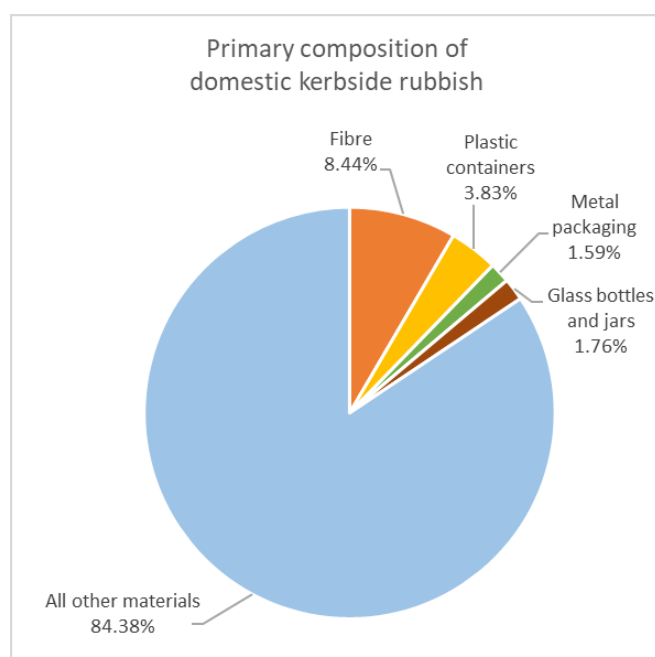
Material taken directly to landfill or transfer station (drop off) material tends to have a larger proportion of bulk items (timber, rubble) and the putrescible fraction has a higher proportion of garden rather than food waste. Typical summary figures are noted in Table 3.

**Table 3** Kerbside and Drop Off Rubbish Composition

Primary Category	Refuse Bag	Refuse Bins (120-140L)	Refuse Bins (240L)	General Waste (2017)
Average Weight	6.12 kg	12.26 kg	21.15 kg	
Paper	10.4%	7.5%	9.5%	9%
Plastic	10.6%	5.7%	8.7%	12%
Putrescibles	57.4%	63.1%	61.9%	23%
Ferrous Metals	1.5%	1.6%	1.1%	3%
Non-Ferrous Metals	0.7%	0.4%	0.6%	1%
Glass	1.5%	2.2%	3.6%	1%
Timber	1.2%	3.3%	0.9%	25%
Other	16.7%	16.2	13.7%	26%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

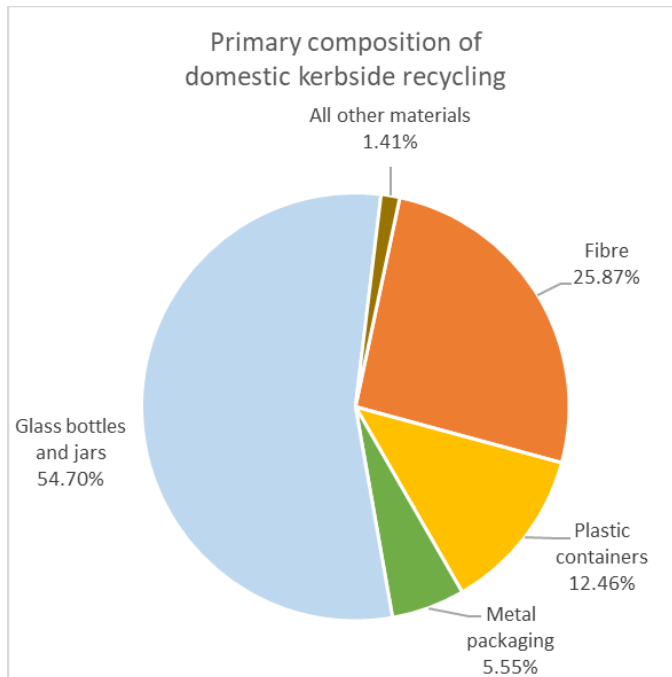
### 2.2.1 Composition of Domestic Kerbside Waste

Auditing of the kerbside waste from 160 households in Whangārei was carried out in 2019. The composition of domestic kerbside rubbish in Whangārei, both wheelie bins and bags combined, is outlined in *Figure 4*.



**Figure 4** Composition of domestic kerbside rubbish, by primary categories, Whangārei, 2019

The composition of domestic kerbside recycling, in Whangārei, based on the primary categories, is outlined below in *Figure 5*. During the audit, non-recyclable materials were found to comprise 3% of the recyclable material presented for collection. The largest portion of contamination was found to be food (0.74% by weight) contained inside containers in the recycling. In terms of frequency, metal bottle tops and lids (loose), were present in 35% of recycling bins, and unidentifiable plastic containers, were present in 30% of recycling bins.



**Figure 5** Composition of domestic kerbside recycling, by primary categories, Whangārei, 2019

## 2.3 Waste Quantities

### 2.3.1 Kerbside Waste Quantities

Kerbside rubbish in Whangārei District is collected in compactor trucks and consolidated at the Re:Sort Resource Recovery Park in Whangārei or transported directly to Puwera landfill. Households can use Council rubbish bags or stickers (sold at a range of retail outlets) or use one of several commercial wheelie bin services. Based on bag and sticker sales, around two thirds of households use the Council collection service. Using the average container weights noted in Table 3, an estimate of total kerbside refuse collected has been developed as summarised in Table 4.

Kerbside recycling is collected from rural and urban properties in Council provided crates. Materials are sorted at the kerbside and consolidated at Re:Sort and Uretiti Transfer Station<sup>6</sup> before being taken to markets or further sorting. The data summarised in Table 4 suggests a diversion rate of around 34% of materials collected from households in 2021/22. Reduction in the amount of newspaper collected through recycling has resulted in the amount of material collected for recycling falling in recent years.

<sup>6</sup> Uretiti is closer to the destination for materials so recyclables from the area are consolidated there. See Section 3.2.1 for details on rural transfer stations including Uretiti

**Table 4 Domestic Kerbside Waste Quantities<sup>7</sup>**

	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Kerbside Rubbish Collection</b>	10,380	10,908	11,412	12,000	12,568
<b>WDC recycle collection</b>	6,970	7,016	6,804	6,356	6,367
<b>Recycling Rate (%)</b>	<b>40%</b>	<b>39%</b>	<b>38%</b>	<b>35%</b>	<b>34%</b>

### 2.3.2 Waste quantities at rural rubbish and recycling Transfer Stations

Total waste quantities, measured in tonnes leaving each transfer station, are reported for the rural transfer stations by the contractor. The data reports material leaving each transfer station however there is no breakdown of the material's source i.e. whether it has come from households or businesses or construction activity.

The data presented in Table 5 suggests a diversion rate of 46% of materials entering the rural transfer stations.

**Table 5 Estimated Waste Quantities via rural transfer stations 2018 - 2022<sup>8</sup>**

	2018/19	2019/20	2020/21	2021/22
<b>Rubbish via transfer stations</b>	3077	2640	3011	2963
<b>Recycle via transfer stations</b>	2579	2497	2629	2569
<b>Recycling rate (%)</b>	46%	49%	47%	46%

Re:Sort is the main transfer station in Whangārei and receives waste from the rural transfer stations and also from kerbside collections and commercial waste collections. Over 30,000 tonnes of waste is transferred through Re:Sort every year.

### 2.3.3 Per capita disposal of waste - comparison with other areas

In Table 2.6, the 2022 Whangārei District per capita figure for landfilled waste is compared to disposal figures from other local authorities previously surveyed by Waste Not Consulting. The national average has been calculated using MfE's waste levy data and Stats NZ figures.

