



WASTE MINIMISATION AND MANAGEMENT PLAN 2020

TE MAHERE WHAKAMIMITI PARA





PUTTING ITEMS OUT FOR
RECYCLING COLLECTION

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LOVE FOOD HATE WASTE WORKSHOP



INTRODUCTION

Changes have occurred since the Dunedin City Council (DCC) last prepared a strategic document for better waste management and minimisation, including:

- the introduction of new services and facilities
- a change in Central Government and the establishment of a Resource Recovery Taskforce to further resource recovery efforts and assess infrastructure development needs
- the identification of national waste priorities which are outlined in the Local Government Waste Management Manifesto.

Priority 1: Changes to the Waste Disposal Levy

Priority 2: Better Waste Data

Priority 3: Introducing a Container Deposit Scheme

Priority 4: Mandatory Product Stewardship, tyres, e-waste, agricultural chemicals and plastics

In 2008, the Waste Minimisation Act came into law, followed by the New Zealand Waste Strategy in 2010. This legislation requires all territorial authorities to conduct a waste assessment in their districts and to review their operative Waste Management and Minimisation Plans (WMMP).

Following the review of DCC's Waste Management and Minimisation Plan 2013, this revised plan will be known as 'The Waste Minimisation and Management Plan 2020 (the plan)', ensuring waste minimisation is at the fore in decision making for the city.

The plan supports a more a detailed review of the waste and diverted material system, services and facilities. This will be executed via the Waste Futures project. Waste Futures aims to ensure a smart approach is taken in the investigation of options, to better inform decision makers into the foreseeable future.

The plan and Waste Futures were informed by the district-wide Waste Assessment in 2018. The assessment capitalises on what we already know and do well, identifies where data and information gaps exist and priority areas where we can improve.

The plan also casts the net wider than DCC facilities and services, taking a whole of city approach. DCC acknowledges the contributions of Kāi Tahu and WMMP stakeholder groups as they have provided valuable insight into the planning process.

The plan presents both a challenge and opportunity in considering how we (the DCC, waste and diverted material operators, businesses, and individuals) work together.

To achieve zero waste, inclusive of a circular economy, all parties must work together purposefully.

ABOUT THIS DOCUMENT

The DCC has prepared this plan in accordance with its statutory obligations under the Waste Minimisation Act 2008 (WMA) and in keeping with its civic responsibilities.

The plan includes:

High level strategic statements: vision, goals, guiding principles and targets

Implementation pathways: objectives, policies, and methods, how the plan will be funded, including waste levy grants and performance indicators by which to measure progress via the implementation of this WMMP, via the Waste Futures project

A summary of the Waste Assessment 2018:

Summary Forecast of Future Demand

Appendices:

- Glossary
- Full Waste Assessment 2018

This plan replaces the Waste Management and Minimisation Plan 2013.

Purpose

The DCC has a responsibility under the WMA to 'promote effective and efficient waste management and minimisation' and, for this purpose, to 'adopt a waste management and minimisation plan'.

The plan has been informed by a district-wide waste assessment. The full and final waste assessment report is appended to the plan.

As well as the waste assessment, the DCC has consulted widely with Kāi Tahu, stakeholders and, special interest groups to plan and prioritise actions which will progress waste minimisation efforts and make improvements to waste management practices.

The plan is supportive of a collaborative approach which will strengthen working relationships. The position taken understands that, to achieve zero waste, all parties must work together purposefully.

This plan will have a full review in 2024 to align with DCC's 10 Year Plan. It will include how the DCC will fund waste and diverted material services and facilities over this period.

Scope

The plan covers collection, reuse, recycling, resource recovery, treatment and disposal, services and facilities in Dunedin, including waste minimisation promotion and education.

As far as possible, the current level of waste minimisation and management activity has been assessed alongside the forecast demand for, and future provision of, services and facilities in the Dunedin district. This includes how existing and future activities will be funded.

It describes how the plan will be funded, allowing the allocation of waste levy grants, enabling business and community-led waste minimisation projects and initiatives to develop and evolve. DCC may also partner and/or endorse applications to the Ministry for the Environment contestable waste levy fund to further promote and develop projects of scale that have the potential to contribute significantly to building local capability or minimise the harmful effects of waste.

This plan and any amendments resulting from future reviews will be publicly notified in accordance with the Local Government Act section 83 Special Consultative Procedure.

LEGISLATIVE CONTEXT

The Waste Minimisation Act 2008

The purpose of the WMA, Section 3, is to encourage waste minimisation and a decrease in waste disposal 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.

The WMA defines waste and diverted material as follows:

Waste

- a) means anything disposed of or discarded; and
- b) includes a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and
- c) to avoid doubt, includes any component or element of diverted material, if the component or element is disposed of or discarded.

Diverted Material

- a) means anything that is no longer required for its original purpose; and, except for commercial or other waste minimisation activities, would be disposed of or discarded.

The DCC's plan sits in alignment with the New Zealand Waste Strategy 2010 (NZWS).

The NZWS has two strategic goals:

Goal 1: Reducing the harmful effects of waste.

Goal 2: Improving the efficiency of resource use.

The NZWS recognises that to reach these goals, the responsibility is shared among all New Zealanders, Central Government, local government (regional councils and territorial authorities), the waste industry, businesses and communities.

The NZWS provides the high-level strategic direction for waste management and minimisation activities nationally, which underpins a suite of legislation, regulatory tools and best practice guidelines.

The following table shows the framework presented within the NZWS:

New Zealand Waste Strategy 2010 – reducing harm, improving efficiency					
Legislation and regulatory framework					
Waste Minimisation Act 2008	Local Government Act 2002	Hazardous Substances and New Organisms Act 1996	Climate Change Response Act 2002	Resource Management Act 1991	Other Tools
Waste minimisation and management plans	Bylaws	Regulations and group standards related to waste	Disposal facility regulations	Natural environmental standards	International conventions
Waste disposal levy	Long Term Plan (10 Year Plans)			Regional Policy Statement, Regional Plans, resource consents	Ministry guidelines, codes of practice, and voluntary initiatives
Waste minimisation fund	Annual Plan			District and regional plans, resource consents	Iwi Management Plan Kāi Tahu Ki Otago Natural Resource Management Plan 2005
Product stewardship					In addition to the above, the DCC must also meet its obligations under the Health Act 1956 and administer the Litter Act 1979.
Other regulations					

Table 1: Toolkit for managing and minimising waste in New Zealand – New Zealand Waste Strategy 2010

RUMMAGE SHOP AT GREEN ISLAND LANDFILL



VISION WAWATA

We have a duty to protect and enhance Dunedin's natural environment and resources for those generations who come after us (mō tatou, ā, mō kā uri ā, muri ake nei).

Dunedin is actively committed to zero waste, inclusive of a circular economy, to enhance the health of our environment and people by 2040.

GOALS WHĀIKA

Goal 1: Advocate, educate and enable waste minimisation, recycling and resource recovery

- advocate for a holistic approach to waste minimisation and management which embraces the concepts of kaitiakitaka (including the ethic of stewardship) and Ki Uta, Ki Tai.
- promote circular economies to maximise the use of products and resources
- promote the stewardship of resources and the diversion of waste from landfill (reduce, reuse, repurpose) to protect the natural environment for future generations

Goal 2: Encourage social enterprise and commercial development

Explanation

- build on initiatives to support circular economies
- reduce reliance on external markets for recyclable materials
- facilitate regional and national market development

Goal 3: Collect information to enable informed decision making

Explanation

- support and promote the National Waste Data Framework

Goal 4: Minimise the harmful effects of waste

Explanation

- protect both public health and the environment from the adverse effects of waste through regulation, and upholding best practice standards

Goal 5: Provide infrastructure to meet goals and objectives

TARGETS PĀRURE

1. Reduce the municipal solid waste generation per capita by at least 15% by 2030 compared to 2015.
2. Reduce the amount of municipal solid waste disposed to landfill and incineration by at least 50% by 2030 compared to 2015.
3. Increase the diversion rate away from landfill and incineration to at least 70% by 2030.

