Wellington Region Waste Assessment

2023

Prepared for the Councils of the Wellington Region

Acknowledgement

To help us develop this waste assessment, waste officers from each of the eight councils of the Wellington Region carried out intensive data collation and analysis. The time, effort and commitment of all involved in this process and in support of this waste assessment is greatly appreciated.

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ABBREVIATIONS AND TERMS

Abbreviation and Term	Definition
CBD	Central Business District
CDC	Carterton District Council
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.
C&D	Construction and Demolition materials
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
ETS	Emissions Trading Scheme
GDP	Gross Domestic Product
HCC	Hutt City Council
HSWA	Health and Safety at Work Act 2015
KCDC	Kāpiti Coast District Council
KNZB	Keep New Zealand Beautiful
Landfill	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, such as sewage by-products). Properly referred to as a Class 3 landfill.
MDC	Masterton District Council
MfE	Ministry for the Environment
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
NLA	National Litter Audit
NDR	No Data Received
NZ	Aotearoa New Zealand
NZ ETS	New Zealand Emissions Trading Scheme
PCC	Porirua City Council
PPR	Public Place Recycling
Putrescible, garden, greenwaste	Plant based material and other bio---degradable material that can be recovered through composting, digestion or other similar processes.
RMA	Resource Management Act 1991
RRF	Resource Recovery Facility
RTS	Refuse Transfer Station
Service Delivery	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

Abbreviation and Term	Definition
	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.
SWDC	South Wairarapa District Council
TA	Territorial Authority
UHCC	Upper Hutt City Council
Waste	Means, according to the WMA: a) Anything disposed of or discarded; 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.
WA	Waste Assessment as defined by s51 of the Waste Minimisation Act 2008. A Waste Assessment must be completed whenever a WMMP is reviewed
WCC	Wellington City Council
WMA	Waste Minimisation Act 2008
WMES	Regional Waste Minimisation Education Strategy
WMMP	Wellington Region Waste Management and Minimisation Plan
WWTP	Wastewater Treatment Plant

1 INTRODUCTION

This Wellington region Waste Assessment (Waste Assessment) has been prepared for the territorial authorities of the Wellington region in accordance with the requirements of the Waste Minimisation Act 2008 (WMA). This document provides background information and data to support the constituent councils' waste management and minimisation planning processes.

1.1 Purpose of this Waste Assessment

This Waste Assessment is intended to provide the background data and information to inform the development of the next Wellington region Waste Minimisation and Management Plan (WMMP). Included in the WMMP is the development of actions, objectives and targets to support the minimisation of waste and the maximisation of reuse and recovery.

As required by Part 4 Section 51 of the Waste Minimisation Act (WMA 2008) (see Section **1.2** for further detailed discussion), a waste assessment has a series of prescribed elements which must be included:

- 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)
- a forecast of future demands for collection, recycling, recovery, treatment, and disposal services within the district
- a statement of options available to meet the forecast demands of the district with an assessment of the suitability of each option
- a statement of the territorial authority's intended role in meeting the forecast demands
- a statement of the territorial authority's proposals for meeting the forecast demands, including proposals for new or replacement infrastructure
- 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

Further, Part 4 Section 51 of the WMA (2008) notes that a waste assessment is not required to contain any assessment in relation to individual properties. Section **1.2** below provides further information regarding the legislative context underpinning this Waste Assessment.

1.2 Scope of this Regional Waste Assessment

Territorial Authorities (TAs) are required as per the WMA (2008) to complete a review of the WMMP at least every six years (Part 4 Section 50 (1)), with the Waste Assessment to be completed in advance of this review (Part 4 Section 50 (2)). As reported in the 2016 Waste Assessment, while the WMMP is reviewed at least every six years, the time horizon of the 2017-2023 plan takes a longer 10-year timeframe which is aligned to councils Long Term Plans (LTPs). As such, this Waste Assessment also considers a 10-year timeframe where applicable.

Further, the focus of this Waste Assessment is on the solid waste fraction that is disposed (e.g., landfill), and where possible, to focus on the quantity of waste that is diverted. However, as reported in the 2016 Regional Waste Assessment, the Manatū Mō Te Taiao – Ministry for the Environment Waste Assessments and Waste Management and Minimisation Planning guidance for Territorial Authorities suggest including liquid (e.g.,

biosolids) and gaseous (e.g., landfill gas capture) wastes in the scope of a WMMP; and by association these waste types to be included within the associated waste assessment.

As such and as reported in 2016, gas from the three Class 1 landfills in the Wellington region continue to be managed by the facility operator with gas captured according to the national environmental standard for air quality. Further, since the 2016 Waste Assessment, significant developments have been made in Wellington City to remove the disposal of biosolids from the Wastewater Treatment Plant (WWTP) to the Southern Landfill.

For the purpose of this Waste Assessment, solid waste will again be the focus of the report along with commentary on the changes in biosolid management.

In addition to assessing the solid waste component for the Wellington Region, this assessment also considers the effects on the environment, including that of the effect of waste activities on public health. Examples where waste activities interface with public health are listed in the 2016 assessment and are reproduced here noting all have continued relevance.

- Population health profile and characteristics
- Meeting the requirements of the Health Act 1956
- Management of putrescible wastes
- Management of nappy and sanitary wastes
- Timely collection of kerbside materials
- Locations of waste activities
- Management of spillage
- Litter and illegal dumping
- Medical waste from households and healthcare operators
- Storage and collection of waste materials
- Management of biosolids from the WWTP
- Management of hazardous waste (e.g., asbestos, e-waste)
- Management of private wastes (e.g., burning and burying)
- Management of closed landfills
- Health and safety consideration relating to collection and handling of waste materials

While the above health considerations may occur across any waste management and minimisation activity, including for example, collection of kerbside waste and illegal dumping, many can be minimised by implementing and/or developing appropriate mitigation measures, such as implementing convenient recycling drop-off locations, ensuring convenient, accessible, and equitable level of service to residents and ratepayers.

1.3 Structure of this Report

This report is structured into eleven discrete sections each representing an important building block in the development of the Waste Assessment, as follows:

- Section **1** – Introduction
    - Purpose and scope of the Waste Assessment
- Section **2** – Legislative Context for the Waste Assessment

    - National legislative context including additional regulations for consideration
- Section **3** – Overview of the Wellington Region
    - Overview of the current region, including demographics, economic profile, waste and resource management sector and potential future changes to the region
- Section **4** – Wellington region Infrastructure Review
    - Overview of the waste and resource management infrastructure in the region, district and regional services as well as waste minimisation initiatives provided
- Section **5** – Situation Review
    - Overview and analysis of the current waste and resource management quantities as provided by each of the eight territorial authorities
- Section **6** – Performance Measurement
    - Overview of the performance measurement per capita based on data provided by each of the eight territorial authorities, potential diversion rates and potential diversion of waste to Class 1 landfills
- Section **7** – Future Demand and Gap Analysis
    - Overview of potential regulatory changes, economic and demographic trends that may influence waste streams across the Wellington Region
- Section **8** – High-Level Review of the 2017-2023 Wellington region Waste Management and Minimisation Plan
    - Overview of the 2017-2023 WMMP including key issues, WMMP actions and progress against these
- Section **9** – Statement of Options
    - Statement of options and proposals
- Section **10** – Statement of Council's Intended Role
    - Overview of council's statutory obligations and powers and overall strategic direction and role
- Section **11** – Statement of Proposals
    - Overview of the statement of extent including public health

This report brings together evidence-based information culminating with a look towards the future and the next Regional Waste Minimisation and Management Plan.

2 LEGISLATIVE CONTEXT FOR THIS WASTE ASSESSMENT

The following sections outline the national waste legislative context to set the scene for the overarching guiding legislative instruments and strategies for this Waste Assessment and that help to shape and inform the Aotearoa waste sector as well as its many activities. Following the national overview, a local planning context is provided, acknowledging the range of local Long-Term Plans (LTPs) that each of the Wellington region councils have developed and implemented and which help to shape how waste is managed within the respective regions.

2.1 National Legislative Context

To manage waste and assist in the transition from a linear economy to ōhanga āmiomio – circular economy, a series of central and local government legislative instruments set the expectations and requirements to enable and facilitate this process, including the establishment of the New Zealand Waste Strategy – the overarching framework for managing and minimising waste.

To give effect to the Strategy, there are several legislative Acts that provide the drivers to enable waste management and minimisation in Aotearoa New Zealand:

1. The Waste Minimisation Act 2008 (WMA 2008).
2. The Local Government Act 2002 (LGA 2002).

Both Acts have relevance for this report and are discussed further below.

2.1.1 Waste Minimisation Act (WMA 2008)

The Waste Minimisation Act 2008 (WMA 2008) was established to provide a regulatory framework to encourage the reduction in the amount of waste produced and disposed of by New Zealanders with the aim to reduce environmental effects whilst generating economic, social and cultural benefits. The purpose of the Act is to:

'Encourage waste minimisation and a decrease in waste disposal in order to:

- *Protect the environment from harm; and*
- *Provide environmental, social, economic, and cultural benefits.'*

As noted in Section 1.1, this Waste Assessment is a requirement for the next WMMP. As required by the WMA (2008), territorial authorities are required to complete a review of the WMMP at least every six years (Part 4 Section 50, Item 1) with the Waste Assessment to be completed in advance of this review (Part 4 Section 50, Item 2).

The current Waste Assessment was written in 2016 with the WMMP adopted in 2017. This 2023 Waste Assessment report has been prepared to meet the requirements of the WMA (2008) and will support the development of the next WMMP. It is however noted that as at 2023 the WMA (2008) is currently under review with an updated legislative instrument anticipated to be available in time for the next Waste Assessment.

In addition to the WMA (2008), there are several additional legislative Acts that provide the drivers to enable waste management and minimisation in Aotearoa New Zealand:

- The Local Government Act 2002 (LGA 2002).
- The Resource Management Act 1991 (RMA 1991).
- New Zealand Emissions Trading Scheme and the Climate Change Response Act 2002.
- Climate Change Response Act 2002 and Climate Change Response (Zero Carbon) Amendment Act 2019.

These documents are discussed briefly in the following sections with a broader description included in Appendix A.

2.1.2 Local Government Act (LGA 2002)

The Local Government Act (LGA 2002) provides the legislative framework for democratically elected local authorities to promote the social, economic, environmental and cultural well-being of communities in the present and for the future. This includes taking "appropriate account of the principles of the Treaty of Waitangi" and facilitating "participation by Māori in local authority decision making processes".

2.1.3 The Resource Management Act 1991 (RMA 1991)

The Resource Management Act (1991) (RMA) is Aotearoa New Zealand's key environmental legislative document providing the framework for the sustainable management of environmental resources (including development activities). The RMA also manages and controls the environmental impacts of waste facilities such as disposal facilities, recycling and recovery facilities and cleanfills.

2.1.4 New Zealand Emissions Trading Scheme and the Climate Change Response Act 2002

In addition to the WMA (2008), LGA (2002) and the RMA (1991), the New Zealand Emissions Trading Scheme (NZ ETS) is a key tool for ensuring Aotearoa New Zealand meets domestic and international climate change targets from a range of activities, including disposal facilities defined within the Climate Change Response Act (2002)[1] (Act). Broadly, the NZ ETS was created through the Act in recognition of Aotearoa New Zealand's obligations under the Kyoto Protocol. The importance of the NZ ETS is the application of the Act and emission targets which applies to disposal facilities including landfills.

Further, Aotearoa New Zealand has made climate change commitments[2] under the United Nations Framework Convention on Climate Change (the Convention), the Paris Agreement and the Kyoto Protocol. Aotearoa New Zealand's targets are as follows:

- To reduce greenhouse gas emissions to 30% below 2005 levels by 2030;
- An unconditional target to reduce our greenhouse gas emissions to 5% below 1990 levels by 2020;
- A conditional target to reduce New Zealand's emissions to between 10% and 20% below our 1990 levels by 2020; and
- To reduce New Zealand's emissions to 50% below 1990 levels by 2050.

2.1.5 Climate Change Response Act 2002 and Climate Change Response (Zero Carbon) Amendment Act 2019

The Climate Change Response Act (2002) puts in place the legal framework to support Aotearoa New Zealand to meet its international obligations. Relatedly, the Climate Change Response (Zero Carbon) Amendment Act

[1] Climate Change Response Act 2002. Public Act 2002 No 40, Date of assent 18 November 2002. Administered by the Ministry for the Environment

[2] Our climate change targets | New Zealand Ministry of Foreign Affairs and Trade (mfat.govt.nz)

(2019) sets out the framework by which Aotearoa New Zealand can develop and implement clear climate change policies that:

- Contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5ºC above pre-industrial levels; and
- All Aotearoa New Zealand to prepare for, and adapt to, the effects of climate change.

Enactment of the Climate Change Response Act (2002) is carried out under seven regulations, with the Climate Change (Waste) Regulations 2010[3] of direct relevance to this report and Aotearoa New Zealand's commitment to reducing GHG emissions from the sector. Specifically, the Climate Change (Waste) Regulations 2010 sets out the information required and methodology to calculate emissions from operating disposal facilities. Under the Climate Change Response Act 2002, Aotearoa New Zealand is committed to reducing biogenic methane emissions by 10 per cent by 2030 and 24–47 per cent by 2050, relative to 2017 levels.

In addition to the above legislative Acts, the waste disposal levy is an additional significant influencing factor on regional waste minimisation and management initiatives, and which may present significant additional opportunities due to the increase and expansion of the levy. The Waste Disposal Levy is discussed further in Section **2.1.6** below.

2.1.6 Waste Disposal Levy

The cost of landfill disposal has also had an influence on product recovery with disparity amongst the national cost of landfill disposal resulting in disparate behaviours by the waste industry and different levels of investment throughout the country. The New Zealand government has confirmed an increase and expansion of the national waste disposal levy to divert more material from landfill recognising the ever-increasing amount of waste ending up in Aotearoa New Zealand's landfills[4]. Consequently, increased investment in alternatives to landfill disposal is anticipated in keeping with the objectives of the WMA (2008).

The waste disposal levy was introduced under the WMA (2008) to[5]:

- Raise revenue for the promotion and achievement of waste minimisation
- Recognise that disposal imposes costs on the environment, society and the economy

The levy was also established to encourage organisations and individuals to:

- Take responsibility for the waste they create
- Find more effective and efficient ways to reduce, reuse, recycle or reprocess waste

As at May 2023, the waste levy is $30/tonne and will again increase to $50/tonne from 01 July 2023. As reported, disposal facility operators are required to pay the levy based on the weight of material disposed of at their facility, and they may pass this cost on to the waste producer such as households and businesses. **Table 1** below summarises the increase and expansion of the waste levy.

As reported in the waste reduction strategy, levy increases will result in significantly more revenue estimated to increase from $65 million from 01 July 2021 to $270 million from 01 July 2024. The increased revenue is

3 https://www.legislation.govt.nz/regulation/public/2010/0338/latest/DLM3249508.html?search=ts_regulation%40deemedreg_climate+change_resel_25_a&p=1

4 Waste disposal levy | Ministry for the Environment

5 About the waste disposal levy | Ministry for the Environment

expected to create a significant opportunity for local and central government to invest in priority areas such as resource recovery infrastructure and systems, research and development, innovation, community projects, public information, and Te Ao Māori initiatives.

Table 1 Increase and Expansion of the Waste Levy[6]

Landfill Class	Waste Types	01 July 2021	01 July 2022	01 July 2023	01 July 2024
Municipal landfill (Class 1)	Mixed municipal wastes from residential, commercial and industrial sources	$20	$30	$50	$60
Construction and demolition fill (Class 2)	Accepts solid waste from construction and demolition activities, including rubble, plasterboard, timber, and other materials	-	$20	$20	$30
Managed or controlled fill (Class 3 and 4)	One or more of: • contaminated but non-hazardous soils and other inert materials (e.g., rubble) • soils and other inert materials.	-	-	$10	$10
Total Levy Revenue, estimate ($ million)		$65	$150	$210	$270

As such, an increase in the waste disposal levy is anticipated to create more funding opportunities for waste minimisation initiatives for Aotearoa New Zealand's territorial authorities including those within the Wellington region, noting that at present:

- Half of the levy money goes to territorial authorities to spend on promoting or achieving waste minimisation activities set out in their Waste Minimisation and Management Plans (WMMPs).
- The remaining half of the levy money (excluding administration fees) is put into the contestable Waste Minimisation Fund for waste minimisation activities in Aotearoa New Zealand.

Further, it is acknowledged that Manatū Mō Te Taiao – Ministry for the Environment have signalled potential changes under the WMA 2008 review process, including allocations of funding.

2.1.7 Other Relevant Legislative Instruments

In addition to those Acts discussed in Section **2.1.1** to Section **2.1.5**, several other legislative instruments have relevance and applicability to this Waste Assessment, including:

- Te Tiriti o Waitangi – The Treaty of Waitangi
- Litter Act 1979
- Health and Safety at Work Act (HSWA) 2015
- Ozone Layer Protection Act 1996

See Appendix A for a full description of the above listed legislative instruments. Further, this section does not preclude the addition of other legislative instruments and/or updates to existing legislation and regulations, including for example, the current central government initiative to update the WMA (2008) and Litter Act (1979).

[6] About the waste disposal levy | Ministry for the Environment

2.2 Wellington Region Waste Regulatory Instruments

The following sections outline the range of local waste regulatory instruments available to each of the eight territorial authorities to help manage and minimise waste.

2.2.1 Council Solid Waste Bylaws

In order to regulate and manage waste within territorial authority areas, the WMA (2008) provides for the establishment of solid waste bylaws which enable councils to serve as local regulators.

Since the 2016 Waste Assessment, each of the eight territorial authorities have updated, or are in the process of updating their Solid Waste Management and Minimisation Bylaws. These bylaws are required as per the WMA (2008). The Regional Waste Management and Minimisation Plan (2017-2023) set out a key priority for the eight territorial Wellington region authorities which resulted in the development of regionally consistent bylaws for the eight councils.

The purpose of the revised bylaws is to support the following elements and ensure consistency across the eight councils:

a. The promotion and delivery of effective and efficient waste management and minimisation as required under the Waste Minimisation Act 2008;
b. The implementation of the Wellington region Waste Management and Minimisation Plan;
c. The purpose of the Waste Minimisation Act 2008 and the goals in the New Zealand Waste Strategy 2010, being to encourage waste minimisation and a decrease in waste disposal to protect the environment from harm; and provide environmental, social, economic, and cultural benefits;
d. The regulation of waste collection, transport and disposal, including recycling, waste storage and management;
e. Controls regarding the responsibilities of customers who use approved solid waste services, and the licensing of waste collectors and waste operators;
f. The protection of the health and safety of waste collectors, waste operators and the public; and
g. The management of litter and nuisance relating to waste in public places.

Further, the Bylaws are made pursuant to section 56 of the Waste Minimisation Act 2008, sections 145 and 146 of the Local Government Act 2002, section 64 of the Heath Act 1956, and section 12 of the Litter Act 1979.

Table 2 below summarises the current solid waste management and minimisation bylaws for the Wellington region territorial authorities (in alphabetical order).

Table 2 Wellington Region Solid Waste Management and Minimisation Bylaws

Territorial Authority	Bylaw
Hutt City Council	Solid Waste Management and Minimisation Bylaw (2021)
Kāpiti Coast District Council	Solid Waste Management and Minimisation Bylaw (2021)
Porirua City Solid Waste Management and Minimisation Bylaw 2021	Solid Waste Management and Minimisation Bylaw (2021)
Upper Hutt City Council	Solid Waste Management and Minimisation Bylaw (2020)
Wairarapa region (Carterton District Council, Masterton District	Wairarapa Solid Waste Management and Minimisation Bylaw (2021) and the Wairarapa Solid Waste Management and Minimisation Bylaw Controls (2021)

Territorial Authority	Bylaw
Council and South Wairarapa District Council)	
Wellington City Council	Solid Waste Management and Minimisation Bylaw (2020)

2.2.2 Local Planning Context

Acknowledging the national legislative context and framework documents, this Waste Assessment has been developed to support the development of the updated Regional Waste Management and Minimisation Plan, noting that both documents are foundation reports in the establishment of appropriate waste management and minimisation activities and targets within the Wellington Region.

Further, the following council Long-Term Plans (LTP) are important foundation documents for the development of this Waste Assessment and help to set out councils priorities, programme and projects over a 10-year period. As such, the LTPs for the individual councils in the Wellington region are based on the outputs of the Waste Assessment as well as acknowledgment of the WMMP outcomes specific to the waste sector. The importance of the LTPs is to show what councils will seek to achieve over the 10-year period, the significance and/or importance of these activities and the expected costs to achieve the activities.

As such, for councils to provide clarity and transparency on progress against LTP activities, an Annual Plan is produced in each of the two years between LTP reviews and sets out what the council plans to do over the following 12-month period to move towards achieving the activities of the LTP; including setting out the annual budget. A key step in the Annual Plan process, as for the LTP is the ability for the public to submit on the documents before they are adopted. By following this consultative approach, communities and other interested stakeholders and individuals have an active voice in helping to shape the respective council activities.

A broad overview of the Long-Term Plans for each of the councils in the Wellington region and specifically those waste focussed elements are provided in Section **2.2.2.1** to Section **2.2.2.8** below (in alphabetical order).

2.2.2.1 Te Kaunihera-Ā-Rohe O Taratahi – Carterton District Council

As reported, Carterton District Council has developed a ten-year plan (Ten-Year Plan – Te Māhere Ngahurutanga 2021-2031[7]) that sets out the council priorities, programmes and projects for the next ten years and shows how the activities will contribute to improving the community's well-being and achieve progress towards the community outcomes.

To progress the Long-Term Plan, the Carterton District Councils vision focusses on 'a welcoming and vibrant community where we all enjoy living' supported by a range of community, environmental, economic, and cultural outcomes, including for example the following outcomes which influence and shape waste minimisation and management:

- An environmentally responsible community committed to reducing our carbon footprint and adapting to the impacts of climate change;
- Quality fit for purpose infrastructure and services that are cost-effective and meet future needs; and
- Te Āo Māori/ Māori aspirations and partnerships are valued and supported.

[7] 2021-31-LTP-document-Final-signed.pdf (cdc.govt.nz)

In addition to the Long-Term Plan, Carterton District Council has also adopted the Ruamāhanga Strategy – Carbon Reduction Strategy which commits the council to the following and which will further influence waste minimisation and management activities in the district:

- Reducing gross emissions;
- Increasing the amount of greenhouse gas sequestered; and
- Reducing biogenic methane emissions by 10% below 2017 levels, in 2030.

It is also important to note here that Carterton District Council undertakes many joint operations with neighbouring councils including Masterton and South Wairarapa District Councils as well as Greater Wellington Regional Council, and in so doing undertaking joint operations such as a common waste management contract.

2.2.2.2 Te Awa Kairangi – Hutt City Council

As reported, Hutt City Council has developed a 10-year Long-Term Plan 2021-2031 (E whakatika ana i ngā mea matua: getting the basics right) to support the city's vision of "a city where everyone thrives". The key priorities for the next 10-years are as follows:

- Investing in infrastructure | Whakangao i ngā poupou hapori
- Inreasing housing supply | Hei Āhuru Mōwai mō te Katoa
- Caring for and protecting our environment | Tiaki Taiao
- Supporting an innovative, agile economy and attractive city | Taunaki Ōhanga Auaha, Tāone Whakapoapoa
- Connecting communities | Tūhono Hapori
- Financial sustainability | Whakauka Ahumoni

As reported, the 10-year plan sets out a plan to support Lower Hutt achieve zero carbon by 2050 by making operations more sustainable and climate friendly by for example, better manging waste disposal, reducing the amount of waste going to landfill to increase its longevity and to develop the ability to manage asbestos.

2.2.2.3 Te Kaunihera o Te Awa Kairangi ki Uta – Upper Hutt City Council

As reported, Upper Hutt City Council has developed a 10-year Long-Term Plan 2021-2031 with the following vision:

"We have an outstanding natural environment, leisure, and recreational opportunities, and we are a great place for families to live, work, and play"

As reported in the Long-Term Plan, council is committed to taking a sustainable development approach in all activities with a key target to become a carbon neutral organisation by 2035. Further, as part of councils sustainable work, it is required to promote effective and efficient waste management and minimisation within the city.

2.2.2.4 Me Huri Whakamuri, Ka Titiro Whakamua – Kāpiti Coast District Council

As reported, Kāpiti Coast District Council has developed a 20-year Long-Term Plan (Our plan for securing our future – Toitū Kāpiti) that focusses on the Kāpiti Coast Districts future needs, the challenges and the outcomes the Kāpiti Coast District area. The four key decisions underpinning the plan are:

1. Take a bigger role in housing
2. Rebuild Paekākāriki seawall in timber with improved beach access

3. Set up a CCO (Council-Controlled Organisation)
4. Explore whether council may be able to have a role in the airport.

The Long-Term Plan also recognises the need to reduce emissions and to support the community to minimise waste and reduce emissions by:

- Leading by example through reducing council's carbon emissions to be carbon neutral by 2025
- Embedding sustainable practices within council service delivery
- Facilitating and empowering community projects and initiatives
- Educating and promoting sustainable practices in the community to see a reduction in carbon and waste
- Restoring our environment through dune restoration and native planting
- Ensuring our freshwater quality and protection through our stormwater network

2.2.2.5 Te Kaunihera Ā-Rohe O Whakaoriori – Masterton District Council

The Masterton District Council Long-Term Plan (Stepping Up Long-Term Plan 2021-31) sets out what the council intends to achieve over a ten-year timeframe and to help achieve councils vision: *Masterton/Whakaoriori offers the best of rural provincial living.*

As reported in the Long-Term Plan, Masterton District Council provides solid waste services to the community to contribute to the following community outcomes:

- A sustainable and healthy environment
- A thriving and resilient economy
- Efficient, safe and effective infrastructure

As per the Plan, the key waste management priorities over the next 10-years are as follows:

- Undertaking renewal work at the Nursery Road Transfer Station. $290,640 has been allowed across the 10 years of the Long-Term Plan for this.
- Undertaking landfill capping. $264,520 has been allowed across the ten years of this Long-Term Plan.
- Implementing the Solid Waste Bylaw that has been developed with councils across the Wellington region. This bylaw is being progressed as part of the joint Waste Management and Minimisation Plan.

2.2.2.6 Porirua District Council

The Porirua City Council Long-Term Plan (Porirua – our people, our harbour, our home 2021 – 2051) sets out the 30-year plan to help achieve the vision of: our people, our harbour, our home. As reported, in June 2019, Porirua City Council declared a climate change emergency. Further, to accelerate Porirua's response to this declaration, the council has agreed to invest an additional $6 million across years 2022/23 and 2023/24 to reduce greenhouse gas emissions from council facilities, reduce organic waste going to the landfill and accelerate the transition of council's fleet to electric vehicles where possible.

2.2.2.7 Kia Reretahi Tātau – South Wairarapa District Council

As reported in the South Wairarapa District Council 2021-2031 ten-year Long-Term Plan (Te Pae Tawhiti), waste minimisation activities fall within the environmental wellbeing strategic driver (sustainable living, safe and secure water and soils, waste minimised, biodiversity enhanced) with the following key action areas:

- Enhancing 3 water delivery and environmental quality

- Take active measures to adapt and mitigate the impacts of climate change
- Minimise waste and provide environmentally sustainable council services
- Empower and enable our community to drive behavioural change for the benefit of the environment

A key focus for council as reported is on minimising waste volumes by promoting the waste management hierarchy "reduce, reuse, recycle, reprocess, treat, dispose". Further, and as reported, the council also working with other councils in the region to look at Wairarapa-wide solutions to solid waste management.

2.2.2.8 Me Heke Ki Pōneke – Wellington City Council

Wellington City Council's 10-year Long-Term Plan 2021-2031 (Tō mātou mahere ngahuru tau) sets out the long-term strategic vision of: Wellington 2040 – an inclusive, sustainable and creative capital for people to live, work and play. This vision as reported, is supported by four community outcomes that reflect each of the four dimensions of wellbeing and are at the centre of the long-term plan:

- Environmental – a sustainable, climate friendly eco capital
- Social – a people friendly, compact, safe and accessible capital city
- Cultural – an innovative, inclusive and creative city
- Economic – a dynamic and sustainable economy

The Long-Term plan also sets out priority objectives for the first three years with priority 5 of 6 directly relevant to the management of waste:

- An accelerating zero-carbon and waste-free transition: with communities and the city economy adapting to climate change, development of low carbon infrastructure and buildings, and increased waste minimisation.

3 OVERVIEW OF THE WELLINGTON REGION

This section provides a high-level demographic and economic overview of the territorial authorities that make up the Wellington region to provide context to the production and management of waste and resources within the region.

3.1.1 Introduction

The Wellington region is located in the lower North Island of Aotearoa New Zealand and comprises eight territorial areas with a total resident population of approximately 544,000[8] as reported in 2021 (**Figure 1**). The region includes a diverse range of land uses including both dense city areas, suburban and rural communities, with the region's population reflective of this. As such, this diversity is also reflected in the types and quantities of waste and resources produced within each of the eight territorial areas. Further discussion of waste types and quantities can be found in Section **5**.

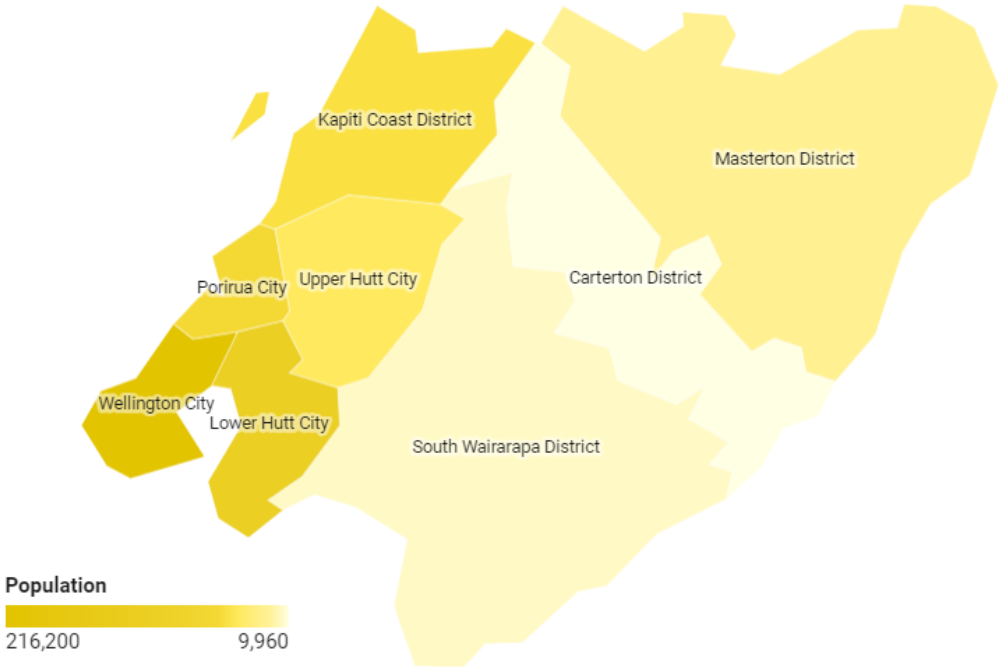


Figure 1 Wellington Region illustrating the Eight Territorial Authorities and Population Spread[9]

Additionally, **Figure 1** clearly illustrates the predominant regional population lies within the Wellington City, Lower Hutt and Porirua City areas and it is probable that due to the close proximity of these areas that residents may travel between territorial authorities for work and other activities.

3.1.2 Demographics

As noted in Section **3.1.1** above, the Wellington region has experienced steady annual growth as illustrated in **Figure 2** with the largest and most consistent increases reflected from 2014 onwards. Further, with a total resident population of approximately 543,500 (2022), the largest proportion resides in Wellington City (39%) followed by Lower Hutt (21%) and Kāpiti Coast District and Porirua City both at 11%. The remaining four

[8] https://ecoprofile.infometrics.co.nz/Wellington Region/Population
[9] Facts & figures - WellingtonNZ.com

authorities report populations of less than 10% of the Wellington region (**Table 3**). However, of interest is the annual growth rate experience by each of the eight territorial authority areas, with the Masterton District reporting the highest annual growth rate of 2.5% between 2018 and 2020 followed by South Wairarapa District and Carterton District all reporting annual growth changes at or above 2%. All remaining districts reported annual growth rates of between 1.3 and 1.9% (**Table 3**). As such, it is probable that the current population spread throughout the main centres may differ in the coming years should growth rates continue to increase across the semi-rural and rural districts and as a result the waste profiles within these districts may also change accordingly.

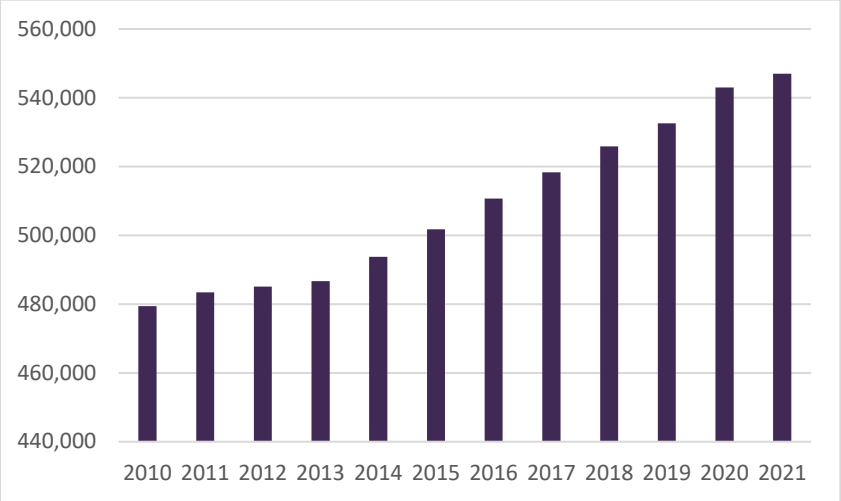


Figure 2 Total Population of the Wellington Region reported between 2010 and 2021[10]

Table 3 Wellington Region Estimated Resident Population[11]

	2018	2019[12]	2020	2021	2022	Average Annual Change 2018-2020		Approximate Proportion of the Wellington Region Population (%)
						Number	Percent (%)	
Kāpiti Coast District Council	55,200	56,100	57,200	57,400	57,600	1,000	1.9	11
Porirua City	58,900	59,800	60,600	61,100	61,600	890	1.5	11
Upper Hutt City	45,400	46,200	46,800	47,300	47,700	720	1.6	9
Lower Hutt City	108,600	109,900	111,800	112,200	112,500	1,600	1.5	21
Wellington City	211,200	212,900	216,500	215,400	213,100	2,700	1.3	39
Masterton District	26,400	26,900	27,700	28,400	29,000	670	2.5	5
Carterton District	9,510	9,660	9,890	10,100	10,250	190	2	2
South Wairarapa District	10,900	11,100	11,400	11,600	11,750	250	2.2	2
Total Regional Population	**526,110**	**532,560**	**541,890**	**543,500**	**543,500**	-	-	-

[10] https://ecoprofile.infometrics.co.nz/Wellington Region/Population/Growth
[11] Subnational population estimates: At 30 June 2022 (provisional) | Stats NZ
[12] Subnational population estimates: At 30 June 2021 (provisional) | Stats NZ

While population growth and spread throughout the region is an important factor to help understand waste flows and quantities, other factors such as age also help to provide greater clarity on the makeup of waste and associated resources. Within the Wellington region, the median age as reported by Stats NZ is 37 years with **Figure 3** illustrating the spread of peoples age and sex. While age may be considered a proxy for the types and quantities of waste that may be produced within a district and/or wider region, it is only one influencing factor and cannot be considered in isolation of other factors including, accessibility to and equity of services and the impacts that seasonality and health events.