**Table 2.6 Whangārei District disposal rates compared to other areas**

Overall waste to landfill	Tonnes per capita per annum
<b>Invercargill City 2018</b>	0.528
<b>Palmerston North 2017</b>	0.545
<b>Kāpiti Coast District 2017</b>	0.546
<b>Dunedin City 2018</b>	0.554

<sup>7</sup> Data sourced from waste collection and transfer station contract reporting and weighbridge records.

<sup>8</sup> Data sourced from waste collection and transfer station contract reporting



<b>Whangarei District Council 2022</b>	0.560
<b>Tauranga and WBOP District 2020</b>	0.560
<b>Napier/Hastings 2022</b>	0.595
<b>Wellington region 2016</b>	0.608
<b>New Zealand average 2021</b>	0.685
<b>Taupō District 2022</b>	0.716
<b>Hamilton City 2017</b>	0.718
<b>Queenstown Lakes District 2020</b>	0.833
<b>Auckland region 2016</b>	1.053

The per capita disposal rate for Whangārei District in 2022 (560kg per person per year) was lower than the New Zealand average for 2021 (685kg per person per year). Disposal rates per capita are influenced by population and economic factors as well as the services available. It is difficult to make a true comparison with other districts as there are a number of variables to consider.

#### 2.3.4 Unquantified Waste

There are several waste streams that are known to exist but are difficult to quantify. Examples include rural waste managed on farms, materials captured as part of commercial activity (e.g. scrap metal, industrial by-products, commercial recycling) and waste materials managed within manufacturing operations (e.g. residues from food processing operations applied to land). This means that both waste disposed to landfill, and waste diverted/recovered are likely to be underestimated.

#### 2.4 Collection and Drop off System Performance

The Whangarei District Council Resident Satisfaction Survey 2022 found that three-quarters (75%) of residents are satisfied or very satisfied with the kerbside rubbish and recycling; this is a 3% increase from the previous year's result. 62% of residents are satisfied or very satisfied with the transfer stations and the Re:Sort facility; this is a significant increase from the previous year's result (cf. 2021, 55%). Forty one percent of residents are satisfied or very satisfied with litter control; this is a 3% increase from the previous year's result.

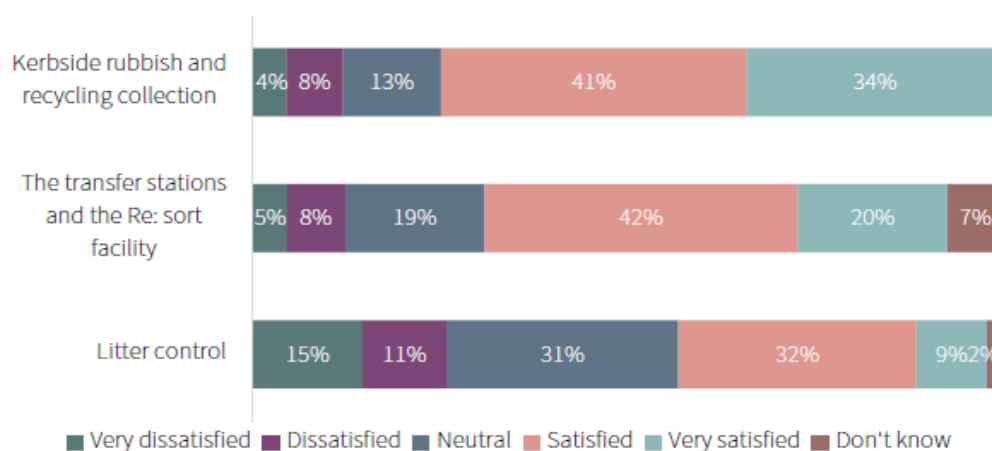


Figure 6: Rating of Solid Waste services from 2022 WDC residents survey

## 2.5 Waste Quantity and Composition Data - Issues and Constraints

While there is some information available about the quantity and composition of waste generated in the Whangārei District, the data is incomplete. The available data needs to be interpreted considering that:

- There is a mix of volume-based estimates and measured weights
- The source of waste is not always clear
- There is limited data on coverage (number of households served), set out rate (number of containers placed at the kerbside for collection) or participation rates (number of households that use the service) for kerbside collection
- The data regarding quantity of waste collected or processed is not complete. For example:
  - The quantity of waste composted by commercial or home composters has not been quantified
  - The quantity of waste collected from commercial premises or construction sites for recycling has not been quantified
  - The quantity of waste generated on rural properties and processed or disposed on site has not been quantified.

The available kerbside composition data suggests there are limited opportunities to capture more recyclable material through the existing kerbside collection. The composition of landfilled waste outlined in section 2.2 suggests that the materials that could be targeted for increased diversion from landfill are paper, food waste, garden waste, rubble and timber.

There are other materials present in the waste stream that require careful management to avoid negative impacts. These include:

- Hazardous waste (chemicals, e-waste, used oil, asbestos)
- Difficult or special waste (tyres, bulk waste, dead animals)
- Priority products – items subject to product stewardship requirements

Waste from certain sources can also present challenges or opportunities and is worthy of consideration. Examples include:

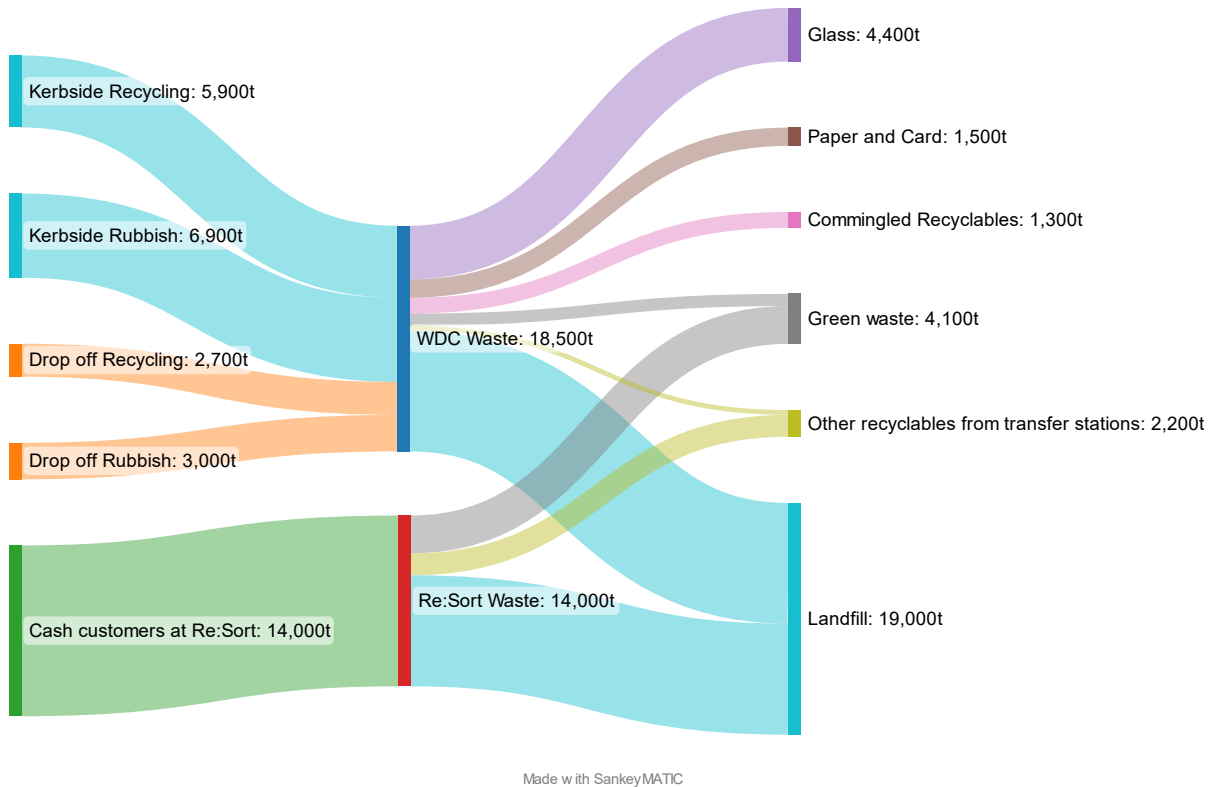
- Rural waste - waste from the business of farming including agricultural plastics (wrap and chemical containers), unwanted chemicals, timber and machinery (including maintenance related waste like used oil)
- Industrial waste - examples include waste treatment residuals (for example sludge), packaging (pallet wrap, broken pallets) and containers (cleaners, ingredients, maintenance products)
- Construction and demolition waste – this waste stream contributes a significant proportion of the amount of waste going to landfill