¹ Advancing Towards Zero Waste Declaration <https://www.c40.org/other/zero-waste-declaration>

GUIDING PRINCIPLES MĀTĀPONO WHAKAARAHİ

Zero Waste

Zero waste is an ethical, economic, efficient and visionary goal, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for another use.

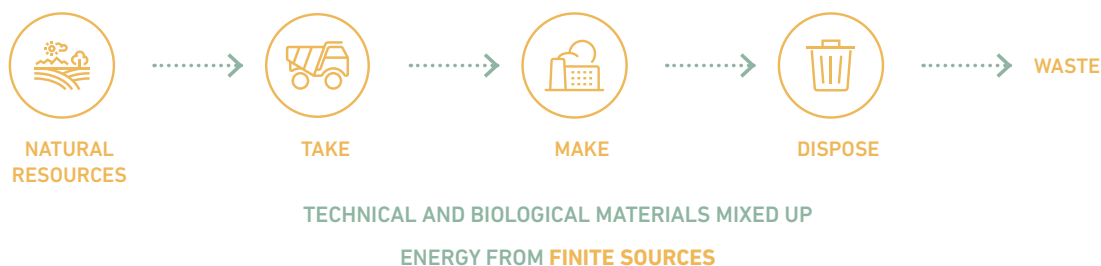
Zero waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, to conserve and recover all resources, and not to burn or bury them.

Implementing zero waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.²

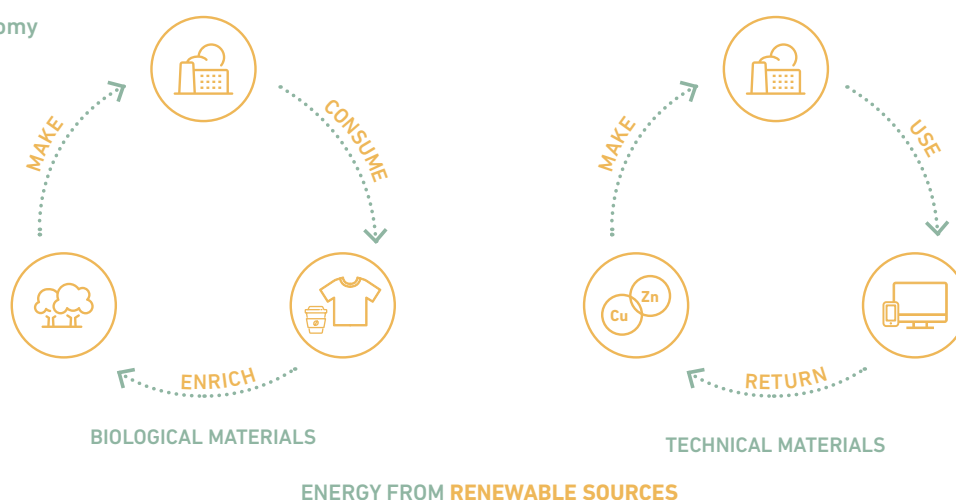
Circular Economy

A circular economy is an alternative to the traditional linear economy in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

Linear Economy



Circular Economy



When a product is designed for the longest use possible, and can be easily repaired, remanufactured or recycled (or used, composted and nutrients returned) we consider it to have a circular life cycle.

A circular economy is fuelled by renewable energy (e.g. solar, hydro, wind and tidal power, and biofuels).³

² Zero Waste International Alliance <http://zwia.org/standards/zw-definition/>

³ Ministry for the Environment website <https://www.mfe.govt.nz/node/24055/>

Leadership

The DCC will model good corporate citizenship by integrating zero waste practices into organisational culture and via supply chain management. The DCC will take a leadership role in establishing and embedding zero waste practices and systems in Dunedin.

Kaitiakitaka

Kāi Tahu see their existence as an integral part of Te Ao Tūroa (the natural world). For Kāi Tahu, all natural resources – air, land, water and indigenous biodiversity – are taoka, or treasures, derived from the atua (gods) and left by the tipuna (ancestors) to provide and sustain life. Kāi Tahu whānau have an inherited role as kaitiaki to ensure the life-supporting functions of the environment are maintained and protected for those who come after us. The stewardship of resources, development of circular economies and the diversion of waste from landfills safeguards the life-supporting capacity of Te Ao Tūroa.

Council's work and partnership with Kāi Tahu is guided by the Principles of Te Tiriti o Waitangi / the Treaty of Waitangi. Through the implementation of this plan Council will work closely with Kāi Tahu as the Treaty Partner and support their kaitiaki role.

Collaboration

To maximise the opportunities associated with the waste minimisation and resource recovery, the DCC will endorse, facilitate, or partner with groups and organisations to support the realisation of zero waste initiatives.

Precautionary Principle

Where there is a threat of serious or irreversible damage, lack of full scientific certainty should not be a reason for postponing cost-effective measures to prevent environmental degradation or potential adverse health effects, as it relates to waste and diverted material.

The Proximity Principle

Short supply chains with few long-distance transactions promote resilience and engagement. For resource recovery, the proximity principal suggest that we seek "the highest use (for used materials and products) with the shortest possible distance".

DCC STRATEGIC CONTEXT

The plan has been developed within the context of the DCC strategic framework, with the vision of Dunedin being one of the world's great small cities. The framework represents a collection of key outcomes, delivered by 10 Year Plan activity.

Our strategic framework guides how we work to improve the social, economic, environmental and cultural wellbeing of our communities. The principles of Sustainability and Tiriti o Waitangi/Treaty of Waitangi are embedded across our work.



Environmental Wellbeing: The Waste Minimisation and Management Plan 2020 sits within the framework of Te Ao Tūroa – Dunedin’s Environment Strategy – with goals relating to the reduction of waste, the preservation of resources for future generations and the reduction of greenhouse gas emissions. There are also direct linkages to building and contributing to Dunedin’s climate resilience through better waste minimisation, namely:

GOAL 01: Dunedin is resilient and carbon zero (mō tātou, ā, mō kā uri ā muri ake nei): This goal will be achieved by minimising waste, developing resilient and sustainable supply chains, and by using natural resources with future generations in mind.

GOAL 02: Dunedin has a healthy environment (He ao tūroa, he ao hauora). This goal will be achieved through safeguarding the life-supporting capacity (mauri) of taoka species’ habitats and protecting areas of importance to Kāi Tahu.

GOAL 03: Dunedin people care for the natural world (Tiakitaka): This goal will be achieved by honouring and supporting the kaitiaki role of Kāi Tahu and by advocating and collaborating for better environmental outcomes.

There are direct linkages to building and contributing to Dunedin’s climate resilience through better waste minimisation.

Cultural Wellbeing: Kāi Tahu as kaitiaki have two responsibilities, protecting the life-supporting capacity of Dunedin’s natural environment and resources and passing the environment to future generations in a state which is as good as, or better than, the current state. Council, through the implementation of the Waste Minimisation and Management Plan, will honour and support the kaitiaki role of Kāi Tahu.⁴

There are also direct linkages to building and contributing to Dunedin’s climate resilience through better waste minimisation.

Social Wellbeing: providing support for community waste minimisation initiatives and the retention and repurposing of material resources within communities. Waste minimisation education programmes, workshops and availability of contestable funds.