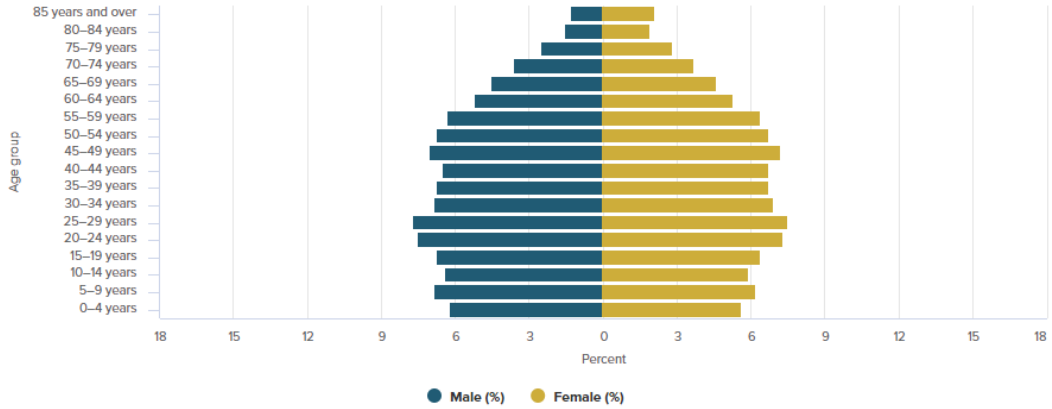


Figure 3 Age and Sex of People in the Wellington Region (2018 census Data)[13]

Further, when comparing the Wellington region population to that of wider Aotearoa New Zealand, it is clear that population growth has declined from 2020 to 2021 (**Figure 4**). While there are a range of factors that would contribute to a decline, it is likely that reduced immigration due to COVID-19 border closures during the same period will be the main causative factor. With borders now reopening, it is plausible that population growth rate within the Wellington region will again begin to increase and shows signs of pre-2020 rates (**Figure 4**).

[13] Place Summaries | Wellington Region | Stats NZ

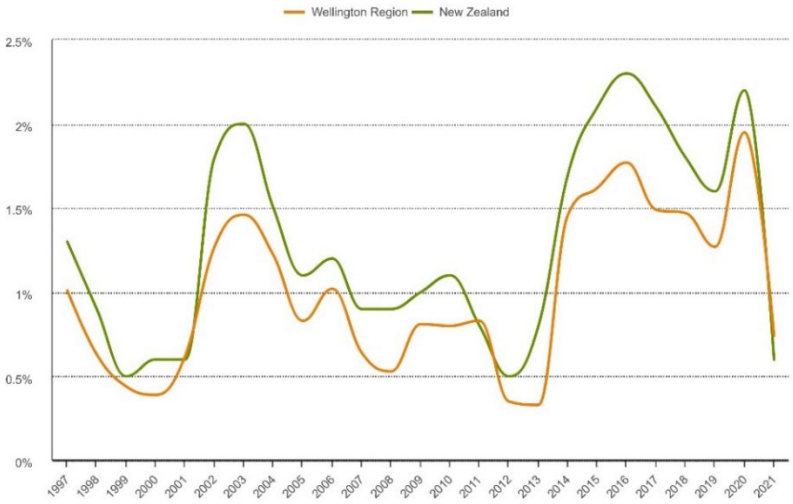


Figure 4 Population Growth Rate of the Wellington Region Compared with wider New Zealand reported between 1997 and 2021[14]

Further, when looking at the population and density of residents across the region, dwelling count is an interesting factor to help understand the pressures that may be placed on households and the resulting influence this may have on household waste production. For example, the Wellington region has approximately 11% of the national number of occupied dwellings (186,225) with approximately 7% of the national number under construction (1,068), which when combined suggest that the Wellington region population and dwelling occupancy is set to continue to increase (**Table 4**). With this in mind and acknowledging the previous demographic information, the resultant waste quantities and types are also expected to increase proportionately. However, with an increased focus on redesign of products, behaviour change, reduction and recycling of resource recovery initiatives both at a central government and local government levels, the amount of waste being produced and subsequently disposed of is anticipated to change accordingly. However, this change will require wider initiatives such as investment in waste and resource management infrastructure as well as supporting legislative instruments.

Table 4 Dwelling Occupancy Status in the Wellington Region Compared with New Zealand[15]

Dwelling Type	Wellington Region (count)	% of Wellington Region	New Zealand (count)	% of New Zealand
Occupied Dwelling	186,225	92%	1,664,313	89%
Unoccupied Dwelling	14,754	7%	191,649	10%
Dwelling under Construction	1,068	1%	15,972	1%
Total Private Dwellings	**202,047**	**100%**	**1,871,934**	**100%**

[14] https://ecoprofile.infometrics.co.nz/Wellington Region/Population/Growth
[15] Place Summaries | Wellington Region | Stats NZ

3.1.3 Economy

3.1.3.1 Gross Domestic Product (GDP)

Gross Domestic Product (GDP) is an important economic indicator that measures the size of an economy. For the Wellington region GDP in 2021 declined -0.5% to $43,623million, with a similar reduction seen throughout Aotearoa New Zealand with national GDP dropping -1.2%. **Figure 5** below illustrates the change in GDP across the Wellington region and nationally illustrating a significant and sharp decline from late 2019/early 2020. While a range of factors are likely responsible, the occurrence of the global COVID-19 pandemic is likely to be the key contributing factor, and which continues to influence regional and national GDP levels. As such, it is important to contextualise this decline as GDP growth throughout other global countries are also showing signs of contraction and slowing of markets.

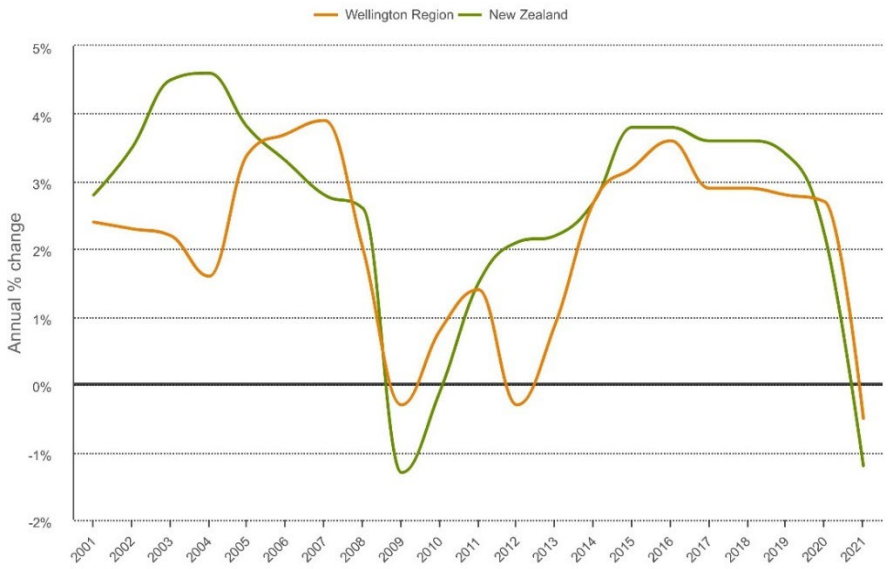


Figure 5 Gross Domestic Product Growth Reported for the Wellington Region between 2001 and 2021[16]

Further, of the key industries contributing to GDP within the Wellington region, public administration and safety (13.1%) followed by professional, scientific and technical services (12.8%) (**Figure 6**) contributed to more than $3,300million or approximately 40% of the regions GDP (**Table 5**).

[16] https://ecoprofile.infometrics.co.nz/Wellington Region/Gdp

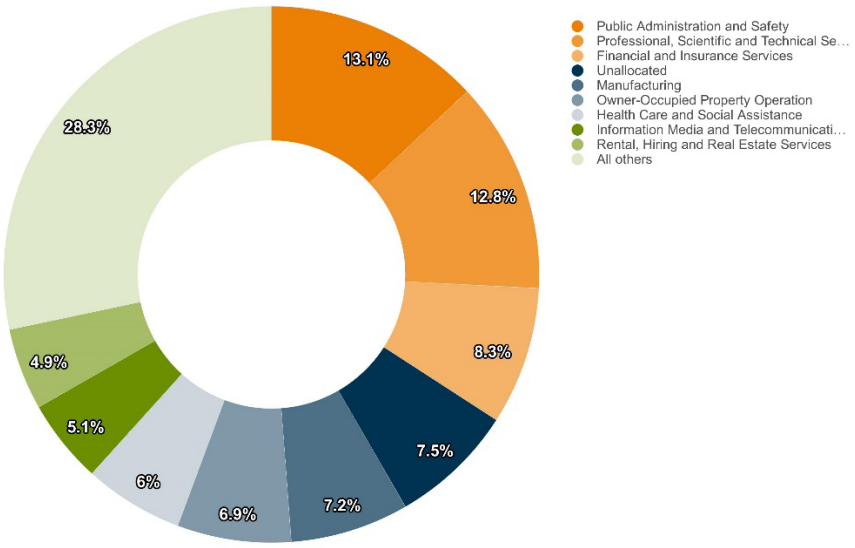


Figure 6 Proportion of Gross Domestic Product by Industry Type for the Wellington Region between 2001 and 2021[17]

Table 5 Main Industry Contributors to Gross Domestic Product within the Wellington Region[18]

Industry	Proportion of Gross Domestic Product ($million)
Public administration and safety	$1,738M
Professional, scientific and technical services	$1,577M
Financial and insurance services	$631M
Health care and social assistance	$618M
Construction	$588M
All other industries	$2,973M
Total Increase in GDP	**$8,125M**

Further, when comparing the GDP by industry types within the Wellington region to those of New Zealand, it is clear that the Wellington region has a much higher GDP contribution associated with the professional, scientific and technical services and public administration and safety than that of the wider New Zealand (**Figure 7**). This is most likely due to the higher proportion of administrative and office-based roles within Wellington City, as the capital of Aotearoa New Zealand and comparatively less agriculture and forestry and fishing-based industries within the wider region than compared with wider Aotearoa New Zealand. As reported in the 2016 Waste Assessment Report, the type of industries comprising the Wellington region have a direct influence on the type of waste produced and available for management. For example, the high proportion of administrative roles would suggest a waste stream comprising materials common place in office-based roles (e.g., paper, cardboard, food scraps) compared with agricultural and rural waste comprising for example, agricultural chemical containers, treated timber and livestock waste.

[17] https://ecoprofile.infometrics.co.nz/Wellington Region/Gdp
[18] https://ecoprofile.infometrics.co.nz/Wellington Region/Gdp

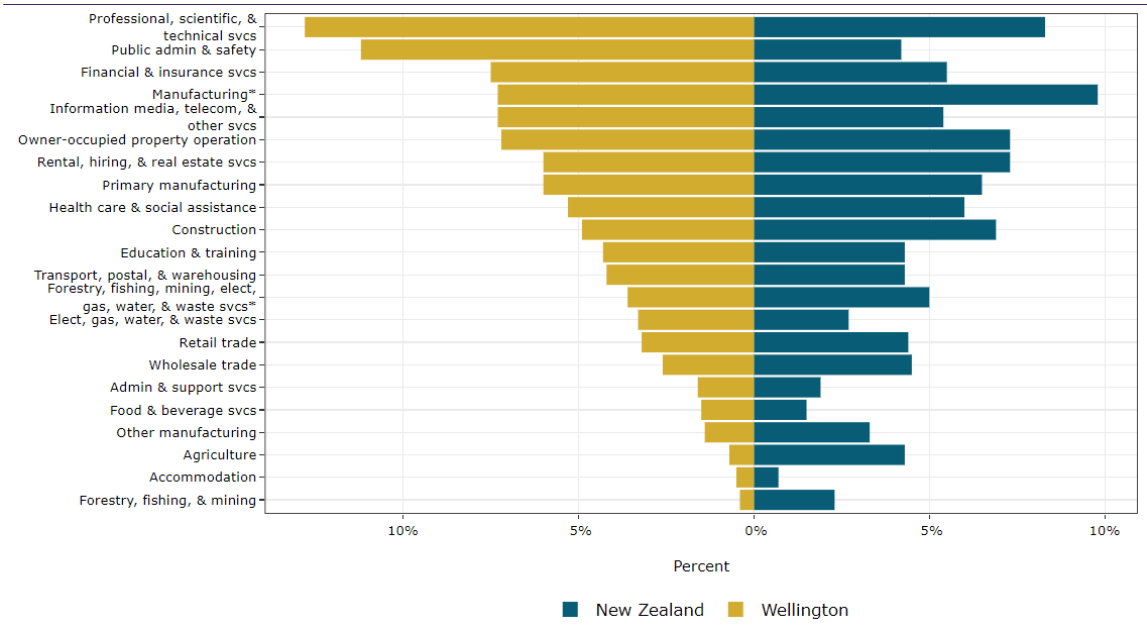


Figure 7 2020 GDP Contribution by Industry in the Wellington Region compared with New Zealand[19]

3.1.3.2 Work and Labour Force

When looking at the composition of the Wellington region economy, the work and labour force are two key aspects for consideration as both underpin GDP. **Figure 8** clearly shows that the Wellington region compared to the national 2018 census data has a higher proportion of full-time employed workers (approximately 53%) and slightly fewer part-time employees (approximately 14%). However, while the 2018 census data has reported a slightly higher proportion of unemployed people (4.4%) in the Wellington region compared with the national average of (4%), this difference can be considered minor for the purpose of this report. Taking a deeper look into the 2018 census occupations of people in the Wellington region compared to the wider Aotearoa New Zealand, 'professionals' represent approximately 32% of the Wellington region occupations and which is significantly above the New Zealand percentage of 23%. Managerial occupations represent the second highest percentage at approximately 17% followed by 'clerical and administrative workers' at approximately 12% and again above the national average of approximately 11% (**Figure 9**).

Acknowledging the current COVID-19 pandemic and the impacts this has had on global and local economies, **Figure 10** illustrates the key industries that are currently contributing to growth in the Wellington Region. Of note, 'public administration and safety' has seen an annual growth of 9.3% with an additional 3,463 jobs established since 2020 which reported 37,075 jobs in this industry. Similarly, health care and social assistance saw an annual increase of 4.5% with an additional 1,301 jobs established since 2020 which reported 28,723 jobs. Unsurprisingly, the construction industry saw an annual growth of 3.8% with an additional 936 jobs established since 2020 numbers of 24,462 jobs; most likely attributed to the significant increase in residential and commercial construction across the industry and which has been broadly seen nationally. However, and in comparison, the accommodation and food services industry saw a contraction with -6.1% annual growth rate reported with a loss of 1,234 jobs since 2020 numbers of 20,383 jobs. Similarly, the administrative and

[19] https://ecoprofile.infometrics.co.nz/Wellington Region/Gdp/GrowthIndustries

support services and retail trade industries both saw a contraction of -4.4% (a loss of 699 jobs) and -1.4% (a loss of 329 jobs), most likely attributed to the COVID-19 pandemic affecting hospitality spend and retail sales.

Further, while the total personal income for people in the Wellington region varied, the four main income categories were reported in the 2018 census data as (**Figure 11**):

- $70,001-$100,000 (11.2% of people; 9.6% nationally)
- $40,001-$50,000 (8.9% of people; 9.7% nationally)
- $15,001-$20,000 (8.6% of people; 9.9% nationally)
- $100,000-$150,000 (7.1% of people; 4.7% nationally)

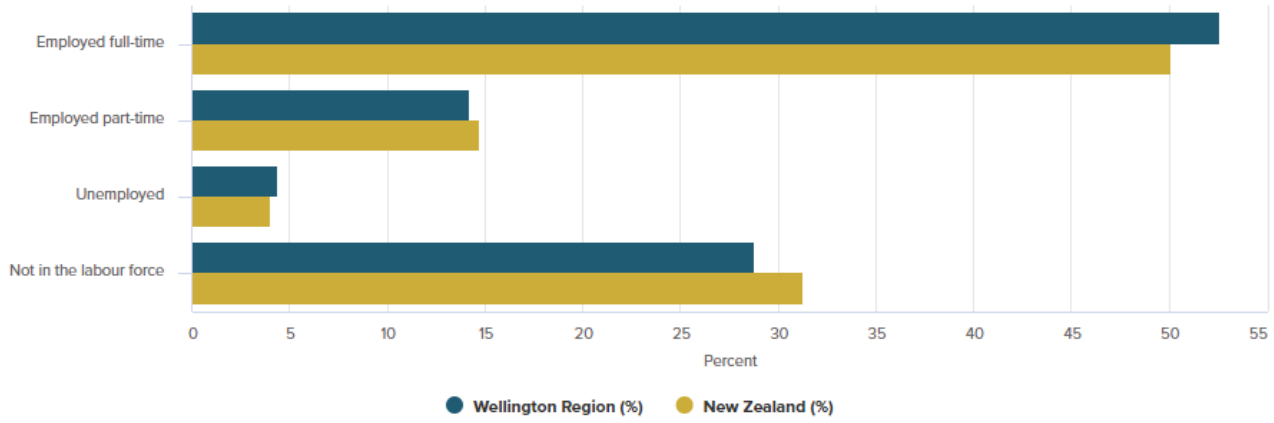


Figure 8 Work and Labour Force Status for People in the Wellington Region compared with New Zealand, 2018 Census Data[20]

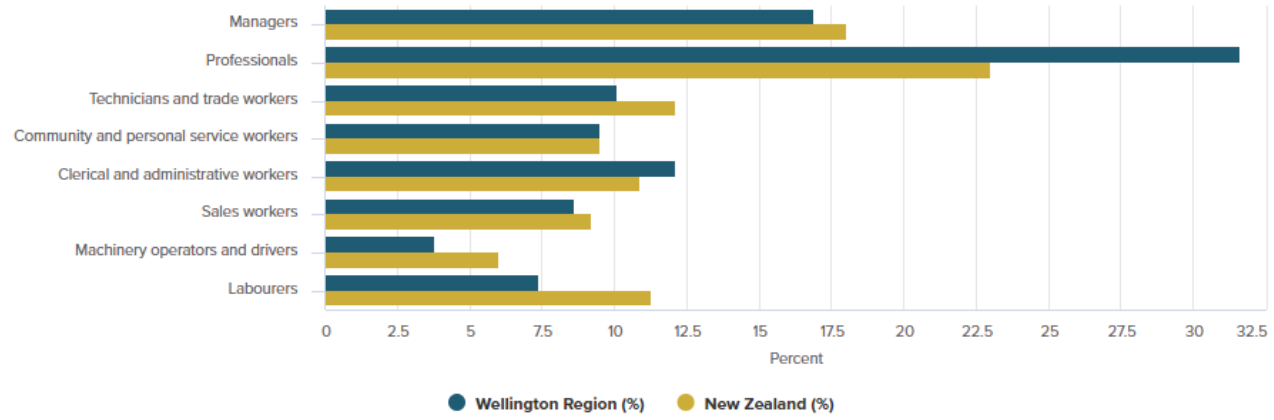


Figure 9 Occupations for People in the Wellington Region compared with New Zealand, 2018 Census Data[21]

[20] Place Summaries | Wellington Region | Stats NZ
[21] Place Summaries | Wellington Region | Stats NZ

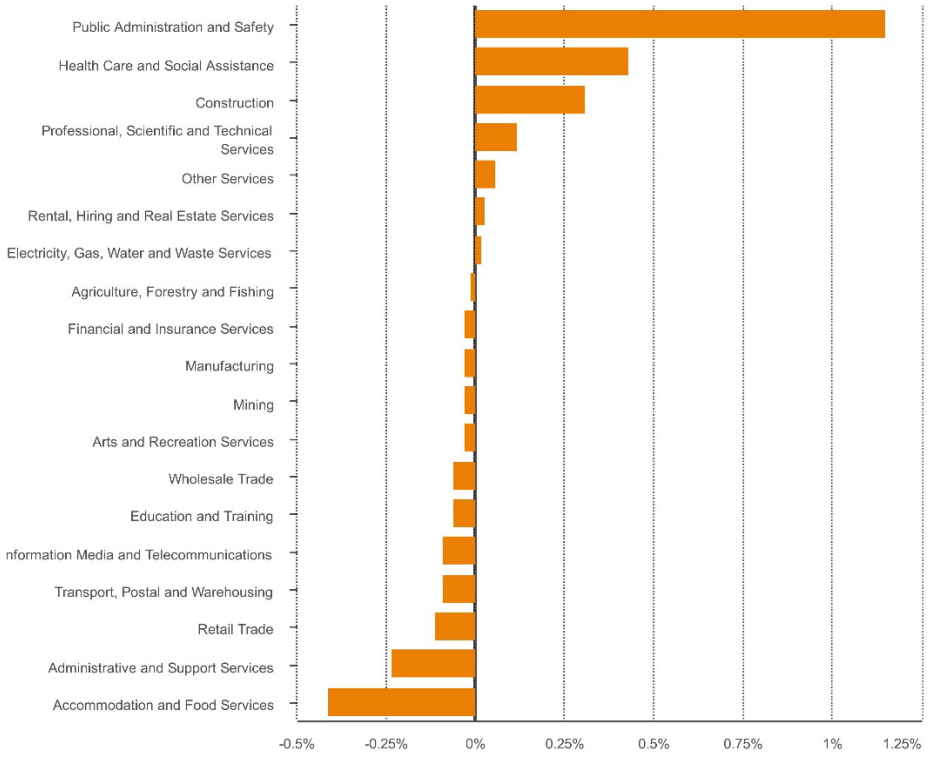


Figure 10 Key Industries by Contribution to Employment Growth in the Wellington Region between 2020 and 2021[22]

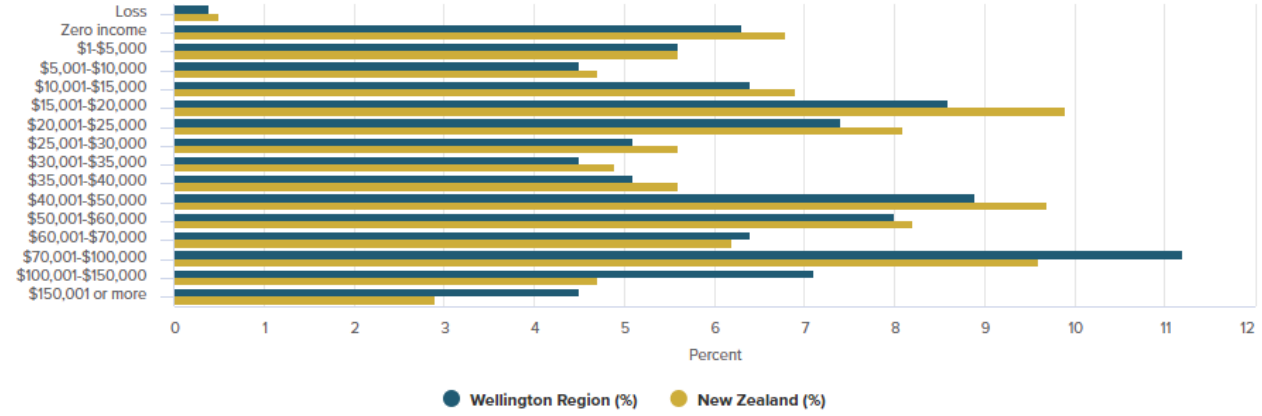


Figure 11 Total Personal Income for People in the Wellington Region compared with New Zealand, 2018 Census Data[23]

As was reported in the 2016 Waste Assessment and acknowledging the 3.8% annual growth of the construction industry, it is clear that the Wellington region is experiencing a significant increase in the construction of new multi-unit houses with a 33.2% increase (2,091 multi-unit houses) from 2020 (1,570 multi-unit houses), and which is almost reflective of pre-COVID levels in 2019 of 47.9% (**Table 6**). Similarly, in 2021 there was a reported 5.2% increase in the number of consented houses, however when compared to previous

[22] https://ecoprofile.infometrics.co.nz/Wellington Region/Employment/GrowthIndustriesBroad
[23] Place Summaries | Wellington Region | Stats NZ

years and excluding the 2019-2020 periods due to COVID-19, the percentage change is significantly lower than reported between 2016 to 2018. While this might signal a decline in the construction of houses due to market demand it is probable that this decline is a result of greater emphasis being placed on the construction of higher density housing; a theme seen throughout Aotearoa New Zealand.

Table 6 Annual Number and Percentage Change of New Dwellings Consented in the Wellington Region[24]

	Year ended December (Number)						Year ended December (Percentage Change from Previous Year)					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Houses	1,233	1,432	1,595	1,540	1,487	1,565	25.6	16.1	11.4	-3.4	-3.4	5.2
Multi-Unit Houses	759	862	1,136	1,680	1,570	2,091	2.7	13.6	31.8	47.9	-6.5	33.2
TOTAL	**1,992**	**2,294**	**2,731**	**3,220**	**3,057**	**3,656**	**15.7**	**15.2**	**19.0**	**17.9**	**-5.1**	**19.6**

3.1.4 Overview of Potential Future Changes to the Region

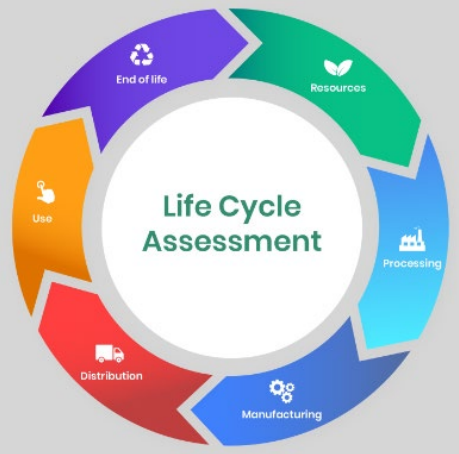
At the time of writing, the Ministry for the Environment is working on developing several key waste and resource management initiatives along with appropriate legislation and updating several key existing legislative instruments. Acknowledging the development of several key new initiatives are not yet in place at the time of writing this Waste Assessment, it is expected that the below list will largely be in effect over the coming years and as such will influence and shape the waste management and resource recovery activities carried out by each of the councils in the Wellington Region.

- Development of a new national waste strategy and new legislation to better regulate how we manage products and materials circulating on our economy
- Development of a long-term infrastructure plan to provide a national view of the waste investment Aotearoa New Zealand needs over the next 15-years
- Standardising kerbside recycling to make it simpler and easier for people to recycle correctly
- Container return scheme to incentivise people to return their empty beverage containers for recycling in exchange for a small refundable deposit (20-cents proposed)
- Developing end-of-life solutions for the six priority products:
    - Plastic packaging
    - Tyres
    - Electrical and electronic products (e-waste including large batteries)
    - Agrichemicals and their containers
    - Refrigerants
    - Farm plastics
- Phasing out certain single-use plastic items and hard-to-recycle plastic packaging (e.g., type #3 PVC containers, type #6 polystyrene drink packaging)
- Diversion of business food scraps from landfill to reduce greenhouse gas emissions and make better use of organic material
- Reducing construction and demolition waste via designing waste out and developing systems for diversion and reuse to move towards more circular systems for building materials used

[24] Building consents issued: December 2021 | Stats NZ

4 WELLINGTON REGION WASTE INFRASTRUCTURE OVERVIEW

To provide an understanding of how waste and resources are managed within the Wellington region, this section aims to provide an overview of the range of infrastructure options available through the eight territorial authorities. Where possible, infrastructure has been aligned to the waste hierarchy to show case how individual and collective authorities currently manage waste and resources, whilst also providing an overview of the potential opportunities to maximise reuse and recovery of materials and products throughout a products lifecycle.



4.1 Overview of Wellington Region Waste Infrastructure

The following sections provide an overview of the waste and resource management infrastructure in the Wellington region and are based on the outputs of the 2016 Regional Waste Assessment. Of note, the information has been presented to broadly align with the waste hierarchy (**Figure 12**) beginning with infrastructure that aligns with reducing, rethinking and redesigning followed by reuse, repair and repurposing, to recovery and recycling of materials through to disposal, including landfilling and littering. The intent of this approach is to acknowledge the efforts within the region to recover and reuse as much material as possible to avoid disposal to landfill, thereby supporting efforts to reduce per capita waste production.

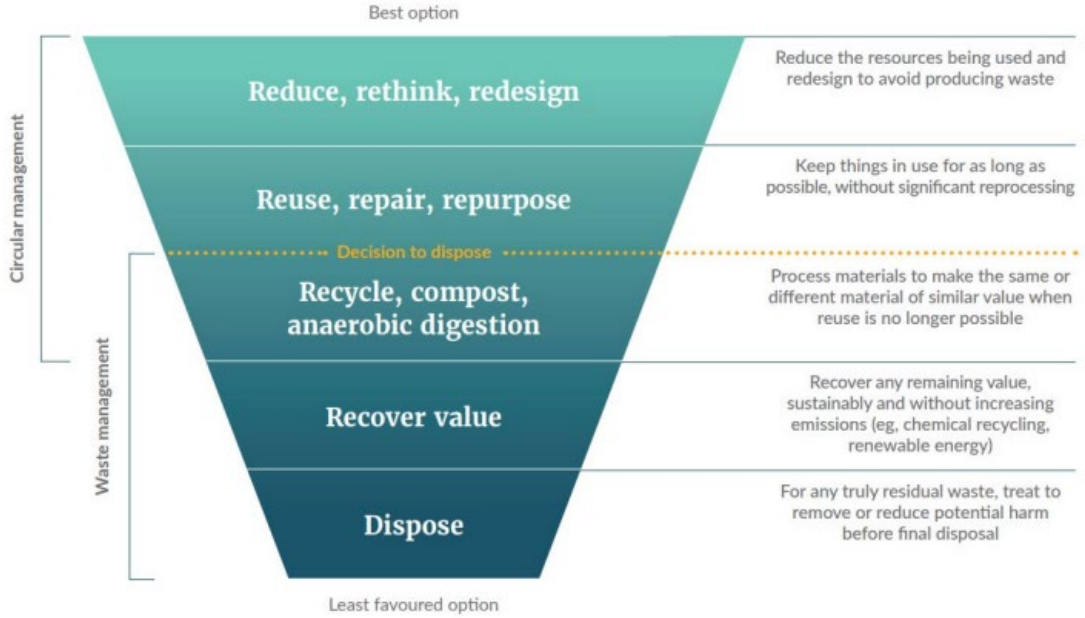


Figure 12 Waste Hierarchy (Te rautaki para | Waste Strategy)[25]

[25] Te-rautaki-para-Waste-strategy.pdf (environment.govt.nz)

Further, it is important to note here that since the 2016 Waste Assessment Report there have been efforts undertaken by each of the eight councils to reduce the amount of waste produced; however the unfortunate global COVID-19 health pandemic has had significant impacts regionally and nationally resulting in reduced ability for the Wellington region to meet the primary[26] waste reduction target of reducing total waste sent to Class 1 landfills from 600kg per person to 400kg per person by 2026. However, each territorial authority has remained committed to achieving this primary target and has where able, continued to progress initiatives, albeit at a slower rate due to the impacts COVID-19 has had across the waste and resource management sector.

As noted, the following sections are broadly aligned to the waste hierarchy and the material life-cycle as follows:

- Reuse
  - Resource Recovery Centres (Section **4.1.1**)
- Recycle
  - Recycling and Reprocessing Facilities (Section **4.1.2**)
  - Refuse Transfer Stations (Section **4.1.3**)
- Treat and Dispose
  - Landfills (Section **4.1.4**)
  - Hazardous Waste Facilities and Services (Section **4.1.5**)

Littering has been included in this report as it represents an important pathway by which materials enter the environment, thereby bypassing council managed material recovery and recycling services (e.g., kerbside recycling, public place recycling). Littering is discussed further in Section **4.1.6**.

4.1.1 Resource Recovery Centres

For clarity, a resource recovery centre is defined here as a location that primarily provides a service to the public whereby resources are collected, sorted, transported and on sold via a range of methods (e.g., resource recovery shops, social media platforms). These centres may include shops located at a transfer station and/or landfill site, community recycling centre and reuse stores. A resource recovery centre may also bulk collect materials (e.g., paper and cardboard) for collection and transportation for further processing (see Section **4.1.2** for further discussion). While this report generally focusses on the waste and resources that are controlled and/or influenced by council activities, it is important to recognise and acknowledge the connection with other non-council facilities such as hospice shops and other community stores as providing complementary recovery of resources.

Further, the above description also recognises the WasteMINZ Recycling & Resource Recovery Sector Group vision:

A Resource Recovery Sector Group working with the people of Aotearoa to maximise the recovery and delivery of high-quality materials for remanufacturing that aligns with a move to a circular economy, and which keep products and materials in use, at their highest level.

Across the Wellington Region, a range of public drop-off facilities and second-hand stores are managed by councils, and which accept a wide range of materials (e.g., household goods, building materials, clothing and

[26] as set out in the Regional Waste Management and Minimisation Plan (2017-2023)

textiles). These facilities include but are not limited to Wairarapa Resource Centre (Masterton), Otaihanga Resource Recovery Facility (Kāpiti Coast), 'Tip Shop' (Wellington City). Supporting these council facilities are a wide range of complementary facilities accepting a range of materials from paint (e.g., Paintwise, Resene), e-waste, used cartridges (e.g., Cartridge World), car parts (e.g., scrap metal yards, mechanics) and scrap metal (e.g., various scrap metal yards). As the continued focus on resource management and diverting resources from landfill becomes more mainstream coupled with diversification of facilities to both accept and reprocess materials, it is probable that the number, location and type of facilities that accept material will continue to grow and expand throughout the Wellington Region.

The following section further discusses the range of recycling and reprocessing facilities throughout the Wellington Region, and which represent the next stage in the management of a product and/or materials lifecycle.

4.1.2 Recycling and Reprocessing Facilities

There are a range of recycling and reprocessing facilities throughout the Wellington region. For clarity, these facilities relate to the collection, sorting, processing and conversion into new products but does not include the use of these materials for energy production (e.g., energy from waste facilities).

Table 7 has been adapted from the 2016 Waste Assessment and includes information of materials that are currently recycled and reprocessed within the Wellington Region. All data has been provided by each of the councils (except Carterton where no data was available) in the Wellington Region. Further, as has been discussed in Section **4.1.1** above, the range of recycling and reprocessing facilities are also supported by a wide and diverse range of smaller supporting facilities which may undertake indirect activities that support recycling and reprocessing (e.g., dismantling).

Table 7 Details of Recycling and Reprocessing Facilities in the Wellington Region

Facility Type	Council Area	Materials	Description
Composting	Wellington	Accepts food waste and greenwaste	Capital Compost, Static pile windrow, Southern landfill
	Masterton	Accepts greenwaste	Nursery Road, Static pile windrow
	Carterton	Accepts greenwaste	Mulched and spread at site
	South Wairarapa	Greenwaste	Collected from Greytown and Featherston and taken to Martinborough transfer stations where it is mulched and spread on site, Lake Ferry Road
	Kāpiti	Accepts greenwaste	Composting NZ, Static pile windrow. Drop off and processing facility is in Otaihanga and there is a satellite drop off location at the Otaki RTS.
	Porirua	Greenwaste	McMud Earthworks
CnD Waste	Wellington	Timber, metal, concrete, brick, etc	Woods Waste GoodRock Recycling, Waikanae
Drop-Off	Wellington	Used paint	4 Paintwise paint drop off point
		Nappies	8 Envirocomp sites
		Soft plastics (plastic bags)	Various retail sites (Warehouse, New World, Pak'n'Save)
		E-Waste (drop off)	Second Treasures (Southern landfill)
	Masterton/ South Wairarapa/ Carterton	Greenwaste	Mulched and spread at site. Windrows at Masterton
		Tyres	Collected at all sites for a cost, and sent to Auckland for recycling.

