



Waste Assessment

Prepared for

New Plymouth District Council, Stratford District Council and South Taranaki District Council

Prepared by

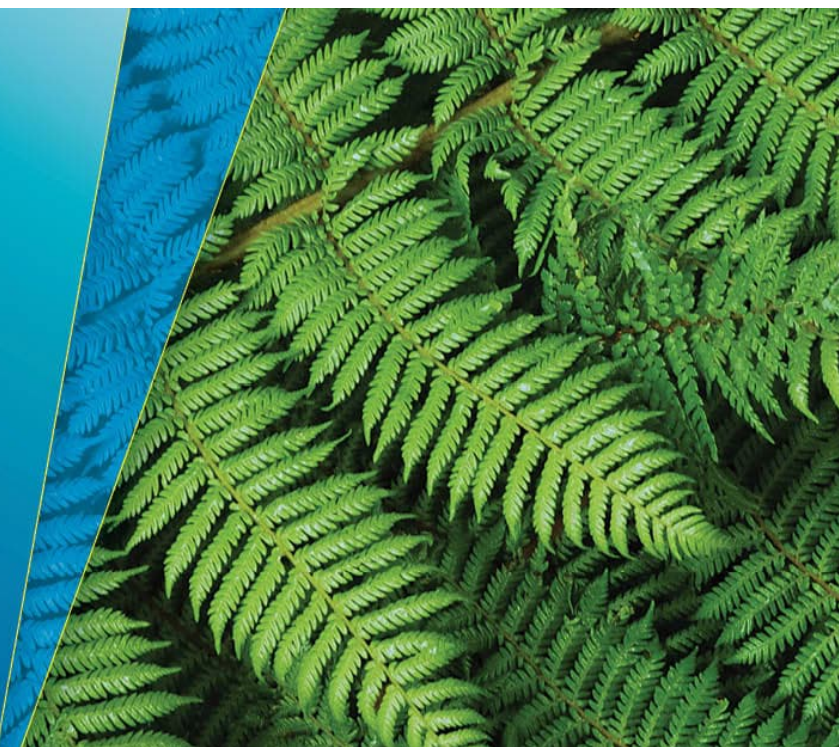
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Acknowledgements

This document is based on the template set out in the Ministry for the Environment's document Waste Assessment and Waste Management and Minimisation Planning, A Guide for Local Authorities.

We have also used the principles of circular economy frameworks including:

- The Ellen MacArthur Foundation;
- The Doughnut Economies theory developed by Kate Raworth; and
- Juhi Shareef and Teina Boasa-Dean, the reimaged view of the doughnut economies model through an indigenous worldview.

These will assist in detailing the process changes required to implement a circular system within the Taranaki Region.

A range of people and organisations have contributed to the preparation of this Waste Assessment. They include:

- New Plymouth District Councillors and staff;
- Stratford District Councillors and staff;
- South Taranaki District Councillors and staff;
- Iwi of the Taranaki Region, including Ngāti Tama, Ngāti Mutunga, Te Atiawa, Ngāti Maru, Taranaki Iwi, Ngāruahine, Ngāti Ruanui, Ngaa Rauru Kiihahi, Ngāti Maniapoto; and
- Industry and community members of Taranaki Region through community engagement and consultation.

1 Introduction

1.1 Purpose

This Waste Assessment establishes the planning foundations for the Waste Management and Minimisation Plans (WMMPs) that will be prepared for the New Plymouth District (NPDC), Stratford District Council (SDC) and South Taranaki District Council (STDC), referred to herein as `the councils`.

The Waste Assessment describes the current waste situation, sets the vision, goals, objectives and targets for the districts, and develops options for meeting future demand. The outputs from this Waste Assessment will be summarised in the final WMMPs for each district.

This Waste Assessment and the subsequent WMMPs meet each Council's obligation to evaluate and plan for waste minimisation and management in their district under the Waste Minimisation Act 2008 (WMA).

While a WMMP must be reviewed every six years, this assessment takes a much longer-term view. This recognises local government long term planning approaches and that decisions on contracts for services (typically 10 years or more) and infrastructure investment (with a service life of 20-50 years) span many years.

This Waste Assessment contains three parts:

- Part 1 – where are we now?

This covers policy and legislative context, the current waste situation including waste flows, waste infrastructure, services and forecast of future demand. This will be summarised in the WMMPs.

- Part 2 – where do we want to be?

This includes the vision, goals, objectives and targets for the Waste Assessment, which will form part of the WMMPs.

- Part 3 – how are we going to get there?

This part identifies options and assesses the suitability of each option (as required by Section 51 of the Waste Minimisation Act 2008) and includes a summary of the outcome of consultation with the Medical Officer of Health. The preferred options from the Part 3 assessment will be presented in the WMMPs.

1.2 Taranaki's pathway to a circular economy

1.2.1 What is a circular economy?

The WMA (2008) focusses on minimising waste generation and effectively managing waste through recycling, recovery and appropriate disposal. The vision in the Te rautaki para, the 2023 Waste Strategy (Waste Strategy) is:

“By 2050, Aotearoa New Zealand is a low-emissions, low-waste society built upon a circular economy. We cherish our inseparable connection with the natural environment and look after the planet's finite resources with care and responsibility.”

The principle of the circular economy is now embedded in New Zealand's national policy as a means to address the negative impacts that the production and consumption of goods has on the environment.

In the current “take-make-dispose” linear economy, products are not designed for reuse, repair, refurbishment or to be remanufactured and this drives the continuous disposal of valuable resources. The Waste Strategy and the Emissions Reduction Plan 2022 (ERP) are the first Central Government plans which set the direction of travel for this systems change.

A circular economy continually seeks to reduce the environmental impacts of production and consumption, while enabling economic growth through more productive use of natural resources. The circular economy is based on the following design principles:

- Designing out waste and pollution;
- Keeping products and materials in use; and
- Regenerating natural systems.

A circular economy is more than about how we manage waste. The circular economy prioritises waste avoidance through the consideration of end of use from the very beginning of the design phase of a product. This requires a whole of economy shift, given that our current economy is based on the continuous consumption and disposal of goods to generate economic profit.