Economic Wellbeing: in building local capability of our resource recovery sector to achieve greater material diversion and in support of businesses adopting resource efficiency programmes. Also, in support of design innovation that will reduce or eliminate waste, Waste Minimisation Innovation and Development Grants (commercial sector), supporting the Energy Plan in the beneficial use of landfill gas, or waste to energy solutions and availability of contestable funds.

10 Year Plan and Financial Strategy:

demonstrating good corporate citizenship in practising waste minimisation, ensuring material resources are used efficiently, reused and recycled. Procurement practices encourage suppliers and contractors to do the same.

⁴ Mana whenua introduction to Te Ao Tūroa

IMPLEMENTATION PATHWAY

ARA WHAKATINANA

In addition to vision, goals, guiding principles, and targets, the plan considers DCC and others collection, recovery, recycling, treatment and disposal facilities and services. The DCC's role in promoting effective and efficient waste management and minimisation within Dunedin is inclusive.

The DCC has assessed the current and future demand for waste management and minimisation facilities and services to ensure future demand can be met and is supported by this plan.

Waste Futures will provide the detailed business case and financial feasibility over the short to long term to meet this demand.

The DCC may be directly or indirectly involved in bringing about the change that will lead Dunedin towards zero waste. To achieve the targets outlined in this plan the responsibility to better manage and minimise waste must be shared and includes working with Kāi Tahu as the Treaty Partner, Central Government, Regional and District Councils, commercial waste and recycling service providers, other commercial activities and embracing community and individual action and initiatives.

To best represent the role that the DCC, community and businesses and Kāi Tahu as kaitiaki have in implementing this plan, objectives, policies and methods have been presented in three sections.

Governance, leadership and engagement:

The DCC has direct responsibility for:

- engagement with Kāi Tahu as the Treaty Partner in the implementation of the Waste Minimisation and Management Plan
- planning and policy making within the DCC's strategic framework
- as a regulator via Solid Waste Bylaw and litter infringement policy
- provider of waste and diverted material facilities and services
- as a corporate citizen modelling best practice
- managing community needs and expectations via public consultation

Education, empowerment and collaboration:

- empower Kāi Tahu to give effect to their kaitiaki role by increasing their understanding of waste related issues and enabling them to act within homes and the wider community to minimise waste or to make better use of diverted material locally.
- empower the community to increase their understanding of waste related issues and enabling them to act within homes and wider community to minimise waste or to make better use of diverted material locally.

Design, innovation and building local capability:

Working collaboratively with Kai Tahu, Central Government, other councils, private operators, businesses and other organisations to create opportunities and build local capability in the resource recovery sector.

This section promotes the circular economy and cleaner production processes, innovation and design which will reduce the generation of waste and retain the value in material resources locally, giving effect to kaitiakitaka and the stewardship of resources for future generations.

THE WASTE HIERARCHY

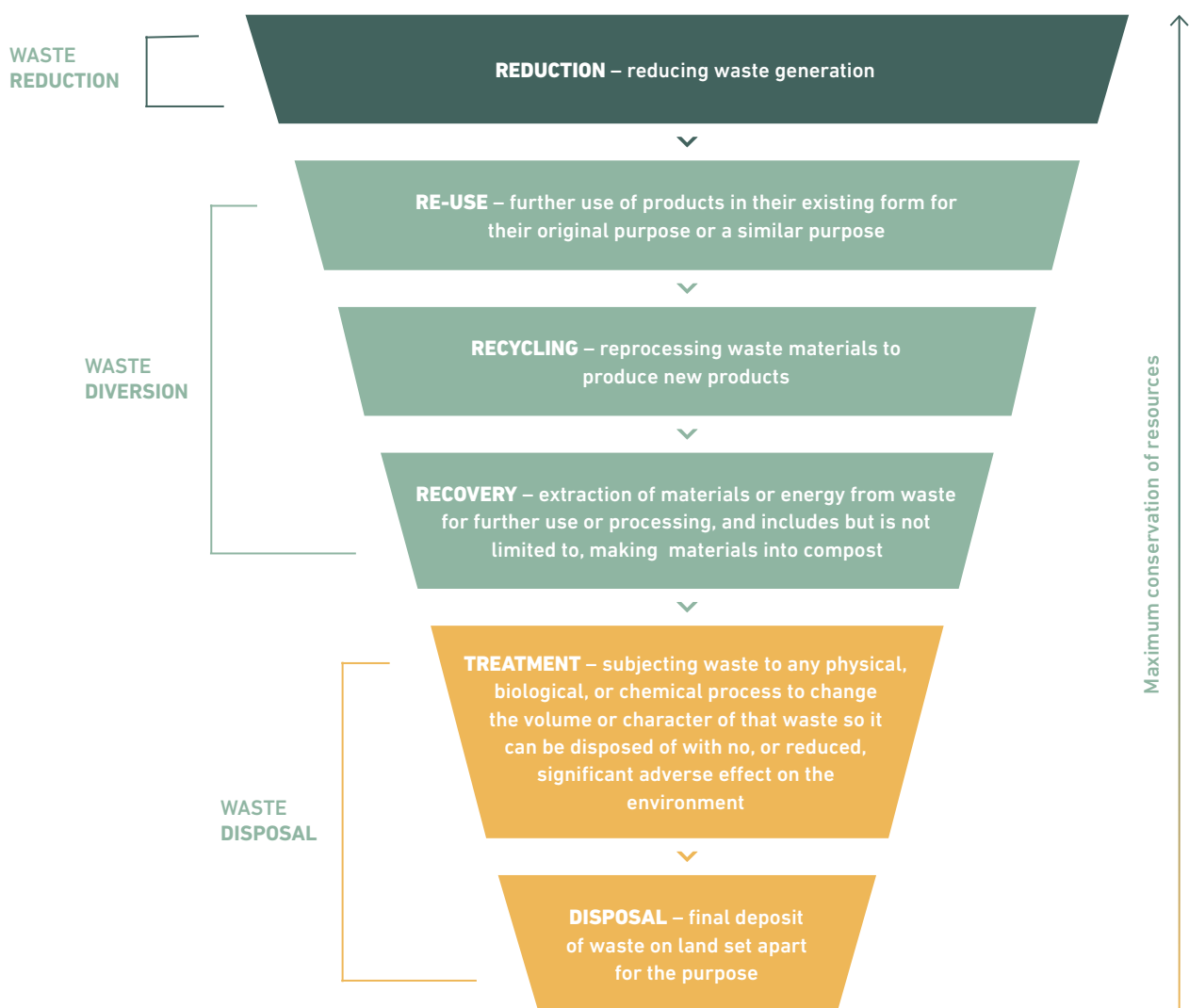
Many in our community are familiar with the term 'reduce, re-use, recycle' but often the focus of attention is on recycling and waste disposal services and facilities.

This plan supports a reduction in waste generation, the re-use of materials in our homes, communities and through lean business practices, challenging us all to take personal responsibility and to act accordingly.

It aims to build our local capability, to retain and repurpose valuable resources and to become more conscious in considering options and alternatives to landfill disposal.

The waste hierarchy is a decision-making tool which assists with determining the best approach to take during the assessment of options and the development of Council's amended Waste Minimisation and Management Plan 2020.

The Waste Hierarchy



GOVERNANCE, LEADERSHIP AND ENGAGEMENT

The DCC has an important role in minimising waste over and above the provision of waste management and minimisation facilities and services. Council will work with Kāi Tahu as the Treaty Partner in implementing this plan.