Facility Type	Council Area	Materials	Description
		Agricultural chemicals	Collected by Ag recovery monthly
		Oil	Collected by third party
		E- Waste drop off	Taken for processing/ reuse by third party
		Used Paint	Paintwise drop-off at all stations
		Household batteries	Processed by Upcycle. Collected at all stations
		Scrap metal	Collected at all sites and on sold by operator
		Car batteries	Collected at all sites and on sold by operator
		Soft plastics (plastic bags)	Processed by Future Post, collected at all stations
		Recycling (paper and cardboard, tins and cans, plastic containers 1, 2 and 5, glass)	
	Kāpiti	Used paint	1 Paintwise paint drop off point and Otaihanga Reuse Shop
		Soft plastics (plastic bags)	Various retail sites (New World and Countdown supermarkets)
		E-waste (TVs, whiteware, fridges/freezers, small electronic items, batteries,	Otaihanga RRF and Otaki RTS
		Recycling (paper and cardboard, tins and cans, plastic containers 1, 2 and 5, glass)	Otaihanga RRF and Otaki RTS
		Child carseats (Seatsmart programme)	Otaihanga RRF
		Household hazardous	Otaihanga RRF
	Upper Hutt	Soft plastics (plastic bags)	Various retail sites (Warehouse, New World)
	Lower Hutt	Paint	Resene and Dulux outlets
		Soft plastics (plastic bags)	Following retails sites: Countdown (Petone) The Warehouse (Petone, Queensgate) New World Pak N Save (Petone)
		E-Waste	Noel Leeming (LH depot for TechCollect) Earthlink (items scrapped onsite)
	Porirua	Used paint	1 Paintwise paint drop off point
		Fluorescent and ECO lightbulbs	Interwaste
		Household goods	Kiwi Community Assistance Porirua
		uPVC pipe	Plumbing World
		Household batteries	Bunnings Warehouse
		Soft plastics (plastic bags)	Various retail sites (Warehouse, New World, Pak'n'Save)
		Tetra Pak	Earthlink, remanufacturer into saveBOARD. Drop off for recycling at Spicer Landfill
		E-Waste	Electronic waste drop-off locations: Trash Palace, Earthlink, IT Recyla, Remarkit, E-Cycle
		Green waste	Compositing New Zealand drop-off
		Used oil	Spicer landfill accepts used vehicle oil
		Car batteries	Exide Technologies, Barry & Mexted and Macauley Metals
		Printer cartridges	Drop-off cartridges for recycling at Warehouse Stationary
		Bulk recycling	Drop-off at Spicer Landfill

Facility Type	Council Area	Materials	Description
E-Waste Processing	Wellington	E-waste dismantling, refurbishments and reuse	ReMarkIT
	Upper Hutt	E-waste	Remarkit, Recycling for charity
Hazardous	Wellington	Free drop off of domestic hazardous wastes	Up to 20L/kg per visit, Southern landfill
	Lower Hutt	Hazardous and chemical wastes	Waste Management Technical Services
	Porirua	Hazardous quarantine and medical waste	Broken Hill Rd, Porirua
MRF	Masterton	Further separation of kerb sorted recyclables	Wairarapa Environmental MRF
	Lower Hutt, Wellington	Comingled Kerbside Collection	OJI FS (collects items/materials from Wellington region but is based in Seaview)
Other Organic	Wellington, Kāpiti	Food rescue	Kaibosh and Kiwi Community Assistance
Plastics Reprocessing	Porirua	Polystyrene	Poly Palace, Remanufacture into panel insulation products
	Otaki	PVC and crushed rubber	Matta Products (playground and surfacing products)
	Petone	Extruded plastics	Flight Plastics
Re-Use Stores	Wellington	Building materials	No.8 Recyclers
		Household items	Second Treasures (Southern landfill)
		Cartridges	Cartridge World
		Car parts	Various
	Masterton	Building materials	Renovators Ltd, Rummages
		Household items	Wairarapa Resource Centre
	Carterton	Household items	Second-hand goods retailers
		Building materials	
	South Wairarapa	Household items, clothing	Second hand stores
		Large household and some outdoor supplies	Amua in Featherston takes wood, some leftover building supplies, and larger household items.
	Kāpiti	Household items	Otaihanaga RRC and various second-hand stores
		Building materials	Kāpiti Building Recyclers Ltd, Ace Building Recycle Barn
		Cartridges	Cartridge World, Second Image
		Car parts	Various
	Upper Hutt	Building materials	Recyclers, James Henry Joinery, The Timber Reclaimers
		Cartridges	Cartridge World
		Car parts	Hillside auto wreckers
	Lower Hutt	Building materials	Various
		Household items	Earthlink Op shops Second-hand good retailers
		Cartridges	Cartridge World
		Car parts	Various
	Porirua	Building materials	The Building Recyclers
		Household items	Trash Palace, Free for all, various charity stores e.g., St Vincent De Paul Op Shop, Salvation Army
		Cartridges	Cartridge World
		Clothing	Save Mart
		Car parts	Various
Scrap Metal	Wellington	Ferrous and non-ferrous	Wellington Scrap Metals
	Masterton/Carterton/South Wairarapa	Ferrous and non-ferrous	Wairarapa Scrap Metal Ltd

Facility Type	Council Area	Materials	Description
	Kāpiti	Ferrous and non-ferrous	Rameka Metal Recyclers Ltd
	Upper Hutt	Ferrous and non-ferrous	Upper Hutt Metals
	Lower Hutt	Ferrous and non-ferrous	Macaulay Metals Ingot Scrap Metals Sims Pacific General Metal Recyclers Total Recycling Ltd
	Porirua	Ferrous and non-ferrous	Drop-off sites: AKB Ingot Scrap Metals, Wellington Scrap Metals, Macauley Metals
Rendering	Wellington	Animal by-products form meat processing	Taylor Preston Ltd
Recovery to Gas	Lower Hutt	Landfill gas to energy	Silverstream Landfill, Lower Hutt
	Wellington	Landfill gas to energy	Southern Landfill, Wellington

4.1.3 Refuse Transfer Stations

As reported in the 2016 Waste Assessment Report, recycling collectors and the public have access to twelve refuse transfer stations throughout the Wellington region (**Table 8**). It is important to note here that the Waikanae Greenwaste and Recycling Centre is no longer available as this facility closed for recycling drop-off in August 2021 and then for greenwaste drop-off in July 2022. For clarity, refuse transfer stations are commonly commercial operations with limited public access, and serve as a point of disposal, consolidation and sorting before materials are transported to either landfill for final disposal, or to alternative recovery pathways (e.g., additional recycling, reuse, repurposing). It is worth noting here that commercial operators may also refer to a transfer station as a resource recovery park or resource drop-off centre to highlight the industries transition to providing modern facilities that accommodate a wider range of services.

The twelve facilities are also supported by the three regional landfills which also accept a wide range of materials for drop-off, including greenwaste and recyclable items. **Table 8** has been adapted from the 2016 Assessment to ensure consistency.

Table 8 Refuse Transfer Stations within the Wellington Region and Resources Accepted

Refuse Transfer Station	Owner / Operator	Hours of Access	Materials Accepted
Seaview Recycle and Transfer Station (Lower Hutt)	Waste Management (NZ) Ltd	Monday – Saturday 7.30am - 5.00pm Sunday and Public Holidays 8.30am - 4.30pm	Refuse Recycling Greenwaste
Otaihanga Resource Recovery Facility (Kāpiti Coast)	Kāpiti Coast District Council / Midwest Disposals Ltd	Monday to Saturday 8.00am – 5.00pm Sunday and Public Holidays 9.00am – 5.00pm	Refuse Recycling E-waste (largely free but some fees apply to certain items)
Waikanae Greenwaste and Recycling Centre (Kāpiti Coast)	**Facility Closed as of 15 July 2022**		
Ōtaki Refuse Transfer Station (Kāpiti Coast)	Kāpiti Coast District Council / Midwest Disposals Ltd	Monday to Saturday 8.00am – 5.00pm Sunday and Public Holidays 9.00am – 5.00pm	Refuse Recycling Greenwaste E-waste (largely free but some fees apply to certain items)

Refuse Transfer Station	Owner / Operator	Hours of Access	Materials Accepted
Martinborough Transfer Station (South Wairarapa District)	South Wairarapa District Council / Wairarapa Environmental	Wednesday: 10.00am – 4.00pm Saturday: 10.00am – 4.00pm Sunday: 10.00am – 4.00pm Agricultural recycling only from 1.00pm – 3.00pm on the third Wednesday of each month	Refuse Recycling Greenwaste E-waste (free of charge)
Greytown Recycling Station (South Wairarapa District)	South Wairarapa District Council / Wairarapa Environmental	Tuesday: 1.00pm – 3.30pm Saturday: 10.00am – 12.00pm Sunday: 10.00am – 1.00pm	Recycling Greenwaste
Featherston Recycling Station (South Wairarapa District)	South Wairarapa District Council / Wairarapa Environmental	Thursday: 11.00am – 3.00pm Saturday: 11.00am – 3.00pm Sunday: 11.00am – 3.00pm	Recycling Greenwaste
Pirinoa Recycling Station (South Wairarapa District)	South Wairarapa District Council / Wairarapa Environmental	Wednesday: 1.00pm – 3.00pm Saturday: 10.00am – 12.00pm Sunday (May to August): 3.00pm – 5.00pm Sunday (September to April): 4.00pm – 6.00pm	Recycling Greenwaste
Castlepoint (Masterton District)	Masterton District Council / Wairarapa Environmental	Wednesday: 9.00am–12.00pm Sunday: 11.00am–3.00pm	Refuse Recycling Greenwaste
Riversdale (Masterton District)	Masterton District Council / Wairarapa Environmental	Wednesday and Sunday: 1:30pm–4:30pm Sundays in December, January and February: 1:30pm–7:30pm	Refuse Recycling Greenwaste
Masterton (Masterton District)	Masterton District Council / Wairarapa Environmental	Monday-Friday: 7:30am–4:30pm Saturday: 8:30am–4:30pm Sunday and Public holidays: 10am–4pm ANZAC Day: 1pm–4:30pm Closed on Christmas Day, New Year's Day and Good Friday	Refuse Recycling Greenwaste
Dalefield Road Transfer Station (Carterton District)		Tuesday-Friday: 9.00am – 11.00am Saturday: 9am–12pm Sunday: 1:30pm–4:30pm	Refuse Recycling Greenwaste
Woods Waste (Ngaio, Wellington)	Woods Waste	No public access	Refuse Recycling

4.1.4 Landfills

This section provides an overview of the types of landfills operating throughout the Wellington region and which accept a range of materials for disposal. In general, and as reported by Manatū Mō Te Taiao – Ministry for the Environment, landfills are facilities for the final controlled disposal of waste in or onto land. Under the Resource Management Act 1991, landfills must have consent conditions which are appropriate to the material they accept (e.g., municipal solid waste, construction and demolition, hazardous waste). The information contained in the following sections reflects that provided in the 2016 Waste Assessment and includes updates and additional components where appropriate.

4.1.4.1 Class 1 Landfills

There are three Class 1 landfill disposal facilities in the Wellington region (all located on the western boundary of the region) which accept municipal solid waste from around the region (**Figure 13**). **Table 9** details the three landfills including the approximate annual tonnage accepted, consent expiry and capacity and current advertised general waste gate fees.

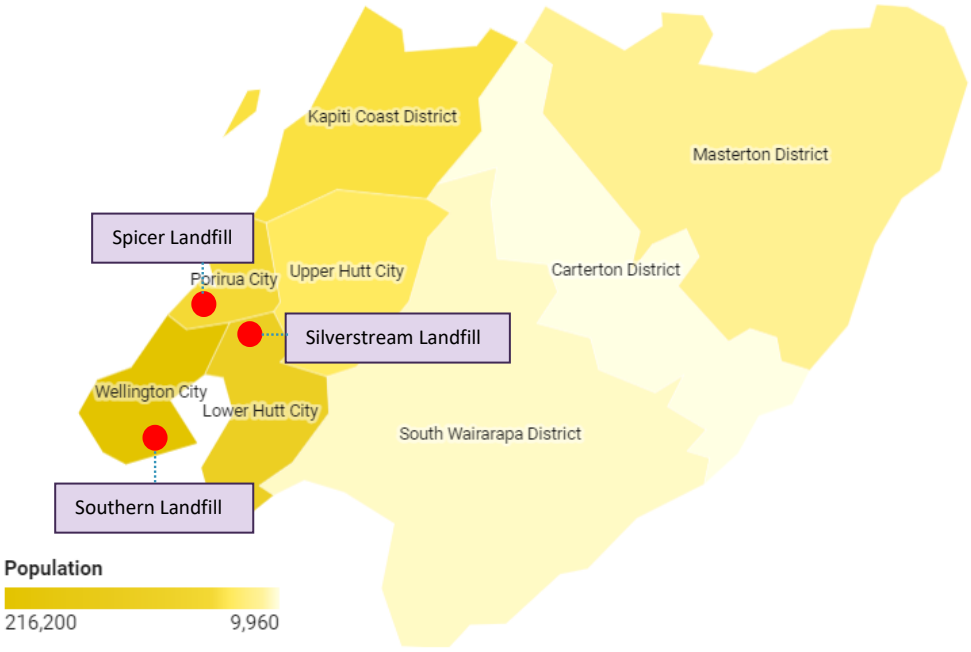


Figure 13 Approximate Location of the Three Wellington Region Landfills

Table 9 Class 1 Landfills in the Wellington Region

Disposal Facility	Location	Approximate Annual Tonnage Accepted	Consent Expiry	Advertised General Waste Gate Fee
Southern Landfill	Wellington	100,000	Current cell capacity to approximately 2026 Valley capacity for 100yrs	Domestic vehicles $245.50 per tonne Commercial $196.07 per tonne[27]
Bonny Glen landfill (Mid West Disposals)	Rangitikei District (outside of region)	Up to 250,000	Consented to 2050	$166.19
Levin landfill (Horowhenua DC)	Horowhenua District (outside of region)	30,000	Consented to 2037	$163.50
Silverstream	Lower Hutt	141,000	Consented to 2055	All vehicles $189.75 per tonne[28]

[27] Southern Landfill, Tip Shop and Recycle Centre - Landfill charges - Wellington City Council – data provided Wellington City Council

[28] Landfill location and charges, and litter penalties | Hutt City Council

Disposal Facility	Location	Approximate Annual Tonnage Accepted	Consent Expiry	Advertised General Waste Gate Fee
Spicer Landfill	Porirua	80,000	Consented to 2030, at current fill rate, capacity to 2028	Domestic $27.50 - $73.00 (per vehicle or per trailer) Commercial $18 9.97 per tonne [29]
Martinborough Closed Landfill	Martinborough	No data provided	September 2010	Not applicable
Martinborough Transfer Stations	Martinborough	No data provided	September 2010	Not applicable

While the region has good access to a range of landfills, including landfill capacity to service a growing regional population, the geography of the region and the location of the landfills means that districts including Masterton, Carterton and South Wairarapa must transport waste material long distances. Further, weather events and seasonality (e.g., winter weather road closures) also influence the accessibility of the roading network and therefore the ability to transport waste when required. **Table 10** below reports [30] the approximate travel distances from each region to the three regional landfills.

Table 10 Approximate Travel Distances (kilometres) to the Three Region Based Landfills

Territorial Authority	Southern Landfill	Spicers Landfill	Silverstream Landfill
Carterton District Council	91	85	61
Hutt City Council	24	29	12
Kāpiti Coast District Council	64	42	52
Masterton District Council	106	100	76
Porirua City Council	28	5	25
South Wairarapa District Council	88	82	60
Upper Hutt City Council	41	35	11
Wellington City Council	8	24	28

As reported in the 2016 Waste Assessment, this report also acknowledges that Bonny Glen landfill located outside of the Wellington region accepts waste from Kāpiti Coast District Council and the councils of the Wairarapa District.

4.1.4.2 Closed Landfills

As reported in the 2016 Waste Assessment the following description remains current:

'Most closed landfills in the Wellington region have become open space areas and are used as sports fields or passive recreation reserves. In many cases, the extent of the fill in the closed landfill is not known with any

[29] Spicer Landfill hours and fees - Porirua City

[30] Extracted from the 2016 Regional Waste Assessment Report

degree of accuracy. There are approximately eighty closed landfill sites in the Wellington region, of which thirty-three are within Wellington City council area.'

4.1.4.3 Cleanfills (Class 2-4 Landfills)

Within the Wellington region, the Class 2-4 landfills are reported to directly compete with Class 1 landfills. The difference between these landfills grades is based on the cost of disposal with the Class 2-4 landfills generally less expensive than Class 1 landfills. **Table 11** below summarises the range of Class 2-4 landfills present within the Wellington region including the approximate consent timeframes.

Table 11 Class 2-4 Landfills in the Wellington Region

Facility Name	Landfill Class	Approximate Consent Expiry
C&D Landfill (Happy Valley, Owhiro Bay, Wellington)	2	June 2026
Colonial Knobb Farm Holdings Ltd (Broken Hill Road, Porirua City)	4	September 2039
Masterton Landfill (Nursery Road, Masterton District)	4	September 2045
Higgins Quarry* (Kāpiti Coast District)	4	February 2049
T&T Landfill (Happy Valley, Owhiro Bay, Wellington)	4	June 2049
Carterton Transfer Station (Dalefield Road, Carterton District)	4	2016

*Note, Higgins Quarry is included here for reference but has been closed for the past 5-years but may re-open.

4.1.5 Hazardous Waste Facilities and Services

Hazardous Waste is any waste that is defined as follows:

- Contains hazardous substances at sufficient concentrations to exceed the minimum degrees of hazard specified by Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 under the Hazardous Substances and New Organism Act 1996, or
- Meets the definition for infectious substances included in the Land Transport Rule: Dangerous Goods 2005 and NZ Standard 5433: 2007 – Transport of Dangerous Goods on Land, or
- Meets the definition for radioactive material included in the Radiation Protection Act 1965 and Regulations 1982.

Examples of hazardous waste include but are not limited to:

- Corrosives (acids and alkaline)
- Explosives and fireworks
- Flammable liquids (e.g., fuels, paints and solvents)
- Flammable gases and aerosols (e.g., LPG and spray cans)
- Flammable solids (e.g., sodium metal, sulphur, silicon powder)
- Oxidising materials (chlorine, iodine, hypochlorite-bleach, peroxides)
- Toxics (cleaning fluids, pesticides and other garden chemicals).

As reported by the Manatū Mō Te Taiao – Ministry for the Environment, the lack of formal record keeping and reporting on waste flows in the past has led to limited information on hazardous waste throughout Aotearoa New Zealand. Additionally, as a large proportion of hazardous waste is reported to be managed by private waste operators, much of this data is commercially sensitive and not shared by the operators. This has led to paucity of information and a subsequent incomplete picture of hazardous waste volumes.

Further, it is acknowledged that local authority trade waste bylaws control a large proportion of New Zealand's hazardous wastes, of which as much as 70–85% are liquid and discharged to municipal wastewater treatment systems. As reported by the Manatū Mō Te Taiao – Ministry for the Environment, in 2004, solid hazardous waste was estimated to account for 11% of waste disposed of in landfills. About one-quarter of this waste is rendered inert (stabilised) at waste treatment facilities before disposal.

Table 12 provides a summary of council known hazardous waste operators from across the Wellington region (excluding Carterton District Council, Masterton District Council and South Wairarapa District Council where no data was available).

Table 12 Hazardous Waste Operators from across the Wellington Region

Hazardous Waste Operator	Location
Dawson Waste Services	Owhiro Bay, Wellington
Waste Petroleum Combustion (Oil Recovery)	Throughout North Island
Enviropaints Ltd	Ōtaki, Kāpiti Coast
Upcycle, Domestic Battery collection	Auckland
Silverstream and Spicer Landfills: - house + garden chemicals - leftover oil + petrol + diesel - batteries - paint - gas bottles	Stokes Valley, Lower Hutt Broken Hill Road, Porirua
Various Retailers/Service Providers : - paint retailers - dive shops (gas bottles) - lighting outlets (fluorescent light bulbs)	Various councils
Envirowaste (NZ) incorporating ChemWaste. Offer a hazardous waste collection and transport service (request is made online)	127R Gracefield Road, Gracefield, Lower Hutt 5010
Waste Management (NZ) Technical Services Offer a hazardous waste collection and processing service (request is made online)	97/99 Port Road, Seaview, Lower Hutt 5010
InterWaste Services	Broken Hill Rd, Porirua
Clear Air Asbestos Management Limited	Gracefield, Lower Hutt
Legacy Contracting Limited	35 Broken Hill Road, Porirua
Intergroup Limited	Gracefield, Lower Hutt
T G Civil Limited	Aotea, Porirua
Paintwise -Resene	Masterton
Ag Recovery Foundation - agricultural chemicals	Wellington
Macauley Metals - Car batteries	Wellington
Exoil Ltd - oils	Palmerston North

4.1.6 Waste Disposed of to the Environment

4.1.6.1 Environmental Litter

Acknowledging the current processes offered by each of the councils to manage and minimise waste disposal and maximise resource recovery, littering of materials and products is acknowledged as a significant environmental risk. Littering also represents the loss of potentially valuable resources from the material life cycle.

To reduce the amount of litter entering the environment, public place recycling (PPR) has been offered in locations around the Wellington region (e.g., Wellington City, Kāpiti Coast) and nationally as part of a joint initiative between Love NZ/Be a Tidy Kiwi and delivered by the Packaging Forum. The scheme provided dedicated bins for the collection of general rubbish, glass and mixed recyclables with an aim to reduce the amount of materials going to landfill (**Figure 14**).

Figure 14 Public Place Recycling Bins

Case Study – Wellington City Public Place Recycling

In 2018[31][32] Wellington City Council implemented the PPR bins at eight locations around the Central Business District (CBD) and ran the trial until mid-July 2021 after which time the trial stopped and the bins were removed. While approximately 36 tonnes per annum of recycling was captured and diverted from landfill the cost to service the bins, including processing were reported to be over $6,500 per tonne which was ten times the cost per tonne for kerbside recycling. In comparison, Wellington's kerbside recycling collections divert approximately 11,200 tonnes per year from landfill.

While cost of servicing the scheme was an important consideration in stopping the trial, other factors including central government initiatives such as the imminent pending decision on implementing a Aotearoa New Zealand Container Return Scheme is anticipated to have a significant effect on how the public view and value recyclables. Specifically, by placing a value (e.g., proposed 20-cents) on items that are commonly littered (i.e., single-use beverage containers), it is anticipated that people will want to redeem the container and therefore avoid littering and the need for widespread PPR bins.

Further, Wellington City Council also recognises and encourages reusable options for reducing single-use packaging waste as well as encouraging Wellingtonians to make smart choices about what is consumed.

[31] News and information - Public Place Recycling trial ends, stations to be removed - Wellington City Council
[32] Reducing your waste - Public Place Recycling project - Wellington City Council

Additionally, the council also recognised that future funding was better focussed on waste reduction initiatives which align with the waste hierarchy.

For this Waste Assessment, the process of littering has been included here to recognise that not all materials are correctly disposed of using council and/or commercially operated services. As such, illustrating the loss of materials (e.g., household recyclable items) via environmental littering helps to provide further clarity on the efficacy of council provided services. However, it is important to note that not all littered material can be collected via council services. Further discussion regarding environmental litter within the Wellington region can be found in Section **5.2.9**.

4.1.6.2 Rural Waste Disposal

In 2020, the Manatū Mō Te Taiao – Ministry for the Environment made farm plastics, and agrichemicals and their containers priority products under the Waste Minimisation Act (2008). Farm plastics and agrichemicals along with four other products were prioritised as part of a wider plan to reduce the amount of rubbish ending up in landfills or the environment. By prioritising the products, a product stewardship scheme will be required to provide a 'cradle to grave' approach to minimising the environmental impacts of these products and their packaging. The six priority products are as follows:

- Agrichemicals and their containers
- Farm plastics
- Plastic packaging
- Tyres
- Electrical and electronic products (e-waste including large batteries)
- Refrigerants

The Agrecovery Foundation[33] is currently working with the the Manatū Mō Te Taiao – Ministry for the Environment to make the transition from a voluntary product stewardship scheme to a regulated scheme. The revised scheme includes identifying ways to improve access to recycling services and optimising packaging design for reuse or recyclability. The regulated scheme includes all agrichemicals and their containers, up to and including 1L, or equivalent packaging for dry goods that are used for:

- any horticulture, agricultural and livestock production, including veterinary medicines;
- industrial, utility, infrastructure and recreational pest and weed control;
- forestry;
- household pest and weed control operations; and
- similar activities conducted or contracted by local and central government authorities.

As reported by the Agrecovery Foundation, this includes but is not limited to all substances that require registration under the Agricultural Compounds and Veterinary Medicines Act 1997, whether current or expired, and their containers (packaging), which are considered hazardous until they have been triple-rinsed.

While rural waste is not a consistent waste stream throughout the Wellington Region, local authorities such as South Wairarapa, Carterton and Masterton are likely to be influenced by this waste stream due to the inclusion of rural and farming communities within their boundaries. However, the collection of rural waste

[33] Agrecovery | Priority Products

data is significantly limited throughout Aotearoa New Zealand and so any discussion of rural waste in this Waste Assessment should be treated with caution and not relied upon.

4.2 Overview of Waste Services in the Wellington Region

The following sections provide an overview of the range of waste services provided by councils within the Wellington Region. The intent of this section is to highlight the current services and to help inform future opportunities.

This section also discusses the importance of behaviour change, stakeholder engagement and Mana Whenua partnership initiatives occurring throughout the region, and which underpin and help shape the range of waste services provided in the districts. Behaviour change initiatives are also critically important to facilitate and support placing more emphasis on waste prevention and maximising the benefits and use of materials over disposal.

4.2.1 Council Waste Services

The following sections have been separated into kerbside council provided services to provide clarity on the range of services offered within the Wellington Region, specifically:

- Recycling
- Refuse
- Organics

Commentary on service changes since the 2016 Waste Assessment has been included where appropriate.

4.2.1.1 Kerbside Recycling

A review of council provided recycling services has been summarised in **Table 13** with discussion of key items below. At present, all councils provide a rates funded kerbside recycling service using either bins or bags, except for Kāpiti Coast District Council and Upper Hutt City Council where private commercial collection arrangements are in place. Kāpiti Coast District Council licenses the private collectors to ensure recycling services are included with all waste collection contracts and provides free recycling drop-off at the Otaihanga Resource Recovery Facility and the Ōtaki Resource Recovery Centre. Upper Hutt City Council provides a rates-funded drop-off to the Upper Hutt Recycling Station or private commercial collection arrangements.

A review of kerbside recycling provided by each of the eight local authorities identified a change in the type of plastics which are now collected and recycled. Specifically, where plastic grades 1-7 were collected and reported in the 2016 Waste Assessment, these have now reduced to either 1 and 2 only, or 1, 2 and 5.

Additionally, while there was difference in collection timing and bin sizes, there was general consistency across the eight councils in the range of materials collected, particularly with glass commonly collected separately and via crates. Of note, the current central government initiative to standardise kerbside collections is expected to influence the provision of council kerbside recycling service, including potential service contract amendments.

Table 13 Summary of Kerbside Recycling Services and Current Charges

Local Authority	Type of Kerbside Collection Service	Materials Accepted	Cost	Collection Contractor
Carterton District Council	140L bin (fortnightly, alternating weeks with bins) Crate (glass only) (fortnightly, alternating weeks with bins)	Bins – plastics 1 and 2, tins, paper and cardboard, cans Crates – glass only	$105.90 incl GST per unit for kerbside (refuse & recycling) collection service. Small value in General rates	EarthCare
Hutt City Council	120L or 240L bin (collected fortnightly) Crate (collected fortnightly on alternating weeks with bins)	Bins – paper and cardboard, tins and cans, plastic containers 1, 2 and 5 Crates – glass only	$111 per year	Waste Management NZ Ltd
Kāpiti Coast District Council	No council funded service – licensed private commercial contractors provide a combined rubbish and recycling service within urban residential zones.	Bins – paper and cardboard, tins and cans, plastic containers 1, 2 and 5, Crates only - glass	See note below	EnviroWaste (also trading as Clean Green and Budget Waste) Low Cost Bins Lucy's Bins Waste Management (previously trading as Transpacific)
Masterton District Council	140L bin (fortnightly, alternating weeks with crates) Crate (glass only) (fortnightly, alternating weeks with bins)	Bins – paper and cardboard, tins and cans, plastic containers 1, 2 and 5 Crates – glass only	$89 (incl GST) pa per urban property able to use the kerbside collection service $220 (incl GST) pa per beach property $0.000045 per $ of CV charged as a rate per urban property.	EarthCare
Porirua City Council	240L bin (mixed recycling) (fortnightly) 140L bin for glass (every four weeks)	Bins – paper and cardboard, tins and cans, plastic containers 1, 2 and 5, glass	$57 per property per annum	Waste Management NZ Ltd
South Wairarapa District Council	140L bin (fortnightly, alternating weeks with bins) Crate (glass only) (fortnightly, alternating weeks with bins)	Bins – paper and cardboard, tins and cans, plastic containers 1, 2 and 5 Crates – glass only	$3.00 per yellow bag, $17.50 for glass crate $198 per year for refuse charge	EarthCare
Upper Hutt City Council	Rates-funded drop-off to Upper Hutt Recycling Station OR Private bin service	Bins – paper and cardboard, tins and cans, plastic containers 1, 2	$300K	Private bin service – Low-Cost Bins, Waste Management

Local Authority	Type of Kerbside Collection Service	Materials Accepted	Cost	Collection Contractor
		and 5 (caps off), glass, Tetra Pak		
Wellington City Council	User pays bags (fortnightly) 45L crate (glass only) (fortnightly) 140L bins (allocated properties only) (fortnightly)	Paper and cardboard, tins and cans, plastics, glass	Homes in the city centre - 10 bag pack for $3.10 (5 for glass 5 for general recycling) Homes outside the city centre - 26 bag pack for free each year with further 26 packs available for $13 Glass crate $15	Suburban – EnviroWaste CBD – Fulton Hogan

*Kāpiti collection charges can be found on the respective websites of the four commercial licenced collectors that offer collection services. The annual charge per user covers recycling and rubbish in one charge and ranges from $191.70 to $420 for the weekly collection of an 80L, 120L, 140L or 240L rubbish bin and the alternating fortnightly collection of a recycling bin and glass crate. There are also fortnightly, monthly and pay as you throw options available that further affect the price, thus financially incentivising low waste producers.

4.2.1.2 Kerbside Refuse

A review of council provided recycling services has been summarised in **Table 14** with discussion of key items below. Across the eight councils, household refuse is collected and managed via one of three mechanisms:

- Rates funded
  - Carterton District Council, Hutt City Council, Masterton District Council and South Wairarapa District Council
- User pays
  - Upper Hutt City Council, Wellington City Council and Porirua City Council
- Private commercial collection
  - Kāpiti Coast District Council

Generally, household refuse is collected via either bins or bags with an associated service cost.

Table 14 Summary of Kerbside Refuse Services and Current Charges

Local Authority	Type of Kerbside Collection Service	Cost	Collection Contractor
Carterton District Council	Rubbish bags (weekly)	$2.80 per bag and includes the cost of collection and disposal	EarthCare
Hutt City Council	80L bin (weekly) 120L bin (weekly) 240L bin (weekly)	$105 per year $148 per year $296 per year	Waste Management NZ Ltd
Kāpiti Coast District Council	Licenced private collectors: 80L bin (weekly, fortnightly or Pay as U Go) 120L bin (weekly, fortnightly or monthly)	See note below	EnviroWaste (also trading as Clean Green and Budget Waste) Low Cost Bins Lucy's Bins

Local Authority	Type of Kerbside Collection Service	Cost	Collection Contractor
	140L bin (weekly or Pay as U Go) 240L bin (weekly, fortnightly, monthly or Pay as U Go)		Waste Management (previously trading as Transpacific)
Masterton District Council	Rubbish bags (weekly)	$4.00 per bag or 5 bag pack for $20	EarthCare
Porirua City Council	70L council bags (weekly)	$3.50 per bag or 10 bag pack for $35	Civic Group
South Wairarapa District Council	Rubbish bags (weekly)	$3.00 per bag, includes collection and disposal	EarthCare
Upper Hutt City Council	User pays bags (weekly)	Bag cost set by retailers	Waste Management
Wellington City Council	User pays 50L bags (weekly)	$3.29 per bag or 5 bag pack for $16.45	Suburban – EnviroWaste CBD – Fulton Hogan

*Kāpiti collection charges can be found on the respective websites of the four commercial licenced collectors that offer collection services. The annual charge per user covers recycling and rubbish in one charge and ranges from $191.70 to $420 for the weekly collection of an 80L, 120L, 140L or 240L rubbish bin and the alternating fortnightly collection of a recycling bin and glass crate. There are also fortnightly, monthly and pay as you throw options available that further affect the price, thus financially incentivising low waste producers.

4.2.1.3 Kerbside Organics

Of the eight councils in the Wellington Region, Hutt City Council is the single local authority that currently provides residents with an option to collect organics (i.e., greenwaste only) from kerbside via a rates funded system. This four-weekly service uses a 240L bin at a cost of $101[34] per year. Using their Waste Levy Grant, the Kāpiti Coast District Council have funded community groups and small businesses to establish decentralised food scrap collection services:

- Pae Cycle (in Paekākāriki for residents and businesses)
- Organic Wealth Food to Farm (District-wide for businesses and residents)

Two private licenced collectors also offer wheelie bin garden waste collection services. This garden waste service can be in an 80L, 140L or 240L bin collected weekly, fortnightly or Pay as U Go.

While no other council offers a council funded service, all support residents and ratepayers to collect and separate organics (i.e., greenwaste and food scraps) and home compost, where able. The Kāpiti Coast District Council runs the Love your Compost programme which is designed to support residents to home compost. The support provided includes composting system vouchers, resources, workshops and other incentives.

It is also acknowledged that the Ministry for the Environment via the newly released Te rautaki para | Waste strategy includes making food scrap collection services available to households in all urban areas (i.e., towns of 1,000 people or more) by 2027. Alongside the provision of household food scrap collection services, the Ministry for the Environment is also looking to get businesses ready to separate food scraps from general waste by 2030. To reduce business food waste sent to landfill, the government is proposing that all businesses should separate food waste from their general waste. Businesses would then choose what they do with their food scraps with some potentially being used as stock food or turned into compost or digestate. Businesses

[34] Rubbish, recycling and garden waste bins | Hutt City Council

are also encouraged to look for opportunities to further reduce their food waste by donating edible food or explore opportunities for upcycled food products[35].

As such, it is probable that one or more additional Wellington region councils will have implemented a kerbside organics service before the next Waste Assessment. Additionally, it may also present opportunities for territorial authorities to provide opportunities (e.g., collection, processing, end-market relationships) to their local businesses.

Further changes to Aotearoa New Zealand's waste and resource management industry are also further discussed in Section **8.1.4**.

Case Study – Para Kai Miramar Peninsula Trial

In September 2020, Wellington City Council initiated a 12-month Para Kai Trial comprising a weekly kerbside food scrap collection service and household home composting. The intent of the trial was to understand how much food scraps could be diverted from landfill through kerbside collections and home composting. The trial was carried out on the Miramar Peninsula and representative of Wellington's demographics, socioeconomics, and topography. Of the trial participants, 500 households trialled a weekly kerbside food scrap collection service with another 450 households trialling a home composting system in either a worm farm, compost bin or bokashi system.

Of the food scraps collected from kerbside, approximately 33,000kg was diverted from landfill with an average food scrap reduction per household of approximately 40%. In comparison, approximately 13,000kg of food scraps was diverted from landfill using the range of home composting systems; an average food scrap reduction per household of approximately 16%. Key findings[36] reported through the trial survey indicated that a kerbside collection service is the most effective method for diverting food scraps from landfill with home composting systems also supporting diversion of food scraps from landfill. Further, from a willingness to participate perspective, at least four out of five respondents across both the kerbside collection and home composting groups indicated they would continue to use the service if the trial continued. Overall, it was reported[37] that people found the kerbside food scrap collection service a more convenient method than home composting systems due to the flexibility in the types of food scraps accepted. As such, the level of interest and willingness from residents to continue collecting food scraps suggests that a city-wide roll-out of a food scraps collection service complemented by ongoing home composting methods would support Wellington City Councils Te Atakura – First to Zero greenhouse gas emission reduction initiatives.

[35] Separation-of-business-food-waste-Snapshot-of-the-consultation.pdf (environment.govt.nz)
[36] Para Kai Trial Phase One Survey Topline Report (wellington.govt.nz)
[37] 2022-04-27-agenda-inf-final.pdf (wellington.govt.nz)

Case Study – Porirua, Hutt and Wellington City Councils Business Case for Organic Waste Facility and Collections

Porirua, Hutt and Wellington City Councils are currently (commissioned in 2022[38]) undertaking a business case to understand the options available to manage their food scraps. Acknowledging that Porirua and Hutt City Councils receive approximately 90,000 tonnes per annum of organic waste at Spicer and Silverstream landfills, the intent of the project is to inform options to manage business and household food scraps across the districts and wider region. While the outcomes of this project are not available at the time of writing, this project may provide valuable insights for other neighbouring authorities should they also seek to investigate and implement a kerbside food scrap collection service.