The circular economy requires a systems-thinking approach to the way we design solutions and requires extensive collaboration across stakeholders in each value chain. A principle of the circular economy is to have the correct levers in place for individuals to make informed decisions; these include educational material, regulations, advocacy, and infrastructure.

Inherent in the circular economy approach is collaboration. This provides multiple perspectives on key issues and opportunities, promotes shared ownership of action and, in the context of Taranaki, has the potential to provide more efficient and effective activity through increased scale.

The Ellen MacArthur Foundation circular economy system diagram (Figure 1.1), known as the butterfly diagram, illustrates how continual flow of materials looks in a circular economy. This diagram explores the technical cycle (in blue) and biological cycle (in green) where the value from materials or nutrients are extracted, and the principles of the waste hierarchy are implemented.

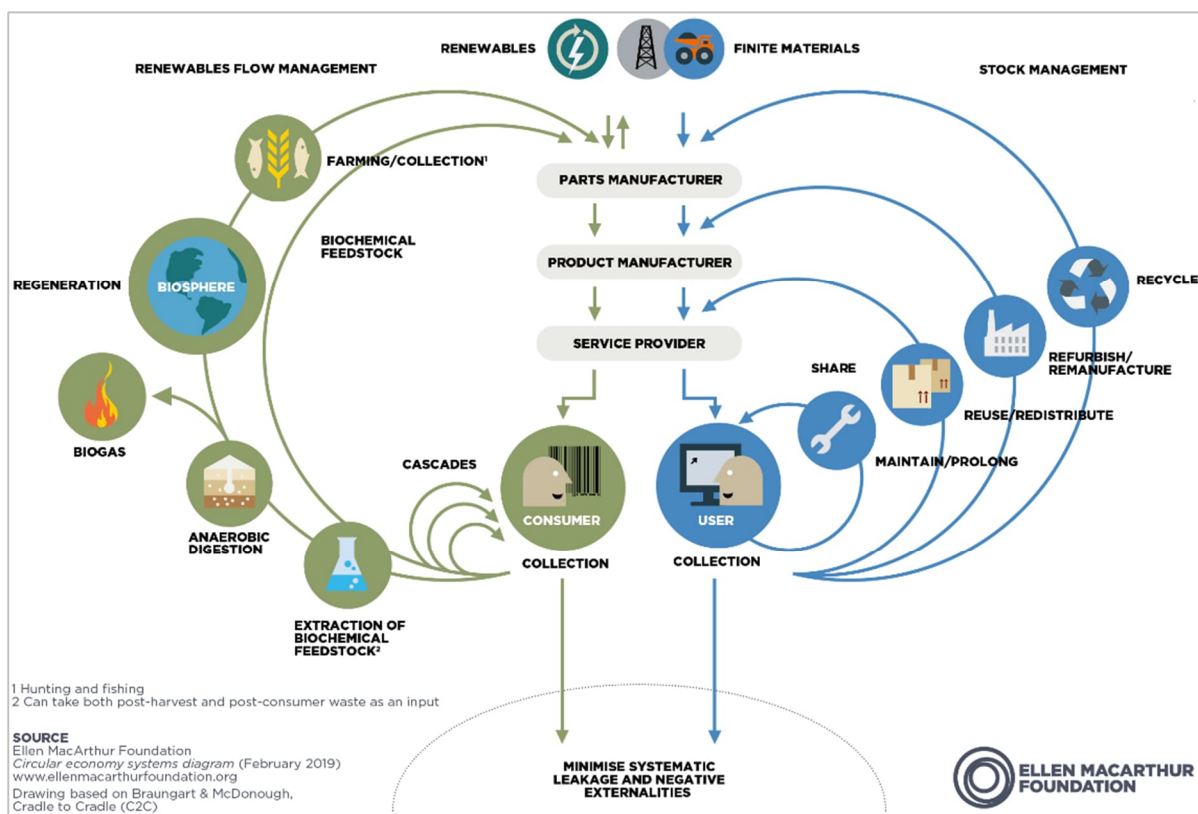


Figure 1.1: Ellen MacArthur Foundation, Circular Economy system (Butterfly diagram).

In providing for waste management and minimisation across the Taranaki region, the councils seek to use the circular economy framework to take a wider view of material flows and management and contribute to the social, economic, environmental and cultural well-being of communities in the present and for the future (required under the Local Government Act (2002)).

1.2.2 Role of the waste hierarchy in the circular economy

The waste hierarchy (Figure 1.2) is used as a guide to prioritise activity, focussing on circular management methods before considering waste management options. Where value cannot be recovered from the materials, or there is no current market for the material the focus is on safe treatment and disposal.