As regulator, the DCC has powers under section 8 of the Local Government Act 2002 to make bylaws. WMA section 56 gives the DCC additional powers to regulate the deposit, collection and transportation of waste. This includes the authority to license collectors and transporters of waste, requiring the reporting of quantity, type and destination of waste collected and transported under licence.

It is also important that the DCC practices the waste minimisation behaviour it espouses in its plan. This demonstrates good corporate citizenship, accountability for resource consumption and provides all the benefits of operating as a resource efficient organisation. The DCC can also encourage business best practice waste minimisation by considering the issues and opportunities within its supply chain.

The DCC will seek purposeful engagement and dialogue with Kāi Tahu and other regional, city and district councils, private waste and diverted material operators and the community so that a collaborative response ensures the adequate future provision of waste and diverted material facilities and services.

VISION: DUNEDIN IS ACTIVELY COMMITTED TO ZERO WASTE INCLUSIVE OF A CIRCULAR ECONOMY TO ENHANCE THE HEALTH OF OUR ENVIRONMENT AND PEOPLE BY 2040

OBJECTIVE 1: All DCC Policies and Plans clearly align with the vision, goals, guiding principles and targets of the Waste Minimisation and Management Plan

Policy	Method	Timeframe 1–2 years	Timeframe 3–4 years	Timeframe 5+ years
Account is taken of the Waste Minimisation and Management Plan during the preparation of DCC Policies and Plans	The Waste Minimisation and Management Plan is implemented across Council through various communication channels	Ongoing		
	The Dunedin City District Plan recognises the storage and access needs in the provision of services and land use (i.e. the management of best practice cleanfill operations in relation to city earthworks)	Align with Waste Futures Plan Ministry for the Environment and Waste Levy requirements National Environmental Standards	Embed	
	The Dunedin City District Plan recognises the storage and access needs in the provision of services provided in private roads	Requiring waivers for services provided on private roads		Input into next District Plan review
Each DCC activity is accountable for managing resources and minimising waste in accordance with the Waste Minimisation and Management Plan	Use of the DCC procurement toolkit to support the reduction of waste and increased resource efficiency	Ongoing		
Review and adopt a Solid Waste Bylaw under Section 56 of the Waste Minimisation Act 2008	<ul style="list-style-type: none"> prohibiting or regulating the deposit of waste regulating the collection and transportation of waste prohibiting, restricting or controlling access to waste management and minimisation facilities owned by DCC prohibiting the removal of waste intended for recycling from receptacles provided by DCC 	Adopt Solid Waste Bylaw	Establish licencing protocol Provision of space for the sanitary collection of waste and recycling from multi-unit dwellings and residential apartment buildings	Ongoing administration of compliance
The DCC will collect information and data to inform future plans and reviews of DCC services and facilities in line with the National Data Framework	The DCC will report City waste and diverted material information and data to the community annually	Continuous improvement of reporting processes		

OBJECTIVE 2: The community has access to diverted material services

Policy	Method	Timeframe 1–2 years	Timeframe 3–4 years	Timeframe 5+ years
The DCC will continue to provide a kerbside collection service for diverted material which caters to a growing resident population, recognises the specific demands of our district demographic, and is inclusive of small businesses on collection routes	Continue and extend the DCC's kerbside collection service for recycling into selected areas	Engage with Kāi Tahu and the community on future kerbside collection model in Annual Plan 2020–2021 Proposed Kerbside Collection Service Engagement as part of 2021–2031 10 Year Plan	Establish new Kerbside Collection Service	Ongoing administration of contracts and bin audit programme
	Investigate a collection service for organic waste – food scraps and/or green waste	Engage with Kāi Tahu and the community on future kerbside collection model in Annual Plan 2020–2021 Proposed Kerbside Collection Service Consultation as part of the 2021–2031 10 Year Plan	Establish new Kerbside Collection Service	Ongoing administration of contracts and bin inspection programme
	Provide residents in the Central Business District and South Dunedin Shopping Precinct with a DCC collection service for recyclables	Engage with Kāi Tahu and the community on future kerbside collection model in Annual Plan 2020–2021 Proposed Kerbside Collection Service Consultation as part of the 2021–2031 10 Year Plan	Establish new Kerbside Collection Service	Ongoing administration of contracts and bin inspection programme
The DCC will continue to provide contracted services for the collection of mixed recycling and glass from the city's public places recycling network	The DCC maintains collection and maintenance contracts for servicing the city's public places recycling bins	Ongoing		
The DCC will introduce community events for household items that can be reused or recycled	The DCC will provide a service to the community and/or support and promote community events that divert household items from going landfill	Investigate	Initiate	Embed

OBJECTIVE 3: The community has access to diverted material facilities

Policy	Method	Timeframe 1–2 years	Timeframe 3–4 years	Timeframe 5+ years
The DCC will increase the capability and capacity of its resource recovery facilities	The DCC will continue to develop DCC-owned resource recovery parks at Green Island, Waikouaiti and Middlemarch	Future-proof design		
	The DCC will explore development of additional resource recovery parks	Assess and develop options (refer to Waste Futures project)	Embed	
	The DCC will expand the network of Rummage reuse stores	Investigate	Implement	
	The DCC will provide communities distanced from a DCC resource recovery park, with insufficient recycling capacity to meet local demand, or without a kerbside collection service, with a recycling hub	Extend the network of recycling hubs into new areas		
	The DCC will work in collaboration with businesses, not-for-profit organisations and social enterprise to establish a network of resource recovery centres for the collection of diverted material	Continually seek out opportunities		
The DCC will continue to grow a network of public places recycling bins in areas identified as community hubs or tourist hot spots	The DCC will continue to support the national ‘LoveNZ’ recycle with care’ brand and engage stakeholder participation	Continually seek out opportunities		

OBJECTIVE 4: The community has access to services for waste management

Policy	Method	Timeframe 1–2 years	Timeframe 3–4 years	Timeframe 5+ years
The community continues to receive a kerbside collection service for waste	The DCC will ensure a suitable level of service for the kerbside collection of waste can be accessed or provided in both city and residential areas	Investigate	Establish service level model	
	The DCC maintains collection and maintenance contracts for servicing the city’s litter bins	Continuous improvement		
	The DCC will collect illegally dumped rubbish deposited on public land under collection contracts	Regulate and monitor for compliance		

OBJECTIVE 5: The community has access to well managed waste disposal facilities

Policy	Method	Timeframe 1–2 years	Timeframe 3–4 years	Timeframe 5+ years
Dunedin waste disposal facilities remain operational until the expiry of current consents	The DCC will ensure all resource consent requirements for DCC owned operational waste facilities are complied with and kept current in line with both regional and district plans	Maintain best practice		
	The DCC will continue to meet its statutory obligations under the New Zealand Emissions Trading Scheme	Continuous improvements to mitigate landfill gas emissions		
	The DCC will investigate landfill disposal options in readiness for the closure of Dunedin landfills	Assess and develop options (refer to Waste Futures project)		
	The DCC will provide transfer station facilities at Green Island, Waikouaiti and Middlemarch	Assess other Dunedin sites for suitability (refer to Waste Futures project)		
The DCC will use economic drivers to minimise waste to landfill	The DCC will review and set gate charges for DCC owned waste facilities annually, ensuring that the true costs associated with landfill operations, future closure and aftercare are recovered	Continually review and adjust landfill gate charges to reflect the true cost of landfill disposal including introducing a second weighbridge at the Green Island facility		