4.2.2 Waste Minimisation and Behaviour Change Initiatives

Focused and relevant behaviour change initiatives developed in partnerships with Mana Whenua and supported by stakeholder engagement are critical elements to support council waste minimisation goals and objectives. Effective behaviour change supports the development and implementation of initiatives focussed on a reduced waste future for the Wellington Region, whilst supporting stakeholders to envisage opportunities to minimise waste, save money and have a benefit to the wider environment. Further, partnership with Mana Whenua is a critical component to ensure culturally appropriate outcomes and considerations support goals in minimising use of resources and maximising reuse and recovery. Additionally, engagement with stakeholders including but not limited to community organisations, resident and ratepayer associations has the benefit of establishing strong relationships to support the effective implementation of councils Local Action Plans. By establishing and maintaining these partnerships and relationships, development and implementation of Local Action Plans will inevitably benefit from access to the breadth and depth of external knowledge and resources. It also recognises that council may have limited capacity and capability to undertake all projects and so acknowledges the opportunity to partner and work with external individuals and/or organisations that may be better suited to deliver on projects.

Across the eight Wellington region councils, waste minimisation and behaviour change activities (e.g., education campaigns) are often provided via council websites and direct engagement with stakeholders (e.g., schools, community organisations). As reported in the 2016 Waste Assessment Report, these activities generally focus on reduction, reusability, recyclability of resources, such as:

- Steps to reduce household food scraps (e.g., meal planning, home composting)
- Event waste minimisation and management planning
- Educational video series
- Opportunities to maintain and repair products or borrow, rent, share items
- Provision of information (e.g., weblinks, downloadable brochures)
- Options to reuse items to give item another life

Table 15 provides a high-level summary of the range of waste minimisation and behaviour change initiatives across the Wellington region councils. It is worth noting that while **Table 15** focusses on council initiatives there are a range of external initiatives operated by, for example, community, social enterprise, Mana Whenua and businesses that collectively contribute the Regions broader waste minimisation efforts.

[38] GETS | Porirua City Council - Organic Waste Facility and Collections

Table 15 Waste Minimisation and Behaviour Change Initiatives of the Wellington Region

Council	Education Institutions	Community	Businesses
Carterton District Council	EnviroSchools Ruamāhanga Strategy – Climate Change Strategy and Action Plan and website information Website information and links to supporting organisations	Website information and links to supporting organisations Climate Change Strategy and Action Plan and website information	Climate Change Strategy and Action Plan and website information Website information and links to supporting organisations
Hutt City Council	EnviroSchools Website information and links to supporting organisations	Website information and links to supporting organisations	Website information and links to supporting organisations
Kāpiti Coast District Council	EnviroSchools In house delivery of Zero Waste Education Programme in schools Waste Levy Grants Website information and links to supporting organisations	Website information and links to supporting organisations Waste Levy Grants Workshops – Love your Compost Campaign. Talks to community groups, site visits. Events waste management Waste audits and advice	Waste Levy Grants Website information and links to supporting organisations Emissions reduction toolkits for households and businesses – website information emissions. Waste audits. Collaboration projects via Pakihi Toitū ō Kāpiti – Kapiti's sustainable business network
Masterton District Council	EnviroSchools Online Wasted Video Series Website information and links to supporting organisations	Website information and links to supporting organisations Online Wasted Video Series Love Food hate Waste NZ campaign	Love Food hate Waste NZ campaign Online Wasted Video Series Website information and links to supporting organisations
Porirua City Council	EnviroSchools Love Food hate Waste NZ campaign Waste Free Living Compost Classroom programme Website information and links to supporting organisations	Website information and links to supporting organisations Love Food hate Waste NZ campaign Waste Free Living Community event waste management support	Love Food hate Waste NZ campaign Waste Free Living Recycling Soft Plastics Working with Shopping Villages (Recycling Rewards Programme) Event waste management Website information and links to supporting organisations
South Wairarapa District Council	EnviroSchools Love Food hate Waste NZ campaign Website information and links to supporting organisations	Website information and links to supporting organisations Love Food hate Waste NZ campaign	Love Food hate Waste NZ campaign Wairecycle – kerbside recycling and rubbish collection information for businesses and commercial customers

Council	Education Institutions	Community	Businesses
			Agricultural container recycling information
Upper Hutt City Council	EnviroSchools Battery recycling trial Website information and links to supporting organisations	Website information and links to supporting organisations Battery recycling trial	Battery recycling trial Website information and links to supporting organisations
Wellington City Council	EnviroSchools Website information and links to supporting organisations Event waste management Capital compost community grants Zero waste education for schools	WasteFree Welly Sustainability Trust Event waste minimisation support Home composting support Landfill tours Website information and links to supporting organisations Para Kai Miramar Peninsula Trial Event waste management Household battery recycling	Workprogramme working alongside businesses to provide waste minimisation material Website information and links to supporting organisations Event waste management Business waste audit supporting links and information Information to reduce food waste

4.2.3 Joint Solid Waste Initiatives and Services

Acknowledging the breadth and depth of local council initiatives to minimise waste and maximise reuse and recovery of resources, this section further explores the range of current joint solid waste initiatives and services provided across the region (see Section **4.2.3.1**). This section also looks ahead to the future and explores the potential joint opportunities that may be available in recognition of current central government transforming recycling initiatives, including (see Section **4.2.3.2**):

- Waste sector emission reductions
- Container Return Scheme
- Improvement to kerbside recycling
    - Collection of a standardised set of materials in kerbside recycling and food scrap collections
    - All councils to provide a kerbside food scraps collection service to urban households
    - Require reporting for both council and private kerbside collections
    - Set councils a minimum baseline performance and a high achieving target for kerbside diversion
    - Consideration given to collecting glass or cardboard and paper separately
    - All councils provide a kerbside recycling collection to urban households
- Separation of business food waste
    - Require all businesses to collect food scraps separately from other waste materials

4.2.3.1 Current Joint Initiatives

In addition to individual council initiatives, the 2017-2023 Regional Waste Management and Minimisation Plan includes a set of regional actions that are shared between the eight councils. **Table 16** summarises these actions and provides an indication of their individual status. It is also important to note that several major global events (i.e., China National Sword, COVID-19 global health pandemic) have had a significant impact on

individual and collective council ability to progress development and implementation of initiatives. Recognising these external factors is important context in understanding the status of the suite of regional actions. However, all councils in the Wellington region have been progressing initiatives and preparing for the potential central government Transforming Recycling initiatives that will inevitably influence and shape waste and resource management throughout the Region.

Table 16 Summary of Wellington Region Actions[39]

Regional Actions	Description	Status Summary
Develop and implement a regional bylaw, or a suite of regionally consistent bylaws	Set standards and gather data so they can plan and manage waste better	Individual and joint bylaws have been developed and adopted in 2021 (see Section **2.2.1**)
Implement Waste Data Framework	Consistent, high-quality data will help us track our progress.	Development of a waste licensing framework is currently underway.
Regional engagement	More consistent regional communications and education around waste services and waste minimisation will help households and communities to be inspired and supported so they can play their part.	A Wellington region Joint Waste Committee has been established with sharing of knowledge and opportunities. Collective sharing of and knowledge exchange between councils to maximise opportunities.
Optimise collection systems	Work to improve collections so that they maximise diversion and are cost effective to communities.	Ongoing individual council work programmes to assess value for money and effectiveness for ratepayers as well as monitoring the potential developments regarding central government Transforming Recycling initiatives.
Resource recovery network	Make sure the Wellington region has the facilities to divert more material like construction and demolition waste, food and/or biosolids, and other organic waste.	Individual councils are progressing initiatives to investigate the range of waste streams including opportunities for regional collaboration focussed on organics processing and recovery of resources. Hutt City, Porirua City and Kapiti are collaborating and have applied and obtained waste levy funding from MfE for resource recovery project.
Beneficial use of biosolids	This is a large waste stream that, if we divert it, will make a big contribution to our regional targets.	Wellington City Council has made significant progress towards developing the Sludge Minimisation project with the aim to have a solution in place by 2026. Kāpiti has significantly reduced its emissions and disposal to landfill by drying its biosolids since around 2005. Trials for reuse of the dried biosolids has been carried out and exploration of reuse options is on-going.
Shared governance and service delivery	Potential to join together as a region to deliver higher levels of service more efficiently.	Recognising the Joint Regional Steering Committee, progress is being made in identifying and potentially delivering joint services to maximise opportunities. Ongoing

[39] Regional Waste Management and Minimisation Plan 2017-2023

Regional Actions	Description	Status Summary
		collaboration will be a key focus of the steering group moving forward recognising the potentially significant developments proposed by Central Government.
Resourcing for regional actions	Make sure the region has the means to deliver on what we set out in the plan.	Resourcing to support local action plans is a key consideration to ensure delivery of projects and initiatives and may also require new and innovative opportunities including partnering with Mana Whenua, community, and business organisations in recognition of the breadth and depth of available knowledge.
Collaborate and lobby	Work with other local government organisations, NGOs and other key stakeholders on undertaking research, lobbying and actions on various waste management issues such as (but not limited to) product stewardship, electronic waste, tyres, plastic bags, etc.	Where possible the Wellington region councils collaborate, with more opportunities to progress these relationships potentially available once central government confirms direction on several transforming recycling initiatives (e.g., Container Return Scheme).

Several additional joint initiatives are discussed in more detail below.

Wellington Region Waste Minimisation Education Strategy

The development of the Wellington region Waste Minimisation Education Strategy (WMES) was an output of the 2017-2023 Wellington region Waste Management and Minimisation Plan. As reported[40], the WMES seeks to provide a consistent region education strategy for each council to engage communities and businesses in a cohesive and constructive way, helping people to better understand the benefits of adopting a waste minimisation culture. Through greater understanding and instilling the motivation to change current waste related behaviours, benefits to the region's population include reducing the waste of valuable resources, improving our region's economic efficiency (saving money), and reducing our impacts on the environment. The WMES also states, identifying a preferred methodology for undertaking future regional actions related to each target waste stream. By focussing on target waste streams, as identified in the WMMP, through initiatives that successfully engage communities and stakeholders, behaviour change outcomes that yield economic, environmental, social and cultural benefits to all can be achieved.

[40] Wellington Region Strategy (swdc.govt.nz)

Recognising the WMES and the strategic guidance provided for within the strategy, each council in the Wellington region has their own unique waste minimisation and behaviour change initiatives which reflect the diverse communities within each district. As such, for the WMES to be effective there should be sufficient flexibility to reflect the uniqueness of the Wellington districts. The WMES should also reflects the range of audiences, rather than require a 'one size fits all' approach to behaviour change and waste minimisation activities.

Wellington Regional Event Waste Reduction Guide

Recognising the opportunity to minimise waste from events as well as connect with and help educate the public on waste minimisation initiatives, the Wellington Regional Event Waste Reduction Guide[41] was developed. All eight Wellington region councils have endorsed this Guide which helps event organisers to minimise waste from the earliest planning stages by setting out clear and accessible steps to support event waste minimisation. These steps include:

- How to become a waste minimisation hero
- Understanding how to reduce, reuse and recycle
    - In public areas
    - At back of house
    - During set up/pack down
    - Developing a site plan
- Appointing an on-site waste operations manager
- Engaging stakeholders
- Sharing your message pre-event, during event and post-event
- Writing a waste-free event plan

As such, the Guide provides Wellington region councils with consistent and clear foundation information with which event organisers can access and implement across the region. This clarity then supports a streamlined approach to undertaking event waste minimisation activities across the region.

[41] Reducing waste at your event (mstn.govt.nz)

Wellington Regional Event Packaging Guidelines

As with the Wellington Regional Event Waste Reduction Guide, the eight Wellington region councils have also endorsed the Event Packaging Guidelines[42]. The Packaging Guidelines provide event organisers, stallholders and food and beverage vendors information to reduce waste generated through their products and services by providing a range of alternative options, including:

- Compostable food packaging materials
- Setting out which materials can be accepted for recycling at events (e.g., plastic grades 1 and 2, tins and cans, glass bottles and jars, cardboard and paper)

The guidelines also set out what products and materials should be avoided, including:

- Avoiding the use of bioplastics (e.g., compostable coffee cups and lids)
- Avoiding compostable/biodegradable/corn-starch bags
- Use of branding that uses non-toxic inks
- Setting out products that cannot be recycled or composted (e.g., paper or cardboard lined with plastic, foil or wax, compostable/plant based 'hard' plastics, aluminium foil)

As such, the Regional Event Packaging Guidelines provides the important consistency of messaging and transparency of which products should be used and avoided. Of note, with the rapidly evolving range of packaging products available on the market, these guidelines will likely require revision at specific time intervals to ensure information is accurate, up-to-date and reflects any new and or emerging products that could be used and/or should be avoided at events.

Event Waste Plans

As a new requirement under the regionally consistent bylaw, events over a certain size are required to submit a plan prior to the commencement of their event. They are also required to submit a post event waste analysis report.

The councils of the Wellington region developed this tool together to ensure a regionally consistent approach to planning resources and data required.

4.2.3.2 Future Joint Initiative Opportunities

There are currently a range of central government initiatives underway that are anticipated to influence and shape waste minimisation and resource recovery initiatives in the Wellington Region. The following list provides a high-level indication of potential future joint opportunities including a brief description:

- Container return scheme

[42] Regional-Event-Packaging-Guidelines-1.pdf (mstn.govt.nz)

- Consideration given to accessible locations for residents and ratepayers to return eligible scheme containers.

- Organics processing
  - Consideration given to a single regional facility or a network of facilities to support a range of providers and build-in system resilience.
- Resource Recovery / Zero Waste Network
  - Consideration given to establishing a network of resource recovery centres that focus on circular economy principles and promoting the repair, recovery and reuse of materials (note, this is in part already occurring between PCC, HCC and KCDC).
  - Note, KCDC is expected to establish a zero waste hub in 2023 (which will be part of the zero waste network).
- Construction and Demolition waste collection and reuse network
  - Consideration given to the large quantities of construction and demolition waste that could be recycled and/or repurposed.
  - Note, KCDC first focus is developing a construction and demolition hub within the zero waste hub.
- Plastic processing and remanufacturing
  - The government is planning to phase out certain hard-to-recycle plastics and six single use items between 2022 to 2025. Acknowledging the current global market constraints for Aotearoa New Zealand's recycled materials an opportunity to establish and/or invest in local manufacturing, processing technologies and/or upgrades to council owned facilities may present regional collaborative opportunities.
- Central government advocacy
  - Collective regional advocacy to central government to inform and shape legislative instruments before being issued for consultation and provide a collective regional voice on submissions.

Further investigation will be needed to determine the exact opportunity and the how each could be progressed at a regional level (noting several councils within the Wellington region are progressing joint initiatives).

4.2.4 Waste Minimisation and Other Council Services

As the effects of human consumption on the environment, specifically climate change is acknowledged and strategies developed to focus on minimising impacts, strategies to minimise waste disposal and associated emissions are now recognised as key areas for consideration. As such, many councils are now developing or have implemented respective climate change strategies which include goals and targets to reduce emissions from key contributing sectors such as transport and waste. Examples of such strategies in place within the Wellington region are included in **Table 17**.

Table 17 Wellington Region Council Climate Change Strategies

Council	Strategy	Focus
Carterton and South Wairarapa District Councils	Ruamāhanga Climate Change Strategy	During the period 2020 – 2030, Carterton and South Wairarapa District Councils aim to: • Reduce their gross greenhouse gas emissions; • Increase the reservoirs, therefore the amount of greenhouse gas sequestered every year;

Council	Strategy	Focus
		• Reduce biogenic methane by 10% below 2017 levels.
Hutt City Council	Lower Hutt Climate Action Pathway Te Ara Whakamua o Te Awa Kairangi ki Tai, entitled 'Our race against time Ka whati te tai, ka pao te tōrea	As a community accelerate efforts to halve Lower Hutt's direct emissions by 2030 and reach net zero by 2050. Lower Hutt's main source of greenhouse gas emissions are transport, stationary energy and waste. Industry and agriculture are minor sources of emissions.
Kāpiti Coast District Council	Climate Emergency Action Framework	The vision at the heart of the Climate Emergency Action Framework is a thriving, vibrant and strong Kāpiti that has reduced its carbon footprint significantly, transitioned to a low-carbon future, and prepared for challenges and opportunities that come from responding to the climate crisis. Kāpiti Council has certified for emissions reductions since 2010 and has reduced it's emissions from council services by 78% (excluding waste water emissions). Council continuous it's emissions reduction journey towards the target of being carbon neutral by 2025 (date is under review). Council is now working towards setting Districtwide emissions targets.
Masterton District Council	Climate Action Plan (in development)	Council established a climate change Focus Group to help draft a set of proposed actions for the district's Climate Action Plan. Eight climate change themes were consulted on, including 'Waste and Circular Economy – how we reduce our consumption and repurpose old items'.
Porirua City Council	Rautaki o Te Ao Hurihuri Climate Change Strategy	Focus areas are: 1. Mitigation: A zero-carbon council 2. Adaptation: A resilient city 3. Transition: A low-carbon future
Upper Hutt City Council	Sustainability Strategy 2020 and Our Sustainability Plan 2021-2024	Focus on Sustainability Goals: • Carbon reduction – council will be a carbon neutral organisation by 2035 • Natural environment – we will prioritise protecting and enhancing our natural environment. • Resilient and inclusive community – our community will be resilient, adaptable and inclusive. • Waste – we will reduce waste.
Wellington City Council	Te Atakura – First to Zero	Council has committed to ensuring Wellington is a net zero emission city by 2050, with a commitment to making the most significant cuts (43%) in the next 10 years.

Further, the implementation of such strategies set clear targets and expectations for each of the eight councils as well as having clear influence on the development of tailored and appropriate waste minimisation and management activities. While each council is responsible for developing their own individual local waste action plan in accordance with the Wellington region Waste Management and Minimisation Plan, each plan considers wider strategic targets including climate change targets. Additionally, the Wellington region Waste Management and Minimisation Plan sets out the agreed regional targets which may also consider appropriate targets to meet local and nationally agreed climate change emission targets.

4.2.5 Council Service Funding

Table 18 provides a summary of the respective council expenditure related to council provided waste services. All data presented has been provided by the respective TA authority.

Table 18 Summary of 2021/22 Expenditure

Council	Expenditure ($)				
	Landfill/RTS	Collections	Other	Total	Waste Minimisation (Levy Eligible)
Carterton	$588,000	$256,000	$138,000	**$982,000**	No data available
Hutt City	$12,819,142	$9,304,287	$698,249	**$22,821,678**	$498,733
Kāpiti	$274,000	$-	$359,000	**$633,000**	$182,000
Masterton	$3,082,305	$1,032,851	$1,005,900	**$5,121,056**	$166,479
Porirua	$6,966,000	$1,299,000	$188,300	**$8,453,300**	$312,700
South Wairarapa	$738,947	$724,977	$417,655	**$1,881,579**	No data available
Upper Hutt	$20,000	$312,630	$-	**$332,630**	$105,970
Wellington	$13,310,000	$13,562,000	$284,000	**$27,156,000**	$1,773,000

The data provided by each of the Wellington region TAs summarises the ways in which council services are funded. Total expenditure ranged from approximately $27million for Wellington City Council to approximately $333,000 in Upper Hutt Council. Further, in recognition of the significant investment in waste minimisation across the TAs, **Table 18** provides a summary of the levy eligible waste minimisation expenditure for 2021/22. The spread of waste minimisation expenditure reflects the significant effort placed by each TA to progress activities to support and encourage waste diversion, including those activities as included in the WMMP Local Action Plans. Noting the government changes to the Aotearoa Waste Strategy including changes to kerbside collection systems, it is anticipated that investment in waste minimisation activities will continue to increase.

4.2.6 Current Joint Solid Waste Initiatives and Services across the Wellington Region

The following list summarises the range of shared services councils currently work together on and include those also reported within the 2016 Waste Assessment:

- Landfill ownership and management – Wellington and Porirua have joint ownership of Spicers landfill
- Facility usage – Hutt and Upper Hutt– agreement for usage of Silverstream landfill, all councils in the Wairarapa use Masterton's Nursery Road Resource Recovery Centre
- Bulk haulage – the Wairarapa councils have a joint agreement for haulage of waste to landfill
- Waste management and minimisation planning – all the councils of the region are participating in the development of the Waste Assessment and WMMP
- Investigation of a regional network of resource recovery centres
- Waste operator licensing
- Joint initiative between Porirua City Council and Hutt City Council to investigate organic processing options. The options analysis also includes Wellington City Council.
- Promoting and supporting waste minimisation at events – development of regional guides on 'reducing waste at your event' and 'event packaging guidelines'.
- Optimisation of regional communications – regional officers meet regularly and collaborate where appropriate.
- Wellington Regional Waste Education Strategy – ensure systems and resources are in place to support implementation.

4.2.7 Assessment of Council Services

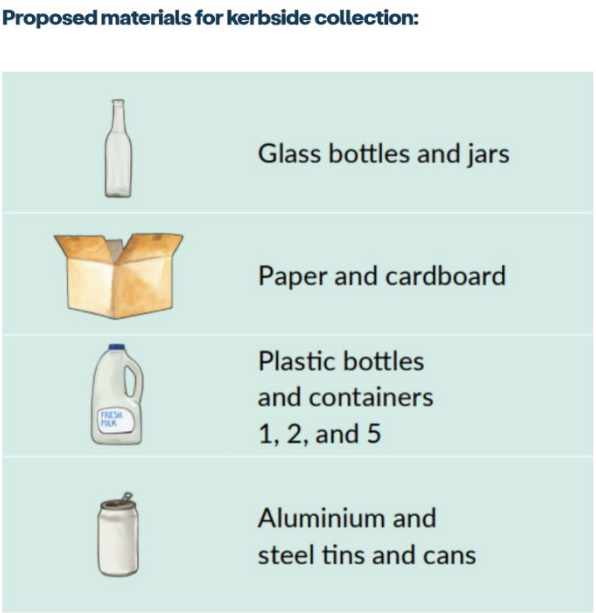
4.2.7.1 Collection Services

Collection services vary across the Wellington region which recognise the different council jurisdiction needs. As reported in the 2016 Waste Assessment commentary was included regarding the potential substantial benefit of greater standardisation and adoption of industry practice (e.g., moving to two stream recyclable collection with glass collected separately) and move towards smaller bin sizes for refuse. This would be complemented with greater options for people to divert materials from disposal, for example, donation to recycling centres. However, any modification to council services will require either a contract renewal or amendment and will also need to consider and account for all health and safety matters as per the Health and Safety at Work Act 2015.

Further, in early 2022, the government consulted the public on improvements to household kerbside recycling in recognition that large amounts of recyclable material are lost to landfill, long-term plan to reduce waste, litter and emissions and increase resource recovery and to transform our systems to build a more circular future for Aotearoa New Zealand. The government also consulted on two other proposals, namely a container return scheme for single-use beverage containers and separation of food scraps from general waste for all businesses. Supporting these three proposals was recognition that globally many countries have already progressed on this journey and so Aotearoa New Zealand as a global citizen is also now faced with ensuring foundations are established to ensure a low-emission future by establishing best-practice recycling systems and improving national recycling rates.

The Ministry for the Environment has recently (2023) released Te rautaki para | Waste strategy which sets out several key areas that will be progressed over the coming years, including:

- Making materials collected from households for recycling the same across Aotearoa New Zealand from 2024
- Ensuring kerbside recycling services are provided to households in urban areas (i.e., towns of 1,000 people or more) by 2027
- Making food scraps collection services available to households in all urban areas by 2030



Each of the above three areas will bring significant changes to the way in which councils of the Wellington region provide services to their residents and ratepayers. For example, standardised kerbside collections will require councils to collect a standard set of materials in household kerbside recycling across all of Aotearoa New Zealand as well as providing all urban households with a food scraps collection. To reduce confusion and improve the quality and quantity of collected material, collections will be standardised to include glass bottles and jars, paper and cardboard, plastics 1, 2 and 5 and aluminium, steel tins and cans. Further, the requirement to implement a kerbside food scrap collection will also require councils to consider the end-fate of the material and therefore the type of processing required. This might include composting and/or anaerobic digestion which in turn will provide valuable nutrients and energy which can be returned to the soils or be used in other activities (i.e., energy).

Further, the implementation of a container return scheme for Aotearoa New Zealand was consulted on in 2021 which would incentivise people to return their empty beverage containers for recycling in exchange for a small refundable deposit. While around 6,400 submissions were received from the consultation process (including standardised kerbside collections, food scrap collections and a container return scheme) with most submitters supportive of the initiatives, the government has as at March 2023 deferred[43] work on the container return scheme. No further updates on the anticipated timing to restart work on the container return scheme was available at the time of writing.

Where Councils currently do not provide kerbside collection services the standardised kerbside collection and food scrap collection proposal could present a challenge and may eventually require councils to provide one or more services.

4.2.7.2 Other Services

As reported in 2016, the provision of other waste services across the Wellington region councils is variable. Most councils have school environmental education programmes and there are a variety of services available to provide advice and support to the community and businesses in some areas. Further, all councils provide litter and illegal dumping clean up, with public place recycling services not consistent throughout the region.

4.2.8 Assessment of Non-Council Services

To minimise repetition, a list of non-council waste and recycling providers that operate within the Wellington region are summarised in **Table 7**. These providers provide services in, for example, composting, C&D waste management, drop-off facilities (e.g., used paint, soft plastics, e-waste dismantling), e-waste processing, hazardous waste management, plastic reprocessing, re-use stores and scrap metal recyclers.

As reported in 2016, the three landfills in the region are council---controlled, the operation of two of these are contracted to the large waste companies: Waste Management NZ Ltd and EnviroWaste Services Ltd, with the third managed by another significant national landfill operator, HG Leach.

Of particular concern to councils in the Wellington region and similarly across wider Aotearoa New Zealand is the increasing proportion of the kerbside refuse market that is controlled by private waste operators and influence this has on councils progressing and subsequently meeting their respective waste minimisation outcomes. While commercial operators provide a valuable service to regions with limited or no council provided kerbside collection, care must be taken to minimise any potential perverse outcomes that may result in greater volumes of waste collected via private operators.

Further, while there are a range of commercial operators servicing the Wellington Region, there are still areas of the market that would benefit from greater investment (e.g., private or public), therefore providing off-take for diverted and recovered materials:

- Construction and demolition material recovery
- Organic waste processing
- Recycling and reprocessing of a range of materials – e.g., plastics, recoverable materials

[43] Freeing up more government bandwidth and money to focus on the cost of living | Beehive.govt.nz

5 SITUATION REVIEW

5.1 Overview

The intent of this section is to provide an overview of the waste flows within the Wellington Region.

The information included in this section has been presented to broadly align with the waste hierarchy with waste quantities and composition presented as bulleted below. Where data was available, quantity, and composition of waste disposed via environmental pathways have been included to provide a holistic view of waste flows.

- Resource Recovery
- Recycling and Reprocessing
- Refuse Transfer Stations
- Residual Waste Management

5.2 Waste Quantities

5.2.1 Class 1 Landfill Quantities

The tonnes per annum of waste disposed of to Class 1 Landfills from across the Wellington region has been estimated from data provided by seven of the eight Wellington councils.

The analysis is based on the following:

- All data was provided by Wellington City Council, Masterton District Council, South Wairarapa District Council, Kāpiti Coast District Council, Hutt City Council, Carterton District Council and Porirua City Council. No data was available for Upper Hutt City Council.
- Hutt City Council and Porirua City Council (i.e., 2022 SWAP report) provided data has been extrapolated from the 2014 and 2022 SWAP Report.
- Levied waste figures are calculated using the data provided by each of the councils. In some cases, the levied waste data sum exceeds the aggregated total of general, special and sludge waste resulting in a higher total waste to Class 1 sum.
- Total waste to Class 1 landfills in the Wellington region is a sum of the levied waste and cleanfill data for each of the council provided data points.
- For comparison, the tonnage for 2014/15 extracted from the previous waste assessment is also shown.

The estimates from the past six financial years 2016/17 to 2021/22 are presented in **Table 19**. As reported in the previous waste assessment, tonnages for separate waste streams, based on the activity sources of the waste materials. The levied waste by disposal facility is presented in **Table 20**.

Table 19 Waste to Class 1 Landfill in the Wellington Region

Class 1 Landfill (tonnes/annum)	Year						
	2014/15[8]	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
General[1]	252,536	231,918	235,124	234,531	236,766	251,627	186,039
Special[1]	17,717	24,151	28,887	34,211	42,918	38,631	6,766
Sludge[1]	31,823	28,473	29,388	29,200	27,534	33,382	25,441
TOTAL[2]	-	**284,542**	**293,399**	**297,942**	**307,218**	**323,639**	**218,247**
Levied Waste[3]	**302,076**	**411,264**	**432,116**	**430,110**	**440,720**	**449,655**	**302,586**
Levied Waste minus TOTAL[4]	**-**	**126,722**	**138,717**	**132,168**	**133,502**	**126,016**	**84,340**
Cleanfill[5]	24,942	107,254	130,169	91,276	101,532	129,741	84,993
TOTAL[6]	**327,018**	**518,518**	**562,285**	**521,386**	**542,252**	**579,396**	**387,579**
TOTAL/Levied Waste[7]	**-**	**69%**	**68%**	**69%**	**70%**	**72%**	**72%**

[1]General excludes: Upper Hutt City, Special excludes: Masterton District Council, South Wairarapa District Council, Kāpiti Coast District Council, Carterton District Council, Sludge excludes: Masterton District Council, South Wairarapa District Council, Carterton District Council, Upper Hutt City data

[2]Total General, Special, Sludge

[3]Total Levied Waste as provided by councils

[4]Difference between Levied Waste data provided by councils versus sum total of General, Special, Sludge

[5]Excludes South Wairarapa District Council, Upper Hutt City and Carterton District Council data

[6]This total is based on Levied Waste and Cleanfill

[7]Based on data provided by the council and the difference between the Total waste data and Levied Waste data ranged between 63% and 68% leaving a difference of between 32% and 37% that is not accounted for

[8]2016 Waste Assessment data

The four categories of waste clearly show an increase in tonnage over the first five-year period (i.e., 2016/17-2020/21) then a decrease in 2021/22. While COVID-19 activities may be a contributing factor, the paucity of data available is also a contributing factor to this lower total tonnage. As such, the 2020/21 tonnage is expected to be more representative of the current situation – noting though that COVID-19 is acknowledged as having had a significant influence on the waste sector during this time period. Broadly, general waste (i.e., construction and demolition, domestic kerbside, industrial/commercial, landscaping and residential waste) has remained relatively consistent over the period with some moderate fluctuations across the time period. Interestingly, 2020/21 shows a decrease in general waste reported from across the Wellington region and may in part be due to the effects of COVID-19 on waste disposal behaviours along with council access to specific waste tonnage data.

Special waste showed a similar trend with again a significant reduction in 2020/21, increasing again in 2021/22. Tonnages of sludge remained relatively consistent over the six-year period. However, total levied waste showed a marked increase between 2016/17 and 2019/20 which is likely due to the provided council data exceeding the aggregated total of general, special and sludge waste (see above bullet notes).

Further, cleanfill tonnages fluctuated between 2017/18 and 2021/22 likely due to increasing construction demand across the region before tonnages significantly reduced in 2020/21. Overall, the total waste to Class 1 landfills in the Wellington region has increased significantly between 2016/17 to 2020/21 before reducing significantly in 2021/22 (387,579tonnes). However, caution should be taken when interpreting this data given several council aggregate data (i.e., general, special, sludge) exceeds the aggregated total. It is recommended that the Regional Wellington Waste Minimisation and Management Plan (WMMP) provide mechanisms to support the reporting of data via contracts and other activities alongside any central government initiatives to

support improved data capture and reporting. Further, based on data provided by the councils and the difference between the total waste data and levied waste data ranged between 68% and 72% leaving a difference of between 28% and 32% that is not accounted for.

Table 20 Levied Waste from the Wellington Region – by Class 1 Landfill

Levied Waste to Class 1 Landfill (tonnes/annum)	Year						
	2014/15	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Bonny Glen and Levin	45,214	43,232	40,748	38,723	34,285	38,730	40,789
Silverstream	125,885	123,824	121,519	125,226	129,839	153,537	143,464
Southern	81,492	93,642	102,470	95,414	97,745	89,288	85,223
Spicer	49,485	55,269	63,132	69,505	74,032	73,783	83,510
Wainuiomata	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Total	**302,076**	**315,967**	**327,868**	**328,868**	**335,901**	**355,338**	**352,986**

NDR – no data received

More detailed data on the quantity of waste disposed of at the individual Class 1 landfills and transfer stations in Wellington region is provided in Appendix C.

5.2.2 Cleanfill (Class 2-4 Landfills) Quantities

It is acknowledged that in addition to Class 1 landfills, there are Class 2-4 landfills that accept waste. However, from the information provided by the councils of the Wellington Region, there is little to no available recording methods and data to determine the quantities of waste disposed of to these landfills (i.e., the risks associated with estimating regional tonnages from minimal data sets). As such, determining the quantities disposed of across Wellington is not possible and estimating the quantities may lead to significant errors in the total waste disposal calculations. As such and in recognition of the paucity of information, the disposal quantities to Class 2-4 landfills cannot be included in this waste assessment. It is recommended that the Wellington region Waste Management and Minimisation Plan provide mechanisms for and options for councils to obtain this information in preparation for the next assessment. It should be noted here that the waste bylaw licensing system is currently in progress.

5.2.3 Summary of Waste Disposed of to Land

Taking the information provided in the preceding sections and acknowledging no data can be provided for Class 2-4 landfills, **Table 21** provides a summary of the waste disposed of across the Wellington Region. Broadly, from the data provided by the Wellington region councils (noting Masterton District Council, South Wairarapa District Council, Kāpiti Coast District Council and Carterton District Council did not provide completed data), it is estimated that a total of 387,579tonnes of solid waste were disposed of to landfill in the Wellington region in 2021/22, equating to approximately 550kg per person. Further, noting the lack of Class 2-4 landfill tonnages and the risks associated with estimating regional tonnages from minimal data sets, these tonnages have not been included in this assessment. It is recommended that the Wellington region Waste Management and Minimisation Plan provide mechanisms to enable councils to collect this data in order to support a comprehensive assessment for the next waste assessment.

Table 21 Waste Disposed to Land – 2021/22

Waste Disposed of to Land in the Wellington Region 2021/22	Tonnes 2021/22	% of Total	Tonnes/Capita/Annum
Levied Waste to Class 1 Landfills			
General[1]	186,039	48%	0.340
Special[1]	6,766	2%	0.012
Sludge[1]	25,441	7%	0.047
TOTAL[2]	**218,247**	**56%**	**0.399**
Levied Waste[3]	**302,586**	-	-
Levied Waste minus TOTAL[4]	**84,340**	-	-
Non-Levied Waste to Class 1 Landfills			
Cleanfill[5]	84,993	22%	0.155
Waste to Class 2-4 Landfills			
All Waste	ND	ND	ND
TOTAL[6]	**387,579**	**78%**	**0.554**
TOTAL[(3)]**/Levied Waste**[7]	**72%**	-	-

*ND No available data

[1]General excludes: Upper Hutt City, Special excludes: Masterton District Council, South Wairarapa District Council, Kāpiti Coast District Council, Carterton District Council, Sludge excludes: Masterton District Council, South Wairarapa District Council, Carterton District Council, Upper Hutt City data

[2]Total General, Special, Sludge

[3]Total Levied Waste as provided by councils

[4]Difference between Levied Waste data provided by councils versus sum total of General, Special, Sludge

[5]Excludes South Wairarapa District Council, Upper Hutt City and Carterton District Council data

[6]This total is based on Levied Waste and Cleanfill

[7]Based on data provided by the councils and the difference between the total waste data provided by council and levied waste data provided was 65% leaving a difference of 35% that is not accounted for.