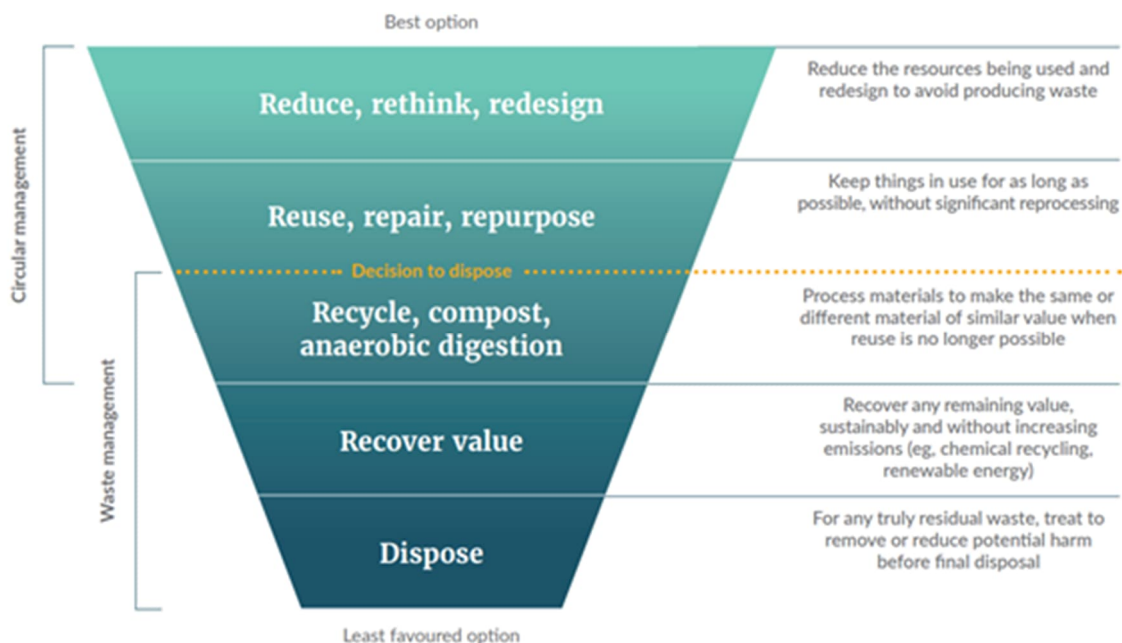


Figure 1.2: The Waste Hierarchy¹

1.2.3 Drivers for a circular economy

The key drivers for the transition to a circular economy come from both pull and push factors (Table 1.1). Opportunities (pull) include community and local economic benefits and potential for improved environmental management and innovation. There are also considerable push factors for change including strong political signalling from central government and emerging environmental, operational and business constraints, driven by changing environmental regulations and community expectations.

Table 1.1: Drivers for change

Pull (opportunities)	Push (the need to respond to economic and regulatory requirements)
<ul style="list-style-type: none"> Innovation 	<ul style="list-style-type: none"> Greenhouse gas reduction requirements
<ul style="list-style-type: none"> Collaboration with industry, community and other government agencies 	<ul style="list-style-type: none"> National and regional policy
<ul style="list-style-type: none"> Community/local benefit 	<ul style="list-style-type: none"> Increased waste disposal costs (landfill levy, emissions trading scheme)
<ul style="list-style-type: none"> Improved environmental management 	<ul style="list-style-type: none"> Community demand for action
<ul style="list-style-type: none"> Exploring shared opportunity with Iwi and Hapū 	<ul style="list-style-type: none"> Stricter environmental regulations

1.2.4 Linking Circularity to Carbon Neutrality in Taranaki

A linear economy extracts raw material from the earth then uses energy and labour to manufacture a product which is then disposed of when no longer required. Manufacturing, consumption and

¹ From the Te rautaki para | Waste Strategy, MfE, 2023 (ME1742).

disposal generate carbon emissions. By keeping products and materials in use, the circular economy helps to reduce the emissions generated.

Within Taranaki a regional circular economy approach that supports carbon neutrality, and reflects the priorities of the waste hierarchy, could mean:

- Designing out waste and the associated embodied carbon and potential emissions from landfill when constructing local infrastructure and buildings;
- Influencing consumption behaviour (carbon emissions from what we consume or use, these are the most significant component of our overall emission profile) will reduce waste and emissions from products we use as a community;
- Keeping products and materials in use through a robust local recovery network which preserves embodied energy and carbon for longer and reduces emissions from transporting materials elsewhere in New Zealand or internationally;
- Reusing or using recycled material where more efficient than virgin material; and
- Incorporating waste into wider natural systems, which changes the focus to regeneration. For example: organic waste recovery into compost which can be used for planting or biodiversity projects.

Investment in circular economy and bioeconomy strategies is one of the five main actions outlined in Section 4 to support the New Zealand Government's emissions reduction goals².

1.2.5 Incorporating mātauranga Māori

There is clear alignment between indigenous world views and western concepts of circular economy. This is particularly true for Te Ao Māori as is demonstrated in the reimagined view of the Western Doughnut Economics diagram developed Juhi Shareef and Teina Boasa-Dean (Figure 1.3: The Doughnut Economies figure reimagined from an indigenous Māori perspective).

The principles that underpin the circular economy, including the regeneration of natural systems, intergenerational thinking and interconnectedness of systems (people and the environment) are firmly imbedded in mātauranga Māori (Māori traditional knowledge) and were historically practiced by Māori.

The below vision puts the nine planetary boundaries and ecological foundations at the centre of decision-making, reinforcing the vital partnership of Papatūānuku (Earth Mother or earth's surface) and Rangi-nui (Sky Father or air/sky) as the life force of all.

² Te hau mārohi ki anamata Towards a productive, sustainable and inclusive economy Aotearoa New Zealand's First Emissions Reduction Plan. The Ministry for the Environment, May 2022.