OBJECTIVE 6: Hazardous waste is managed in accordance with best practice

Policy	Method	Timeframe 1–2 years	Timeframe 3–4 years	Timeframe 5+ years
The DCC will continue to support national regulation for the storage, collection, treatment and disposal of hazardous waste and, where necessary, regulate to protect the environment from identified hazardous waste products or practices not currently regulated	The DCC will work collaboratively with the Otago Regional Council to ensure standards for the safe treatment and disposal of hazardous waste are managed and monitored in accordance with the current legislation, regulation and best practice guidelines	Continuous improvements to mitigate the harmful effects of waste		
	The DCC will investigate options for the collection of hazardous household waste chemicals			
	The DCC will use provisions of a Solid Waste Bylaw to ban prohibited waste from landfill disposal	Investigate	Develop Options	Embed
		Continually review and adjust landfill acceptance criteria in-line with New Zealand legislation, regulation and best practice standards		

OBJECTIVE 7: All open and closed landfills in Dunedin District have been identified and are operating in accordance with industry best practice

Policy	Method	Timeframe 1–2 years	Timeframe 3–4 years	Timeframe 5+ years
The DCC will support a review of the Otago Regional Council Plan – Waste for Otago	The DCC will work collaboratively with Otago Regional Council to strengthen working relationship between DCC/ ORC and neighbouring Councils	Revise plans	Embed plans	

EDUCATION, EMPOWERMENT AND COLLABORATION

Recognising that everyone has a responsibility and role to play in meeting the plan's objectives, the DCC will encourage and support Kāi Tahu and the community in its endeavours to manage and minimise waste.

Zero waste education programmes and workshops will be delivered in the community by DCC staff, contracted facilitators or in collaboration with others. The DCC will evaluate participant feedback which will support programme development in line with the needs of the community.

A holistic DCC/ORC approach to the regional delivery of education for sustainability programmes will provide additional benefits as it draws on a breadth of knowledge, experience, funding and other resources.

The DCC will work collaboratively with, and in support of, Kāi Tahu and community groups empowered to act within their community to realise the

potential of projects and initiatives that minimise waste and/or make use of diverted material locally.

Waste levy grants will be made available to community groups that have an organised approach and a prepared plan which meets the required criteria via an application process.

An informed community will drive waste minimisation from the grassroots, changing the mind-set from 'rubbish' to 'resource' and creating an increased demand for sustainable goods and services.

Over time, social behaviour will change and better align with waste minimisation and the retention of material resources for reuse and recycling.

OBJECTIVE 8: Dunedin communities and learning agencies are actively engaged in zero waste education and are empowered to act with local initiative

Policy	Method	Implementation Pathway		
		1–2 years	3–4 years	5+ years
The DCC will ensure zero waste education is accessible and available to learning agencies and community groups	The EnviroSchools programme is supported and funded by both the Otago Regional Council through regional co-ordination and the DCC via local facilitation	Ongoing		
	DCC staff and contracted facilitators will work with community groups to deliver zero waste educational programmes	Ongoing		
The DCC will ensure zero waste action is promoted within communities	The DCC will encourage members of the community to practice waste minimisation in their homes and neighbourhoods and support the development of community-led initiatives that make beneficial use of diverted materials locally.	Ongoing		
The DCC will partner with community groups/ organisations and Kāi Tahu in providing local waste minimisation services and facilities for the city	Continued engagement with these stakeholders	To be included in the 10 Year Plan 2021/22		

DESIGN, INNOVATION AND BUILDING LOCAL CAPABILITY

The DCC may support businesses and other organisations to establish, develop, or design products, systems, services and facilities which minimise waste or divert a greater quantity and/or range of material from landfill. This could be through partnership, endorsement, facilitation or funding.

Encouraging local businesses to use cleaner production practices will enable them to operate more efficiently and reduce waste.

Tapping into the rich store of knowledge in Dunedin to design products and systems that reduce or eliminate waste will contribute to a zero waste future.

The DCC will work with Central Government, other councils, businesses and organisations to research and develop concept plans, projects and initiatives that could reduce the quantity and harmful effects of waste to landfill and to promote industry best practice.

To ensure that the increasing demand for accessible and affordable diverted material facilities and services are met, the DCC will encourage and support applications to the Contestable Waste Levy Fund.

Building local resource recovery capability will retain resources and create employment opportunities in Dunedin.

During the waste assessment process, a demand for services or facilities which would benefit from future development

in Dunedin were identified. The specific areas were:

- construction and demolition waste recovery
- organic waste (including food waste) recovery
- rural services and facilities for recycling, resource recovery and safe disposal
- high demand for waste and recycling services in the tertiary area
- high demand for waste and recycling collection services in the Central Business District.

All the above have the potential to attract sustainable business market opportunities, create jobs in Dunedin and grow our local economy.

OBJECTIVE 9: Dunedin businesses minimise waste, are resource efficient and demonstrate innovation which grows or attracts sustainable market opportunities to the city

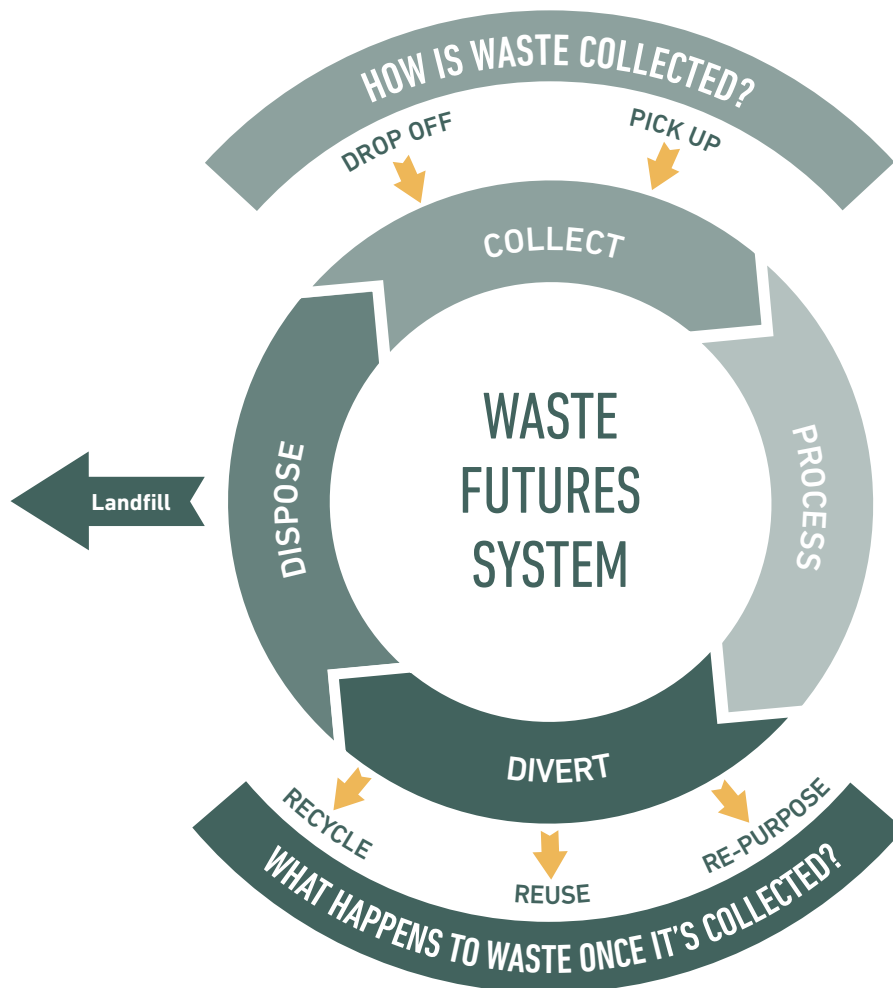
Policy	Method	Implementation Pathway		
		1–2 years	3–4 years	5+ years
The DCC encourages and supports businesses to minimise waste and promotes reuse, resource recovery and the circular economy.	The DCC, working with others, will develop and/or deliver a business education programme to assist and improve organisational performance and engagement with the circular economy	Initiate	Develop programme delivery model	Embed
The DCC will partner with industry, businesses, and neighbouring councils to build local capacity and capability that will increase the quantity and range of diverted material that can be collected and processed in the city/region/South Island.	The DCC will invest in infrastructure that aligns with the goals and objectives of its Waste Minimisation and Management Plan	Identify priorities for further investigation and development (Refer to Waste Futures)		
	The DCC will assess, partner, endorse or support Waste Levy Contestable Fund applications which minimise waste and/or add value to recovered materials with the potential to create local employment opportunities	Ongoing		
	The DCC will work collaboratively with Central Government, other Councils, industry, businesses, associations and the community to establish, encourage and support the realisation of product stewardship initiatives	Actively support and encourage the introduction of product stewardship initiatives		
The DCC will support collaboration between local community groups/ organisations and Kāi Tahu partnering with commercial businesses in the delivery of waste minimisation education, projects (including feasibility studies), services and facilities for the city	Continued engagement with these stakeholders	To be included in the 10 Year Plan 2021/22		