5.2.4 Composition of Waste to Class 1 Landfills

This section presents the composition of waste disposed of at Class 1 landfills in the Wellington region during the 2021/22 financial year. For comparison with the previous waste assessment, the 12 primary classifications used in the Solid Waste Analysis Protocol (SWAP) are used. All data has been provided by each of the TAs and represents their best estimate of volumes. **Table 22** summarises the composition of levied waste sent to Class 1 landfills in the Wellington Region.

The composition has been calculated as follows:

- All data was provided by Wellington City Council, Masterton District Council, Carterton District Council, South Wairarapa District Council Kāpiti Coast District Council, Hutt City Council, and Porirua City Council. No data was available for Upper Hutt City Council.
- Porirua City Council data is based on the composition of levied waste reported in their 2020 SWAP data with tonnage data obtained from council records. All figures are based on estimates.
- Kāpiti Coast District Council data is extracted from a SWAP survey conducted at a transfer station and therefore does not include the biosolids/sludge proportion sent directly from the wastewater treatment plant to Silverstream landfill.
- Hutt City Council data is extracted directly from their 2022 SWAP report which considers; (1) that all potentially hazardous waste is special waste, (2) classifies rubble as cleanfill, new plasterboard and

other – as such, the cleanfill component has been removed and consequently the percentages for Hutt City Council will not equate to 100%.

- No 'General Waste and Special Waste – Excludes Cleanfill' data was available for Kāpiti Coast District Council and so the effect of this has resulted in a higher tonnage for 'General Waste – Excludes Special Waste and Cleanfill'.

The primary composition of levied waste to Class 1 landfills in the Wellington region for 2021/22 are summarised in **Table 22** for general waste – excluding special waste and cleanfill (**Figure 15**), and general waste and special waste – excluding cleanfill (**Figure 16**). Further detailed breakdown is included in Appendix C.

Broadly, organic material represented the largest proportion (approximately 30%) of the waste disposed to Class 1 landfills, followed by timber (approximately 17%) and rubble (approximately 13%). Combined these three waste streams represented approximately 60% of the total waste being disposed of to Class 1 landfills. Paper (approximately 8%) and plastic (approximately 10%) also represented significant waste streams and which may present an opportunity to increase recyclable capture rates. Compared to the previous waste assessment, the organic waste stream has remained relatively consistent, however there has been a reduction in plastics disposal to landfill from the previous approximate 13% to a current approximate 8%. This may be representative of greater plastic recycling capture rates and individual awareness of recycling (e.g., council supported behaviour change initiatives).

Further, as discussed above, it is recommended that the WMMP provide mechanisms to support improved recyclable capture rates from across the Wellington Region.

Table 22 Composition of Levied Waste to Class 1 Landfills in the Wellington Region

Composition of Levied Waste to Class 1 Landfill 2021/22	General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
	Tonnes 2021/22	% of Total	Tonnes 2021/22	% of Total
Paper	18,875	8	16,516	7
Plastic	22,616	10	20,236	9
Organic	66,811	29	56,387	25
Ferrous Metal	6,674	3	5,226	2
Glass	7,067	3	4,656	2
Textiles	14,721	6	12,248	6
Sanitary	11,518	5	10,097	5
Rubble	29,777	13	28,840	13
Timber	39,374	17	37,702	17
Rubber	2,858	1	1,990	1
Potentially Hazardous	7,387	3	27,253	12
Total	**228,226**	**100%**	**221,450**	**100%**

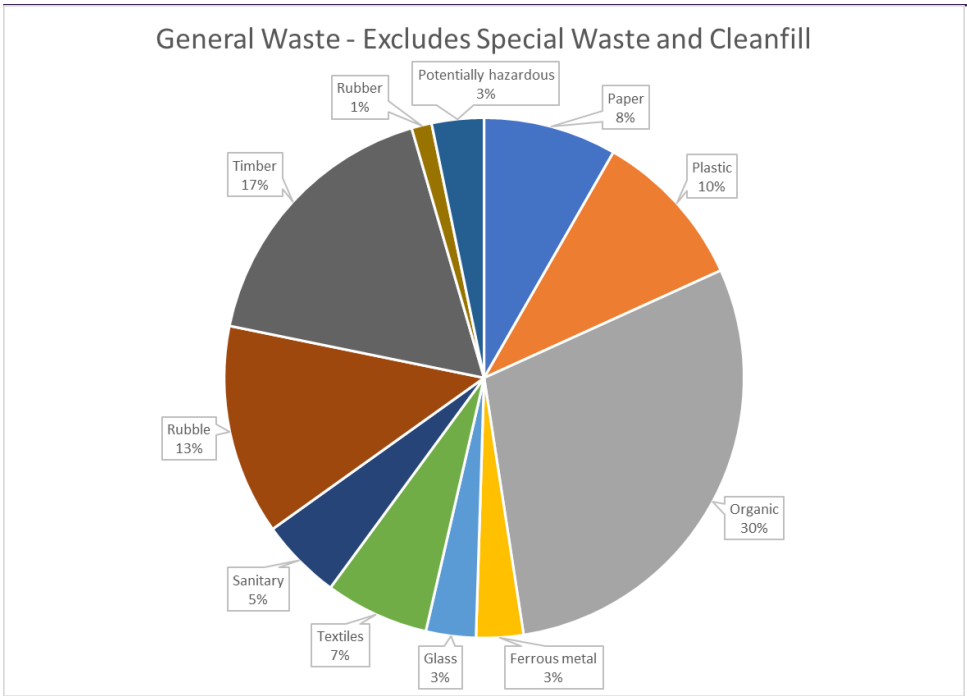


Figure 15 Composition of Waste to Class 1 Landfills in the Wellington Region 2021/22 – General Waste – Excludes Special Waste and Cleanfill

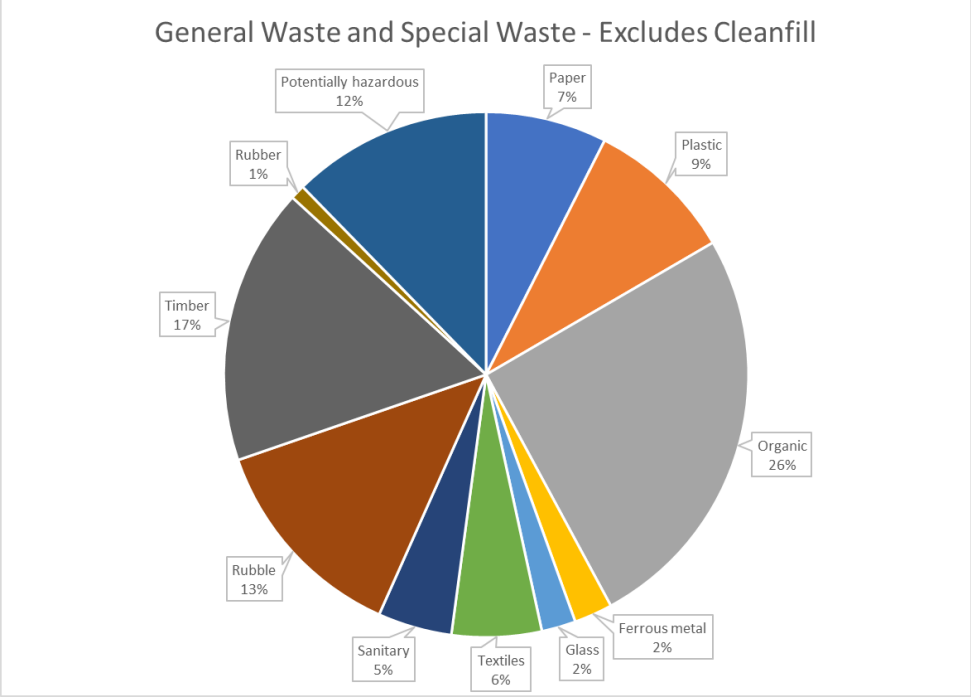


Figure 16 Composition of Waste to Class 1 Landfills in the Wellington Region 2021/22 – General Waste and Special Waste – Excludes Cleanfill

5.2.5 Activity Source of Waste

This section provides a summary of the levied waste disposed of to Class 1 landfills in the Wellington Region. The composition is again presented using the seven 'activity sources' as presented in the previous waste assessment and as specified in the New Zealand Waste Data Framework.

The activity source of waste to Class 1 landfills has been calculated as follows:

- All data was provided by Wellington City Council, Kāpiti Coast District Council, Hutt City Council, Upper Hutt City Council and Porirua City Council. No data was available for Carterton District Council, South Wairarapa District Council and Masterton District Council.
- Hutt City Council and Porirua City Council data is extracted from their 2022 SWAP reports with data extrapolated to provide the respective activity source tonnages. Hutt City Council note there may be discrepancies in the total tonnages for the area and which will be reflected in the overall regional totals.
- Data presented is for the 2021/22 year.

Table 23 summarises the activity source of waste disposed of to Class 1 landfills in the Wellington Region, specifically received from those councils where data was available.

Table 23 Activity Source of Waste to Class 1 Landfills in the Wellington Region

Activity Source of Levied Waste to Class 1 Landfills in Wellington	General Waste – Excludes Special Waste		General Waste and Special Waste – Excludes Cleanfill	
	Tonnes 2021/22	% of Total	2021/22 Tonnes	% of Total
Construction and demolition	23,586	8%	18,575	7%
Domestic kerbside	47,668	17%	33,192	12%
Industrial/ commercial/ institutional	130,981	47%	125,135	44%
Landscaping	7,781	3%	6,946	2%
Residential	54,747	20%	53,077	19%
Specials	14,578	5%	44,291	16%
TOTAL	**279,341**	**100%**	**281,216**	**100%**

Industrial/commercial/institutional waste was reported to be the largest source of levied waste disposed of the Class 1 landfills in the Wellington region (approximately 44%), likely due to the nation-wide increasing trend in construction related activities (e.g., housing). This was followed by residential waste (approximately 18%) and domestic waste (approximately 12%). In comparison to the previous waste assessment, the total tonnage of both general waste – excluding special waste showed moderate increases.

5.2.6 Diverted Materials

With increasing focus on reducing, reusing, recycling, and recovering products and materials, councils are continuing to provide resource recovery activities for residents, whilst also investigating new opportunities to reduce the amount of waste disposed to landfill.

The establishment of resource recovery centres/network/hubs and/or facilities and efficient Material Recovery Facilities (MRFs) has become increasingly important (e.g., OJI Fibre Solutions' sorting and baling plants in Seaview). For example, clear PET (plastic grade 1: clear plastic bottles) is processed in Wellington by Flight Group Ltd with the plastic recycled into food grade packaging, coloured PET (plastic grade 2: milk bottles, laundry bottles) are processed by Astron Recycling - Pact Group in Auckland where the material is reprocessed

into plastic feedstock for new products, aluminium and steel cans are sent to Macauley Metals where the products are sent overseas to be reprocessed, colour sorted glass is sent to Auckland where the glass is mixed with raw materials and melted down to make new bottles and jars, and paper and cardboard is sent either to the OJI Fibre Solutions mill in Penrose, Auckland or Kinleith, respectively.

For clarity and consistency, resource recovery centres/network/hubs and/or facilities is hereafter referred to as a Resource Recovery Facility (RRF). An RRF is defined as a facility that caters to the reuse, recovery and resale of products and materials. Similarly, for clarity, a MRF is referred to here as a facility that accepts (e.g., kerbside recycling), separates and prepares single-stream recycling materials to be sold to end buyers.

Materials collected at a RRF vary from household items, organic waste, electronics through to hazardous items (e.g., paints) and recyclable containers (i.e., those items commonly collected in kerbside recycling collections – glass, aluminium/tin, paper and cardboard, plastic grades 1, 2 and 5). Similarly, a MRF will commonly accept kerbside recycled materials (e.g., plastic grades 1, 2 and 5, glass, aluminium) with sorting (e.g., optical sorters, trommels, magnets) to prepare single stream recycling materials. It is worth noting here that since the previous waste assessment report was published, several councils have made changes to their kerbside recycling collections by reconfiguring the materials accepted to improve consistency of collections across the region. This is also in line with the central government proposal to standardise national kerbside recycling.

This section provides a summary of available information to highlight the significant efforts the Wellington region has placed into reduction and recycling activities - two of the highest elements of the waste hierarchy. It is also important to highlight here that while this section presents a summary of council information, there are a myriad of organisations operating throughout the region, all of which support recovery and reuse of products and materials. These organisations include, but are not limited to:

- Sustainability Trust
- WasteFree Welly
- KaiCycle
- Hospice NZ
- Salvation Army Opportunity Shops
- Opportunity shops
- Scrap metal yards
- E-waste recyclers
- Organic waste recyclers
- Construction and demolition waste recyclers

Available data for private organisations was limited and so the quantities of recovered resources cannot be accurately determined in view of the broader waste flows. However, where data was available for recovery of council managed resources this has been presented in the following sections to illustrate the composition and relative quantities.

Case Study – Southern Landfill Tip Shop and Recycle Centre[44]

As part of Wellington City Council initiatives to reduce and reuse materials and divert waste away from landfill disposal, the Tip Shop and Recycle Centre provides the public with a convenient and accessible opportunity to engage with councils waste minimisation efforts. The Tip Shop, located at the Southern Landfill provides the public an opportunity to drop-off and donate unwanted items rather than throwing these items out. Additionally, the shop offers visitors an opportunity to buy a range of collected items, including, but not limited to:

- Clothing
- Books
- Toys
- Household items
- Building and gardening materials
- Electronics
- Tools
- Sporting equipment

While most items are accepted free of charge, items such a TVs and computer monitors incur a small charge to support activities including electrical checks.

Additionally, the Recycling Centre enables the collection of glass bottles and jars, paper and cardboard, plastic packaging (i.e., numbers 1, 2 and 5 only), aluminium cans and tins in dedicated recycling bins which are then collected and recycled separately.

Other supporting activities at the site include the opportunity for the public to purchase water tanks and Capital Compost garden products, as well as bottle recycling crates and council rubbish bags.

Case Study – Trash Palace[45]

As part of Porirua City Council initiatives to reduce and reuse materials and divert waste away from landfill disposal, Trash Palace located at Spicer Landfill provides the public with an opportunity to drop-off and donate items for resale or recycling. Trash Palace accepts a range of items, generally free of charge, including but not limited to:

TRASH PALACE
RETHINK REUSE RECYCLE

- Clothing
- Books
- Toys
- Whiteware (charges may apply)

[44] Southern Landfill, Tip Shop and Recycle Centre - Tip Shop and Recycle Centre - Wellington City Council
[45] Welcome to the iconic Trash Palace in Porirua, New Zealand - Trash Palace

- Building and gardening materials
- Electronics (charges may apply)
- Scrap metal
- Car batteries

Additionally, Trash Palace also operates a Building Recycling Centre focussing on the collection and resale of a range of building materials including:

- Doors
- Windows
- Bathroom and laundry materials
- Bricks

5.2.6.1 Resource Recovery Quantities

To understand the potential diversion quantities of recovered and repurposed materials, access to consistent and complete data is needed. However, in many cases, recovery centres/network/hubs and/or facilities record data in terms of sales and not volumes. As such quantity cannot always be used as a measure of potential diversion from such facilities. Generally, there is inconsistent resource recovery initiatives across the Wellington region combined with inconsistencies in the types of materials recovered. Where information was available from the region, this has been summarised below. Importantly, while there is no current standard resource recovery network or materials collected from throughout the Wellington Region, significant efforts have been made by the respective districts to address this with plans in place (e.g., Climate Change Strategies) to recover and reuse more materials before they are disposed of to landfill.

Porirua City Council estimated that the total diversion from Trash Palace during the period July 2021 to June 2022 was approximately 797 tonnes[46]. Unfortunately, while no categories were recorded to provide greater detail on the tonnage split, the types of materials accepted by the facility provide the best indication of the tonnage makeup. In comparison, the quantity of materials diverted from the Southern Landfill Tip Shop was not available at the time of writing, however Wellington City Council is in the process of determining how this information can best be captured going forward. However, given this limitation for the Tip Shop, data is available for the recycling tonnages collected at the Tip Shop and Recycling Centre.

Additionally, the percentage of materials that could be diverted from landfill provides another lens of potential diversion quantities. For example, the Wellington City Council Solid Waste Analysis Protocol (SWAP) (2018) indicated that:

- approximately 12% (72 tonnes/week) of the combined kerbside waste stream could have been recycled through council's kerbside recycling collection or at a drop-off facility; and
- approximately 55% (322 tonnes/week) of organic materials could have been composted.

As such, a total of approximately 67% (394 tonnes/week) of kerbside waste could be diverted from landfill disposal by either recycling or organic processing.

Further, data provided by Kāpiti Coast District Council report approximately 714 tonnes of recovered materials (car tyres, whiteware, scrap metal and clothing) was diverted from landfill disposal during the 2020/21 period. An additional 108 individual items of TV's (592 units), child car seats (70 units) and fridges/freezers (419 units)

[46] Information provided by Porirua City Council

were also reported by Kāpiti Coast District Council to have been diverted from landfill disposal. This represents a significant reduction in the amount of waste Kāpiti Coast District Council sends to landfill. It also suggests that over the coming years this amount, and the types of materials diverted from landfill will continue to increase, thereby supporting ongoing waste minimisation efforts, reduced per capita waste generation and contribute to lower emissions from waste disposal.

Alongside the above council examples, Upper Hutt City Council is also progressing resource recovery initiatives with the collection of car seat (53 sets during July 2021-April 2022) and collecting approximately 360kg (August 2021-April 2022) of batteries as part of the Upcycle battery collection programme.

As summarised in **Table 24**, and where data was available, the combined volumes of drop-off recycling/bulk recycling and kerbside recycling tonnages from Upper Hutt City Council and Wellington City Council have remained relatively stable since 2016/17 with minor fluctuations in annual volumes recorded. Kāpiti Coast District Council's tonnages show a slight decrease from 2019/20. This is due to a better understanding of how the stations across district consolidate their recycling before sending out of district for processing. The 20/21 data onwards is closer to what is happening. Of note has been the effects of a changing global recyclable material market and the global health pandemic, both events having had significant impacts on Aotearoa New Zealand's local and domestic waste markets. For example, anecdotal evidence suggests that the stay-at-home orders during the COVID-19 Level 4 health response resulted in increased online shopping both for groceries and other items which resulted in greater levels of packaging received at the household and therefore presented to kerbside recycling. Similarly, the volumes of household residual waste were also reported to increase as more people worked from home (and are continuing to do so) and as a result present more residual waste to kerbside refuse collections.

Table 24 Combined Drop-Off Recycling/Bulk Recycling Station and Kerbside Recycling Tonnages[47]

Council	Tonnes per Annum					
	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Carterton District Council	778	736	646	723	622	815
Hutt City Council	7,734	8,105	8,056	7,539	5,724	3,608
Kāpiti Coast District Council[48]	1,561	1,452	1,039	3,824	4,535	4,027
Masterton District Council	4,397	4,629	4,883	5,069	4,928	5,809
Porirua City Council	2,946	2,842	2,900	3,213	3,342	2,453
South Wairarapa District Council	1,087	1,180	1,254	1,282	1,231	1,401
Upper Hutt City Council	827	1,245	1,559	1,302	1,420	1,602
Wellington City Council	11,184	11,122	11,381	10,679	10,768	10,013
TOTAL	**30,514**	**31,311**	**31,718**	**33,631**	**32,570**	**29,728**

5.2.6.2 Kerbside Recycling and Drop-Off Facilities

The tonnage data for kerbside recycling and drop-off facilities in the Wellington region is summarised in **Table 25** below.

The following points relate to **Table 25** below:

[47] Data provided by each of the Councils and/or supplemented with data from relevant SWAP surveys

[48] For the 16/17 – 19/20-year Kāpiti Coast District Council was counting the recycling out of both transfer stations. However, they are consolidated at the larger facility before being sent away for sorting. The 20/21 data reflects this better understanding and explains the drop in recycling total in comparison to previous years. 20/21 is a clearer representation to what is happening in the district.

- All data was provided by Wellington City Council, Kāpiti Coast District Council, Hutt City Council, Porirua City Council, Upper Hutt City Council, Carterton District Council, South Wairarapa District Council and Masterton District Council.
- Kāpiti Coast District Council data represents operating collectors and it is noted to not provide an accurate reflection of recycling activities carried out during the 2016-2019 period. The data from 2019 onwards provides an accurate picture of all residential kerbside collection taking place within the district. The drop-off data provided is "kerbside recyclable material" and other recovered materials such as tyres, whiteware, scrap metal and clothing. It does not include count only items such as TVs, child car seats and fridge/freezers.
- Hutt City Council data reported for 2019/20 and 2020/21 are impacted by COVID-19 – recycling was diverted to landfill, average contamination for drop-off facilities for this period was 25.08%, contamination has been included in all figures, drop-off facilities ceased in 2021 due to the high levels of contamination. Hutt City Council is unsure why a sudden decrease in kerbside recycling occurred in 2021/22.
- Porirua City Council data only includes weights from kerbside collection and the bulk recycling station at Spicer Landfill. It does not include diverted material from Trash Palace.

Broadly, kerbside recycling and drop-off waste tonnages consistently increased from 2016/17 to 2019/20 but then showed signs of a decreasing trend during 2020/21 and 2021/22 (**Table 25**). However, while this may be a result of COVID-19, it is unclear whether this trend will continue. Further, with the potential implementation of a New Zealand Container Return Scheme, it is likely that the kerbside recycling tonnages will decrease due to the change in quantities presented for collection.

Table 25 Kerbside Recycling and Drop-Off Facilities in the Wellington Region

Tonnes/annum	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Kerbside Recycling	21,672	21,926	21,865	23,727	24,027	21,400
Drop-Off Facilities	8,842	9,385	9,853	9,904	8,542	8,328
Total	**30,514**	**31,311**	**31,717**	**33,630**	**32,569**	**29,728**

5.2.6.3 Composition of Kerbside Recycling

The tonnage data for the composition of kerbside recycling across the Wellington region is summarised in **Table 26** below.

The following points relate to **Table 26** below:

- All data was provided by Wellington City Council, Hutt City Council, Porirua City Council, Upper Hutt City Council, Masterton District Council, South Wairarapa District Council and Carterton District Council. No data was available from Kāpiti Coast District Council.
- Wellington City Council tonnage data includes kerbside and drop off recycling.
- Upper Hutt City Council provided aggregated data for plastic containers 1,2, 5, aluminium cans and steel cans therefore for consistency all other council provided data has been aggregated to reflect this.
- Upper Hutt City Council data (except glass) has been extracted from the 2022 Lower Hutt kerbside audit. Glass was estimated based on glass comprising 39% of all Lower Hutt recycled material (39% taken from Auckland City Council https://ourauckland.aucklandcouncil.govt.nz/news/2021/01/recycling-right-in-2021/. The

percentages provided are adjusted percentages that take into account the estimated glass figure; the 2022 kerbside audit estimated contamination of 11.9% or 8.56%. Scoop testing audits completed by the MRF consistently place contamination between 17.9% and 19.7%.

- Porirua City Council data are based on a scoop test from OJI Fibre Solutions and council glass tonnages from 2021/22.

Broadly, **Table 26** shows that mixed paper (38%, 7,778 tonnes/annum) and glass bottles and jars (41%, 8,269 tonnes/annum) represented the two largest kerbside recyclable streams, followed by the aggregated category of plastic containers (1,2,5), aluminium and steel can at 13% (2,735 tonnes/annum). Lastly, contamination in 2021/22 was reported at 8% (1,592 tonnes/annum).

Table 26 Composition of Kerbside Recycling in the Wellington Region

Composition of Kerbside Recycling – 2021/22	Tonnes/Annum	% of Total
Mixed Paper	7,778	38%
Glass Bottles and Jars	8,269	41%
Plastic Containers 1, 2, 5, aluminium cans, steel cans	2,735	13%
Contamination	1,592	8%
Total	**20,375**	**100%**

5.2.7 Commercially Collected Diverted Materials

The availability to commercially collected diverted materials from across the Wellington region was limited with only Wellington City Council, Kāpiti Coast District Council, Hutt City Council and Porirua City Council providing data. It is though acknowledged that across the Wellington region commercially collected materials may include concrete, clothing and textiles and e-waste, however, tonnage data for these waste streams was not available or accessible at the time of this assessment. It is recommended that the WMMP provides for councils to obtain this data to help inform knowledge of material diversion.

Of note, Kāpiti Coast District Council reported that commercially collected data on diverted materials is difficult to separate as often as these can be mixed into a residential collection (depending on the size of the business) or collection runs span multiple territorial authorities. The data presented by Kāpiti Coast District Council should be used with caution as it is unlikely to provide a comprehensive indication of commercial tonnages. It is recommended that the WMMP provides for councils to obtain this data to help inform knowledge of material diversion. No further commentary on commercially collected diverted materials for the remaining council areas is included here.

With the limited available data, approximately 37,311 tonnes/annum comprising cardboard/paper/containers and scrap metal was diverted in 2021/22 from across Wellington, Kāpiti, Lower Hutt and Porirua (**Table 27**). However, this number is likely to underestimate what is actually diverted in these council areas. Additionally, while the remaining six councils were not able to access data, it is expected that actual commercially collected diverted tonnage is significant. As reported above, it is recommended that the WMMP provides for councils to obtain this data to help inform knowledge of material diversion.

Table 27 Commercially-Collected Diverted Materials in the Wellington Region

Diverted Materials, excluding Council and Private Domestic Kerbside Recycling Collections	Tonnes/Annum 2021/22
Cardboard/paper/containers	25,678

Diverted Materials, excluding Council and Private Domestic Kerbside Recycling Collections	Tonnes/Annum 2021/22
Scrap metal	11,633
Total	**37,311**

5.2.8 Diversion of Organic Material

Across the Wellington Region, greenwaste (including wood waste) and food waste are the two primary organic material streams collected and diverted. Compared with the previous waste assessment, no data was available to provide clarity on the tonnes per annum of meat waste diverted and as such is excluded from **Table 28** below. As reported in the previous assessment, greenwaste is collected on a commercial basis from residential properties and separately at transfer stations and landfills. Across the Wellington region greenwaste is processed by a range of commercial operators including Capital Compost (Wellington), Nursery Road (Masterton), Envirocomp (South Wairarapa) and Composting NZ (Kāpiti Coast).

Additionally, Kaibosh and Kiwi Community Assistance in Wellington also collect and redistribute rescued food throughout the Wellington community. It is recommended that the WMMP provides for councils to obtain comprehensive organic material diversion data to help inform knowledge of organic diversion across the region. This information will also help to support council led or a regional approach to organic management whilst supporting initiatives, for example, food rescue and community outreach where needed.

Table 28 summarises the diversion of greenwaste and food waste from across the Wellington Region. Broadly, the largest proportion comprised greenwaste (including wood waste) followed by recovered food waste. Interestingly, the tonnes per annum for all categories were significantly greater than compared with the previous waste assessment. In summary, there was an increase of 18,050 tonnes/annum greenwaste and food waste diverted from landfill.

Table 28 Diversion of Greenwaste and Food Waste in the Wellington Region

Organic Waste Diversion – 2021/22	Tonnes per Annum – 2015	Tonnes per Annum – 2021/22
Greenwaste and wood waste	19,785	38,529
Food waste – composted	1,121	5,387
Food waste – recovered	200	20,239
Total	**46,106**	**64,156**

5.2.9 Wellington Region Litter Profile

The management of litter across Aotearoa New Zealand places a significant amount of pressure on council resources to clean up litter including clean up along roadside verges and open public recreational spaces. Along with litter causing gross contamination, it can also impact the quality of our waterways and beaches as well as having a negative impact on visual amenity.

In 2022[49], Keep New Zealand Beautiful (KNZB) undertook a National Litter Audit (NLA) which compiled data through the physical inspection and visual counting of litter in a number of specific, fixed sites. As reported by KNZB, the NLA provides empirical data on regions, the quantities, types and locations and brands of litters

[49] National Litter Audit. Keep New Zealand Beautiful (November 2022)

deposited across the country. For the purpose of this Waste Assessment, the NLA data for the Wellington region has been reviewed, the results of which are discussed in this section.

While litter is not commonly included within waste assessments, understanding the broad regional profile for the Wellington region is important to provide a holistic overview of the waste ecosystem. For this purpose, litter has been included in this Waste Assessment and it is recommended that future assessments include further detailed discussion of litter within the broader Wellington region waste profile.

Overall, the 2022 NLA reported the average number of litter items recorded across the 40 surveyed Wellington region sites was 144 litter items per 1,000m^2, 0.73kg of litter per 1,000m^2 and 19.99 litres of litter per 1,000m^2 (**Table 29**).

Table 29 2022 Wellington Region Litter Summary

Territorial Local Authority	Total Area Audited (m^2)	Items per 1,000m^2	Weight (kg) per 1,000m^2	Volume (ltr) per 1,000m^2
Carterton District	4,350	75	0.33	3.49
Kāpiti Coast District	3,450	189	0.91	22.15
Lower Hutt City	4,300	142	0.44	10.05
Masterton District	4,500	122	0.77	11.12
Porirua City	4,897	145	0.92	16.92
South Wairarapa District	4,020	84	0.58	20.28
Upper Hutt City	4,044	263	1.25	28.41
Wellington City	4,560	145	0.66	47.78
Wellington Region Overall	**34,121**	**144**	**0.73**	**19.99**

As reported, retail sites were recorded as having the highest number of litter items (590 items), industrial sites (251 items) the second highest number of litter items followed by residential sites (138 items), carparks (91 items) and public recreational spaces (28 items) contributing the lowest number of litter items (**Figure 17**).

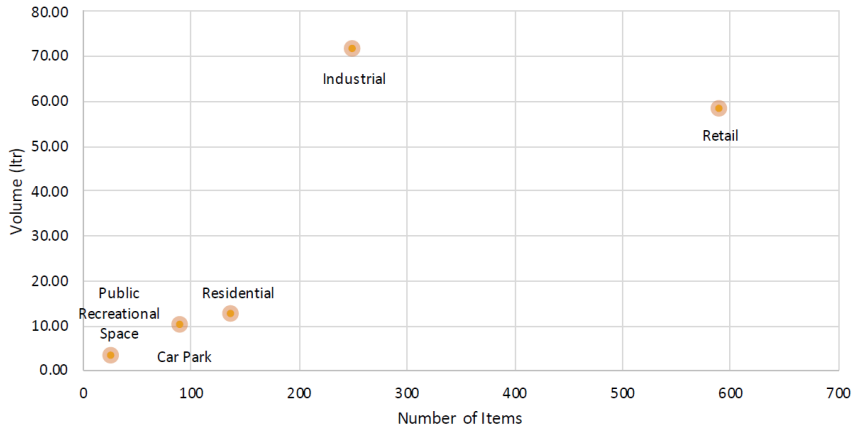


Figure 17 Wellington 2022, Items and Volume per 1,000 m^2 by Site Type[50]

[50] National Litter Audit. Keep New Zealand Beautiful (November 2022)

As reported, since 2019, there have been increases in the number of litter items, estimated volume and weight per 1,000 m^2 of litter in the Wellington region. **Figure 18** below is extracted from the KNZB NLA report and illustrates the data collected in 2019 and the increase in the above-mentioned measures.

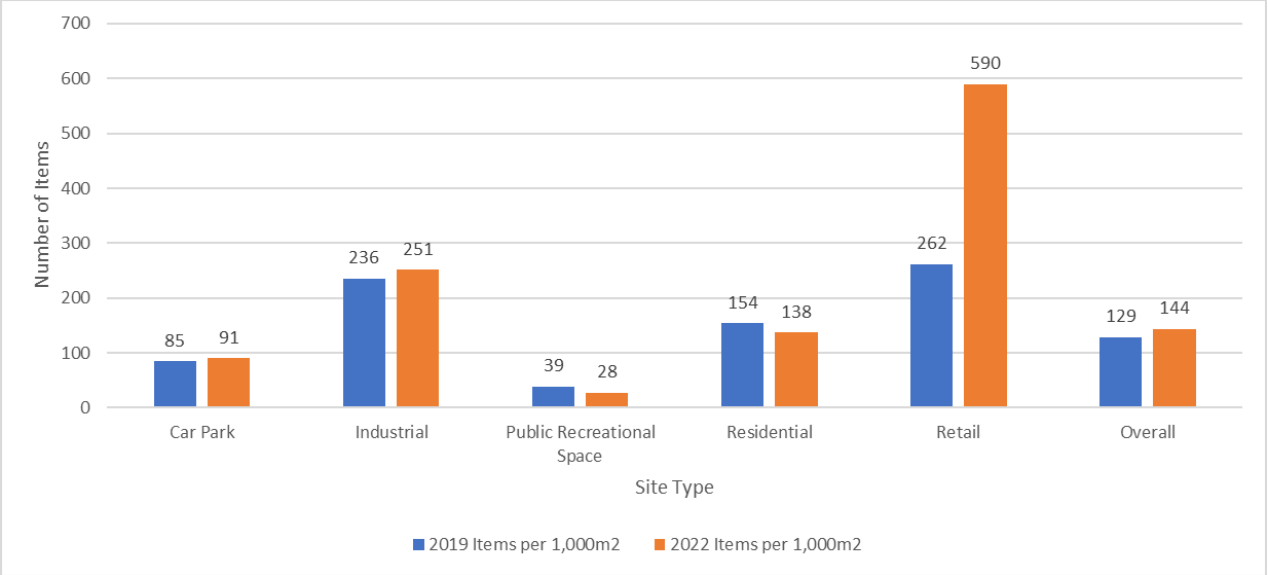


Figure 18 Items per 1,000 m^2 by Site Type: Comparison Over Time

Of the litter material types recorded since 2019, cigarette butts/vaping were the most frequently identified per 1,000m^2 with plastic litter the second highest. While paper/cardboard items were recorded as contributing the largest volume per 1,000m^2 to the overall litter stream, this category of litter contributed only moderately to the number of items recorded. **Figure 19** below is extracted from the KNZB NLA report and illustrates the data collected in 2019 and the increase in the above-mentioned measures.

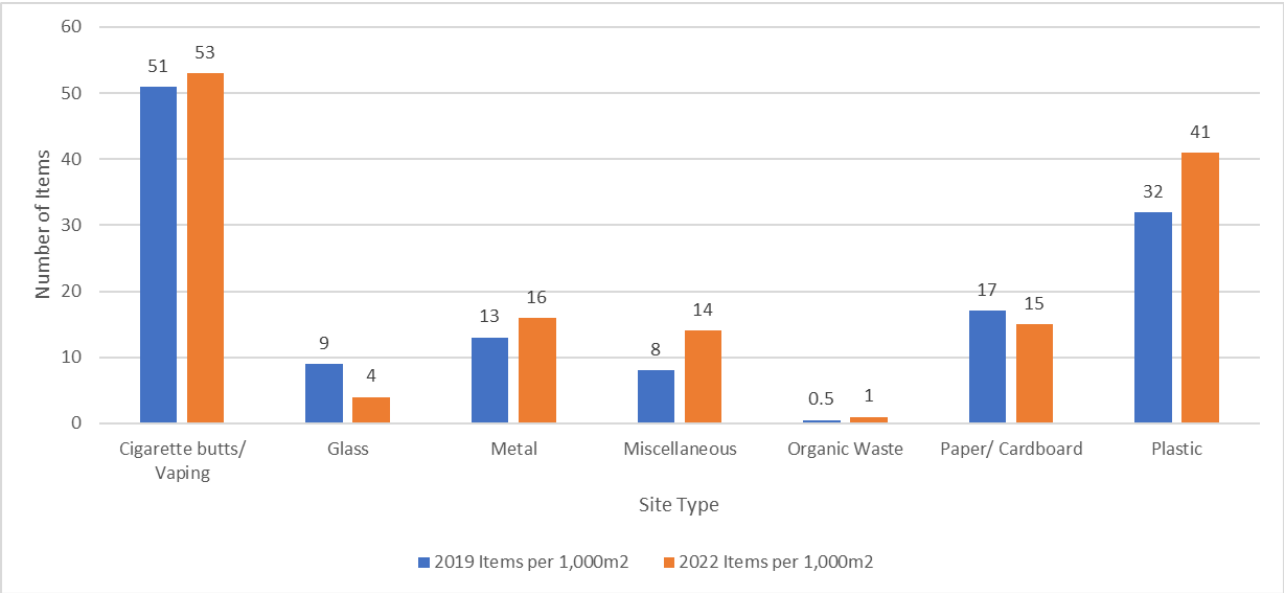


Figure 19 Items per 1,000m^2 by Main Material Type

In comparison to the national litter audit data, the Wellington region was on par with the national average of the number of litter items at 144 items (**Table 30**). Further, at a national level retail sites were reported to

have the most litter items followed by industrial sites with cigarette butts and vaping items the most prevalent litter items. This is consistent with the results of the Wellington region although results for the Wellington region were lower for both weight and volume of litter than compared with the respective national averages.