There is also a growing list of plastic products that have been banned from sale in New Zealand. These bans are not expected to have a measurable impact on waste composition or volume but may help change consumer attitudes to waste disposal.

### 3 Waste Infrastructure and Services

#### 3.1 Collection

The flow of waste measured in tonnes in the Whangārei District Council and kerbside collection and rural rubbish and recycling system is represented schematically in Figure 7 below:



**Figure 7 Whangārei District Waste Collection System<sup>9</sup>**

In addition to the tonnages shown in the above diagram there are private wheelie bin and garden waste kerbside collection services for which the tonnages are not known.

<sup>9</sup> <https://sankeymatic.com/build/>

Kerbside Recycling [5900] WDC Waste  
 Kerbside Rubbish [6900] WDC Waste  
 Drop off Recycling [2700] WDC Waste  
 Drop off Rubbish [3000] WDC Waste  
 Cash customers at Re:Sort [14000] Re:Sort Waste  
 WDC Waste [4400] Glass  
 WDC Waste [1500] Paper and Card  
 WDC Waste [1300] Commingled Recyclables  
 WDC Waste [1000] Green waste  
 WDC Waste [400] Other recyclables from transfer stations  
 WDC Waste [9900] Landfill  
 Re:Sort Waste [9100] Landfill  
 Re:Sort Waste [3100] Green waste  
 Re:Sort Waste [1800] Other recyclables from transfer stations

### 3.1.1 Residential Collection

Kerbside collection of refuse in bags and recycling in crates (sorted at the roadside) is available in urban and rural areas in the district<sup>10</sup>. Collections are carried out weekly. In the Whangarei CBD collections of rubbish are done three times a week and cardboard is collected weekly. Currently Northland Waste Limited (NWL) are contracted to provide these services.

NWL and Waste Management NZ Limited (WMNZ) also offer wheelie bin collection services for households on a commercial basis. Collection frequency is generally weekly although commercial services are offered on a fortnightly or monthly basis. Garden waste collections are also available on a commercial basis.

Rubbish and recycling transfer stations are available for those who wish to drop off waste rather than have it collected.

### 3.1.2 Commercial or Industrial Waste

Waste (both refuse and recycling) from commercial and industrial premises in Whangārei District is currently collected and disposed of via Re:Sort, direct to recycling markets or directly to Puwera Landfill or other landfills. No data is available for materials collected for recycling or treatment or disposal outside of Whangārei.

### 3.1.3 Litter and Illegal Dumping

Litter bins are provided in the urban centres and popular visitors spots throughout the District. Some bins at beaches have been removed in recent years as it was found that they often generate more litter than they avoid due to misuse and bird strike. Encouraging people to take their waste home with them has proven to be more effective than providing litter bins.

Litter bin collection is undertaken by a contractor with their scope currently including:

- litter bin emptying
- city centre cleaning
- clearance of fly tipping and roadside litter

Illegal dumping does occur and is costing Council around \$9,000 per month. Where possible, fines are imposed on responsible parties. The number of incidents of illegal dumping reported to Council is approximately 100 per month.

## 3.2 Waste Transfer and Processing

### 3.2.1 Rural Rubbish and Recycling Stations

Rural rubbish and recycling stations are located at Hikurangi, Tauraroa, Uretiti, Kokopu, Ngunguru, Ruatangata and Ōakura.<sup>11</sup> These transfer stations are operated under contract to WDC. These sites offer a range of recycling facilities for public usage including: green waste, scrap metal, dry recyclables (tins, cans, plastic bottles etc.) paper and cardboard, batteries, e-waste, tyres. Some items that could be reused, are removed from the waste stream by transfer station staff for recycle or sale.

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<sup>10</sup> About 5% of residents have to take bags/recycling to collection points.

<sup>11</sup> A map of site locations is available at

<https://wdc.maps.arcgis.com/apps/webappviewer/index.html?id=b5ed621b7d2f40d59534f9298e4fe727>

Material is weighed as it enters Re:Sort or Puwera Landfill from each transfer station. Council pays the contractor for the haulage and disposal of waste on that basis.

### 3.2.2 Re:Sort

Whangārei's main resource recovery park, Re:Sort, is located at 201 Kioreroa Road, Whangārei. Re:Sort is set up to recover material from the waste stream with a reuse shop and waste pickers targeting scrap and waste wood. The site is owned and operated by a joint venture company, Northland Regional Landfill Limited Partnership (NRLLP). NRLLP is a joint venture between the Whangarei District Council and Northland Waste, with each partner having 50% ownership. The partnership also owns Puwera Landfill.



**Figure 8** *Re:Sort Resource Recovery Park*<sup>11</sup>

### 3.2.3 Other Processing

#### Paper and cardboard

Of the 803,000 tonnes of waste paper and cardboard that is collected annually in New Zealand, 550,000 tonnes or 68% is recovered and reprocessed, with the other 32% being disposed of to landfill. Of this recovered material, 240,000 tonnes, or 43%, is reprocessed domestically. The remaining 310,000 tonnes is exported to various international reprocessing markets.<sup>12</sup>

It is important to note that no domestic re-processors will accept fibre material that has been collected as part of a fully comingled collection.

#### Glass

There is one glass bottle manufacturing facility in New Zealand (Visy Glass in Penrose, Auckland), and one facility that manufactures glass wool insulation (Tasman Insulation in Auckland). Other facilities include a bottle glass beneficiation plant where any contaminants are removed from the glass stream (Visy Glass in Onehunga, Auckland).

#### Composting

Kerigreen - green waste separated at Re:Sort is processed by Kerigreen, a green waste processor based in Kerikeri.

Greenfingers - Greenfingers process pine bark from other timber processing operations to produce growing media and other gardening products. Processing takes place in Kamo (old brickworks site) with product sold from two sites and with delivery.

#### Energy recovery

<sup>12</sup> Eunomia – NZ Infrastructure and Services Stocktake 2022

Golden Bay Cement is using construction and demolition wood waste from Northland and Auckland and tyre derived fuel from Auckland to reduce the amount of coal and iron sand required to make cement. The plant is can burn up to 3.1 million tyres annually, it is not known how much wood waste is burned.

### **Soft plastics, batteries and light bulbs**

Soft plastics, batteries, light bulbs and some e-waste are collected at retailers' premises for recycling.

### **Food rescue**

Food Rescue Northland work with suppliers throughout Northland to divert food from landfill and feed those in need. There are also people who collect food waste for feeding to pigs.

### **Reuse and repair**

There are various shops in the district selling used items. Some are focused on specific items like books or clothes while others take donations of all kinds of items. Habitat for Humanity is an example of one of the larger shops which sells a wide range of items including some building materials.