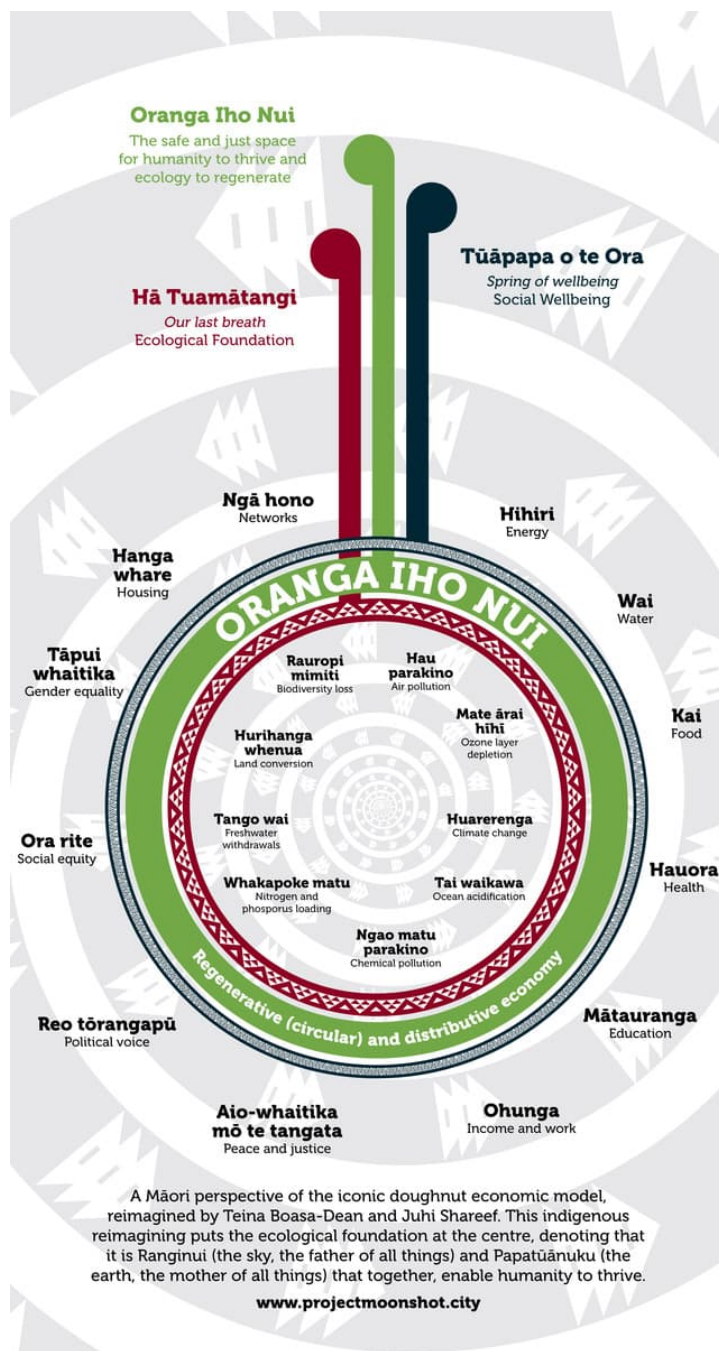


Figure 1.3: The Doughnut Economies figure reimagined from an indigenous Māori perspective³

1.2.6 Role of local government in the circular economy

Local government agencies can become agents for the circular economy with an opportunity to play an important role as managers of waste and resource recovery services for communities.

If we expand our systems view beyond waste services, opportunities in other resources become inherent in a circular economy approach. Local government agencies have other leverage points in the resource value chain as:

- Designers/builders and maintainers of infrastructure and assets;

³ Juhi Shareef and Teina Boasa-Dean, the reimagined view of the doughnut economies model through an indigenous worldview.

- Community educators;
- Legislators;
- Drivers of economic development; and
- Facilitators of response to climate resilience and adaptation.

Based on the three key circular economy principles, Table 1.2 provides examples where Council activities interface with an opportunity to reduce impacts and help move towards delivering restorative and regenerative outcomes through a circular economy approach.

Table 1.2: Local government opportunities in the circular economy

Circular Economy Principles	Council activities
Designing out waste and pollution	<ul style="list-style-type: none"> • Designing for low waste, low emissions outcomes and the most efficient amounts of energy, materials and other resources to be used in: <ul style="list-style-type: none"> – The building and maintenance of Council assets – The delivery of Council run activities • Driving community behaviour change to promote waste avoidance through conscious consumption⁴. • Driving waste avoidance through the purchasing of good and services with the least harmful impacts on the environment.
Keeping products and materials in use	<ul style="list-style-type: none"> • Maximising the recovery of materials for reuse. • Mapping the key industry, businesses and markets within the region and collaborating to overcome shared challenges or identify higher value recovery activities.
Regenerating natural systems	<ul style="list-style-type: none"> • Preserving and enhancing the natural and urban environment through environmental design. • Creating resource recovery pathways for returning nutrients back to the environment.

1.3 Scope

This Waste Assessment covers solid waste⁵ generated within the districts of New Plymouth, Stratford and South Taranaki. Each council will prepare their own WMMP based on the regional approach in this Waste Assessment report. The focus is on materials entering the waste management system (kerbside or transfer station collection, processing and disposal).

Other waste materials relevant, but not specifically addressed, include wastewater treatment solids, industrial by-products and materials reused on site.

⁴ Conscious consumption can be described as avoid purchasing unnecessary items and purchasing products that have a positive social, environmental or economic impact.

⁵ The councils current WMMP's define this as: Solid waste refers to all waste generated as a solid or converted to a solid for disposal. It includes, but is not restricted to, wastes like paper, plastic, glass, metal, electronic goods, furnishings, garden and other organic wastes.

PART 1 – THE WASTE SITUATION

2 Introduction

The current situation provides a foundation from which we can identify opportunities to transition the Taranaki region to a circular economy. The Waste Assessment aims to confirm the key drivers for change, where any gaps or issues are and identify a possible road map taking into consideration:

- New Zealand's policy ambitions to transition to a circular economy;
- Linking the circular economy transition to the region's wider net zero goals, overall emissions reduction and economic development strategy and action plan (Tapuae Roa and Taranaki 2050);
- The need for collaboration, in particular with local Iwi and Hapū, industry and community;
- Viewing activities and services more holistically, consistent with a Te Ao Māori perspective; and
- Ensuring waste minimisation issues and opportunities are considered alongside emissions reduction, community partnerships, economic development and infrastructure delivery.

3 Taranaki's zero waste journey

The Taranaki region extends over 7000 km² with landscape that includes rolling farmland, natural resources and 263 km of coastline. The region has a strong dairy farming and food production economy along with oil and gas historically. The region has a vision for a low emissions economy by 2050.

There are nine Iwi in the region (Ngāti Tama, Ngāti Mutunga, Te Atiawa, Ngāti Maru, Taranaki Iwi, Ngāruahine, Ngāti Ruanui, Ngāa Rauru Kiihahi, Ngāti Maniapoto) and each Iwi have their own protocols and perspectives that link them to their rohe. The region's strong dairy farming and food production economy is supported by a number of farms, primary food processors and manufacturers.

The Taranaki region is comprised of three district councils and a regional council who share a common goal to maximise the opportunity to reduce waste sent to landfill and transition to a circular economy. NPDC currently has the most ambitious vision to have zero waste to landfill by 2040.

The councils have been working collaboratively towards a shared Zero Waste vision for the region. Since the last WMMPs were developed in 2017 and 2018, the region has made significant progress with its actions to divert material from landfill through education and behaviour change, collaboration and new resource recovery services and infrastructure.