Table 30 Summary of the 2022 Litter Audit Results for the Wellington Region Compared with the National Average

	Items per 1,000m^2	Weight (kg) per 1,000m^2	Volume (lts) per 1,000m^2
Wellington Region	144	0.73	19.99
New Zealand Average	144	1.16	32.04

Case Study – Hutt City Council Beach Litter Monitoring

Lower Hutt has been reported as a litter hotspot, particularly Petone Beach, and subject to intensive community clean-up efforts arranged by Sustainable Coastlines. In the 2023 report produced by Sustainable Coastlines and summarising litter within Lower Hutt, it was reported that alongside litter originating from within the district, a significant amount of the litter comes from neighbouring areas including Wellington City and Upper Hutt City. As reported, it is likely that litter enters the Petone coastal environment via Te Awa Kairangi (Hutt River) and the local stormwater system, with coastal litter influenced by storms and currents. **Figure 20** below extracted from the 2023 Sustainable Coastlines Report for Hutt City Council illustrates the percentage of litter items collected from across three sites Petone Beach Water Ski Club, Hikoikoi Reserve and Hinds Point, Pencarrow Coast. Further and as reported, the Petone Beach Water Ski Club site was the most heavily polluted with a density of 2,258 litter items per 1,000m^2, followed by Hikoikoi Reserve with 133 items per 1,000m^2 and Hinds Point, Pencarrow Coast at 87 items per 1,000m^2. As such, the results of the Hutt City Council and broader KNZB national litter audit surveys highlight the need for councils to monitor litter volumes in standard ways to allow meaningful comparison in their respective districts noting the contribution litter has to waste being disposed of to landfill. It also highlights the opportunities for public communication regarding 'away from home consumption' and the methods to manage the associated litter (e.g., appropriate disposal of takeaway containers).

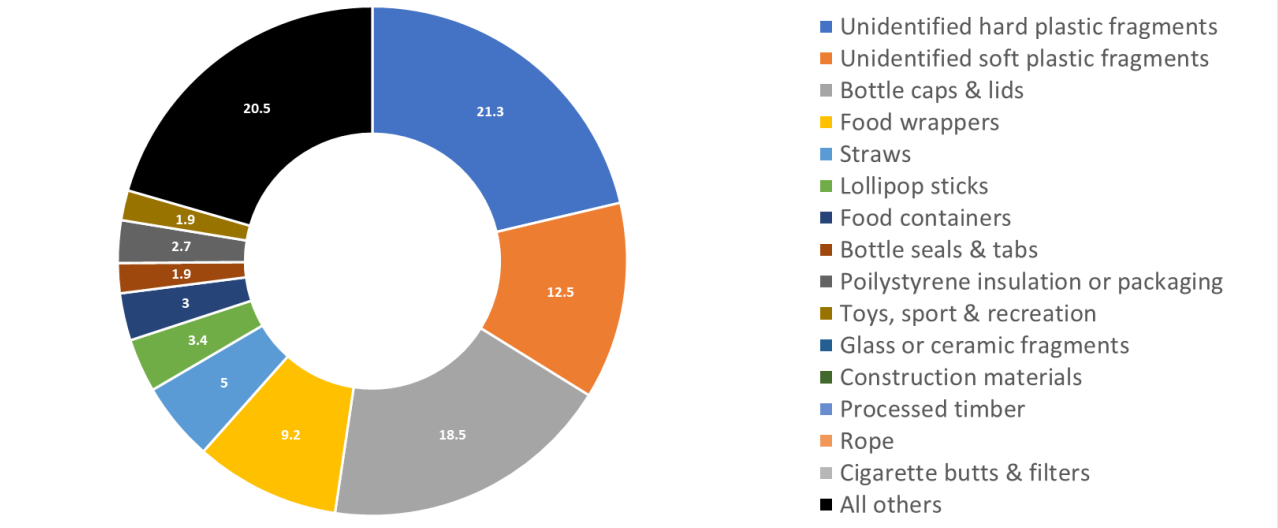


Figure 20 Percentage of Top Litter Items recorded across three coastal Lower Hutt Sites

6 PERFORMANCE MEASUREMENT

6.1 Overview

For consistency and to support comparisons the following sections have been aligned with the previous 2016 Waste Assessment. Information has been extracted from the previous Waste Assessment where appropriate. The data presented in this section has been provided, where available, by each of the eight Wellington region councils.

6.1.1 Per Capita Waste to Class 1 Landfill

As reported in the 2016 Waste Assessment, 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).

To ensure consistency with the previous Waste Assessment, the Statistics NZ population estimate and the Class 1 landfill waste data from Section **3**, the per capita per annum waste to landfill in 2021/22 from the Wellington region has been calculated (**Table 31**).

Table 31 Waste Disposal per Capita across the Wellington Region

Calculation of Per Capita Waste to Class 1 Landfills in the Wellington Region –2021/22	
Population Estimate (Stats NZ 2021/22 Estimate)	543,500
Total Waste to Class 1 Landfill (Tonnes 2021/22)	218,247
Tonnes/Capita/Annum of Waste to Class 1 Landfills	**0.402**

In summary, in 2021/22, approximately 0.402 tonnes (approximately 402kg) of levied waste was disposed of at Class 1 landfills for each person in the Wellington region.

As noted in the previous Waste Assessment, the movement of waste across territorial authority boundaries makes it difficult to estimate per capita waste disposal rates for the individual council across the region. Similarly, the access to accurate and specific data is often complex and challenging for each council and as a result the above tonnes per capita per annum figures should be considered with caution.

Further, the following assumptions apply and have been extracted for consistency from the previous Waste Assessment:

- All waste from Upper Hutt City and Lower Hutt City is disposed of at Silverstream landfill
- All waste from Wellington City and Porirua City is disposed of at Southern landfill and Spicer landfill
- All waste from Kāpiti Coast District is disposed of to transfer stations, which then goes to Bonny Glen, or to Spicers landfill in the district

- All waste from Carterton, Masterton, and South Wairarapa Districts is disposed of at the transfer stations in the districts

As such, based on these assumptions, which as reported previously are known not to be entirely accurate, per capita disposal rates for the four waste catchments are provided in **Table 32** below. The estimates include special wastes but exclude unlevied cleanfill materials.

Table 32 Waste Disposal per Capita – by Waste Catchment (2020/21 and 2021/22)

Calculation of per Capita Waste to Class 1 Landfills	Kāpiti Coast District	Wellington and Porirua	Lower Hutt	Wairarapa
2020/21				
Population (Stats NZ 2020/21 Estimate)	57,200	277,100	111,800	48,900
Total Levy Paid Waste to Class 1 Landfills (Tonnes 2020/21)	28,034	163,071	151,344	17,918
Tonnes/Capita/Annum of Waste to Class 1 Landfill	**0.490**	**0.588**	**1.354**	**0.366**
2021/22				
Population (Stats NZ 2021/22 Estimate)	57,400	276,500	112,200	50,100
Total Levy Paid Waste to Class 1 Landfills (Tonnes 2021/22)	27,839	168,733	NDR	20,791
Tonnes/Capita/Annum of Waste to Class 1 Landfill	**0.485**	**0.610**	**-**	**0.415**

Note: Upper Hutt City is excluded from the calculation as no data was available.
NDR: No data received

From the available data provided in 2020/21, the rate of waste per capita disposed of to Class 1 landfills was greatest from Lower Hutt (noting Upper Hutt is excluded as there was no available data) followed by Wellington and Porirua (0.588 tonnes/capita/annum), Kāpiti Coast District (0.490 tonnes/capita/annum) and lastly the Wairarapa catchment (0.366 tonnes/capita/annum). In comparison to 2021/22, the rate of waste per capita for the Kāpiti Coast District reduced slightly (0.485 tonnes/capita/annum) with moderate increases for both Wellington and Porirua (0.022 tonnes/capita/annum) and the Wairarapa catchment (0.049 tonnes/capita/annum). As reported in the previous assessment, the low disposal rate from the Wairarapa catchment is likely associated with a lower level of industrial and commercial activity and a higher proportion of rural properties. Further, it is expected that a substantial proportion of waste produced in the Wairarapa catchment is disposed of on-site or on-farm.

Further, the following is extracted from the 2016 Waste Assessment and remains current:

"The high disposal rate from Upper Hutt City and Hutt City could be associated with higher levels of industrial and commercial activity than in the other areas. Additionally, waste from other areas is understood to be transported to Silverstream landfill for disposal. As the major waste collectors' depots are all in Hutt City, it is likely that collection vehicles often dispose of their final load of waste at Silverstream landfill. Quantitative information on any other cross---boundary movements of waste to Silverstream is not available."

6.1.2 Per Capita Domestic Kerbside Refuse to Class 1 Landfills

The following description is extracted from the 2016 Waste Assessment and remains largely current for this assessment:

"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 on the order of 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. There is relatively little data in most areas on the proportion of businesses that use kerbside collection services, so it is not usually 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. As a result, 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."

Further, the 2021/22 disposal rate of domestic kerbside refuse for the Wellington region[51] has been calculated to be approximately 88 kg per capita per annum. It is stressed that this figure is an estimate using the data provided by three of the eight councils in the Wellington Region, specifically, Kāpiti Coast District Council, Hutt City Council and Porirua City Council. It is recommended that the WMMP provides measures to support the collation and recording of specific data categories to support future detailed calculations. Further, to provide a more accurate estimate, it is recommended that each council complete SWAP surveys to allow kerbside quantities to be quantified and provide mechanisms for council to collect data that that is controlled by private waste collectors.

6.1.3 Per Capita Kerbside Recycling

The per capita recycling rates for the Wellington region are summarised in **Table 33** below. It is noted that kerbside recycling rates have decreased compared with the previous Waste Assessment. Broadly, the per capita rate of kerbside recycling in the Wellington region has remained relatively stable between 2016/17 to 2020/21, with a marked decrease in 2021/22. The main outcome of this was noted by Hutt City Council where a sudden decrease in kerbside recyclables was reported but the reason for this was unknown. At present, during 2021/22 approximately 39kg of kerbside recycling is collected for every resident across the Wellington Region. For comparison, the 2014/15 data presented in the previous Waste Assessment is shown.

[51] noting Masterton District Council, South Wairarapa District Council, Upper Hutt City Council and Carterton District Council are excluded from the calculation as no data was available

Table 33 Per Capita Kerbside Recycling – Kg/Capita/Annum

Kerbside recycling	2014/15	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Kerbside recycling	26,375	21,672	21,926	21,865	23,727	24,027	21,400
Population	496,900	501,800	526,110	532,560	541,800	543,500	543,500
Kg/Capita/Annum	**53**	**43**	**42**	**41**	**44**	**44**	**39**

The per capita recycling rates for the individual territorial authorities are summarised in **Table 34** below.

Table 34 Per Capita kerbside recycling – Kg/Capita/Annum – By Area

Kerbside Recycling Includes Council and private Collections – Kg/Capita/Annum	2018/19	2019/20	2020/21	2021/22
Carterton	68	75	63	81
Hutt	74	69	51	32
Kāpiti Coast	11	52	59	57
Masterton	185	188	178	205
Porirua	49	54	55	40
South Wairarapa	115	115	108	121
Upper Hutt	34	28	30	34
Wellington	54	50	50	46
Regional Average	**74**	**79**	**74**	**77**

Note: Includes kerbside recycling and drop-off facility data

As reported in 2016, there are several factors that should be considered noting the range of per capita recycling rates between the councils:

- The number of households in each area served by kerbside recycling collections has not been taken into account in the calculations
- Residents of rural areas, both those with kerbside recycling and those without, may be more likely to use drop-off facilities than residents of urban areas because of the convenience factor
- Many residents of Carterton District may use Masterton transfer station for their recycling drop-off
- Porirua City Council has reported public interest and engagement in kerbside recycling has reduced over time and that recyclable materials may be diverted through other pathways that are not currently measured as part of the waste assessment process
- COVID-19 has impacted recycling rates across the Wellington region during the 2019/20 and 2020/21 periods

6.1.4 Recovered Materials

Section **5.2.1** presented the composition of waste disposed of at Class 1 landfills from across the Wellington region (noting several councils did not provide completed data sets). Further, Section **5.2.6** the diversion from landfill disposal of several waste materials was summarised. As completed the 2016, by combining the two data sets, a high-level mass balance for these materials can be estimated (noting current data limitations provided by each of the councils) and diversion rates estimated for each. **Table 35** provides a summary of this data with Appendix C providing full data. Caution should be taken when interpreting this data due to the limited data provided by the councils. It is anticipated that the below tonnages will underestimate the actual

potential diversion volumes and so it is recommended that the next Wellington region Waste Management and Minimisation Plan provide mechanisms for councils to report on and collect data to inform the diversion rate by material type.

Table 35 Recovered Materials – 2020/21-2021/22

Diversion Rates of Selected Recoverable Materials	Mixed Paper and Containers	Scrap Metal	Greenwaste and Wood Waste[3]	Food Waste[4]
Kerbside Recycling Collections[1]	20,375	0	0	0
Commercial recycling Collections[2]	25,678	11,633	0	0
Composted	0	0	38,529	5,387
Food Waste Recovered	0	0	0	20,239
Subtotal	**46,053**	**11,633**	**38,529**	**25,626**
Class 1 Landfill (potential recoverable component)	21,027	16,211	25,578	23,966

[1]excludes Kāpiti Coast District Council

[2]includes Wellington City Council, Hutt City Council, Porirua City Council (scrap metal) and Wellington City Council, Hutt City Council, Porirua City Council and Kāpiti Coast District Council (mixed paper and containers) only. No data was provided by all other councils.

[3]excludes Carterton District Council and Upper Hutt City Council.

[4]excludes Upper Hutt City Council, Carterton District Council, Masterton District Council, South Wairarapa District Council, Wellington City Council, Kāpiti Coast District Council

6.1.5 Potentially Recoverable Materials from Class 1 Landfills in the Wellington Region

An estimate of the composition of waste disposed of to Class 1 landfills in the Wellington region has been provided in Section **5.2.5**. As produced in the 2016 Waste Assessment, the twelve primary categories recommended by the SWAP have been used. The diversion potential of waste disposed of to Class 1 landfills is summarised in **Table 36** below. It is also noted, that recovering 100% of all waste materials from the waste stream is not possible and so a proportion of materials will inevitably be disposed of to landfill or another pathway, acknowledging that in some cases new markets will need to be developed. The diversion estimates presented in **Table 36** below as such represent a best estimate rather than an actual figure. The figures do though provide some indication of the potential opportunities to recover waste materials. As with the primary composition presented in **Table 22**, the diversion potential is presented for both general waste – excluding special waste and non-levy paid cleanfill – and general waste and special waste combined – excluding non-levy paid cleanfill.

Table 36 Potentially Recoverable Materials of Levied Waste to Class 1 Landfills

Diversion Potential of Levied Waste to Class 1 Landfills in the Wellington Region		General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
Primary Category	Secondary Category	Tonnes 2021/22	% of Total	Tonnes 2021/22	% of Total
Paper	Recyclable	12,680	6%	12,456	7%
Plastics	Recyclable	4,921	2%	2,544.6	1%
Putrescibles	Kitchen/Food	23,966	12%	21,949	12%
Putrescibles	Greenwaste	25,578	13%	18,784	11%
Ferrous Metals	All	14,885	7%	4,764	3%
Non-Ferrous Metals	All	1,326	1%	1,303.2	1%
Glass	Recyclable	3,426	2%	3,659	2%
Textiles	Clothing/Textiles	6,052	3%	4,110.5	2%

Diversion Potential of Levied Waste to Class 1 Landfills in the Wellington Region		General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
Primary Category	**Secondary Category**	**Tonnes 2021/22**	**% of Total**	**Tonnes 2021/22**	**% of Total**
Rubble	Cleanfill	13,655	7%	10,533	6%
Rubble	Plasterboard	1,730	1%	1,193	1%
Timber	Untreated/Unpainted	334	0%	-	0%
Potentially Hazardous		7,169	4%	24,384	14
TOTAL DIVERTABLE POTENTIAL		**115,722**	**57%**	**105,680**	**60%**

Broadly, between 57% and 60% of both waste streams could be diverted from landfill disposal. As reported in 2016, the top three largest divertible components are cleanfill (20.7%) followed by kitchen/food waste (14.3%) and greenwaste (12.3%). Paper recyclables also appear as an opportunity for greater diversion with 6.7% potentially divertible from landfill. A similar trend is again reported in 2021/22 (**Table 36**). It is also worth noting here that councils within the Wellington region are progressing great initiatives to significantly reduce the quantities of organics being disposed of to Class 1 landfill, including investigating local and regional approaches to the processing of organic material. It is also worth noting that the Ministry for the Environment is too proposing to require no further disposal of organic material to Class 1 landfills which if enacted, would result in all councils implementing some mechanism to collect and divert and process organic material from their territorial area.

7 FUTURE DEMAND AND GAP ANALYSIS

The intent of this section is to provide an overview of the future demand for waste and resource management services acknowledging the wide range of factors that are expected to contribute to this. The key factors discussed in this section include:

- Future population of the Wellington Region
- Economic activity and waste management
- Changes in Lifestyle and Consumption
- Changes in Waste Management Approaches

The ability to have awareness of the key challenges and opportunities will support the councils of the Wellington region to prepare for upcoming changes and ensure residents and ratepayers are brought along on the journey.

7.1 Future Population of the Wellington Region

Population projections[52] for the councils within the Wellington region are summarised in **Table 37** below. Broadly, the forecasted population growth from across the Wellington region show increases between 31% (Wellington City) and 57% (Carterton District) across the range of TAs. This information is important for each TA to support estimating future demand on existing waste services and forecasting any additional infrastructure construction and/or upgrades to existing facilities and services. Of particular note, is the projected population growth in the Carterton District which is forecasted to grow from a population of approximately 9,547 in 2018 to 13,016 in 2038 and further to 14,968 in 2051. As such, understanding the relative projected growth will support important decisions to be made and planning undertaken to cater for this increased growth.

Table 37 Forecasted Population Growth Rates from across the Wellington Region

Area	2018	2028	2038	2048	2051	Percentage change between 2018-2051 for the 50th percentile
Carterton District	9,547	11,324	13,016	14,606	14,968	57%
Masterton District	26,400	31,644	36,054	39,635	41,012	55%
South Wairarapa District	10,939	12,992	14,782	16,320	16,830	54%
Kapiti Coast District	55,127	64,198	72,956	80,793	83,288	51%
Porirua City	58,852	67,646	75,402	83,308	85,854	46%
Upper Hutt City	45,368	52,442	58,598	63,736	65,751	45%
Lower Hutt City	108,557	122,288	135,553	148,466	152,786	41%
Wellington City	211,222	228,392	247,692	268,114	276,472	31%
Total Forecasted Regional Population	**526,012**	**590,926**	**654,053**	**714,978**	**736,961**	-

[52] Population forecast 2020 to 2051 (sensepartners.nz)

Further, based on the Statistics New Zealand population projections for 2018-2048, the following high, medium, and low population projections are reported for the Wellington region (**Figure 21**, **Table 38**).

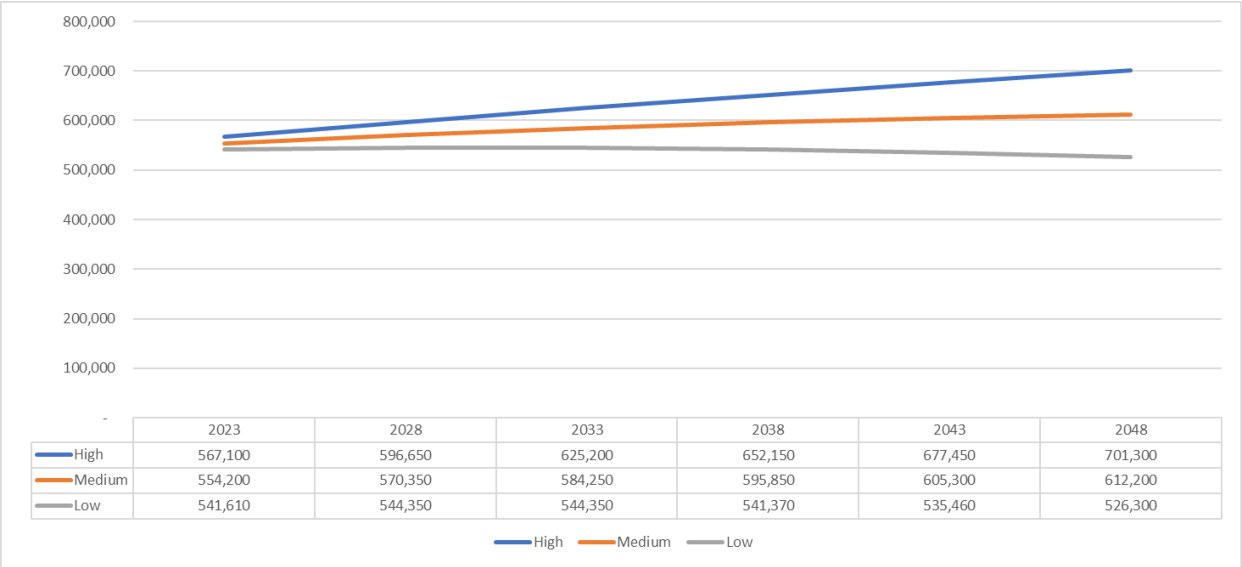


Figure 21 **Forecasted Wellington Region Population Projection between 2023 and 2048**

Table 38 **Forecasted Change in the Wellington Region Population**

	Population Change	Average Annual Change (%)
High	134,200	0.950%
Medium	58,000	0.475%
Low	-15,310	-0.025%

Forecasting population within the Wellington region is an important step in understanding the likely demand on waste services into the future. It provides an indication of the likely investment required to support current and future waste infrastructure to ensure residents and ratepayers are provided with value for money, accessible and convenient services that support the regions' goal to significantly reduced waste disposal to landfill.

As reported in the previous Waste Assessment, the 'medium' population growth estimate has been selected to provide an estimate for future increased demand for waste services.

7.2 Economic Activity and Waste Management

As reported by the OECD, total kilograms waste/capita has remained relatively stable and below the 550kg/capita (**Figure 22**). However, New Zealand has shown an increasing trend of waste production per capita from approximately 740kg/capita in 2017 to approximately 781kg/capita in 2018; an increase of 41kg/capita. Further, New Zealand has shown continual increases in waste generated per capita from 2012 onwards (**Figure 22**). It is also reasonable to conclude that as New Zealand's population continues to grow, the waste generated per capita will also increase if the current status quo of waste minimisation and management activities remains the same. However, it is recognised that greater effort at a national and local level is needed to reduce the amount of wate produced per capita and so significant efforts are being made by TAs to develop and

implement greater recovery of resources (e.g., diverting organics from landfill disposal), establish a wider network of recovery facilities (e.g., resource recovery centres) and improved service provision (e.g., cost effective and convenient ratepayer services).

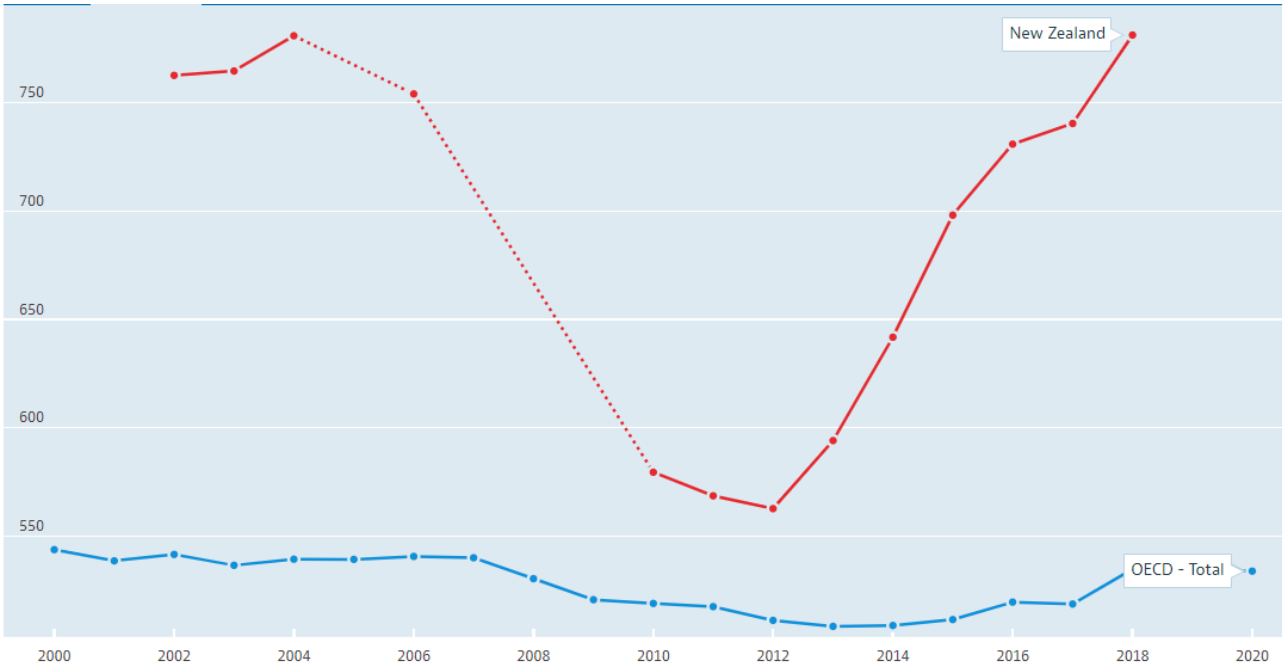


Figure 22 OECD Municipal Waste Compared with New Zealand Total Kilograms/Capita[53]

7.3 Changes in Lifestyle and Consumption

As noted in the previous Waste Assessment and which remains current, community expectations relating to recycling and waste minimisation are anticipated to lead to increased demand for recycling and material recovery services.

Further, central government has also recognised the importance of providing mechanisms to support greater recovery of resources before they are disposed to landfill. In this regard, central government is beginning to transition the New Zealand economy from a linear (take-make-dispose) to a more circular economy where resources and materials are kept in circulation for longer. To support this transition, initiatives such as the proposed Container Return Scheme are set to disrupt the current waste system by placing more responsibility on beverage producers for the products they produce. As such, each single-use beverage container will have a deposit applied to it which will support individual behaviour change by placing a value on each single-use beverage container. The intent of this approach is to incentivise individuals and reduce the amount of single-use beverage containers being littered to our environment.

Further, while these are standalone initiatives, they are part of a much wider and holistic approach to minimising waste.

[53] Waste - Municipal waste - OECD Data

7.4 Changes in Waste Management Approaches

As noted in the previous Waste Assessment, there are a range of drivers and mechanisms to manage waste, and which will continually evolve and adapt to a changing economy. The following list provides a high-level summary of these and where applicable reflects those reported in the previous assessment:

- 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 $30 per tonne and set to progressively increase over the next couple of years up to $60tonne from 01 July 2024) 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. More convenient systems encourage more material recovery. 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 dependent on the recovered materials having an economic value.

7.5 Summary of Demand Factors and Future Projections

The above summary information suggests that as population continues to grow in Aotearoa New Zealand so to will the per capita waste generated if the status quo continues. However, with greater focus on minimising disposal of waste to landfill and increasing the recovery of resources along with ensuring materials and products are kept in circulation for a long as possible, it is anticipated that the per capita waste produced will either stabilise or begin to reduce over time. However, it must also be acknowledged that Aotearoa New Zealand is a global citizen and as such is also at the influence of overseas markets for recycled products and materials. As such, there is potential for greater investment onshore to process materials such as plastics into higher value products compared with exporting offshore for processing.

Further, it is expected that several waste streams will be significantly impacted upon over the coming years. Most notably, construction and demolition waste is expected to continue to increase due to housing and construction demand, and volumes of organics set to decrease from landfill disposal with the Ministry for the Environment proposal to remove organics from Class 1 landfills. Similarly, volumes of kerbside recycling are expected to be impacted over the coming years with the potential implementation of a Container Return Scheme. This scheme is expected to reduce the volume of kerbside recyclables presented for collection noting that individuals and households will be encouraged to separately collect eligible containers for the appropriate refund. Similarly, many New Zealand jurisdictions are progressing the development of resource recovery centres, either individual or networked, to provide communities with a location to drop-off unwanted items

for repurposing, or products (e.g., greenwaste) for collection and processing. Combined, these efforts are expected to support the goal to reduce waste disposed to landfill and to ultimately ensure materials and products are kept in circulation for as long as possible (i.e., circular economy).

7.5.1 Projections of Future Demand

Notwithstanding the anticipated changes to waste stream volumes over the coming years (e.g., diversion of organics from landfill disposal), total waste and recovered material quantities in the Wellington region (where data was available) have been estimated to grow slowly between 2021/22 and 2030/31; a similar outcome to that reported in the previous Waste Assessment (**Figure 23**). For clarity, **Figure 23** illustrates the anticipated tonnages by waste generated (i.e., general waste disposed of to Class 1 landfills – Wellington, Kāpiti, Porirua data only and kerbside refuse disposed of to Class 1 landfills – Kāpiti, Hutt, Porirua data only) and recovered (i.e., C&D – Kāpiti and Hutt data only, kerbside and dropoff recycling- data provided by all councils) category where data was available and projected between 2021/22 to 2030/31 under a status quo scenario where no additional diversion activities are in place to recover and reuse materials. It is acknowledged that the Ministry for the Environment initiatives supported by Te rautaki para | Waste strategy are expected to influence the **Figure 23** projected tonnages with, for example, reduced tonnages of general waste sent to Class 1 landfill disposal over the coming 10-year period.

To ensure consistency with the previous assessment, it has again been assumed that kerbside refuse, and all recyclables (kerbside and drop-off) will grow in line with the medium average annual population change (0.475%) with all other waste types (construction and demolition (excluding special waste and cleanfill) and general waste (excluding special waste and cleanfill) will grow at a rate of 2% per annum in line with GDP. Greenwaste and food waste have been excluded from the future projections acknowledging the Ministry for the Environment initiative to divert organics from landfill disposal by 2030[54] and the work the councils within the Wellington region are currently progressing to investigate options to support this initiative.

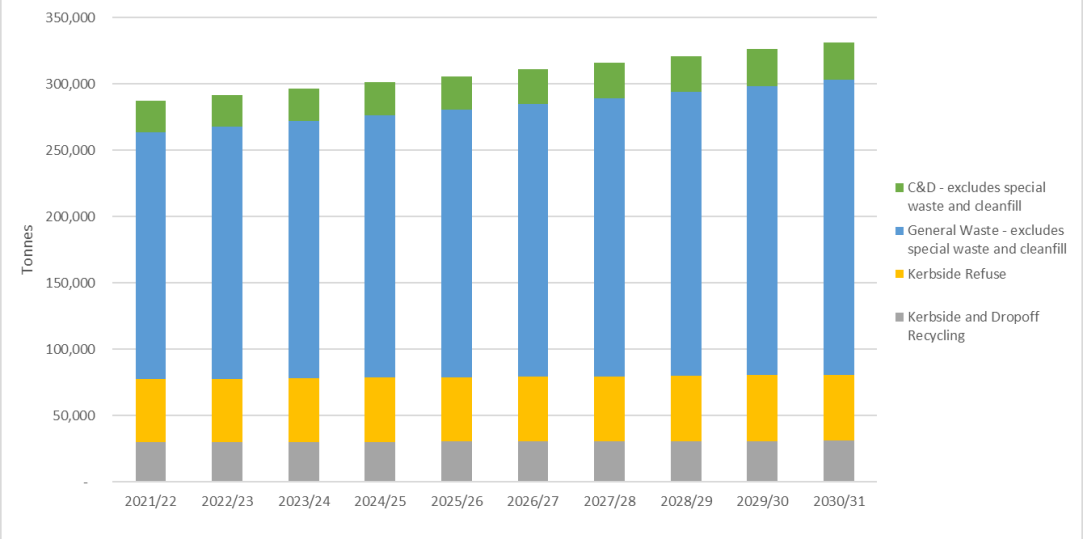


Figure 23 Mid-Level Population Projection Illustrating the Anticipated Disposal and Recoverable Tonnages by Waste Category with no Change in Systems or Drivers to Maximise Diversion from Landfill Disposal (i.e., Status Quo System)

[54] Te-rautaki-para-Waste-strategy.pdf (environment.govt.nz)

In addition, understanding the projected number of additional households across the Wellington region provides an indication on the demand for future waste services. **Figure 24** below indicates that household numbers (medium projected level – StatsNZ) will steadily increase in Wellington City with moderate to static growth in the remaining districts. This trend was also reported in the previous assessment albeit with higher projected household numbers.

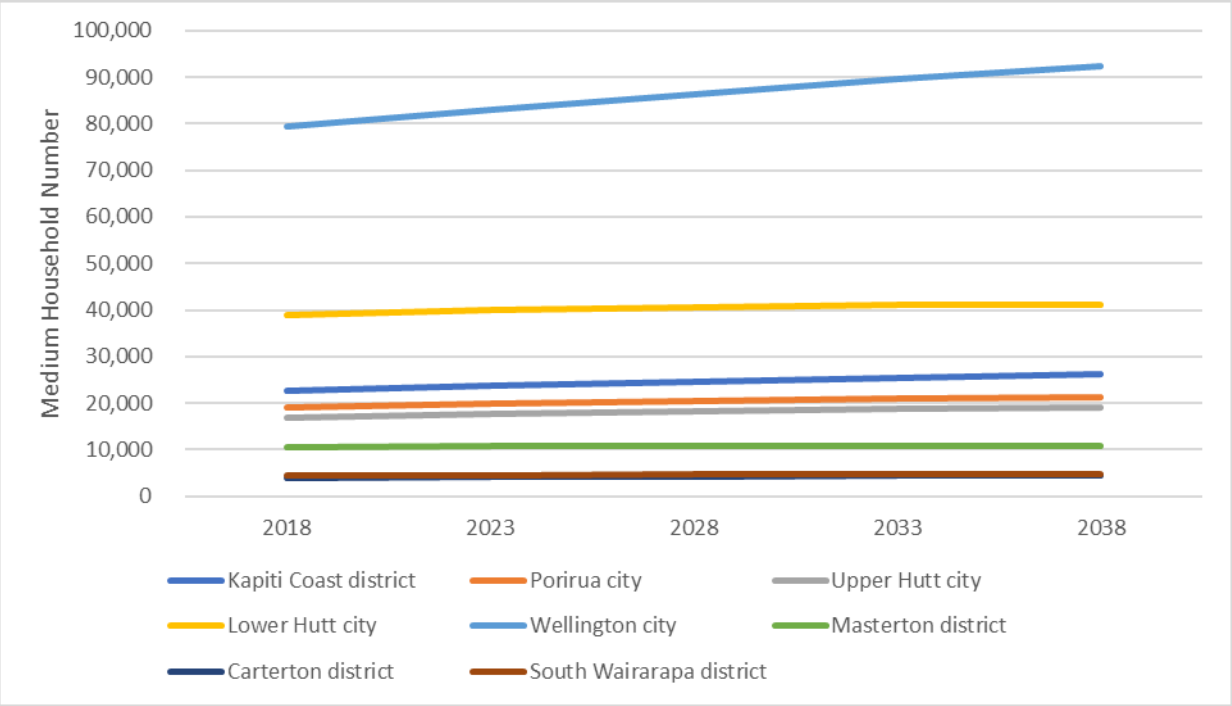


Figure 24 Medium Number of Household Projection across the Wellington Region[55]

7.6 Future Demand Gap Analysis

As reported in the 2016 Waste Assessment, the aim of waste planning is to achieve effective and efficient waste management and minimisation. From this Waste Assessment the following gaps have been identified. It is recommended that the WMMP acknowledges the below list, and where possible makes recommendations and/or suggested mechanisms to support improved waste management and minimisation throughout the Wellington Region.