### **Scrap metal**

There are two scrap metal dealers in the district which collect metal from across the region.

## **3.3 Landfills**

The Northland Regional Landfill (Puwera) is located 8.5 km south of Whangārei. The site was developed by Whangarei Waste Ltd. The day-to-day operation of the landfill and construction is contracted to Quay Contracting Limited, a subsidiary of Northland Waste.

All residual waste from the district is transported to Puwera. The site also accepts materials from outside the Whangārei District. The site can provide refuse disposal for the Northland Region for well in excess of the consented period of 35 years.

Ministry for Environment records indicate that there is just one cleanfill site in the district located at Onerahi.

### **3.3.1 Closed Landfills**

WDC manages five closed landfill sites that were previously operated by Council. The sites are:

- Pohe Island
- Ruatangata
- Hikurangi
- Uretiti
- Tauraroa

Closed landfill sites are monitored for any effects they may have on the environment. Regular monitoring is carried out by both WDC and NRC to ensure any discharges from closed landfills comply with resource consent requirements and do not result in adverse environmental effects.

Closed landfills are in an aftercare phase and have no remaining capacity for waste disposal.

### 3.4 Costs for Waste Management

#### 3.4.1 Council Funding

The 2021-31 Long Term Plan sets the budget for the waste management activity with provision to make amendments if required through the Annual Plan process. Funding for operations comes from user charges, general rates and Waste Levy Funding received from the Ministry for Environment.

The user charges at rural transfer stations do not cover the full cost of providing the service with the shortfall covered from the general rates. The user charges for refuse collection (via bag and sticker sales) cover the full costs of providing the service.

This approach is consistent with the principles set out in the 2017 Waste Minimisation and Management Plan whereby Council costs for waste management services are, where possible, covered by the users of that service.

#### 3.4.2 User Charges

Collection and transfer station services attract user charges. Rates for kerbside collection for 2022/23 are:

- Council refuse bag (60 L): \$3.00 per bag.
- Council refuse bag (30 L): \$1.80 per bag.
- Council refuse bag sticker: \$3.00 per sticker.
- Commercial wheelie bin services<sup>13</sup>:
  - \$3.38 - \$5.20 per week for 80 litre bin depending on payment method.
  - \$8.38 - \$10.43 per week for 240 litre bin depending on payment method.

When compared with other areas in NZ bag prices are similar<sup>14</sup>.

**Table 7 Refuse bag retail costs - selected New Zealand Council areas**

Area	Bag Charges
Whangārei	\$3.00/bag
Far North	\$3.00/bag
Kaipara	\$3.10/bag
Rodney	\$3.50/bag
Waimakariri	\$3.60/bag
Porirua and Horowhenua	\$4.00/bag

Charges for rubbish at the transfer stations are noted in Table 8.

<sup>13</sup> Prices taken from Waste Management and Northland Waste in December 2022

<sup>14</sup> There is currently no differentiation between waste collection in rural and urban areas with respect to cost. The only way to do this within the current user pays bag service would be to have a targeted rate for rural ratepayers on top of the bag price. This is not an option Council has wanted to pursue, the current focus is on providing equivalent services across the Whangārei District.

**Table 8 Rubbish disposal costs at transfer stations**

	Refuse Disposal Charge
<b>Whangārei Re:Sort</b>	\$205.00 per tonne with a \$50.00 minimum charge
<b>WDC Rural rubbish and recycling stations</b>	\$45 per cubic meter

### **3.5 Waste Infrastructure and Services - Issues Identified**

In considering waste services in the Whangārei District, several issues were identified. These issues represent challenges in delivering effective services and achieving the aims of the NZ Waste Strategy - reducing environmental harm and maximising resource efficiency. In many cases the issues also present opportunities for Council, the community and/or the private sector to improve waste minimisation and management in the District.

The WMMP public consultation process may identify or clarify the issues that need to be addressed. The following issues were identified in the previous WMMP and are still considered to be areas of concern:

- Illegal dumping of waste as an ongoing issue.
- There is a comprehensive rural transfer station network that is costly to operate on a per resident and per tonne basis.
- Coastal settlement residents are offered a twice weekly collection service in summer (refuse and recycling) that is costly to operate on a per user and per tonne basis.
- Commercial and construction waste makes up a large proportion of material disposed of to landfill from the Whangārei District with limited information available regarding diversion activity focussed on these waste streams.
- Use of litter bins for household rubbish by visitors leading to overflowing and contamination of public place recycling bins with unrecyclable litter making the contents unsuitable for recycling.



#### **4 Delivery of Waste Minimisation and Management Services**

Council has adopted a mixed user pays and rates funding approach for the delivery of waste minimisation and management services in the District. Where there is a community desire for specific service but difficulty in making the service fully commercially viable, Council has provided supporting funding. Services with a public good component are funded by Council, for example kerbside recycling, servicing of litter bins, cleaning up illegal dumping, and the management of closed landfills.

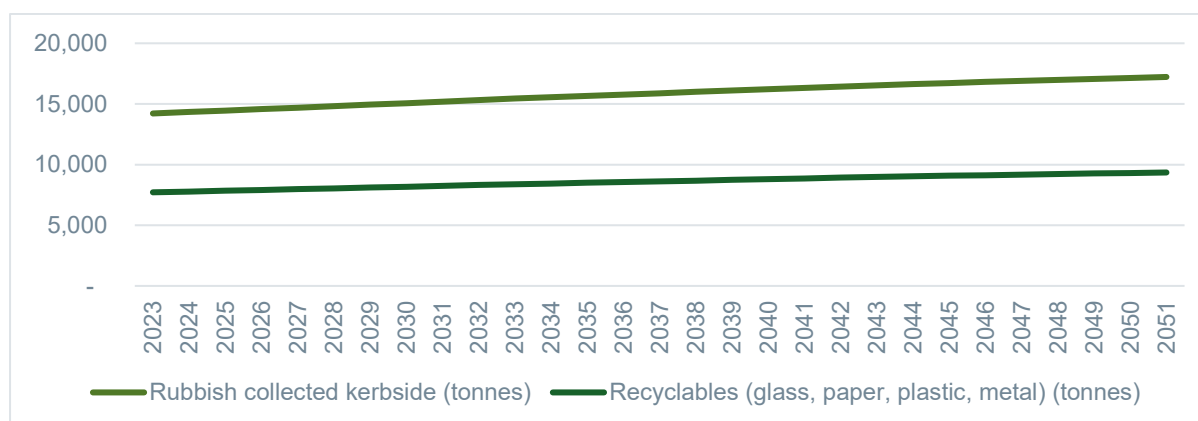
Council owns some of the key infrastructure for waste minimisation management in the district. This includes the rural transfer stations and litter collection bins. Council jointly owns major infrastructure in Whangārei (Re:Sort and Puwera Landfill).

Council provides information on waste minimisation and management on their website and contracts EcoSolutions to provide educational services for schools and community groups.

Para Kore is also supported by a Council grant. Para Kore is a free educational programme for whānau, hapū, iwi, marae, kura, wānanga and community organisations across New Zealand. They work closely with these communities for the urgent collective goal of zero waste, carbon neutral future for Aotearoa.

## 5 Forecast of future demand

Forecasts of waste ‘generated’ have been developed using population projections and historic waste quantities. There are several uncertainties in the forecasts for example, national policy and regulatory changes, changes in the solid waste market as waste levies rise, changes in the economic profile of the district such as growth in the construction sector. These need to be factored into decision making. Figure 9 shows projected quantities of kerbside waste.