STITCH KITCHEN WORKSHOP



WASTE FUTURES

Waste Futures is an overarching programme of work aimed at identifying and procuring the best waste management system solution for Dunedin. The programme aims to establish a 'whole of system approach' i.e. collection, processing, diversion, and disposal of waste to landfill.



Waste Futures sits within a global and national context of zero waste and carbon reduction.

The whole of system approach is one example of what Council is doing to achieve zero-waste (circular economy) and net zero carbon for Dunedin. Carbon emissions from waste will be measured as a subset of Dunedin's total net carbon emissions.

The Waste Futures Programme supports the move towards a circular economy by increasing Council's influence over Dunedin's waste services. The programme will assist the DCC to:

- meet the targets of the Waste Minimisation and Management Plan 2020 (this plan)
- reduce Council's net carbon emissions from waste to zero by 2030
- increase customer satisfaction with Council's waste services to 90% by 2030
- provide waste services that reduce health and safety and environmental risks.

Mana whenua has a key role to play as a Treaty Partner in the delivery of the Waste Futures programme, as kaitiaki for Dunedin's natural environment and resources. The programme was presented to mana whenua, who supported Council's ambitious waste minimisation targets, the move towards new collection arrangements and the diversion of waste (re-use, re-cycle and re-purpose) from landfill.

FUNDING THE PLAN

Overview of the current funding methods. The DCC funds its waste management and minimisation facilities, services and educational programmes in a variety of ways.

User pays charges

The full cost associated with sending waste to landfill is recovered via user pays gate charges. This means that landfill users sending waste to DCC owned disposal facilities (inclusive of rural skip days) will pay for the loss of resources based on the amount of waste sent to landfill. This is commonly referred to as the polluter pays principle.

Landfill users are also paying for the on-going engineering, treatment and aftercare required to contain and control the environmental effects of landfill disposal such as the collection of leachate and gases, pest and odour control systems and Central Government levies and charges.

Landfill gate charges: cover the total cost of waste disposal and landfill operations at the Green Island Landfill. Waste delivered to this facility is either weighed on arrival (large vehicle loads) or based on average volume (small vehicle load to the transfer station) and charged accordingly.

Gate charges contribute a portion of the waste disposal and operational costs of the Waikouaiti and Middlemarch Transfer Stations. To recover the total costs of providing waste facilities in satellite communities, a funding contribution is required from general rates.

Rural skip days: are part-funded by user charges based on the size of the vehicle load and general rates.

City rubbish collection service: the cost of purchasing the DCC's rubbish bag covers the cost of providing a kerbside collection service for rubbish and the costs associated with landfill disposal.

General rates funded

General rates provide subsidised contribution to the community waste disposal facilities and rural skip day events as outlined previously. Further to this, general rates fund the following activities.

- **Plan delivery:** DCC Waste and Environmental Solutions staff and other resources deployed to deliver the objectives of the plan to the satisfaction of the community.
- **Litter and public places recycling bins:** contracted collection services for all litter and public places recycling bins.
- **Illegal dumping:** contracted collection services for the retrieval of household waste illegally deposited on public land. A small portion of the cost of collection may be recovered through infringement fines.

Litter Offences and Infringement Fees

On positive identification of a litter offender the DCC may take enforcement action and serve a litter infringement notice for litter or illegal dumping offence in accordance with the Litter Act 1979. Infringement fees may then be charged in relation to the severity of the event.

Waste levy

Landfill gate charges are levied by the Government under Part 3 of the WMA. A portion of the levy collected is returned to the DCC to promote or achieve waste minimisation in accordance with the plan. This is equal to 50% of the levy payment collected by the Government divided by Dunedin's population. The waste levy received by the DCC provides funding for the following activities.

Education for Sustainability programmes: Enviroschools local facilitation, resources and the Sustainable Living programmes are partially waste levy funded.

Waste minimisation initiatives:

- Educational workshops
- Diverted material collection events
- Promotion such as expos and advertising
- Diverted material infrastructure such as public places recycling facilities
- Hazardous waste collection, treatment, diversion
- Other initiatives that reduce waste or increase material diversion.

Waste Levy grants: The DCC has made funds available from its share of the waste levy for grants under section 47 of the WMA, to promote or achieve waste minimisation activities in accordance with this plan:

- Waste Minimisation Small Project Grants
- Waste Minimisation Community Projects/Initiatives Grant
- Waste Minimisation Innovation and Development Grants (Commercial Sector).

Waste Futures Project

Implementation, where it aligns with this plan, supports waste minimisation, education and promotion, reuse, recycling or other forms of resource recovery.

Targeted rates funded

Kerbside collection services for recycling: residents in the areas that receive the DCC's kerbside collection service for recycling pay for the service via a targeted rate.

Audit and enforcement activities

To improve quality and quantity of recycled materials DCC may audit yellow-lidded mixed recycling bins presented at kerbside and, if consistent bin contamination occurs at the same address, DCC may remove the bin/s from this address. Bins will be returned following a three-month stand-down period at the cost of the property owner.

Revenue generated from the sale of diverted materials

Recycling rebate: a proportionate amount of funds may be received from the sale of recyclable material collected at kerbside by DCC contractors and from the resource recovery centres at the DCC's facilities.

DCC Resource Recovery Centres: revenue raised from the sale of re-usable household items contributes towards the on-going operation and development of the Resource Recovery Centres.

The centres may also donate recovered materials to be reused or recycled via community groups/initiatives aligned with Objective 8 of this plan.

Potential future funding method

Licensing of commercial waste collectors: the DCC will consider creating a new Solid Waste Bylaw that better aligns with current strategies, legislation (specifically the WMA) and the plan. This includes licensing of waste collectors and operators for which the DCC will require a licensing fee. This fee would need to generate at least enough revenue to cover the costs of administration, monitoring and may be weighted to mitigate risk, providing sufficient funds to protect the environment from harm in case of negligence.