- Data quality and management of data
- Access to commercial operator data where private services are provided
- The number of cleanfill and associated tonnages
- Council market share of kerbside refuse and recycling collections
- The relatively low amount of kerbside recycling per capita compared with the previous Waste Assessment
- The low diversion rate of organics, including both greenwaste and food waste
- Requirement for appropriate infrastructure to receive and process the Wellington region's organic waste

[55] Subnational family and household projections: 2013(base)–2038 | Stats NZ

- Councils operate a range of different funding and contractual models, which can present a barrier to greater regional collaboration
- Information about the amount and type of waste that is going to unregulated disposal (e.g., littering, farm pits, cleanfill and burning) is unavailable at present
- Preparation for the proposed Container Return Scheme and implications on kerbside recycling collections as well as contractual relationships with Material Recovery Facilities
- Diversification of the current resource recovery sites throughout the Wellington region and opportunities to provide a coordinated network
- Identifying opportunities for greater sorting and recovery of construction and demolition materials, reducing the requirement for disposal

7.6.1 Waste Streams

The following priority waste streams could be targeted to further reduce waste disposed of to landfill. Where relevant, information has been extracted from the 2016 Waste Assessment and further expanded where required.

- Kerbside recyclables (i.e., single-use beverage containers) in line with the proposed Container Return Scheme
- Reuseable goods including but not limited to whiteware, clothing, household items
- More kerbside recyclables both from domestic and commercial properties
- Organic waste, particularly food waste both from domestic and commercial properties
- Industrial and commercial plastic is a significant part of the waste stream which may be able to be recycled
- Farm waste is a relatively unknown quantity and increased awareness of the problems associated with improper disposal may drive demand for better services
- Construction and demolition waste in particular timber is a significant part of the waste stream which may be able to be recovered
- E-waste collection and processing capacity in the district, while better than many areas, has room for improvement
- Safe and beneficial use of biosolids
- Waste tyres may not be a large proportion of the waste stream, however the effectiveness of the management of this waste stream is unknown
- Investment in infrastructure will be required to manage increased quantities of waste diverted from landfill disposal

7.6.2 Hazardous Waste

As reported in 2016 and included here potentially hazardous household wastes such as paint, oil, and chemicals are collected at transfer stations. There is a need to review the provision of these services at the transfer stations to ensure proper storage and management procedures are followed, so as to protect the health of workers, the public and the environment.

For clarity, the below list is included from the 2016 Waste Assessment given the ongoing relevancy to the current assessment.

- Reviewing management procedures of hazardous wastes at transfer stations
- Undertaking more detailed monitoring and reporting of hazardous waste types and quantities, including medical waste

- Improving public information about correct procedures for managing hazardous wastes, including medical waste and asbestos
- Continuing to introduce waste bylaw licensing. This will improve information on hazardous waste movements and enable enforcement of standards

7.6.3 Asbestos Waste

As reported in 2016, 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. All three Class 1 landfills in the region are consented to take asbestos and operators must comply with consent conditions and operational Health and Safety requirements.

7.6.4 Medical Waste

The Pharmacy Practice Handbook[56] states:

"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."

As reported in 2016 and relevant for this assessment, medical waste removal and disposal are currently adequately catered for in the region in respect of institutional wastes. Sources of medical waste from households have no special provision.

7.6.5 E-Waste

The Ministry for the Environment declared in July 2020 six priority products[57] for regulated product stewardship. Included in this list is e-waste (electrical and electronic products – including large batteries). A national product stewardship scheme is currently in development to manage the nations e-waste with submission of a final recommendations report due to be issued to the Ministry for the Environment in November 2022. At present, the scheme manager application(s) for priority product stewardship scheme accreditation, including asking for regulations to be enacted to support the scheme is set for 2023[58].

Currently, there are a limited number of collection points in the region at the transfer stations and resource recovery facilities and there is no consistent region wide approach to e-waste management. This is consistent with the previous 2016 Waste Assessment.

[56] Disposal of unwanted medicines | New Zealand Pharmacy Network (wordpress.com)
[57] Regulated product stewardship | Ministry for the Environment
[58] E-Waste Product Stewardship – New Zealand - TechCollect

8 HIGH-LEVEL REVIEW OF THE 2017-2023 WELLINGTON REGION WASTE MANAGEMENT AND MINIMISATION PLAN

8.1 High-Level Review of the 2017-2023 Regional Waste Management and Minimisation Plan

An initial review of the 2017-2023 WMMP was undertaken to inform the current Waste Assessment, and to help identify potential improvements to the effectiveness of a new WMMP. The key points emerging from the initial review are noted below. For consistency, the following sections follow that of the previous Waste Assessment.

8.1.1 Data

The data contained in the 2016 Waste Assessment and the 2017-2023 WMMP provided a good basis using the data that was available at the time. The data was of variable quality, with gaps leading to problematic extrapolations being made and applied to the Wellington Region. Further, there was limited data regarding rural wastes, privately managed waste disposal sites and quantities of materials that were recovered from across the Wellington Region.

8.1.2 Key Issues

The 2016 Waste Assessment and 2017-2023 WMMP rightfully identified many of the key issues facing the region. For clarity, these have been summarised in the below list:

- Poor data quality and availability of data
- Lack of data to illustrate the problem of environmental litter and illegal dumping
- Lack of data for the Wellington region rural waste sector
- Lack of comprehensive litter data for the Wellington Region
- Lack of commercial sector data and availability of commercial operator data where kerbside services are provided

8.1.3 Issues not Addressed

The following list summarises several items that were not covered in the previous 2017-2023 WMMP or which have since emerged:

- Recycling rates
    - The previous and current Waste Assessment are reporting the quantities of materials being recycled by households is relatively low across the region and is showing continued decline.
    - The deferral (as at May 2023) of a Container Return Scheme is expected to have an impact on the volumes of kerbside recyclable material being presented for kerbside collection.
    - The implementation of standardised kerbside collections across Aotearoa New Zealand is expected to influence and shape the volumes of materials collected at kerbside and available for processing.
    - The implementation of kerbside food scraps collections to urban households.
- Recovery of construction and demolition materials
    - The previous and current Waste Assessment are reporting the current low level of infrastructure available to recover construction and demolition materials, including for example, concrete, brick, wood, plasterboard.

8.1.4 New and In Development Guidance and Legislation

At the time of writing, the Ministry for the Environment released Te rautaki para | Waste strategy which sets the high-level direction for the next 30-years for a low emissions, low waste society built on a circular economy. Alongside Te rautaki para | Waste strategy, the Ministry for the Environment is developing more comprehensive waste legislation to replace the current Waste Minimisation Act 2008 and the Litter Act 1979. The intent of the new legislation is to support the delivery of Te rautaki para | Waste strategy and the waste actions as set out in the Emissions Reduction Plan.

In addition to Te rautaki para | Waste strategy and more comprehensive legislation, the Ministry for the Environment has set out several key areas that will be progressed over the coming years, including:

- Making materials collected from households for recycling the same across Aotearoa New Zealand from 2024
- Ensuring kerbside recycling services are provided to households in urban areas (i.e., towns of 1,000 people or more) by 2027
- Making food scraps collection services available to households in all urban areas by 2030

Alongside the provision of household food scrap collection services, the Ministry for the Environment is also looking to get businesses ready to separate food scraps from general waste by 2030.

Further, the implementation of a container return scheme for Aotearoa New Zealand was consulted on in 2021 which would incentivise people to return their empty beverage containers for recycling in exchange for a small refundable deposit. While around 6,400 submissions were received from the consultation process (including standardised kerbside collections, food scrap collections and a container return scheme) with most submitters supportive of the initiatives, the government has as at March 2023 deferred[59] work on the container return scheme. No further updates on the anticipated timing to restart work on the container return scheme was available at the time of writing.

In addition to the above, the Ministry for the Environment is working on developing several additional waste and resource management initiatives as bulleted below. Acknowledging the development of several key new initiatives are not yet fully in place at the time of writing this Waste Assessment, consideration of these has been integrated into the analysis where relevant and appropriate. It is anticipated that the below list will largely be in effect at the time of the next Waste Assessment.

- Development of a long-term infrastructure plan to provide a national view of the waste investment Aotearoa New Zealand needs over the next 15-years
- Developing end-of-life solutions for the six priority products:
    - Plastic packaging
    - Tyres
    - Electrical and electronic products (e-waste including large batteries)
    - Agrichemicals and their containers
    - Refrigerants
    - Farm plastics
- Phasing out certain single-use plastic items and hard-to-recycle plastic packaging (e.g., type #3 PVC containers, type #6 polystyrene drink packaging)

[59] Freeing up more government bandwidth and money to focus on the cost of living | Beehive.govt.nz

- Reducing construction and demolition waste and move towards more circular systems for building materials used

8.1.5 2017-2023 WMMP Wellington Region Actions

The 2017-2023 WMMP proposed nine regional actions as summarised in **Table 39** below. The intent of the regional actions was to set out the key areas that the councils would collectively carry out or support to deliver on the WMMP.

Table 39 2017-2023 Summary of Regional Actions

Regional Action	What it will do
Develop and implement a regional bylaw, or a suite of regionally consistent bylaws	This will help councils set standards and gather data so they can plan and manage waste better.
Implement Waste Data Framework	Consistent, high-quality data will help track progress.
Regional engagement	More consistent regional communications and education around waste services and waste minimisation will help households and communities to be inspired and supported so they can play their part.
Optimise collection systems	We will work to improve collections so that they maximise diversion and are cost effective to communities.
Resource recovery network	This will make sure we have the facilities to divert more material like construction and demolition waste, food and/or biosolids, and other organic waste.
Beneficial use of biosolids	This is a large waste stream that, if we divert it, will make a big contribution to our regional targets.
Shared governance and service delivery	There is potential to join together to deliver higher levels of service more efficiently.
Resourcing for regional actions	This will make sure we have the means to deliver on what we set out in the plan.
Collaborate and lobby	We can work with other local government organisations, NGOs and other key stakeholders on undertaking research, lobbying and actions on various waste management issues such as (but not limited to) product stewardship, electronic waste, tyres, plastic bags, etc.

In addition to the nine regional WMMP actions, each of the Wellington region councils produce individual or collective Local Action Plans that set out how each will deliver on the WMMP while ensuring that they meet the needs and concerns of their own communities.

8.1.6 2017-2023 WMMP Implementation Plan

To support and guide the development and implementation of the 2017-2023 WMMP, the Wellington region WMMP Joint Governance Committee was established. This committee is currently made up of elected members from each council and is responsible for overseeing the development and implementation of the WMMP. Oversight of regional level actions is undertaken by the WMMP Joint Governance Committee, with implementation of the actions managed through the Regional Officer Steering Group and when funding is available and/or approved. Additionally, and in acknowledgment of the significance of the WMMP to the region, a WMMP planner role was established with each council providing funding support through their respective Annual and Long-Term Plans. As noted in the 2017-2023 WMMP, a range of indicative metrics for each of the nine regional actions was developed, however the context-appropriate metrics were noted to be developed and agreed as part of the individual council implementation plans. No detailed implementation

plan, including responsibility, resources or delivery timeframes were included in the 2027-2023 WMMP. This information may be included within the individual council implementation plans that was not available for inclusion in this Waste Assessment.

8.1.7 2017-2023 WMMP Progress to Date

Potentially as a result of the last two points, limited progress has been made on implementing the actions contained in the 2011 WMMP. Only four of the 19 actions have been taken forward, with only the education strategy having so far been completed. Work on a regional solid waste bylaw is complete, there has been some progress on biosolids investigation, and development of a subsequent WMMP is underway.

9 STATEMENT OF OPTIONS

This section sets out the key issues raised in this Waste Assessment (Section **9.1**) and the range of options for further council consideration to address the key matters (Section **9.2**). For clarity, the list of options provides a high-level review of the strategic importance of each option, the potential impact on current and future demand for waste services in the region and councils anticipated role in implementing the option. The range of options follows the structure of the previous assessment as follows:

- Regulation
- Measuring and Monitoring
- Communication and Education
- Collection Service
- Infrastructure
- Leadership and Management

It is recommended that further detailed investigations be carried out on each of the following options before any are selected and/or implemented. The intent for this is to ensure that a full and comprehensive investigation is undertaken to underpin any decision making.

9.1 Key Issues to be Addressed by the Next Wellington Region Waste Management and Minimisation Plan

Following on from Section **8.1.2** and Section **8.1.3**, the key matters addressed in this Waste Assessment that have the greatest effect on the eight councils ability to meet their statutory obligations are included in the below bulleted list. The list has been extracted and amended from the previous Waste Assessment as many of the key issues remain relevant to the current assessment:

- Data quality and management of data
    - A lack of data, particularly on the activities of the private waste and recycling sector, limits councils' ability to effectively manage waste in the region. This constrains ability to plan for and respond to future demand
- Disposal of unknown quantities of waste to Class 2-4 landfills
    - While the data on Class 2-4 landfills that is available to the councils is very limited, it is likely that considerable quantities of recoverable materials are disposed of to these facilities.
- Recycling performance static/declining.
    - Not only is recycling performance weak overall, but data suggests it is static or declining in most areas.
- Sewage sludge/biosolids management.
    - The primary disposal pathway for biosolids is landfill. Where this material has high moisture content it can create landfill management issues. It also represents a high fraction of organic waste that could potentially be recovered for beneficial use.
- Low diversion rate on organics.
    - While a reasonable fraction of garden waste is composted, there is very little diversion of food scraps and there is further room to capture and process more garden waste and food scraps (i.e., either combined [food and green waste] or separately as food only and green only). Food and green waste represent the largest fractions of material being landfilled and so this is

potentially the biggest opportunity to improve diversion and reduce landfill greenhouse emissions emitted from decomposing organic material.

- Councils operate a range of different funding and management models.
    - Perhaps the greatest barrier to enhanced collaboration is that waste is managed in divergent ways among the constituent councils and each council responds primarily to the particular drivers within their area. Differing ownership of assets, service delivery expectations, and rates funding levels all create differing imperatives.
- Unrealised potential for greater joint working in council service delivery.
    - The locally focused approach to waste management has resulted in a range of systems, many of which have evolved over time, and are not necessarily configured to deliver optimum results in terms of cost and waste minimisation performance. There are likely to be gains from a more consistent approach that utilises best practice (e.g., more consistent approach to kerbside services).
- Recycling rates.
    - The previous and current Waste Assessment are reporting the quantities of materials being recycled by households is relatively low across the region and is showing continued decline.
    - The deferral (as at May 2023) of a Container Return Scheme is expected to have an impact on the volumes of kerbside recyclable material being presented for kerbside collection.
    - The implementation of standardised kerbside collections across Aotearoa New Zealand is expected to influence and shape the volumes of materials collected at kerbside and available for processing.
- Recovery of construction and demolition materials.
    - The previous and current Waste Assessment are reporting the current low level of infrastructure available to recover construction and demolition materials, including for example, concrete, brick, wood, plasterboard.

Additional items include:

- Lack of data to illustrate the problem of environmental litter and illegal dumping.
- Lack of data for the Wellington region rural waste sector.
- Lack of comprehensive litter data for the Wellington Region.
- Lack of commercial sector data and availability of commercial operator data where kerbside services are provided.

9.2 Options

9.2.1 Regulation

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
Maintain existing bylaw regimes	• Maintaining bylaw status quo would have limited positive effect on any of the key issues.	*Social/Cultural:* uneven understanding of the waste flows in the district *Environmental*: variable ability to guard against environmental degradation through illegal disposal, variable ability to require environmental performance standards are met (e.g. recyclable material is separated) *Economic:* No change to current systems. *Health:* Limited ability to monitor and enforce actions of current providers and ensure public health is protected	A lack of data and controls on private operators limits councils' ability to effectively manage waste in the region. This constrains ability to plan for and respond to future demand	Councils would implement and enforce existing bylaws; monitoring and reporting on waste quantities and outcomes. Minor changes will be required to align with the National Waste Data Framework.
Review Solid Waste Bylaws	• Data quality and management of data • Disposal of unknown quantities of waste to Class 2-4 landfills • Recycling performance static/ declining	*Social/Cultural:* better understanding of the waste flows in the district, wider range of services offered to residents. *Environmental:* would increase diversion from landfill and	Improved bylaws would, as a minimum, require reporting of waste material quantities. Collecting waste data is imperative to planning how to increase waste minimisation across council provided	Councils would develop and enforce the bylaws; monitoring and reporting on waste quantities and outcomes The solid waste bylaw should not be an unreasonable hindrance on private business seeking to

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
	• Low diversion rate on organics	information about disposal practices and could potentially guard against environmental degradation through illegal disposal *Economic:* increase cost for operators; additional resources will be required to monitor and enforce the regulatory system *Health*. Greater monitoring of providers to ensure no adverse health risks occur	services and commercial waste streams The bylaw could also be used to require minimum performance standards. This could be a key mechanism for addressing waste streams currently controlled by the private sector and how they provide their collection services. Requiring provision of a recycling collection to all customers and preventing the use of large bins for refuse collection, could decrease the amount of waste sent to landfill. The amount of recyclables requiring processing would increase.	take advantage of opportunities to take part in waste minimisation and waste management activities. This includes how waste, recovery, diversion, recyclables, and disposal is defined within the document. In considering a licensing approach, the councils should seek to liaise with the other outer regional initiatives. Consistency across regions would help reduce unnecessary administrative burden for private operators, and unintended consequences such as less well---regulated areas becoming a target for undesirable practices, such as clean filling, and poorly managed waste facilities.

9.2.2 Measuring and Monitoring

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
Status Quo	• Maintaining data status quo would not have a	*Social/Cultural:* uneven understanding of the waste flows in the district in	A lack reliable information to monitor and plan for waste management in the region	Councils currently gather data on waste streams they manage or facilities or services they

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
	positive effect on any of the key issues	particular in respect of recovered material and material to other than Class 1 disposal facilities *Environmental*: Limited ability to monitor and report on environmental outcomes *Economic:* Limited understanding of waste flows restricts ability to identify waste recovery opportunities and creates risk around waste facility and service planning which increases costs. *Health*. Lack of data on potentially harmful wastes and their management		own as well as information supplied by the private sector through licensing or similar
Implement National Waste Data Framework	• Data quality and management of data	*Social/Cultural:* improved knowledge of waste flows and better information available to the public on waste and recovery performance *Environmental*: Improved ability to monitor and manage waste collection and disposal information and make appropriate planning and management decisions *Economic:* improved understanding of waste flows	The Waste Data Framework would enhance the ability to share and collate information improving overall knowledge of waste flows. It currently only covers material to disposal however.	Councils would implement the Waste Data Framework by putting standard protocols in place for the gathering and collation of data. This would enable sharing and consolidation of data at a regional level

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		resulting in better targeted waste and recovery services and facilities. *Health*. Potential for improved data on hazardous and harmful wastes		
Audit waste stream at transfer stations and kerbside every 4-6 years and before and after significant service changes and monitoring of waste flows	• Data quality and management of data	*Social/Cultural*: Identifying material streams for recovery could lead to job creation *Environmental*: Ability to identify materials and waste streams for potential recovery and reduction *Economic*: Ability to identify materials and waste streams for potential recovery and reduction, giving rise to new business opportunities and reduction of disposal costs *Health*. Potential for improved data on hazardous and harmful wastes	Would not impact on the status quo prediction of demand directly, but would assist in identifying recovery opportunities which could impact facility provision	Councils would maintain existing service arrangements Minor changes would be required to align with the National Waste Data Framework
Increase monitoring to gather more information in strategic areas, such as commercial waste composition; waste management in rural areas; cleanfill, construction and demolition waste. Audit cleanfill waste streams	• Data quality and management of data • Disposal of unknown quantities of waste to Class 2-4 landfills	*Social/cultural:* could raise awareness of waste management in areas where currently very little is known; enable greater monitoring of providers to ensure no adverse health effects occur. Identifying material streams for	Analysis of available data has shown that there are gaps in knowledge and understanding of waste streams. Availability of more data, and tailoring of services accordingly, could increase demand for recycling	Councils could initiate and oversee research, studies and audits; and feed results into future iterations of waste assessments and WMMP. Councils may need to develop bylaw and licensing systems to gather more data.

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
wherever possible to understand composition of waste.		recovery could lead to job creation. *Environmental*: increased ability to identify additional/altered services to increase diversion of waste from landfill. *Economic*: there may be additional costs for new programmes put in place. Ability to identify materials and waste streams for potential recovery and reduction, giving rise to new business opportunities and reduction of disposal costs. *Health*. Potential for improved data on hazardous and harmful wastes	services and reduce waste to landfill.	

9.2.3 Communication and Education

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
Continue existing education programmes	• Recycling performance static/declining	*Social/Cultural*: community will be aware of options, engaged in the waste management process, and take a level of ownership of waste issues.	Awareness of waste issues and behaviour would not change significantly from current situation.	Councils would continue to fund and coordinate a wide range of education programmes.

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		Environmental: education programmes aim to establish and support positive behaviours that reduce environmental impact. *Economic:* currently funded. *Health*. Public informed of health risks of waste materials and appropriate disposal pathways		
Extend existing communication programme to focus on current and additional target audiences (e.g., low users)	• Recycling performance static/declining	*Social/cultural:* community will be more aware of options and more engaged in the waste management process, taking a higher level of ownership of the issue. *Environmental:* education programmes would seek to establish, support and extend positive behaviours that reduce environmental impact. *Economic:* could potentially be funded through waste levy funding. *Health*. Information regarding health risks of waste materials and appropriate disposal pathways would reach a wider audience. More vulnerable sectors of the public informed	Expanding the target audience may improve results in increased recycling and decreased unwanted behaviour such as landfilling and other land disposal.	Councils would fund and/or coordinate education programmes.

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		of health risks related to waste management. Messages better targeted to audiences needs		
Extend existing communication programmes to support any new rates---funded services provided by the councils (e.g., food scrap or food and greenwaste collections)	• Recycling performance static/declining	*Social/cultural:* community will be more aware of options and more engaged in the waste management process, taking a higher level of ownership of the issue. Information regarding health risks of waste materials and appropriate disposal pathways would reach a wider audience *Environmental:* education programmes would seek to establish, support and extend positive behaviours that reduce environmental impact *Economic:* could initially be funded through waste levy funding when new services are introduced; subsequent communications would be rates---funded *Health*. Information regarding health risks of relevant waste materials and appropriate management targeted to audiences needs	Depending on the new rates-funded services that are provided, this could potentially contribute to a significant reduction in demand for landfill, and an increase in demand for recycling services and processing. Education alone will not support behaviour change. Pathways need to be provided for residents and businesses to take action on education messages.	Councils would fund and coordinate education programmes.

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
Regional co-ordination and delivery of waste education programmes	• Data quality and management of data • Recycling performance static/declining	*Social/cultural:* More consistent messaging and better leverage on education spend assisting community to be more aware of options and more engaged in the waste management process. *Environmental:* Enhanced ability to establish positive behaviours that reduce environmental impact. *Economic:* consider funding through waste levy funds. *Health*. Information regarding health risks of relevant waste materials and appropriate management able to be targeted to audiences needs	The data suggests there is significant potential to reduce, reuse and recycle more waste. Communities should reduce their reliance on residual waste collections and demand for recycling services will increase.	Regional coordination and delivery would be undertaken on behalf of councils (through a jointly funded position or structure). Local needs could be met by working more closely with specific councils and the community

9.2.4 Collection Service

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
Status Quo. Different types of collection services and mechanisms for provision are continued throughout the region	• Maintaining collections status quo would have a limited positive effect on any of the key issues	*Social/Cultural:* Council and the collection contractor have a responsibility to mitigate the risks associated with kerbside bag collections. Private operators do not necessarily	Not expected to impact on the status quo prediction of demand.	Each council's role is varied depending on their service provision configuration.

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		always provide the appropriate levels of service, for example, at peak times. *Environmental:* no new impacts. *Economic:* no new impacts. *Health*. Vulnerable sectors of the community may chose not to access waste services due to cost. In some areas there is limited capacity to reduce costs through recycling		
Councils seek to standardise collection systems (noting MfEs proposed standardised kerbside collection methodology) and methodologies and procure shared services where there are clear strategic advantages	• Data quality and management of data • Declining council kerbside refuse market share • Recycling performance static/declining • Councils operate a range of different funding and management models • Unrealised potential for greater joint working in council service delivery	*Social/Cultural:* The impacts will vary depending on the configurations of services that are implemented. In general, council and the collection contractor have a responsibility to mitigate the risks associated with kerbside bag collections. Private operators do not necessarily always provide the appropriate levels of service, for example, at peak times. *Environmental:* The impacts will vary depending On the configurations of services that are implemented. It could be expected that standardising of services would lead to overall improved levels of service	The impacts will vary depending on the configurations of services that are implemented. It could be expected that standardising of services would lead to overall improved levels of diversion due to wider participation in recycling and the ability to present more consistent messages to the community	Currently each council's role is varied depending on their service provision configuration. Varying roles would be expected to continue but each councils role could change – for example if one council takes a lead role in contract management for a shared service. Councils will need to consider shared service arrangements as part of their S17A reviews and this should inform future procurement programmes

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		provision including recycling *Economic:* The impacts will vary depending on the configurations of services that are implemented. Shared services should lead to more economically efficient outcomes and reduce total costs to the community. *Health*. The impacts will vary depending on the configurations of services that are implemented. Vulnerable sectors of the community may chose not to access waste services due to cost. Where there is limited capacity to reduce costs through recycling this could be mitigated through improved service provision		
Public sector exits collection service provision and licenses private sector operators to provide services to nominated service levels	• Data quality and management of data • Disposal of unknown quantities of waste to Class 2-4 landfills • Declining council kerbside refuse market share • Recycling performance static/declining	*Social/Cultural:* Private operators do not necessarily always provide the appropriate levels of service, for example, at peak times, or in more remote/less economic areas. *Environmental:* Potential for increased waste to disposal/less recycling if the licensing regime	Could impact on the status quo prediction of demand slightly if private provision leads to increased disposal (e.g., through larger waste containers.) or reduced recycling (e.g. through reduced levels of service)	Councils would (individually or collectively) have responsibility for licensing operators, and monitoring and enforcing license provisions. Provisions could include supply of data, restrictions on container size, requirement to provide recyclables collections etc. A number of councils are

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		does not contain appropriate measures. *Economic:* Rates would reduce for households but private user pays charges would increase for households. *Health*. Vulnerable sectors of the community may chose not to access waste services due to cost.		currently faced with declining market share (particularly for waste collection services). This option acknowledges this reality and sees councils withdrawing from competition with private services
The councils in the region provide kerbside food scrap or food scrap and greenwaste collection services funded through rates.	• Data quality and management of data • Recycling performance static/declining • Low diversion rate on organics • Councils operate a range of different funding and management models • Unrealised potential for greater joint working in council service delivery	*Social/Cultural:* residents would be provided with an increased range of services. Collection services would not be provided to rural dwellings (these may or may not have access to private providers). *Environmental:* Food scraps (or food scraps and greenwaste) to landfill would be reduced which would lessen the environmental impact from landfills. *Economic:* residents would pay for the collections through rates, By providing an organic waste collection service, rubbish collection costs can be reduced (through container size and/or frequency of collection).	This is likely to have a significant impact on the amount of waste diverted; reducing the future demand for landfill, and increasing the future demand for organic waste processing. A facility/facilities would be required to process the collected organic waste. In the Wellington region landfill pricing is an important variable/driver to consider in the business case for any new service or the regionalisation of existing services	Councils would provide food waste kerbside collection services through a contract or other type of service agreement. Councils would manage and monitor service provision and collect full data on the collection service. Additional resource may be required to manage this new service. Councils would need to recover costs for this service through rates; either general rate or a targeted rate charged to those residents that are eligible for the service.

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		Health. Households would be able to manage organic wastes safely through a regular collection		
The councils are required to provide a standardised recycling service across the region as a result of the MfE standardised kerbside collection proposal. This would not necessarily entail procuring a single service provider but adoption of an agreed methodology which will be used as the basis for procurement of the service by councils either on their own or in shared service arrangements	• Data quality and management of data • Recycling performance static/declining • Councils operate a range of different funding and management models • Unrealised potential for greater joint working in council service delivery	*Social/Cultural:* residents would be provided with a more standardised range of services *Environmental:* Recycling rates could be expected to improve due to wider participation in recycling and the ability to present more consistent messages to the community. *Economic:* residents would pay for the collections through rates, by providing improved recycling services, rubbish collection costs can be reduced (through container size and/or frequency of collection). *Health*. More households would be able to manage recyclables through a consistent collection	The impacts will vary depending on the configurations of services that are implemented. It could be expected that standardising of services would lead to overall improved levels of diversion due to wider participation in recycling and the ability to present more consistent messages to the community	Currently each council's role is varied depending on their service provision configuration. Varying roles would be expected to continue but each council's role could change – for example if one council takes a lead role in contract management for a shared service. Councils that do not currently provide a rates funded recycling service would need to enter into a contract management role (or have this done on their behalf by a shared service partner council) Councils will need to consider recycling service provision including shared service arrangements as part of their S17A reviews and this should inform future procurement programmes
The councils in the region provide full kerbside collection services funded through rates.	• Data quality and management of data	*Social/Cultural:* residents would be provided with a much wider range of services.	This would likely have a significant impact on the amount of waste diverted;	Councils would provide three kerbside collection services, through a contract or other

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
This service would enable recycling, organic waste and rubbish to be collected.	• Declining council kerbside refuse market share • Recycling performance static/declining • Low diversion rate on organics • Unrealised potential for greater joint working in council service delivery	Communication would be based on a consistent system, resulting in a community that is more aware of options and engaged in the waste management process. Collection services would not be provided to rural dwellings (these may or may not have access to private providers). *Environmental:* the new services would provide for positive behaviours that reduce environmental impact. Vehicle movements around the region would be reduced. *Economic:* residents would pay for all collections through rates; however, most residents would no longer need to pay a private collector for services. A small number of households might experience an increase in rates but not receive the service; unless the service is funded through a targeted rate. There would be an impact on the private sector as their customer base would be significantly reduced (there is the potential for some operators to go out of	reducing the future demand for landfill significantly and reducing reliance on recycling drop—off points; and increasing the future demand for recycling and organic waste services and processing. Improvements to recycling processing facility/ies may be required, and a facility/facilities would be required to process the collected organic waste.	type of service agreement. Councils would manage and monitor service provision and collect full data on the collection service. Additional resource may be required to manage this new service, which could be managed through a CCO, joint business unit or in-house. Councils would need to recover costs for this service through rates; either general rate or a targeted rate charged to those residents that are eligible for the service.

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		business); however, there would conversely be the opportunity to provide services on behalf of the councils. *Health*. Vulnerable sectors of the community would have access waste and recovery services. Households would be able to manage organic wastes safely through a regular collection		
Wairarapa and Kāpiti councils provide farm waste and recycling collection services targeted at improving management of farm wastes. The exact nature of the services would need to be determined but could encompass on property on demand collections using skips/hiab bins or similar to accommodate large quantities and reduce the frequency of collection	• Data quality and management of data • Disposal of unknown quantities of waste to Class 2-4 landfills • Recycling performance static/declining • Unrealised potential for greater joint working in council service delivery	*Social/Cultural:* All sectors of the community would be catered for. *Environmental:* Rural waste is an issue that is receiving increasing attention, with particular concern around management of hazardous wastes. Provision of appropriate services could substantially improve local soil and groundwater quality. *Economic:* It is proposed that the service would be user pays or part user pays. Farms are commercial enterprises and from that perspective should have the same expectations on them for managing their wastes. It would mean additional costs for farms some of whom would	Most rural waste does not enter the formal waste management system, and so uptake of a service would increase demand for recycling and disposal capacity.	Councils would provide a facilitation role for the service and would look to link with and leverage from any work being done nationally and regionally on farm waste services. There is potential for this initiative to be supported by RMA rules and objectives in the Regional Plan

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		not be willing to pay, and whom would view traditional on farm means of disposal (burn or bury) as preferable. *Health*. Hazardous wastes would be better managed and reduce risks of entry of these substances into the environment through land air and water contamination.		

9.2.5 Infrastructure

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
Status Quo: Council owned Class 1 landfills and transfer stations. Council and private Class 2-4 disposal facilities Private recyclable processing Private organic waste processing	• Maintaining infrastructure status quo would not have a positive effect on any of the key issues.	*Social/Cultural:* No change. Variable access to facilities for communities. Variable reuse opportunities. *Environmental:* No change. Organics, C&D waste still going to disposal *Economic:* Economic impacts will vary across the region. Landfills can be valuable assets for the community and reduce the rates burden from waste management.	Would not impact significantly on the status quo prediction of demand for materials	Councils owning landfills and facilities would continue to manage/oversee these

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		Health. Health impacts are managed through ensuring consent conditions are adhered to.		
A Resource Recovery Network is developed including for example, a network of 'community recycling centres' (building on and adding to existing transfer stations, establishing new standalone facilities or partnering with organisations)	• Data quality and management of data • Recycling performance static/declining • Sewage sludge/biosolids management • Low diversion rate on organics • Unrealised potential for greater joint working in council service delivery	*Social/Cultural:* enhanced services enabling separation of materials and access to low-cost used goods. *Environmental:* improvement to waste recovery depending on exactly which expanded/additional services are introduced. *Economic:* Councils will need to invest funding in improving existing facilities and extending the network. *Health*. Enhanced services enabling separation of materials such as hazardous waste would facilitate appropriate disposal and reduce health impacts.	Would have an impact on demand for landfill and would increase demand for recycling/recovery services and processing facilities.	Councils' key role would be in overseeing and planning the development and implementation of the network. Councils could fund any new facility(s) in a variety of ways: capital funding (potentially partly through waste levy funds) could be provided; or it could be developed through a BOOT contract or similar. The application of funding should ideally recognise the wider value of initiatives, including potential social and economic benefits. Councils would provide capital funding (potentially partly through waste levy funds) to significantly upgrade and improve the current RRP and drop-off facilities. This could be done through a direct service arrangement, or by sub-leasing

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
				space to the private or community sectors.
Organic waste processing facility developed to manage food scraps.	• Low diversion rate on organics • Unrealised potential for greater joint working in council service delivery	*Environmental:* improved management of landfills through removal of and food waste. Improved landfill life. Potential for beneficial use of organic wastes to improve soil health *Economic:* Capital and operations implications from development of a facility *Health*. Health impacts are managed through ensuring consent conditions are adhered to and national and international guidelines on the application of compost and digestate to land are followed.	Would result in reduced demand for landfill and would increase demand for recovery processing facilities.	Councils would oversee the development of a processing facility, but the technical specifications and management could be contracted out. Councils could fund the new facility(s) in a variety of ways: capital funding (potentially partly through waste levy funds) could be provided; or it could be developed through a BOOT contract or similar

9.2.6 Leadership and Management

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
Collaborate with private sector and community groups to investigate opportunities to enhance economic	• Recycling performance static/declining	*Social/Cultural:* potential for downstream job creation. *Environmental:* potential enhancement through waste minimisation.	Councils use contractors to provide a range of cost-effective waste management services. There are other waste minimisation activities such as	Councils to lead and facilitate. Councils to recognise the importance of diversity in the mix of scales of economy and localised solutions.

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
development through waste minimisation.		*Economic:* could result in benefits for the local economy. *Health*. Health impacts dependent on the nature of the collaboration.	reuse shops that are marginally cost effective in strictly commercial sense but provide a great opportunity for a social enterprise/charitable community group. Having all sectors working together can provide mutual benefits for all.	Councils to support a mix of economic models to target best fit solutions depending on the situation.
Councils enter into shared service or joint procurement arrangements where there is mutual benefit	• Data quality and management of data • Declining council • Kerbside refuse market share • Recycling performance static/declining • Councils operate a range of different funding and management models • Unrealised potential for greater joint working in council service delivery	*Social/Cultural*: some improved consistency in approach. *Environmental:* impacts depend on the implementation of collaborative strategies and projects. *Economic:* shared services could reduce costs and enable access to better quality services. *Health*. Enhanced services enabling separation of materials such as hazardous waste would facilitate appropriate disposal and reduce health impacts.	No significant impact on status quo forecast of future demand. The Wairarapa councils currently have a shared service contract, there may be opportunity for other areas or if a new service is introduced (e.g., food scrap collection)	Councils make a joint formal approach to neighbouring authorities to form collaborative partnerships on various strategic or operational projects, particularly those already highlighted as collaborative opportunities in the Waste Assessment. Where services are to be shared there will a need to align service provision and contract dates
Lobby for enhanced product stewardship programmes	• Data quality and management of data • Recycling performance static/declining	*Social/Cultural:* product take back will require behaviour change; potentially better management of hazardous materials.	Product stewardship is specifically enabled in the WMA. Fully enacting this principle will help ensure true costs of products are reflected.	Continue to promote current schemes and support the implementation of proposed schemes including the container return scheme, as

Option	Issues Addressed	Strategic Assessment	Impact on Current/Future Demand	Council's Role
		Environmental: improved resource efficiency. *Economic:* potential for producer pays schemes.		well as tyres and e-waste currently in development.