**Figure 9 Forecast Waste Generation Kerbside**

The analysis of factors driving demand for waste services in the future suggests that changes in demand will occur over time, but 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 from changes in individual behaviour and within the waste management industry, with economic, technological and policy drivers leading to increased waste diversion and waste minimisation.

### 5.1.1 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.

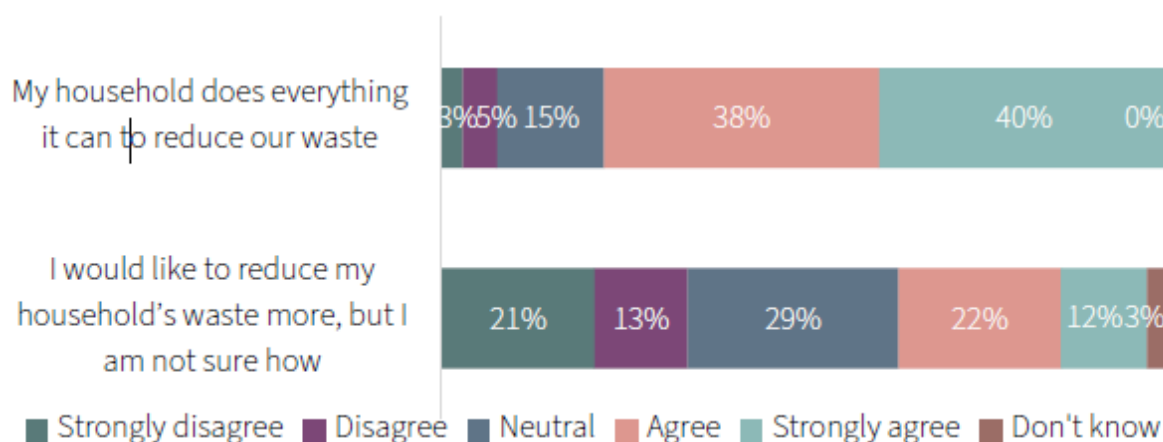
**Legislative and policy change** - The Ministry for Environment has indicated that it wishes to support a move towards a more circular economy. There is an expectation of forthcoming changes to the National Waste Strategy and Waste Minimisation legislation which may drive change. Local policy drivers, including actions and targets in the WMMP and bylaws will also have an impact.

**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 and the New Zealand Emissions Trading Scheme. While these have not been strong drivers to date, these costs are expected to increase which will in turn incentivise diversion from landfill.

**Collection systems** - In brief, more convenient collection systems encourage the collection of more material. Factors such as container size, collection frequency, cost, and location, for example, influence the quality and quantity of material collected.

**Solid waste market development** - 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. Recovery of materials from the waste stream for recycling and reuse is heavily dependent on the recovered materials having an economic value.

**Change in behaviour** – Changes in the generation and management of solid waste will be dependent upon individuals and organisations changing their consumption patterns and waste disposal habits. The Whangarei Resident’s Survey 2022 found that seventy-eight percent of residents who responded to the survey agree or strongly agree that their household does everything they can to reduce waste, this is a significant increase from the previous year’s result (cf. 2021, 71%). Around a third (34%) of residents agree or strongly agree that they would like to reduce their household waste more, this is on a par with the previous year’s result.



**Figure 10** Household Waste Habits from 2022 WDC residents survey

The survey also found that 64% of residents indicate they have adopted ways to decrease their impact on the local environment. These primarily include recycling and reusing (41%), composting (23%), and power or water saving techniques (21%).

Almost half (48%) of residents mention transportation and the roading network should be the focus for Council, this is a significant increase from last year’s result (cf. 2021, 37%). At a lower level, residents mention Council's focus should be district promotion, tourism, and economic development (10%) and solid waste (7%).

### 5.1.2 Future Demand – Gap Analysis

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

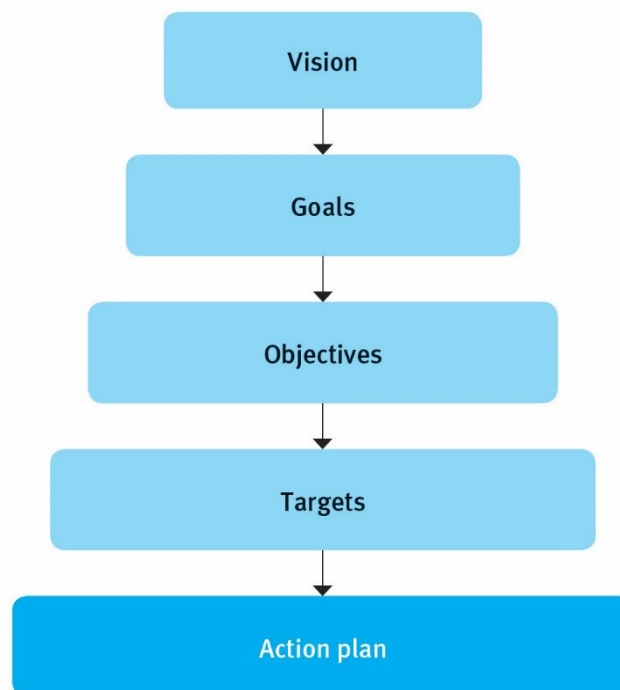
- Construction and demolition waste
- Re-usable or resalable items
- Recyclables both from commercial and industrial source
- Rural and farm waste is a relatively unknown quantity and increased awareness of the problems associated with improper disposal may drive demand for better services
- Organic waste including biosolids (i.e. waste water treatment sludge) and food waste - both residential and commercial

- ‘Priority Products’ subject to mandatory product stewardship regulations i.e. plastic packaging, tyres, electrical and electronic products (e-waste including large batteries), agrichemicals and their containers, refrigerants, farm plastics

## Part 2 – Where do we want to be?

### 6 Background

The preparation of this Waste Assessment has included review of the Vision, Goals and Objectives framework set out in the previous Waste Minimisation and Management Plan. The relationship between Vision, Goals and Objectives is illustrated in Figure 11<sup>15</sup> and defined in Table 9.



**Figure 11** *Vision, goals, objectives and targets*

Table 9 provides definitions for vision, goals, objectives and targets.

**Table 9** *Definitions for vision, goals, objectives and targets (adapted from MfE 2015)*

Vision	Whangārei’s aspirational outcome - providing an overall direction and focus.
Goal	What Whangārei wants to achieve through the WMMP. The goal is not aspirational; it is achievable. It is a major step in achieving Council’s vision for the WMMP.

<sup>15</sup> Sourced from Waste Assessments and Waste Management and Minimisation Planning – A Guide for Territorial Authorities, MfE 2015.

Objective	The specific strategies and policies to support the achievement of the goals. Objectives are 'SMART' (specific, measurable, achievable, relevant and timely).
Target	A clear and measurable way to determine how well the Council is achieving its goals. Targets should also be SMART.

## 6.1 Vision, Goals, Objectives and Targets

The vision for waste minimisation and management in the Whangārei District is:

*To deliver community benefits and work towards zero waste to landfill. Whangārei businesses and households will be provided with efficient and effective waste minimisation and management services that recognise waste as a resource.*

The goals for waste minimisation and management in the Whangārei District are to:

- 1 *Avoid and reduce waste where we can.*
- 2 *Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.*
- 3 *Maximise community benefits - treat waste as a resource, employment, multi-use facilities, cost effective services.*

The objectives for waste minimisation and management in the Whangārei District are:

- 1 *To avoid creating waste*
- 2 *To make it easy to recycle*
- 3 *To ensure households and businesses have access to safe disposal of residual waste*
- 4 *To create opportunities for Whangārei District - jobs, new products, more efficient businesses*
- 5 *To reduce illegal dumping*
- 6 *To improve community understanding of issues and opportunities for waste minimisation and management in the Whangārei District*
- 7 *To have a wealthier, healthier District through waste reduction initiatives and behavioural change.*

Table 10 provides a summary of the Vision, Goals and Objectives and associated targets for waste minimisation and management in the Whangārei District.