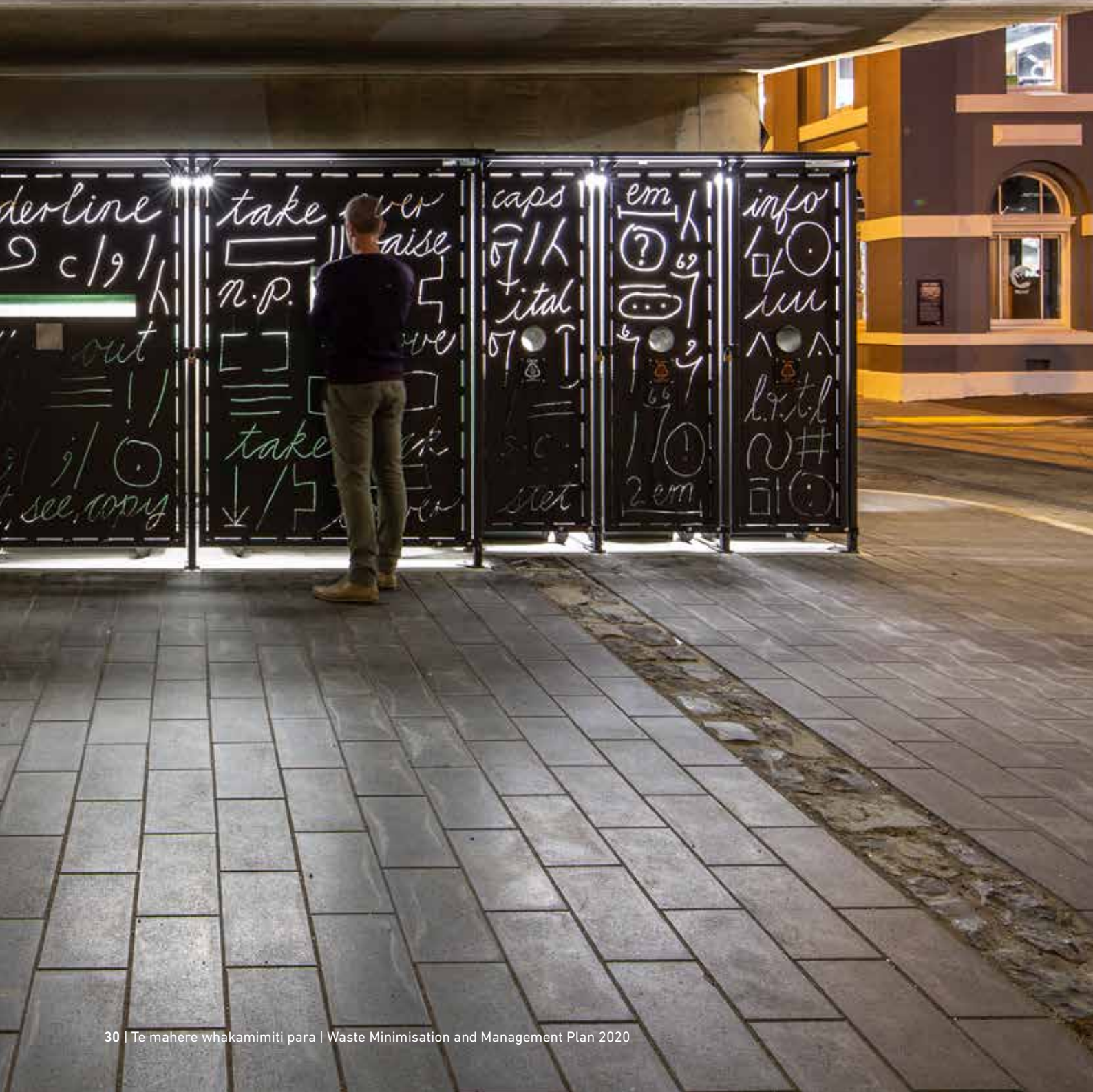
PERFORMANCE INDICATORS

Measure	Activity	Reporting frequency
Reduce the municipal solid waste generation per capita by at least 15% by 2030 compared to 2015	Group Management Plan	Annually
Reduce the amount of municipal solid waste disposed to landfill and incineration by at least 50% by 2030 compared to 2015	Group Management Plan	Annually
Increase the diversion rate away from landfill and incineration to at least 70% by 2030	Group Management Plan	Annually
The DCC achieves 100% compliance with waste facility consent conditions under the Resource Management Act 1991	Group Management Plan	Annually
The composition of waste at the DCC's Green Island waste facility reflects a decrease in waste materials targeted by waste minimisation and resource recovery programmes	SWAP audits	Periodically
The quantity and quality of diverted material collected via the DCC's kerbside collection service for diverted material with > 2% annual growth in diverted material sold	Annual Plan	Quarterly
The number of customers with access to DCC diverted material facilities is increasing	Group Management Plan	Annually
Overall satisfaction with rubbish disposal services	Resident Opinion Survey	Annually
The quantity and quality of diverted material collected via the DCC's diverted material facilities is increasing	Gather, collate and summarise information	Quarterly
Zero waste education programmes and workshops provide valuable learning opportunities to participants	Feedback received and summarised, increasing participation	Quarterly
Number of businesses involved in a business education programme around circular economy is increasing	Case studies are produced	Annually
Number of successful waste levy grant applications is increasing	Applicants project outcomes reports are received	Periodic media releases

PLAN REVIEW PERIODS

DCC intends to have a mid-point review in 2024 to align with DCC's 10 Year Plan. The 2024 review will be preceded by a full waste assessment to inform and identify where more information and data is required to further progress. The DCC will then decide if the plan continues to be fit for purpose, needs to be amended, revoked or replaced. In any case, changes are notified via the special consultative procedure.

VOGEL STREET NEIGHBOURHOOD RECYCLING HUB



SUMMARY OF THE WASTE ASSESSMENT

The waste assessment process gathers all available information and data on the current and future demand for waste and diverted material facilities and services within the Dunedin district. This includes the DCC's and other organisations' activities. The waste assessment is only as good as the information and data that can be accessed and used for this purpose.

In 2018, the DCC conducted a waste assessment to determine the existing provision of waste and diverted material facilities and services in Dunedin.

It also identified the issues, demands and options that can be further explored to address these, including the DCC's intended role in meeting the forecast future demand.

Available information, data and limitations: The DCC made every effort to obtain comprehensive data about waste and diverted material services and facilities in Dunedin to inform the plan.

Both the DCC and private operators provide waste and diverted material services and own waste and diverted material facilities. Because of this, detailed information from private operators is often hard to obtain due to perceived commercial sensitivity.

Therefore, some assumptions have had to be made for strategic planning purposes as they relate to the forecast of future demand for waste and diverted material services and facilities.

A detailed assessment of scrap metal dealers and second-hand traders and similar activities was not undertaken as the significance of gaining this information was weighed against the cost and difficulty of obtaining it. However, the DCC recognises and acknowledges the valuable contribution these activities make to waste minimisation and resource recovery via commercial operators, charity organisations, social enterprises and other community networks.

SUMMARY OF FORECAST FUTURE DEMAND

This summary is comprised of information and data from the Waste Assessment 2018, a Suitability of Options Assessment and the Waste Futures Programme Business Case – Part B FINAL

Education and Promotion

Waste / Diverted Material Issue	Further Comments on Issue/Demand	Potential Size of the Issue/Demand	Existing Council Mechanism	Potential Future Mechanism
	There is interest within community in waste minimisation; reduce, reuse and recycle and an increased demand for educational talks, tours and events that promote waste minimisation practice	There continues to be a demand for educational behaviour change programmes and promotions	<p><i>Delivered internally</i></p> <ul style="list-style-type: none"> • University classes • OP classes • School classes, pre-schools • Organisations; Lions, Probus, Sports teams, clubs, community groups, and others • Businesses • Other promotions e.g. Plastic Free July <p><i>Contracted Workshops</i></p> <ul style="list-style-type: none"> • Waste Free Living and Waste Free Parenting or Foodlovers Masterclass (in support of Love Food Hate Waste) LFHW • Other LFHW workshops and promotions • Composting Made Easy workshops • Sustainable Living workshops 	DCC will continue to deliver on current and future waste minimisation and educational opportunities to engage the community in behaviour change