This has provided a strong foundation for the journey towards a circular economy. Significant achievements include:

- The implementation of green waste collection (for STDC) and food scraps collection (for NPDC) services diverting organic waste from landfill for recovery;
- Establishment of The Junction, a community resource recovery facility, shop and education space in New Plymouth;
- Increased community engagement in waste as part of growing education and behaviour change programmes across Taranaki with a best practice approach e.g. commercial waste advisory, Zero Waste Taranaki branding and website;
- Increased funding for community waste minimisation initiatives through SDC waste levy contestable fund;

- An STDC led collaboration with NPDC, SDC and primary processors (Fonterra, ANZCO and Silver Fern Farms) and Iwi to develop a regional approach to recovering organic materials;
- Working with businesses and households to keep materials in use, through initiatives like the Junction, kerbside recycling, food scraps collection and manufacturing fertiliser (Bioboost®) at the New Plymouth Wastewater Treatment Plant;
- Developing a commercial waste recovery facility as part of the Colson Road Zero Waste Hub targeting reuse of unwanted materials from commercial and construction activity; and
- Development of Emissions Reduction Plans across councils (in progress) and within multiple organisations with reference to waste and circular economy actions.

Previous WMMPs have recognised collaboration as a key objective and through reviewing the current waste management and minimisation services available this is identified as essential to the circular economy transition (ref Figure 3.1: Councils role in shifting to a circular economy). The Taranaki circular economy ecosystem includes local Iwi, businesses, government organisations, community organisations and residents. Recognising that local government cannot achieve circularity alone, any future WMMPs will need to enable wider collaboration.

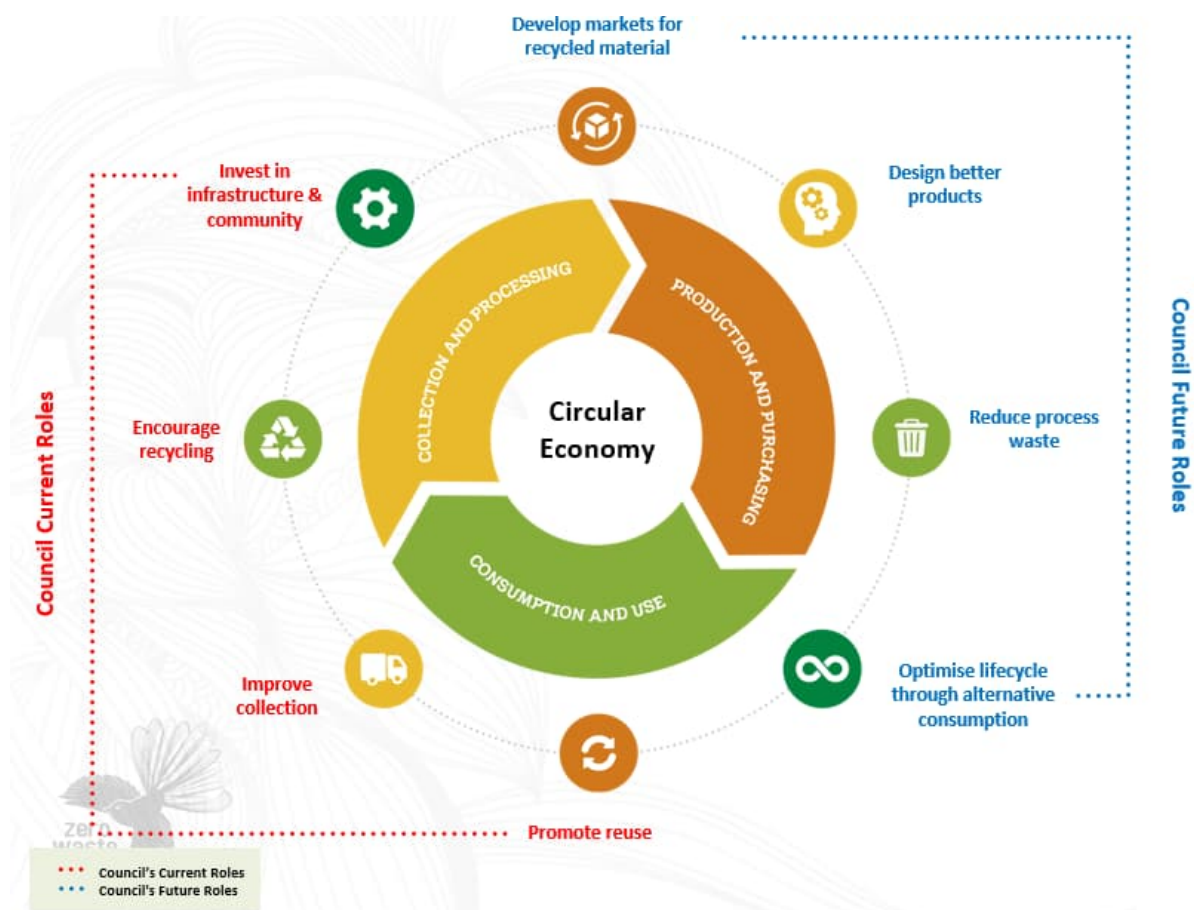


Figure 3.1: Councils role in shifting to a circular economy

Despite progress on WMMP action plans, achievement of key targets for reducing waste to landfill has been challenging.

3.1 Timeline of achievements

A timeline of waste management achievements in Taranaki is detailed at a high level in Figure 3.2. The milestone events which take place across the timeline are predominately goals achieved from previous WMMPs. These achievements will be discussed in more detail throughout Part 1 of the Waste Assessment.

The tiles in green demonstrate the key infrastructure achievements in waste management across the region including the opening of New Plymouth Materials Recovery Facility (MRF) and ongoing green waste collection (STDC) and new food scraps collection services (NPDC). The blue tiles demonstrate where resources have been increased including a dedicated Behavioural Change team to assist with delivery of the Zero Waste Taranaki vision. Local government plans and strategic documents which support the management of these changes are detailed in the black tiles.