**Table 10 Vision - Goals - Objectives - Targets**

<b>Vision: To deliver community benefits and work towards zero waste to landfill. Whangārei businesses and households will be provided with efficient and effective waste minimisation and management services that recognise waste as a resource.</b>		
Objective	Relevant Goal(s)	Target(s)
<p>1. <i>To avoid creating waste</i></p>	<p>1. Avoid and reduce waste where we can. 3. Maximise community benefits - employment, multi-use facilities, reuse of materials for economic benefit, cost effective services.</p>	<p>1.1 To maintain or reduce the total quantity of waste disposed of to landfill in Whangārei (refuse collected at kerbside, through transfer stations and direct to landfill) on a per capita basis. The current figure is 560 kg per person. <b>Waste disposal &lt; 500 kg per person each year by 2025</b></p>
<p>2. <i>To make it easy to recycle</i></p>	<p>1. Avoid and reduce waste where we can. 2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled. 3. Maximise community benefits - employment, multi-use facilities, reuse of materials for economic benefit, cost effective services.</p>	<p>2.1 <i>Increase in the proportion of material captured for recycling at kerbside and transfer stations. The current figures are 34 % and 46 % respectively.</i> <b>Kerbside recycling &gt; 35 % by 2023</b> <b>Recycling, composting and reuse at Refuse Transfer stations &gt; 50 % by 2025</b> 2.2 <i>85 % of people are satisfied with their recycling service. (Currently 85 % satisfaction vs Annual Plan Target 85 %).</i> <b>Residents satisfaction &gt; 85 %</b></p>
<p>3. <i>To ensure households and businesses have access to safe disposal of residual waste</i></p>	<p>2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled. 3. Maximise community benefits - employment, multi-use facilities, reuse of materials for economic benefit, cost effective services.</p>	<p>3.1 <i>Satisfaction with kerbside refuse and transfer station services. Currently 75 % satisfaction.</i> <b>Residents satisfaction &gt; 75 %</b></p>

**Vision: To deliver community benefits and work towards zero waste to landfill. Whangārei businesses and households will be provided with efficient and effective waste minimisation and management services that recognise waste as a resource.**

Objective	Relevant Goal(s)	Target(s)
4. <i>To create opportunities for Whangārei District - jobs, new products, more efficient businesses</i>	1. Avoid and reduce waste where we can. 2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled. 3. Maximise community benefits - employment, multi-use facilities, reuse of materials for economic benefit, cost effective services.	4.1 To publish a summary of available data on waste generation and management with each annual report. <b>Summary data published in Annual Report</b> <b>To promote the waste minimisation grant scheme to support new initiatives to reduce waste</b>
5. <i>To reduce illegal dumping</i>	2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.	5.1 Residents satisfaction with litter and illegal dumping. Currently 41 % satisfaction <b>Residents satisfaction &gt; 50 %</b>
6. <i>To improve community understanding of issues and opportunities for waste management in the Whangārei District.</i>	1. Avoid and reduce waste where we can. 2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled. 3. Maximise community benefits - employment, multi-use facilities, reuse of materials for economic benefit, cost effective services.	6.1 Schools programmes delivered by Council 6.2 Council (or contractors) promote waste minimisation at events in the District.

## 6.2 Council's Intended Role

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).<sup>18</sup>
- The WMA also requires TAs to have regard to the New Zealand Waste Strategy 2010. The Strategy has two high level 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 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.

In determining its role, Whangarei District Council needs to ensure that their statutory obligations, including those noted above, are met. The public consultation process associated with the Waste Management and Minimisation Plan and the Long Term Plan will also help to determine the level of service that Council provides.

Council will continue to adopt a largely user pays approach to delivery of waste transfer and disposal services in the District. Where there are services with a public good component Council will provide funding in whole or in part. Examples include kerbside recycling, rural transfer stations, servicing of litter bins, cleaning up illegal dumping, and the management of closed landfills.

Council will continue to co-own and support the operation of some key infrastructure for waste minimisation and management in the District. This includes the rural transfer station network and Whangārei infrastructure (Puwera and Re:Sort) through the Northland Regional Landfill Limited Partnership.

Council will provide information on waste minimisation and management to the community and make staff available for education purposes. Council will also work closely with other promoters of effective waste minimisation and management including Northland Regional Council and WasteMINZ.



Council recognises that many local waste management issues are more effectively managed through coordinated activity at a national level. Council will collaborate with central government, local government organisations, non-government organisations (NGO) and other key stakeholders to progress national activity on resource efficiency and waste management issues. This may include advocating for product stewardship schemes for challenging waste streams (including e-waste, tyres, packaging, rural waste), highlighting the role of other national policy including application of the waste levy and regulation of waste management activity.<sup>16</sup>

### **6.3 Protecting Public Health**

Waste, particularly organic waste and hazardous waste, has the potential to be detrimental to health. Therefore, a key objective of any waste minimisation and management system is to protect public health. The risk of public health impacts can be significantly reduced by avoiding, where possible, and carefully managing, where not, contact with waste. In practice this means:

- Containing waste effectively, involves:
  - Providing appropriate containers at point of generation e.g. workspace, kitchen, etc
  - Providing appropriate containers for storing waste prior to collection
  - Regular collection and appropriate disposal.

The measures proposed in the WMMP have been developed with consideration for public health objectives.

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 that there are appropriate structures within the contracts for addressing issues that arise.

Some aspects of privately provided services will be regulated through local bylaws. Uncontrolled disposal of waste, for example via open burning and uncontrolled disposal to land, will be regulated through local and regional regulations. Medical and sanitary waste from households and healthcare operators along with other hazardous wastes require improved funding and regulation to be developed.

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

## **Part 3 – How are we going to get there?**

### **7 Options Identification and Analysis**

#### **7.1 Introduction**

Section 51 of the WMA requires that a Waste Assessment contain a statement of options available to meet the forecast demands of the district with an assessment of the suitability of each option.

This section summarises the identification and evaluation of options to meet the forecast demands of the District and to meet the goals set out in Part 2. The preferred options from this assessment will be incorporated into WMMP as methods and feature in the Action Plan.

For the Whangārei District, the total quantity of waste generated is forecast to increase over the life of this plan in line with population and economic activity. Infrastructure planning needs to take account of this growth.

For this waste assessment, options have been identified by considering key challenges for waste minimisation and management in the Whangārei District, referencing approaches adopted elsewhere and looking for new solutions where appropriate.

Effective waste minimisation and management relies on a combination of infrastructure (including collection), education/information and regulation or policy, with the right data informing strategic and operational decision making.

#### Infrastructure

- Providing collection services - collection of waste, recyclable materials (at kerbside or transfer station), organic waste and/or bulky items
- Non-council solutions for recycling
- Providing physical infrastructure - fixed location or mobile drop off facilities, waste sorting, waste processing and/or disposal facilities, litter bins
- Managing the negative impacts of waste - litter/illegal dumping clean-up, closed landfills

#### Education

- Changing behaviour - education programmes targeting schools, businesses and/or households
- Contributing to national education/information programmes

#### Policy

- Implementation the existing bylaw
- Targeted data collection, for example waste surveys
- Making information on waste issues and opportunities available
- Grant co-funding for projects that deliver on the goals and objectives for waste minimisation and management
- Collaborating with central government, local government organisations, non-government organisations (NGO) and other key stakeholders to progress national activity on waste minimisation and management policy

### 7.1.1 Collection Options

The current kerbside collection system is well used by residents across the district with the cost of rubbish collection recovered through bag sales. The kerbside recycling collection is funded through general rates. There is some illegal dumping (of generic rubbish bags and a range of bulky wastes). Wheelie bin and garden waste collection services are available from the private sector.