Collection Services

Waste / Diverted Material Issue	Further Comments on Issue/Demand	Potential Size of the Issue/Demand	Existing Council Mechanism	Potential Future Mechanism
Waste Futures	There is a demand for kerbside collection services for rubbish and recycling to continue Rubbish Bag Collection pose a health and safety risk	There is a decrease in DCC rubbish bag sales as residents show a preference for commercial rubbish bin services	The Council kerbside collection service for rubbish and recycling is inclusive of a weekly DCC black rubbish bag collection, a mixed recycling wheelie bin and separate glass bottles and jars bin collection service which is collected on a fortnightly rotation	<p>Extend existing kerbside collection contract for waste and recycling</p> <p>Undertake a review of the level of kerbside collection services via the Waste Futures programme</p> <p>Engage the wider community with a short list of options and receive feedback</p> <p>Consult on Proposed Kerbside Collection Service during the 10 Year Plan period 2021–2031</p>
Residential Kerbside Collection Service	There is a diminishing demand for Councils kerbside rubbish bag collection services in residential areas There is insufficient collection capacity in some areas e.g. campus area	<p><i>Kerbside rubbish audit</i></p> <ul style="list-style-type: none"> • 18% black rubbish bags • 45% commercial rubbish bins • 37% no rubbish presented <p>Student flats have a higher occupancy rate</p>	Introduce recycling hubs to the areas with a high volume of recycling giving 24/7 access to recycling facilities e.g. tertiary precinct and central city area	
Organic waste and GHG emissions	Kerbside collection vehicles emit Green House Gases (GHG) There is a demand for a higher level of service for organic waste kerbside collection i.e.; food, garden or food and garden waste combined	<p>Unknown = SWAP 2018</p> <p><i>Organic waste to landfill</i></p> <ul style="list-style-type: none"> • 13% food scraps • 9% garden waste • 7% other organics • 42% of the content of a DCC rubbish bag is organic waste 	<p>Contract does not specify carbon reduction outcomes</p> <p>DCC supports Kiwiharvest food collection from inner city businesses to redistribute in the community</p> <p>DCC supports and promotes the Love Food Hate Waste campaign</p>	
Waste Futures – Central Business District	There is a demand for DCC to provide waste and recycling services for city residents and small businesses	<p>A customer survey related to participation in CBD rubbish and recycling services revealed that satisfaction of these services rated;</p> <ul style="list-style-type: none"> • 70% Inner City recycling hubs • 20% rubbish bag collection • 82% of those surveyed said the DCC collection service did not meet their needs 	<p>A twice weekly collection of bundled carboard from designated collection points</p> <p>There is an DCC rubbish bag collection service every evening in the Central Activity Area</p> <p>Most businesses in the CBD use commercial waste and recycling service providers</p>	

Waste / Diverted Material Issue	Further Comments on Issue/Demand	Potential Size of the Issue/Demand	Existing Council Mechanism	Potential Future Mechanism
Waste Futures – Rural Waste and Recycling Services	There is a demand for rural skip days to continue – There is a demand for transfer stations at both Middelmarsh and Waikouaiti	Unknown Waste to Middelmarsh transfer station decreased 26.4% over 10 yrs, while waste to Waikouaiti transfer station increased 38.7% since 2013	Waste Diversion Events are being trialled at Skip Day events Provide more community reuse and recycling opportunities Waste being disposed of in farm fills in rural areas	Support community involvement in resource recovery Extend a network of Rural Recycling Hubs Promote product stewardship

Processing Facilities

Waste / Diverted Material Issue	Further Comments on Issue/Demand	Potential Size of the Issue/Demand	Existing Council Mechanism	Potential Future Mechanism
Waste Futures – Recyclable Processing Facilities	DCC has little influence over the processing (sorting) and markets for post-consumer Mixed Recyclables collected in Dunedin	China has introduced a National the Sword and Blue Sky Policies which are affecting commodity markets for recyclable plastics globally. The size of the problem is being reviewed by the National Resource Recovery Taskforce however, it is thought to be significant	Contribute to national strategy dealing with constrained recycling markets, seek opportunities for onshore processing	Better Business Case Analysis – Waste Futures 2023 Contribute to national recycling strategy
Waste Futures – Organic Waste Processing Facilities	Green Waste Fills are currently permitted activities under the Otago Regional Councils – Regional Plan Waste Organic waste is being deposited in commercial rubbish bins as a means of disposal Organic waste to Green Island landfill	Unknown Unknown SWAP 2018 – Organic waste to landfill <ul style="list-style-type: none"> • 13% food scraps • 9% garden waste • 7% other organics 	DCC has a small-scale windrow composting facility at Green Island Landfill DCC considering options for the diversion of organic waste away from landfill and green waste fills Establish an appropriate organic processing facility for Dunedin	A consultancy review of options for organic waste diversion was undertaken in 2017 which identified issues and opportunities on a range of organic collection and processing options Explore technologies for the diversion of organic waste, identifying best approach for Dunedin by the end of 2021/22 financial year

Waste / Diverted Material Issue	Further Comments on Issue/Demand	Potential Size of the Issue/Demand	Existing Council Mechanism	Potential Future Mechanism
Waste Futures & 3 Waters	There are no local organic waste faculties that can compost combined green waste, food scraps (organics), sludge's or biosolids in Dunedin	In addition to food scraps, green waste and other organics, sludges and biosolids account for around 6.8% of waste to Green Island Landfill	Waste and Environmental Solutions are co-ordinating with the 3 Waters Group on a feasibility study for the combined processing of organics and bio-solids	Explore technologies for the diversion of sludges and biosolids, identifying best approach for Dunedin by the end of 2021/22 financial year
Construction & Demolition Waste (C&D)	Significant quantities of construction and demolition materials are received at Green Island transfer station and landfill	SWAP 2018 – construction and demolition (C&D) waste to landfill by volume and activity source (C&D) waste (timber, 13%; and rubble 12%) totals 25% of the waste going to landfill.	DCC use procurement tools and project planning to encourage C&D waste minimisation Work with business and industry to increase the opportunity for waste reduction, reuse and recycling and reprocessing	Develop an online toolkit and present case studies to assist and promote best practice C&D waste minimisation; including reuse, redesign and recycling
Waste / Landfill	DCC is preparing for Green Island Landfill's closure sometime between 2023 and 2028 There is a demand for the future provision of a landfill for waste disposal	Export of waste to an alternative landfill out of district is both undesirable and cost prohibitive	Investigate the establishment of a modern landfill facility at the designated Smooth Hill site	Develop Smooth Hill Landfill to meet the future demand for landfill provision

GLOSSARY MĀORI PERSPECTIVES

He ao tūroa, he ao hauora: a natural world, a healthy world.

Kaitiaki: guardian

Kaitiakitaka: the exercise of customary custodianship in a manner that incorporates spiritual matters by takata whenua who hold mana whenua status for a particular area or resource. The concept of kaitiakitaka evolved as mana whenua responded to their impact on the natural environment.

Mahika kai: the customary gathering of food or natural materials, and the places where those resources are gathered.

Mātauraka Māori: Māori knowledge or wisdom.

Mana whenua: those who exercise customary authority or rakatirataka (chieftainship or decision-making rights).

Mō tātou, ā, mō kā uri, ā muri ake nei: for us and for our children after us.

Takata whenua: the iwi (tribe) or hapū (sub-tribe) that holds mana whenua in a particular area.

Taoka: a treasure, a thing of great value.

Te Tiriti o Waitangi: the Treaty of Waitangi.

Tiakitaka: the act of guarding or keeping.

Tikaka: customary values and practices

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