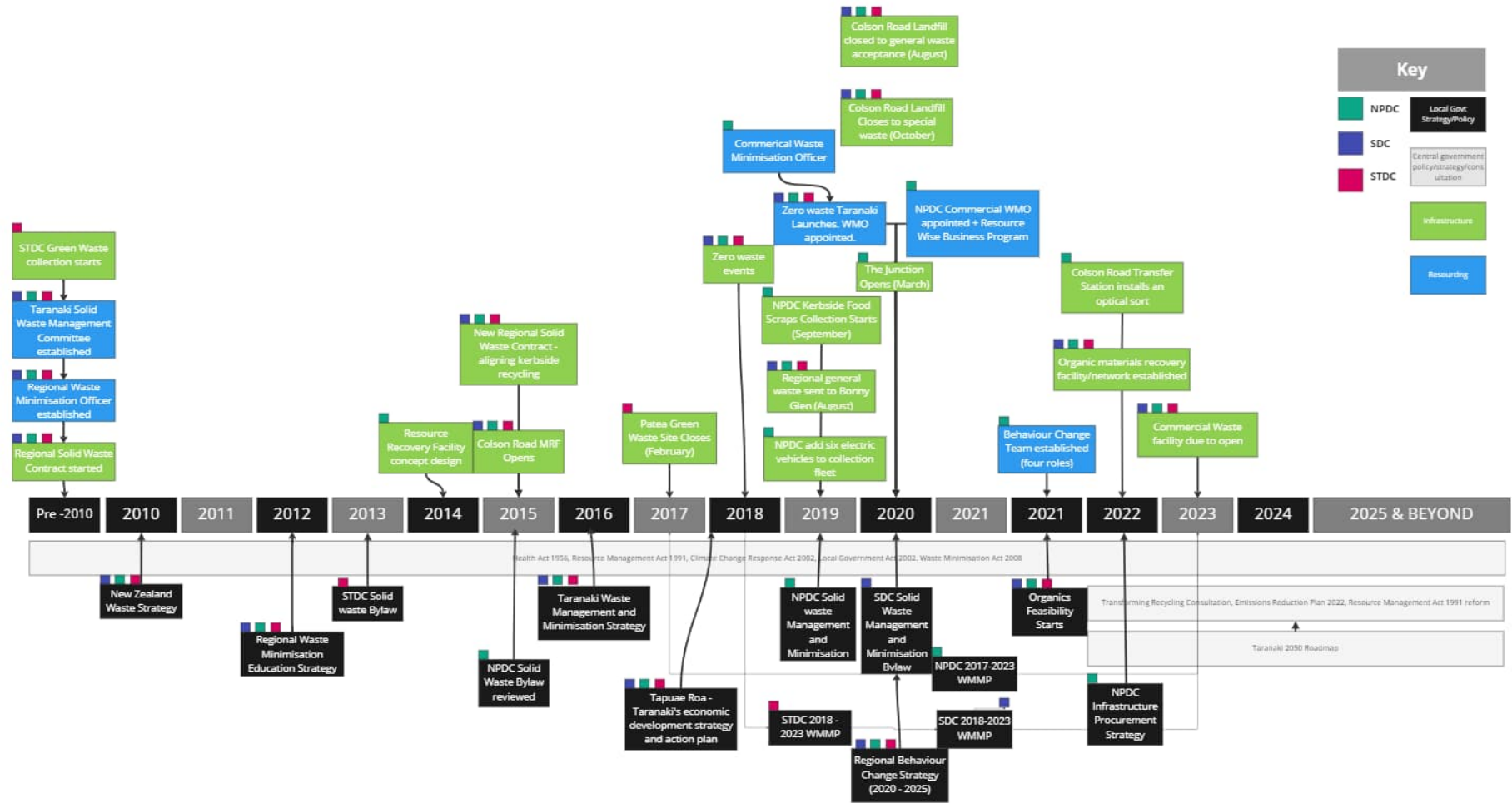


Figure 3.2: Taranaki's journey to zero waste

3.2 How does the community think we are doing?

3.2.1 Stakeholder engagement workshops

The three councils held six two-hour workshops with the community throughout June 2022. The workshops brought together 51 attendees across 26 organisations including waste service providers, farmers, regional council, community organisations, para kore and businesses. The workshops captured strengths and weaknesses, opportunities and threats of the councils' services, infrastructure, behaviour change campaigns and other waste management and minimisation related activity.

The key themes from the engagement are summarised in Table 3.1 and where current activities sit on the waste hierarchy are detailed in Figure 3.3.

Table 3.1: Stakeholder engagement workshop key themes

Strengths	Weaknesses	Opportunities	Threats
Innovative waste minimisation services	Inconsistent kerbside services	Empowering groups	Competing social demands
Kerbside services	Media and communications methods	Waste minimisation solutions	Low buy-in to waste minimisation
The Junction	Access to local services	Waste & emissions legislation	Enforcement, audit, monitoring
Circular & Zero waste strategy	Bonny Glenn Landfill	Collaboration between councils	Increased disposal rates
Collaboration between councils	Collaboration between councils	Campaigns, media & comms	Geopolitics, supply chains, multinationals