When tendering the current service, the option of having wheelie bins was explored but the crate system was preferred mainly due to the better quality of recyclable product that is collected.

The 2022 Infrastructure and Services Stocktake found that:

*The most common comment from organisations providing collection services was that they were delaying investment in infrastructure due to current uncertainties in the marketplace, mostly with regards to funding. The uncertainty included possible government funding for*

*infrastructure, funding of competition through the Waste Minimisation Fund<sup>17</sup> (WMF), and the potential impacts of container return schemes (CRS) on markets.*

*Certainty around standardisation of domestic collection services was also being awaited.*

Changes to the waste collection system may be required if the national government implements standardisation of collection systems or producer responsibility for packaging. Otherwise the current service will continue until at least the end of the current contract in 2027.

The Ministry for Environment has promoted the idea of introducing organic waste collections.

Currently there are private sector provided green waste collection services available in Whangārei. Other Councils in New Zealand provide services which target garden waste (Whakatāne) or garden and food waste (Christchurch, Selwyn, Timaru). Auckland Council are implementing a food waste only service to avoid competing with existing commercial garden waste collections.

Consultations carried out in other districts in NZ have received a strong response from the community regarding proposals for kerbside organic waste collection. It has been found that communities generally did not support rates funded kerbside organic waste collection based on:

- lack of appetite for the required rates increase
- response from ratepayers that they have personal composting systems in place such as worm farms, or already pay for contractors to collect their green waste
- some community members expressing they did not have a household size that would produce enough organic waste to be collected at the kerbside
- feedback that some would prefer an education programme to be implemented for people to learn how to effectively compost on their own organic waste.

In Whangārei, home composting has been promoted by EcoSolutions. In addition, the transfer station network and the commercial green waste service providers divert green waste from landfill.

By providing the residual waste collection service using pre-paid bags for rubbish there is a strong financial motivation not to use the kerbside service for green waste.

Domestic food scrap collections are available in a small number of areas around New Zealand. Some of these collections are food scraps only, while others accept food scraps and garden waste combined (FOGO – Food Organics and Garden Organics). Other Councils are planning food scrap collections (Auckland Council) or trialling food scrap collections (Wellington City Council) these initiatives will be monitored closely to see what lessons can be learnt and to help identify if or when a food scraps service would be appropriate for Whangārei.

Introducing a rates funded green waste collection service is not believed to be beneficial as it will require significant rates funding, it will increase the carbon footprint of the collection service, it will discourage home composting and is unlikely to be used by the majority of households.

A rates funded food scraps only collection is a more effective approach to diverting food scraps from residual waste rather than food scraps and green waste combined. Not only is the capture rate of food higher it is easier and cheaper to deliver the service and treat the collected waste. The most common collection methodology used for food waste is to collect

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<sup>17</sup> Criteria for the Waste Minimisation Fund can be found here: <https://gazette.govt.nz/notice/id/2022-go3927>

a 25-litre bin for presentation at the kerbside and provide kitchen caddies for the collection of food waste within the home.

Based upon similar services in other countries a weekly food waste only collection service would be expected to be used by a third of households and collect an average of approximately 1kg of food waste per household per week. Across the district the amount of food waste collected would be expected to be approximately 1,300 tonnes per year i.e. approximately 20% of the food waste collected from the kerbside.

The cost of the service would be approximately \$100 per year per household (including education, containers, collection, transport and processing).

Kerbside bulky waste collections (also known as inorganic collections) were discontinued in Whangārei. While there are members of the community that would like to see the service reinstated, it is a problematic service to deliver. Experience in other districts has shown that it leads to illegal dumping, less material diversion than taking items to charity shops or transfer stations, increased crime when scavengers go through the neighbourhood and health and safety issues for the collection crews.

### **7.1.2 Physical Infrastructure Options**

The physical infrastructure in Whangārei is adequate to handle the quantity of waste generated in the District including future projections.

Council provides a network of rural transfer stations that offer easy access for rural communities but are relatively costly to operate.

Whangarei Waste Limited provides the Re:Sort resource recovery centre and landfill, composting and wood chipping at Puwera.

#### **Processing**

While the current infrastructure in the district is adequate, there is potential to add additional facilities or activities to enable increased diversion of material from landfill. Waste streams that could be targeted include:

- Commercial and industrial waste
- Construction and demolition waste e.g. timber, concrete and demolition rubble
- Organic waste including biosolids (i.e. waste water treatment sludge) and food waste - both residential and commercial
- 'Priority Products' subject to mandatory product stewardship regulations i.e. plastic packaging, tyres, electrical and electronic products (e-waste including large batteries), agrichemicals and their containers, refrigerants, farm plastics

Government policy and legislation is anticipated to dictate what processing capacity could be developed in Whangārei.

### **7.1.3 Options to Manage the Negative Impacts of Waste**

In the context of waste minimisation and management it is important to recognise that there are negative impacts of waste generation and management. Some of these are historical (e.g. unmanaged closed landfills) and some are related to misuse of existing systems or illegal activity.

Management of closed landfills across the District is planned with appropriate budgets allocated through the Long Term and Annual Planning process. No change is proposed to the currently planned activity.

With a significant number of holiday homes in the coastal part of the District, there are examples of street litter bins being used for household waste by visitors. Some litter bins are

highly used by park/facility users leading to overflowing. In other parts of New Zealand these issues have been addressed by removing litter bins, configuring the bins to prevent the deposit of large waste items and/or increasing capacity. Removing litter bins will reduce litter related costs but potentially result in illegal dumping issues without appropriate communication support. The Molok bins (large capacity underground bins) in Whananaki and the solar compacting litter bins installed in Matapouri are examples of high capacity bins. Both types of bins have proven to cause more problems than they solve largely due to misuse by the public and technical problems.

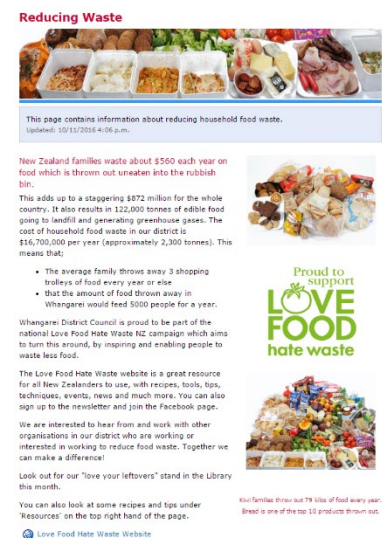
The involvement of the community in addressing litter in the environment is crucial. Work done by individuals and organisations like F.O.R.C.E. (For Our Real Clean Environment) to organise clean ups are invaluable in not only collecting litter but also increasing the public awareness about appropriate waste management.

### 7.1.4 Education Options

Providing clear information is an important aspect of successfully implementing a waste minimisation and management plan or programme. Information needs to clearly explain what is required of people using waste and recycling services, including visitors to the District. Communications should also set out the costs and benefits of waste minimisation and management. Information should explain **why** it is important to minimise waste and **how** to use the facilities available to residents and businesses in the District.