10 STATEMENT OF COUNCILS INTENDED ROLE

10.1 Statutory Obligations and Powers

As reported in the previous Waste Assessment, councils have several statutory obligations and powers in respect of the planning and provision of waste services. For clarity these have been reproduced below:

- 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)
- The WMA also requires TAs to have regard to the New Zealand Waste Strategy (Te rautaki para | Waste strategy). The Strategy has six guiding principles: (1) Take responsibility for how we make, use, manage and dispose of things, (2) Apply the waste hierarchy preferences to how we manage materials, (3) Protect and regenerate the natural environment and its systems, (4) Deliver equitable and inclusive outcomes, (5) Ensure our systems for using, managing and disposing of materials are financially sustainable, (6) Think across systems, places and generations. These principles must be taken into consideration in the development of the councils' waste strategy.
- Under the Local Government Act 2002 (LGA) the 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 and regional 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 Health Act 1956. Health Act provisions for the removal of refuse by local authorities have been repealed by local government legislation. The Public Health Bill is currently progressing through Parliament. It is a major legislative reform reviewing and updating the Health Act 1956, but it contains similar provisions for sanitary services to those currently contained in the Health Act 1956.
- 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. 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.
- Under current legislation and the new Health and Safety at Work Act the council has a duty to ensure that its contractors are operating in a safe manner

10.2 Overall Strategic Direction and Role

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

11 STATEMENT OF PROPOSALS

Based on the options identified in this Waste Assessment and the councils' intended role in meeting forecast demand a range of proposals are put forward. Actions and timeframes for delivery of these proposals will be identified in the next Waste Management and Minimisation Plan, currently in development. It is expected that the implementation of these proposals will meet forecast demand for services as well as support the councils' 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.

11.1 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.

11.1.1 Protection of Public Health

The Health Act 1956 requires the councils 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.

As reported in the previous Waste Assessment and 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. Further, uncontrolled disposal of waste, for example in rural areas and in cleanfills, will be regulated through local and regional bylaws.

Subject to any further issues identified by the Medical Officer of Health, the proposals are expected to adequately protect public health.

11.1.2 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 each council's intended role in meeting these demands is appropriate in the context of the overall statutory planning framework for each council.

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

APPENDICES

APPENDIX A

Aotearoa New Zealand Waste Management and Minimisation Legislative Instruments

Local Government Act 2002 (LGA 2002)

The Local Government Act (2002) provides the legislative framework for democratically elected local authorities to promote the social, economic, environmental and cultural well-being of communities in the present and for the future. This includes taking "appropriate account of the principles of the Treaty of Waitangi" and facilitating "participation by Māori in local authority decision making processes". The Act also gives effect to any schemes (including kaitiakitanga whakanaonga – product stewardship schemes) accredited through the WMA, including any bylaws defined within the Local Government Act 2002.

Resource Management Act 1991 (RMA 1991)

The Resource Management Act (1991) (RMA) is Aotearoa New Zealand's key environmental legislative document providing the framework for the sustainable management of environmental resources (including development activities). The RMA also manages and controls the environmental impacts of waste facilities such as disposal facilities, recycling and recovery facilities and cleanfills.

Section 31 of the RMA sets out the functions of territorial authorities to give effect to the RMA, including to control the actual or potential effects of land-use activities on the taiao – environment within the district. All exercising functions under the RMA need to take into account the principles of Te Tiriti o Waitangi – the Treaty of Waitangi and recognize and provide for matters of national significance, including Māori and their cultural relationship to their taonga (including land, water, sacred sites and so forth).

New Zealand Emissions Trading Scheme (NZTS) and the Climate Change Response Act 2002

The importance of the NZ ETS is the application of the Climate Change Response Act (2002)[60] (Act) and emission targets which applies to disposal facilities including landfills:

Disposal facility means any facility, including a landfill –

(a) At which waste is disposed; and

(b) At which the waste disposed includes waste from a household that is not entirely from construction, renovation, or demolition of a house; and

(c) That operates, at least in part, as a business to dispose of waste; but

(d) Does not include a facility, or any part of a facility, at which waste is combusted for the purpose of generating electricity or industrial heat

Dispose, in relation to waste –

(a) Means-

[60] Climate Change Response Act 2002. Public Act 2002 No 40, Date of assent 18 November 2002. Administered by the Ministry for the Environment

(i) The final or more than short-term deposit of waste into or onto land set apart for that purpose; or

(ii) The incineration of waste by deliberately burning the waste to destroy it; but

(b) Does not include any deposit of biosolids for rehabilitation or other beneficial purposes.

The 2050 target as set by the Act is described as:

Part 1B Emission reduction, Subpart 1 – 2050 target

(1) The target for emissions reduction (the 2050 target) requires that –

(a) Net accounting emissions of greenhouse gases in a calendar year, other than biogenic methane, are zero by the calendar year beginning on 1 January 2050 and for each subsequent year; and

(b) Emissions of biogenic methane in a calendar year –

(i) Are 10% less than 2017 emissions by the calendar year beginning on 1 January 2030; and

(ii) Are 24% to 47% less than 2017 emissions by the calendar year beginning on 1 January 2050 and for each subsequent calendar year.

(2) The 2050 target will be met if emissions reductions meet or exceed those required by the target.

(3) 2017 emissions means the emissions of biogenic methane for the calendar year beginning on 1 January 2017.

As reported by the New Zealand Environmental Protection Authority – Te Mana Rauhī Taiao, if a landfill site is currently subject to the waste disposal levy, then its operator is also a mandatory participant of the NZ ETS. However, other types of waste related facilities including cleanfills and/or sewage treatment facilities are not currently included in the NZ ETS scheme. For example, remote disposal facilities are exempt from the NZ ETS as per the Climate Change (General Exemptions) Order 2009[61] (Clause 12A). It is important to note that the NZ ETS notes waste disposal facilities are only responsible for methane emissions from their facilities and not responsible for other greenhouse gas emissions (e.g., carbon dioxide from waste decomposition) associated with landfills or other methods of waste disposal.

In terms of waste operator obligations under the NZ ETS, operators are required to record information about the gross tonnage of waste entering their landfill facility in a year and submit this as part of their annual emissions return. As noted by the New Zealand Environmental Protection Authority – Te Mana Rauhī Taiao, this figure is then multiplied by an emissions factor that estimates the methane emissions per tonne of waste to give a total emissions figure. Once the return is completed, the operator is required to surrender emissions units corresponding to the amount of emissions reported to the NZ ETS.

[61] Climate Change (General Exemptions) Order 2009 (SR 2009/370)

Other Relevant Legislative Instruments

Legislation	Description
Litter Act 1979	The Litter Act 1979 was established to facilitate abatement and control of litter with Keep New Zealand Beautiful Incorporated appointed as the body primarily responsible for the promotion of litter control in Aotearoa New Zealand. The Act enables local authorities to enforce the provisions of the Act through measures such as litter control officers with powers to issue infringement fines to *"any individual or body corporate who deposits any litter or, having deposited any litter, leaves it:* *a) In or on a public place; or* *b) In or on private land without the consent of its occupier."* Litter as defined by the Act includes *"any refuse, rubbish, animal remains, glass, metal, garbage, debris, dirt, filth, rubble, ballast, stones, earth, or waste matter, or any other thing of a like nature."*
Health and Safety at Work Act (HSWA) 2015	The Health and Safety at Work Act 2015 (HSWA) is Aotearoa New Zealand's key work health and safety legislation including regulations under the Act. The aim of the HSWA is to provide a framework to protect the safety of all workers and workplaces together with regulations under the HSWA. The HSWA includes mechanisms to protect workers and other persons from harm, provide for resolution of workplace health and safety issues, and promote health and safety education. The HSWA includes provisions for a range of roles, including the Person Conducting a Business or Undertaking (PCBU) that may have a primary duty of care, including, for example, workers and contractors operating in the waste sector and associated businesses.
Ozone Layer Protection Act 1996	The Ozone Layer Protection Act 1996 was established to fulfil Aotearoa New Zealand's commitments under the Montreal Protocol on substances that deplete the ozone layer. The Act relates to the waste management sector by setting the broad controls and requirements for any ozone depleting substances.

Te Tiriti o Waitangi – The Treaty of Waitangi signed in 1840 is Aotearoa New Zealand's founding document with New Zealand's system of government strongly influenced by Te Tiriti o Waitangi. While Te Tiriti o Waitangi is between the Crown and Māori, Local Government New Zealand (LGNZ) imposes certain obligations on local government to reflect Treaty obligations as well as via several other legislative documents (e.g., LGA 2002 and RMA 1991). A key obligation is to provide an opportunity for Māori to contribute to the decision-making processes of a local authority, including decisions and consultation supporting waste minimisation and management initiatives.

APPENDIX B

Medical Officer of Health Statement

APPENDIX C

Supporting Data

Waste to Class 1 Landfills – by Facility

Wellington City Council – Southern Landfill	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
General	68,093	68,255	64,422	60,117	64,008	63,683
Special	10,414	18,486	14,961	22,524	8,108	5,757
Sludge	14,467	14,849	15,154	14,463	15,846	14,578
Levied Waste	93,642	102,470	95,414	97,745	89,288	85,223
Cleanfill	3,364	1,012	1,024	1,164	1,261	1,117

Masterton District Council	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
General	12,720.85	12,967.68	13,984.72	11,339.34	14,172.34	17,019.50
Special	328.74	1,172.29	276.22	196.39	245.90	140.71
Sludge	N/D	N/D	N/D	N/D	N/D	N/D
Levied Waste	13,049.59	14,139.97	14,260.94	11,535.73	14,418.24	17,160.21
Cleanfill	8,512	11,331	9,661	8,715	13,201	16,833

South Wairarapa District Council	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
General	2,218.08	2,219.59	2,669.49	1,825.30	1,982.23	2,044.97
Special	NDR	NDR	NDR	NDR	NDR	NDR
Sludge	NDR	NDR	NDR	NDR	NDR	NDR
Levied Waste	2,218.08	2,219.59	2,669.49	1,825.30	1,982.23	2,044.97
Cleanfill	NDR	NDR	NDR	NDR	NDR	NDR

Kāpiti Coast District Council	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
General	27,964	24,388	25,720	26,455	28,034	27,839
Special	NDR	NDR	NDR	NDR	NDR	NDR
Sludge	1,705	1,997	1,951	2,011	2193.32	2089.32
Levied Waste	27,964	24,388	25,720	26,455	28,034	27,839
Cleanfill	29,148	21,151	3,710	1,862	2,624	2,707

Hutt City Council	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
General	71,729	71,173	64,517	68,621	76,515	NDR
Special	13,020	8,725	18,470	19,097	29,668	NDR
Sludge	4,959	4,859	4,412	4,995	5,373	NDR
Levied Waste	123,824	121,519	125,226	129,839	151,344	NDR
Cleanfill	1,412	2,771	4,283	5,921	8,627	NDR
TOTAL	123,824	121,519	125,226	129,839	151,344	NDR

Hutt City Council Note: No specific cleanfill data is collected from Silverstream Landfill. However, a 2014 and 2022 SWAP Report (undertaken by Waste Not Consulting Ltd) determined that cleanfill was 1.5% and 7.2% of total waste to the Silverstream Landfill respectively. The cleanfill figures have been by (a) calculating the difference in cleanfill percentages between the two SWAPs, (b) dividing the difference between the number of annual periods to find an approximate annual increase, (c) adding the approximate annual increase to each annual period. Please also note that because Lower Hutt does not have a separate cleanfill facility, clean fill is considered 'general waste' and therefore levied as it entered the Landfill. In this table, cleanfill figures have not been included in the levied waste figures. To get the actual total amount of levied waste, the cleanfill tonnages need to be added to the levied waste figures in the table.

Carterton District Council	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
General	1,655	1,778	1,897	1,543	1,517	1,586
Special	NDR	NDR	NDR	NDR	NDR	NDR
Sludge	NDR	NDR	NDR	NDR	NDR	NDR
Levied Waste	1,655	1,778	1,897	1,543	1,517	1,586
Cleanfill	NDR	NDR	NDR	NDR	NDR	NDR
TOTAL	1,655	1,778	1,897	1,543	1,517	1,586

Porirua City Council	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
General	47,539	54,945	1,321	66,866	65,398	73,868
Special	388	504	504	1,101	609	868
Sludge	7,342	7,683	7,683	6,065	7,776	8,774
Levied Waste	55,269	63,132	69,508	74,032	73,783	83,510
Cleanfill	64,819	93,904	72,599	83,870	104,029	64,335
TOTAL	120,088	157,036	142,107	157,902	177,812	147,846

Porirua City Council Note: The figures reflect the tonnage that has been deposited into Spicer Landfill, irrespective of the source. Porirua City Council is unable to determine where the waste originated from.

Composition of Levied Waste to Class 1 Landfills – 2021/22

Wellington City Council	General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
	% of Total	Tonnes 2021/22	% of Total	Tonnes 2021/22
Paper	0.0%	0	0.0%	0
Plastic	0.0%	0	0.0%	0
Organic	93.2%	5,716	93.2%	5,716
Ferrous metal	6.6%	406	6.6%	406
Glass	0.0%	0	0.0%	0
Textiles	0.0%	0	0.0%	0
Sanitary	0.0%	0	0.0%	0
Rubble	0.0%	0	0.0%	0
Timber	0.0%	0	0.0%	0
Rubber	0.0%	0	0.0%	0
Potentially hazardous	0.2%	12	0.2%	12
TOTAL	**100%**	**6,134**	**100%**	**6,134**

Wairarapa Councils	General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
	% of Total	Tonnes 2021/22	% of Total	Tonnes 2021/22
Paper	10	1,962	9	1,962
Plastic	5	1,652	8	1,652
Organic	35	6,195	30	6,195
Ferrous metal	5	206	1	206
Glass	10	413	2	413
Textiles	10	1,239	6	1,239
Sanitary	5	1,239	6	1,239
Rubble	5	3,304	16	3,304
Timber	10	4,130	20	4,130
Rubber	4	206	1	206
Potentially hazardous	1	103	1	245
TOTAL	**100%**	**20,650**	**100%**	**20,791.00**

Kāpiti Coast District Council	General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
	% of Total	Tonnes 2021/22	% of Total	Tonnes 2021/22
Paper	8.3%	2,311	NDR	NDR
Plastic	11.0%	3,062	NDR	NDR
Organic	34.3%	9,549	NDR	NDR
Ferrous metal	2.3%	640	NDR	NDR
Non-Ferrous Metal	0.9%	251	NDR	NDR

Glass	2.8%	779	NDR	NDR
Textiles	6.1%	1,698	NDR	NDR
Sanitary	6.0%	1,670	NDR	NDR
Rubble	12.3%	3,424	NDR	NDR
Timber	14.0%	3,897	NDR	NDR
Rubber	0.9%	251	NDR	NDR
Potentially hazardous	1.1%	306	NDR	NDR
TOTAL	**100%**	**27,840**	-	-

Hutt City Council	**General Waste – Excludes Special Waste and Cleanfill**		**General Waste and Special Waste – Excludes Cleanfill**	
	% of Total	**Tonnes 2021/22**	**% of Total**	**Tonnes 2021/22**
Paper	7.5	9,776.00	7.5	9,776.00
Plastic	10.2	13,208.00	10.2	13,208.00
Organic	23.8	30,888.00	23.8	30,888.00
Ferrous metal	2.4	3,120.00	2.4	3,120.00
Non-Ferrous Metal	NDR	NDR	NDR	NDR
Glass	2	2,600.00	2	2,600.00
Textiles	5.1	6,604.00	5.1	6,604.00
Sanitary	4	5,200.00	4	5,200.00
Rubble	5.5	7,020.00	5.5	7,020.00
Timber	15.2	19,760.00	15.2	19,760.00
Rubber	1.2	1,560.00	1.2	1,560.00
Potentially hazardous	NDR	NDR	15.5	20,124.00
TOTAL	**76.9%**	**99,736**	**92.4%**	**119,860**

Porirua City Council	**General Waste – Excludes Special Waste and Cleanfill**		**General Waste and Special Waste – Excludes Cleanfill**	
	% of Total	**Tonnes 2021/22**	**% of Total**	**Tonnes 2021/22**
Paper	5.8	4,284.33	5.8	4,334.70
Plastic	4.6	3,397.92	4.6	3,437.87
Organic	27.2	20,092.05	27.2	20,328.25
Ferrous metal	1.1	812.55	1.1	822.10
Non-Ferrous Metal	0.3	221.60	0.3	224.21
Glass	1.4	1,034.15	1.4	1,046.31
Textiles	2.9	2,142.17	2.9	2,167.35
Sanitary	3.4	2,511.51	3.4	2,541.03
Rubble	43.5	32,132.51	43.5	32,510.26
Timber	6.3	4,653.67	6.3	4,708.38
Rubber	0.2	147.74	0.2	149.47

Potentially hazardous	3.3	2,437.64	3.3	2,466.30
TOTAL	**100%**	**73,867.83**	**100%**	**74,736.23**

No data received from Upper Hutt City Council.

Activity Source of Waste to Class 1 Landfills – 2021/22

Wellington City Council	General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
	% of Total	Tonnes 2021/22	% of Total	Tonnes 2021/22
Construction & demolition	0%	NDR	0%	NDR
Domestic kerbside	0%	NDR	0%	NDR
Industrial/ commercial/ institutional	64.8%	54,788	60.6%	54,788
Landscaping	1.6%	1,324	1.5%	1,324
Residential	14.9%	12,610	14.0%	12,610
Specials	17.2%	14,578	22.5%	20,335
TOTAL	**100%**	**84,606**	**100%**	**90,363**

Kāpiti Coast District Council	General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
	% of Total	Tonnes 2021/22	% of Total	Tonnes 2021/22
Construction & demolition	18%	5,011	NDR	NDR
Domestic kerbside	52%	14,476	NDR	NDR
Industrial/ commercial/ institutional	21%	5,846	NDR	NDR
Landscaping	3%	835	NDR	NDR
Residential	6%	1,670	NDR	NDR
Specials	N/D	N/D	NDR	NDR
TOTAL	**100%**	**27,839**	**NDR**	**NDR**

Hutt City Council	General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
	% of Total	Tonnes 2021/22	% of Total	Tonnes 2021/22
Construction & demolition	16.58%	18,574.92	16.58%	18,574.92
Domestic kerbside	24%	31,250.00	24%	31,250.00
Industrial/ commercial/ institutional	30.96%	38,067.78	30.96%	38,067.78
Landscaping	7.08%	5,353.25	7.08%	5,353.25
Residential	4.38%	2,297	4.38%	2,297
Specials	NDR	NDR	18.00%	23,088.00
TOTAL	**83%**	**95,542.96**	**101%**	**118,630.96**

Porirua City Council	General Waste – Excludes Special Waste and Cleanfill		General Waste and Special Waste – Excludes Cleanfill	
	% of Total	Tonnes 2021/22	% of Total	Tonnes 2021/22
Construction & demolition	NDR	NDR	NDR	NDR
Domestic kerbside	2.67%	1,942.48	2.64%	1,942.48
Industrial/ commercial/ institutional	44.43%	32,279.47	43.90%	32,279.47
Landscaping	0.37%	268.40	0.37%	268.40
Residential	52.53%	38,169.64	51.91%	38,625.64
Specials	NDR	NDR	1.18%	9,811.62
TOTAL	**100%**	**72,659.99**	**100%**	**86,709.99**

No data received from Masterton District Council, Upper Hutt City Council, Carterton District Council, South Wairarapa District Council

Kerbside Recycling and Drop-Off Facilities

Wellington City Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
Kerbside Recycling	10,371	10,616	10,857	9,992	10,176	9,454
Drop-Off Facilities	813	506	524	687	592	559

Wellington City Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
TOTAL	**11,184**	**11,122**	**11,381**	**10,679**	**10,768**	**10,013**

Masterton District Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
Kerbside Recycling	1,552	1,507	1,488	1,470	1,307	1,392
Drop-Off Facilities	2,845	3,122	3,394	3,599	3,620	4,417
TOTAL	**4,397**	**4,629**	**4,883**	**5,069**	**4,928**	**5,809**

South Wairarapa District Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
Kerbside Recycling	650.7	705.5	694.5	643.3	618.9	586.6
Drop-Off Facilities	436.3	474.9	559.2	638.5	611.7	814.7
TOTAL	**1,087**	**1,180**	**1,254**	**1,282**	**1,231**	**1,401**

Kāpiti Coast District Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
Kerbside Recycling	503	366	605	2,940	3,392	3,251
Drop-Off Facilities	1,058	1,086	1,039	884	1,143	776
TOTAL	**1,561**	**1,452**	**1,039**	**3,824**	**4,535**	**4,027**

Upper Hutt City Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
Kerbside Recycling	713.94	884.20	974.02	663.04	642.48	719.35
Drop-Off Facilities	113.46	361.13	584.63	638.76	777.51	882.16
TOTAL	**827**	**1,245**	**1,559**	**1,302**	**1,420**	**1,602**

Hutt City Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
Kerbside Recycling	5,293.53	5,537.83	5,377.86	4,947.17	4,550.10	3,608.1
Drop-Off Facilities	2,440.83	2,567.28	2,678.46	2,592.14	1,173.48	NDR
TOTAL	**7,734**	**8,105**	**8,056**	**7,539**	**5,724**	**3,608**

Hutt City Council Note: (1) Periods 2019/2020 and 2020/2021 impacted by Covid 19 – all recycling diverted to landfill. (2) Average Contamination for Drop-Off Facilities for this period was 25.08%. (3) Note: contamination has been included in all figures. (4) Drop-Off facilities ceased in 2021 due to the high levels of contamination. (5) Uncertainty regarding sudden decrease in kerbside recycling 2021/22 year.

Carterton District Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
Kerbside Recycling	454.88	489.93	473.09	438.27	419.39	389.21
Drop-Off Facilities	323.11	245.65	172.90	285.18	202.95	426.22
TOTAL	**778**	**736**	**646**	**723**	**622**	**815**

Porirua City Council Tonnes/annum	Year 2016/17	Year 2017/18	Year 2018/19	Year 2019/20	Year 2020/21	Year 2021/22
Kerbside Recycling	2,133.00	1,820.00	2,000.00	2,633.00	2,921.00	2,000.00
Drop-Off Facilities	813.00	1,022.00	900.00	579.00	421.00	453.00
TOTAL	**2,946**	**2,842**	**2,900**	**3,213**	**3,342**	**2,453**

Porirua City Council Note: This only includes weights from kerbside collection and the bulk recycling station at Spicer Landfill. It does not include diverted materials from Trash Palace.

Diverted Materials to Kerbside Recycling and Drop-Off Facilities – by area

Kerbside recycling includes council and private collections – tonnes per annum	2016/17	2017/18	2018/19	20219/20	2020/21	2021/22
Carterton	777.99	735.58	645.99	723.45	622.34	815.43
Hutt	7,734.35	8,105.11	8,056.32	7,539.31	5,723.58	3,608.10
Kapiti Coast	5,118.00	5,560.00	5,173.00	3,824.00	4,535.00	4,027.00

Kerbside recycling includes council and private collections – tonnes per annum	2016/17	2017/18	2018/19	20219/20	2020/21	2021/22
Masterton	8,462.71	8,634.90	9,464.82	9,080.37	9,042.01	9,990.33
Porirua	2,133.00	1,820.00	2,000.00	2,633.00	2,921.00	2,000.00
South Wairarapa	1,086.92	1,180.32	1,253.77	1,281.79	1,230.66	1,401.31
Upper Hutt	827.40	1,245.33	1,558.65	1,301.80	1,419.99	1,601.50
Wellington	11,184.00	11,122.00	11,381.00	10,679.00	10,768.00	10,013.00

Note: Kapiti Coast District Council data includes collected and dropped off recycling plus other materials dropped off for recovery (e.g., whiteware, e-waste, scrap metal, clothing, child carseats, etc). Excludes items that are count only (e.g., gas bottles, fridge/freezer, TVs, oil litres). Masterton District Council data includes compost and total recyclables only.

Diverted Materials to Drop-Off Facilities – by area

Recycling drop-off- excludes private drop-off facilities – tonnes per annum	2016/17	2017/18	2018/19	20219/20	2020/21	2021/22
Carterton	323.11	245.65	172.90	285.18	202.95	426.22
Hutt	2,440.83	2,567.28	2,678.46	2,592.14	1,173.48	348.19
Kapiti Coast	592.00	572.00	564.00	884.00	1,143.00	776.00
Masterton	6,910.55	7,128.23	7,976.46	7,610.25	7,734.52	8,598.66
Porirua	813.00	1,022.00	900.00	597.00	421.00	453.00
South Wairarapa	436.26	474.86	559.23	638.53	611.71	814.68
Upper Hutt	113.46	361.13	584.63	638.76	777.51	882.16
Wellington	813.00	506.00	524.00	687.00	592.00	559.00

Note: Hutt City Council data includes (1) Periods 2019/2020 and 2020/2021 impacted by Covid 19 – all recycling diverted to landfill. (2) Average Contamination for Drop-Off Facilities for this period was 25.08%. (3) Note: contamination has been included in all figures. (4) Drop-Off facilities ceased in 2021 due to the high levels of contamination – the figure is the collected tonnage prior to drop-off facilities being removed. Masterton District Council data is less kerbside recycling (see above table).

Composition of Waste to Class 1 Landfills from across the Wellington Region

Composition of Levied Waste to Class 1 Landfill 2021/22		General Waste – Excludes Special Waste and Cleandfill		General Waste and Special Waste – Excludes Cleandfill	
		Tonnes 2021/22	% of Total	Tonnes 2021/22	% of Total
Paper	Recyclable	12,680	6.2%	12,456	7.0%
	Non-recyclable	3,739	1.8%	3,074	1.7%
	Subtotal	**16,420**		**15,531**	
Plastics	Recyclable	4,921	2.4%	2,545	1.4%
	Non-recyclable	16,637	8.2%	19,398	10.9%
	Subtotal	**21,558**		**21,942**	
Putrescibles	Kitchen/food	23,966	11.8%	21,949	12.4%
	Comp. G'waste	25,578	12.6%	18,784	10.6%
	Non-comp G'waste	5,880	2.9%	2,457	1.4%
	Multi/other	7,333	3.6%	6,906	3.9%

Composition of Levied Waste to Class 1 Landfill 2021/22		General Waste – Excludes Special Waste and Cleandfill Tonnes 2021/22	% of Total	General Waste and Special Waste – Excludes Cleandfill Tonnes 2021/22	% of Total
	Subtotal	**62,758**		**50,095**	
Ferrous Metals	Primarily ferrous	11,921	5.9%	2,002	1.1%
	Multi/other	2,964	1.5%	2,762	1.6%
	Subtotal	**14,885**		**4,764**	
Non-ferrous metal	**Subtotal**	**1,326**	0.7%	**1,303**	0.7%
Textiles	Clothing/textiles	557			0.0%
	Multimaterial/other	1,141			
	Subtotal	**6,052**	3.0%	**4,110**	2.3%
Glass	Recyclable	3,426	1.7%	3,659	2.1%
	Glass multi/other	1,526	0.8%	1,355	0.8%
	Subtotal	**4,951**		**5,014**	
Sanitary	**Subtotal**	**10,486**	5.2%	**9,236**	5.2%
Rubble	Cleanfill	13,655	6.7%	10,533	5.9%
	Plasterboard	1,730	0.9%	1,193	0.7%
	Multi/other	23,888	11.8%	18,234	10.3%
	Subtotal	**39,274**		**29,959**	
Timber	Reuseable	139		0	
	Unpainted/untreated	334		0	
	Non-recoverable	3,424		0	
	Subtotal	**17,549**	8.6%	**10,538**	5.9%
Rubber	**Subtotal**	**472**	0.2%	**374**	0.2%
Pot hazard	**Subtotal**	**7,169**	3.5%	**24,384**	13.8%
TOTAL		**202,900**	**100%**	**177,251**	**100%**

*excluding Carterton District Council, South Wairarapa District Council, Upper Hutt City Council, Masterton District Council.

Private Service Providers

General Classification	Masterton	South Wairarapa	Kapiti	Upper Hutt	Lower Hutt	Carterton	Porirua	Wellington
Diverted Materials Collection	EarthCare	EarthCare	Envirowaste Low Cost Bins Lucy's Bins Waste Management	Waste Management Low Cost Bins	Envirowaste JJ's Waste and Recycling Waste Management	EarthCare	Waste Management Commercial Waste Management Envirowaste Low cost Daily Waste Daily karts Woods waste JJ waste Reclaim	Envirowaste Waste Management NZ Ltd Woods Waste (2012) Ltd The Salvation Army Trust New Zealand (?) The Society of ST Vincent De Paul (?)
Organics Collection	Bin operators	NDR	Organic Wealth – Food to Farm (food scraps) Pae Cycle (food scraps) Low Cost Bins (garden waste) Waste Management (garden waste)	Mahinga Kai – Food Waste Low Cost Bins – Green Waste Waste Management – Green Waste	Waste Management NZ	NDR	Waste Management Envirowaste	Organic Waste Management Ltd (food scraps) KaiCycle (food scraps) Enviro Waste 'Kai to Compost' (food scraps) Waste Management NZ Ltd (garden waste)
Waste Collection	EnviroWaste Low Cost Bins Yellow Bins Wairarapa Wheely Bins (Earthcare) Earthcare (council bags)	EnviroWaste Low Cost Bins Wairarapa Wheely Bins (Earthcare) Earthcare (Council Bags)	Envirowaste Low Cost Bins Lucy's Bins Waste Management Kapiti Skips Wood Waste Interwaste	Waste Management Low Cost Bins EnviroWaste	Waste Management Lo Cost Bins JJ's Waste and Recycling Envirowaste	Envirowaste Low Cost Bins Wairarapa Wheely Bins (Earthcare) EarthCare (council bags)	All of the above	Abbott Bin Hire Bin Hire Wellington Daily Waste Enviro Waste service JJ Richards & Sons Waste Management Woods Waste Interwaste Ltd Low Cost Bins Bin Waste Daily Waste

Transfer Station Detail (NDR = No data received, N/D = No Data)

	Refuse per tonne	Green	Metal	Polystyrene	Wood	Inert	Tyres	TVs	Hazardous / Special	Recyclables	Reuse
Seaview Recycle & Transfer Station (Hutt City)	$228.85	$151.80	Not collected	2222.76	228.85	228.85	$55.69 each or $8567.69 per tonne	$30.19 each or $2,415.2 per tonne	Not collected	Not collected	Not collected
Otaihanga Resource Recovery Facility (Kāpiti Coast)	$228	Charged by m3	At same rate as general waste	$5,500	At same rate as general waste	-	$8 per tyre	$25 per item	$50 per unit (household chemicals)	Free	Free
Waikanae Greenwaste and Recycling Centre (Kāpiti Coast)	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Ōtaki Refuse Transfer Station (Kāpiti Coast)	$239	$100 per tonne	Free	$5,500	Free if during Zero waste Ōtaki opening hours, otherwise at general rate	-	$8 per tyre	$25 per item	Not accepted	Free	-
Martinborough Transfer Station (South Wairarapa District)	$5.00 per black bag or $200 per tonne	From $5.50 per boot $15.50 per trailer $30.00 per tandem trailer $60.00 per truck load	No Charge	NDR	NDR	NDR	$5.00 per tyre (up to 4); $555.00 per tonne	E-waste no charge	Oil, paint and agrichemicals - no charge	No Charge	NDR

	Refuse per tonne	Green	Metal	Polystyrene	Wood	Inert	Tyres	TVs	Hazardous / Special	Recyclables	Reuse
Greytown Recycling Station (South Wairarapa District)	NDR	From $5.50 per boot $15.50 per trailer $30.00 per tandem trailer $60.00 per truck load	No Charge	NDR	NDR	NDR	NDR	NDR	NDR	No Charge	NDR
Featherston Recycling Station (South Wairarapa District)	NDR	From $5.50 per boot $15.50 per trailer $30.00 per tandem trailer $60.00 per truck load	No Charge	NDR	NDR	NDR	NDR	NDR	NDR	No Charge	NDR
Pirinoa Recycling Station (South Wairarapa District)	NDR	From $5.50 per boot $15.50 per trailer	N/A	NDR	NDR	NDR	NDR	NDR	NDR	No Charge	NDR
Castlepoint (Masterton District)	$255 per tonne	$78 per tonne or from $6.50 per load	N/D	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Riversdale (Masterton District)	$255 per tonne	$78 per tonne or from $6.50 per load	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Nursery Road Transfer Station (Masterton)	$220 per tonne +GST*	$64 per tonne or from $5.90 per load	NDR	NDR	NDR	NDR	$610 per tonne (more than 4 tyres) or from $4.40 per tyre	E-waste no charge	Oil, paint no charge, Special waste $220 per tonne	No charge	NDR
Dalefield Road Transfer Station (Carterton District)	$5 per black bag $200 per tonne	$42 per tonne of from $5 per boot load	N/D	N/D	N/D	N/D	$5.00 per tyre (up to 4) $510.00 per tonne (inclusive)	E-waste no charge	Oil, paint no charge	N/D	N/D

	Refuse per tonne	Green	Metal	Polystyrene	Wood	Inert	Tyres	TVs	Hazardous / Special	Recyclables	Reuse
Southern Landfill	By vehicle type: domestic vehicles (cars, domestic trailers, vans and utilities) $245.50 per tonne Commercial $196.07 per tonne Min charge $20 private, $98.04 commercial	$80.50 per tonne Min charge: $5 private, $40.25 commercial	N/D	Polystyrene $2,500.00 per tonne Min charge $1,250.00	N/D	Domestic cleanfill $15 min charge	Car tyres $4 each Truck tyres $10 each (landfill staff must be able to confirm the number of tyres) Tyres unconfirmed numbers: Car $382.56 per tonne Min charge $38.30 Truck/tractor/earth moving/mixed tyres $471.66 per tonne Min charge $47.20	$30 per item Fridge/freezer (degassing) $25 per appliance	$231.15 per tonne Min charge: $115.58 Asbestos $273.70 per tonne Min charge: $136.85 Contaminated soil $197.07 per tonne	Drop off at bulk recycling station at the landfill	N/D
Spicers landfill	Car $27.50, Van, utility $58, Flat deck $73, small trailer $58, medium trailer $73 Commercial $189.97	Car $15, Van/utility/station wagon/small trailer $30.50, small flat deck/medium trailer $40.50 Commercial $145.60	$189.97	$3,741.25 Min charge $94.99 per tonne	$189.97	$189.97	Tyres mixed with general waste $189.97 Tyres only (unconfirmed number) Min charge $703.16 per tonne Tyres only (car/motorbike) $8 per tyre Tyres (truck/tractor) $16.50 per tyre	$189.97	Special (eg, Asbestos, animal carcasses) $291.20 per tonne, sewage sludge and screenings $256.45 per tonne, $291.20 Lithium batteries can be dropped off for free	$189.97	$189.97

	Refuse per tonne	Green	Metal	Polystyrene	Wood	Inert	Tyres	TVs	Hazardous / Special	Recyclables	Reuse
Silverstream landfill	$189.75	$126.50	$189.75	$530.00	$189.75	$189.75	$530.00	$189.75	$270.25	$189.75	$189.75

*Masterton transfer Station gate fee price increased 1 Feb 2023 to $246/tonne +GST

South Wairarapa Featherston, Greytown and Pirinoa are recycling stations and do not take any other waste.