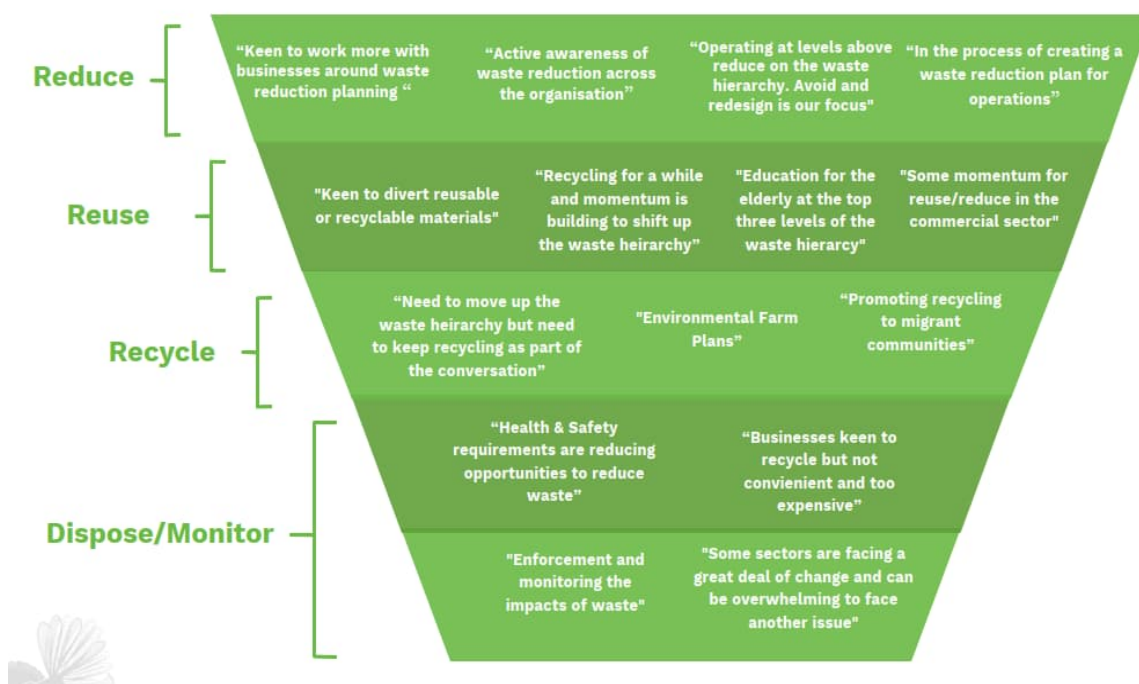


Figure 3.3: Community workshop waste hierarchy current activity (headline takeaways).

4 Policy context

Te Rautaki Para Waste Strategy (2023) provides strategic direction for New Zealand waste systems from now to 2050 and is underpinned by the legislative framework in Figure 4.1.

With the legislative framework currently changing to support the vision and direction of the Te rautaki para Waste Strategy, there is some uncertainty about what the future legislative framework will look like. This includes nationally coordinated investment in infrastructure, clearer obligations for producers of waste (households and businesses) and specified services such as food waste collection from households.

In planning for Taranaki, a key focus will be to ensure Taranaki is well set up to anticipate the likely future direction provided in the Waste Strategy.

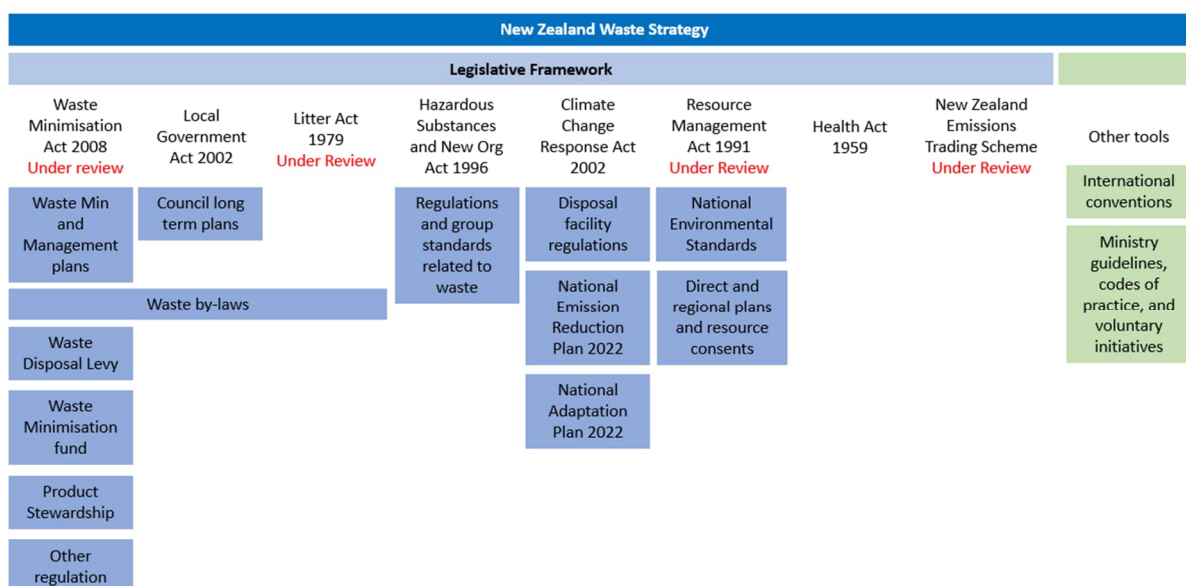


Figure 4.1: Policy context for waste management and minimisation in New Zealand.

In addition to the framework in Figure 4.1, other statutory documents and associated policy that impact on waste management and minimisation across the three districts include:

- Ministry for the Environment Waste Reduction Work Programme; and
- Transforming Recycling (discussion document, regulatory tools being developed to implement the proposed changes).

4.1 National policy

Further detail on the legislation and policy context can be found in Appendix A.

4.1.1 The Aotearoa New Zealand Waste Strategy 2023

In March 2023, the New Zealand Government released a new waste strategy – *Te rautaki para Waste Strategy – getting rid of waste for a circular Aotearoa New Zealand*. The vision of the Waste Strategy commits New Zealand to a low-emissions, low-waste circular economy, by 2050.

The vision is supported by six guiding principles (Figure 4.2), and the body of the Waste Strategy outlines a national roadmap for how we will shift towards a circular economy over the next three decades. This includes three implementation phases, each with a comprehensive set of focus areas and associated goals.



Figure 4.2: Aotearoa New Zealand Waste Strategy 2023 – guiding principles and implementation phases

4.1.2 Waste Minimisation Act 2008 (under review)

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

The main elements of this Act include:

- A levy imposed on all waste that is landfilled (the waste disposal levy);
- Product stewardship schemes for businesses and organisations;
- Allows local authorities to create bylaws relating to waste management and minimisation;
- Requires waste operators to undertake waste reporting; and
- Establishes a Waste Advisory Board to give independent advice to the Minister for the Environment on related issues.