Education activities in Whangārei include:

- Supporting schools by providing education. This is focussed on helping students understand the importance of minimising and managing waste.
- Providing simple and clear information for households and businesses on how to use the waste management systems and services available in the district. There is detailed information available on the Whangarei District Council website including material linking to the Love Food, Hate Waste campaign.
- Other community groups are targeted with different messages from time to time with specific messages and through a wide range of communication channels.



### 7.1.5 Policy Options

Providing the right policy framework for effective waste minimisation and management is a critical component of Whangarei District Council's role. This includes the Whangarei District Plan, funding initiatives under the Waste Minimisation and Management Plan and regulation under a bylaw. This Waste Assessment considers funding and by-law components.

#### Funding

Services for households and businesses are funded through user charges and general rates.

#### WDC Waste Minimisation Fund

Whangarei District Council has established a Waste Minimisation Fund. The purpose of the Waste Minimisation Fund is to boost the Whangārei District's performance in waste minimisation.

Successful projects will benefit our District and lead to measurable reductions in waste to landfill, or other waste improvements.

Projects will be assessed for their strategic value in achieving and promoting waste minimisation in an ongoing way.

The criteria for the fund will be focused on the seeding of new initiatives including developing business and community-based resource recovery centres and programmes.

The following criteria will be used to assess applications and should be reflected in your application proposal:

#### Strategic alignment

- Proposals must align with the strategic objectives and guiding principles of the Whangarei Waste Management and Minimisation Plan (WMMP).

#### Waste minimisation

- Proposals must reduce waste to landfill and/or target priority waste streams.

#### Community participation and / or community benefit

- Proposals should encourage community participation (number and depth of engagement).
- Proposals should result in tangible community benefit (in some cases this may include private sector benefit).

#### Value for investment

- Proposals building on existing initiatives should add value and bring a fresh approach.
- Where possible proposals should address gaps in Whangarei District Council waste services and create new opportunities that would not otherwise emerge.
- Where possible proposals should be developed in consultation with other parties carrying out waste-related activities.
- Proposals should represent a good return on investment.
- The degree of funding for any proposal will consider the level of risk.
- The proposal should not undermine existing initiatives or other funded proposals.

#### Quality of proposal

- The proposal has clear objectives.
- The organisation making the proposal can demonstrate capacity to deliver, ideally evidenced by experience in projects of a similar nature.
- The objectives of the proposal are measurable.
- The proposal will be technically and financially feasible and does not represent an unacceptable level of risk to the Council.

### **Regulation**

The Council's Solid Waste Management Bylaw 2013 has provisions covering receptacles, recycling, disposal of materials, collection of trade refuse and licencing of collectors including data provision. Sections of the bylaw have not been actively implemented, for example no licensing system is in place. The Ministry for Environment has indicated that it wishes to improve the capture of data from the waste sector and may introduce regulations for gathering data, national progress in this area may mean that a local licensing system is not required.

In other regions, some Councils have introduced regulations requiring Waste Management Plans to be submitted before the construction of new buildings is commenced. Implementing such regulations in Whangarei is not believed to be necessary because of a proposed package of changes to the Building Act which: *"will require building owners to provide a Waste Minimisation Plan to the relevant territorial authority when building or demolishing*

*buildings, which will minimise construction and demolition waste going to landfill and contribute to the development of a more circular economy for New Zealand". Changes are expected to be phased in from 2025 onwards.<sup>18</sup>*

**Reporting**

Council intend to continue regular reporting on progress against the WMMP targets as part of the Whangarei District Annual Report.

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<sup>18</sup> [Proposed Building for Climate Change amendments released | Building Performance](#)

## 8 Statement of Proposals

The purpose of the Waste Management and Minimisation Plan (WMMP) is to provide the basis on which future policies, service provision and facilities will be provided to manage the district's waste, and to minimise the quantities requiring disposal while making the best use of Council's resources and fostering sustainability.

Under the Waste Minimisation Act 2008 (WMA), Council is required to review and adopt changes to the WMMP every 6 years. The current review is due to be complete in 2023. The Plan must contain a summary of Council's waste management and minimisation objectives policies, methods and funding to achieve effective and efficient waste management and minimisation within the district. The Plan must also include a commitment to waste minimisation through consideration of the waste hierarchy and must have regard to the New Zealand Waste Strategy and the most recent Waste Assessment undertaken by Council.

This Waste Assessment has identified that an estimated 69,000 tonnes of waste were generated in the district in 2022. 80% of this waste was landfilled with the remainder diverted via recycling, recovery and composting.

The overall vision of the WMMP is *“to deliver community benefits and reduce waste Whangārei businesses and households will be provided with efficient and effective waste minimisation and management services.”*

A series of waste minimisation and management targets are proposed:

- To maintain waste generation below 500 kg per person in Whangārei each year.
- To recycle at least 35% of waste collected at the roadside from households.
- To recover or recycle at least 50% of the waste taken to transfer stations in the Whangārei District.
- Over 85% of residents are satisfied with kerbside recycling.
- Over 75% satisfaction with the rubbish and recycling transfer station services.
- Over 50% of residents are satisfied with Council litter and illegal dumping services.

To address the issues identified and meet the key targets, Council proposes a range of actions. The actions reflect the need to balance policy, provision of services including infrastructure and community engagement. In all cases the focus is on enabling the Whangārei community to manage their waste according to the waste hierarchy, preferring waste avoidance, reduction and recycling over recovery and disposal of residual material. Actions relate to both continuing and enhancing existing activities and starting new activities and initiatives. The Action Plan is dynamic and needs to be responsive to changes in demand, resources and external circumstances. Making such changes and adjustments is anticipated as an integral part of this WMMP.

The Action Plan includes actions focusing on waste minimisation and management infrastructure, education of the Whangārei community and getting the right policy framework in place.

### **Infrastructure and Service Actions**

- Continue to provide roadside rubbish and recycling collections across the District.
- Continue to provide access to rubbish and recycling transfer stations across the District.
- The Council Controlled Trading Organisation (CCTO) Whangarei Waste Ltd will continue to own and manage the Puwera Landfill and Re:Sort. These facilities include a landfill for disposal of residual waste and a resource recovery centre to encourage the reuse of second-hand goods and the diversion of recyclables, green waste, construction and demolition materials and E waste as well as a drop-off point for residential quantities of hazardous waste.



- Continue to explore options for supporting the development of organic waste processing and additional sorting of commercial and construction waste.
- Work with the community on options for litter and public place recycling bins across the District to reduce litter and maintain an acceptable level of service.
- Continue to promote responsible hazardous waste collection and disposal within the district and enable drop-off of hazardous waste at Re:Sort.

### **Education and Policy actions**

- Continue to update and maintain information on waste and recycling collection and drop off services in the Whangārei District including highlight services to visitors to the District.
- Continue to support and promote waste avoidance, re-use, home and community composting, recycling and waste minimisation behaviour change.
- Continue to support waste management and minimisation education activities for schools, events and communities.
- Continue to promote the Council's Waste Minimisation Grant funding scheme.
- Review the existing Solid Waste Management Bylaw when it is required.
- Collaborate with central government, local government organisations, non-government organisations (NGO) and other key stakeholders to progress national activity on waste minimisation and management policy, including increased product stewardship.
- Continue to actively address illegal dumping activity including where possible identifying perpetrators and if required undertaking clean-up activity.
- Continue to report on progress against the targets in the WMMP in Annual Reports.

Council will fund these actions through a combination of general rates, user pays fees and charges and waste levy funding.

The above actions are intended to provide a wide-ranging approach to waste services in the Whangārei district to protect public health promote effective and efficient waste management and minimisation.

## **9**      ***Consultation with the Medical Officer of Health***

The Northland Medical officer of Health's comments on this draft Waste Assessment will be included in future drafts.