Territorial authorities, such as NPDC, STDC and SDC are required by the WMA (2008) to promote waste management and minimisation within their districts, through a WMMP.

4.1.3 Statutory requirements for Waste Assessments and WMMP

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

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

- Objectives and policies for achieving effective and efficient waste management and minimisation within the territorial authority's district;
- Methods for achieving effective and efficient waste management and minimisation within the territorial authority's district, including:
 - *collection, recovery, recycling, treatment, and disposal services for the district to meet its current and future waste management and minimisation needs (whether provided by the territorial authority or otherwise);*
 - *any waste management and minimisation facilities provided, or to be provided, by the territorial authority;*
 - *any waste management and minimisation activities, including any educational or public awareness activities, provided, or to be provided, by the territorial authority;*
- How implementing the plan is to be funded; and
- If the territorial authority wishes to make grants or advances of money in accordance with Section 47, the framework for doing so.

A WMMP must have regard to the waste hierarchy, the Waste Strategy, and a council's most recent Waste Assessment (this report).

4.1.3.1 Waste Disposal Levy

For every tonne of waste disposed to landfill, a levy is applied and collected by the Ministry for the Environment (MfE). Since 1 July 2021, the landfill waste disposal levy has been progressively increased and expanded. Over four years the levy will be applied to all landfills, with the exception of cleanfills and farm dumps. The levy at Class 1 landfills will increase from \$10 to \$60 per tonne. Under the current WMA (2008) the additional revenue created from the levy will be invested in initiatives to support waste reduction⁶, with funding allocated as follows:

- 50% is returned to territorial local authorities based on population, to spend on waste minimisation initiatives in accordance with their WMMPs; and
- Around 50%, less administration costs, is made available for waste minimisation projects through the Waste Minimisation Fund.

The proportion of levy received by territorial authorities is expected to grow as the waste levy expansion and increase is implemented through to mid 2024. This provides an opportunity for territorial authorities to further invest in waste minimisation activity. MfE has developed guidance to improve the effectiveness of the levy spending by territorial local authorities and through the contestable fund.

⁶ <https://www.mfe.govt.nz/consultations/landfill-levy>

4.1.3.2 Product Stewardship

Product stewardship is when manufacturers, importers, distributors and retailers of a product share responsibility for reducing the environmental impact of their product. In July 2020, the Government announced six products to be declared 'priority products' for the establishment of regulated product stewardship schemes under the WMA⁷. Design of the schemes is ongoing, with work on tyres and large batteries most progressed in late 2022. The priority products for regulated product stewardship schemes are:

- Plastic packaging;
- Tyres;
- Electronic products (e-waste including large batteries);
- Agrichemicals and their containers;
- Refrigerants; and
- Farm plastics.

By regulating these products, the Government increases incentives for circular resource use and the responsibilities of producers for managing the entire lifecycle, including end-of-life, for their products. More responsibility for the life cycle of products and waste management is given to the manufacturers, importers, retailers and users as opposed to previously when the communities, council and neighbourhoods held more responsibilities.

A range of voluntary product stewardship schemes have also been accredited by the MfE⁸. The Ministry's approach to date has been to consider mandatory schemes only where significant environmental harm has been established.

4.1.3.3 National Plastics Action Plan

In response to recommendations by the Office of the Prime Ministers Chief Science Advisor regarding rethinking plastics, in 2021 the Government released the National Plastics Action Plan. The National Plastics Action Plan identified a number of focus areas for improving our use and management of plastics, including:

- Regulated product stewardship;
- Potential container return scheme;
- Kerbside collection;
- Compostable packaging;
- Phase-out of single-use and hard-to-recycle plastics; and
- Plastics Innovation Fund and infrastructure investment.

Building off these focus areas, the Government is gradually phasing out specific hard-to-recycle plastics, including some single-use plastics, through three tranches between 2022 and 2025. The timeline allows for items that are easier to be replaced by reusable or alternative products to be phased out earlier than those that may be more challenging to replace (Figure 4.3).

⁷ <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/product-stewardship/regulated-product-stewardship/>

⁸ <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/product-stewardship/applying-for-voluntary-product-stewardship-accreditation/>

Phasing out problem plastics in Aotearoa
Te whakamoe i ngā kirihou whakapōraruru

Plastics waste is one of our generation's greatest environmental challenges – regularly ending up in landfills or the ocean. To support our country's move towards a low-emissions, low-waste economy, we're phasing out these plastics:

Ministry for the Environment
Manatū Mo Te Taiao

Te Kāwanatanga o Aotearoa
New Zealand Government

Phase	Plastics to be phased out
1 October 2022	<ul style="list-style-type: none"> PVC food trays and containers* Polystyrene takeaway food and drink packaging Expanded polystyrene food and drink packaging Plastic with pro-degradant additives, eg. oxo and photo-degradable plastics Plastic drink stirrers Plastic stemmed cotton buds
1 July 2023	<ul style="list-style-type: none"> Single-use: <ul style="list-style-type: none"> Plastic produce bags Plastic plates, bowls and cutlery Plastic straws* Plastic produce labels**
Mid 2025	<ul style="list-style-type: none"> All other PVC and polystyrene food and drink packaging

* The scope is limited to pre-formed trays used for produce, baked goods, and meat.

* Plastic straws will be available for disabled people and medical use
** See the Ministry's website for further information on scope

For more information, visit <https://environment.govt.nz/waste/plastic-phase-out/>
Published in February 2023 by the Ministry for the Environment | Publication number: INFO 1077

He taiao tōnui mō ngā reanga katoa – a flourishing environment for every generation.

Figure 4.3: Aotearoa New Zealand Waste Strategy 2023 – guiding principles and implementation phases.

The implementation of these phase outs and associated National Plastics Action Plan actions have the potential to impact waste services in Taranaki as they are likely to change the types of products and materials that may be collected via council waste and recycling services.

4.2 Transforming Recycling

4.2.1 National Waste Policy Review – Transforming Recycling

In early 2022, MfE consulted on three proposals to transform recycling in Aotearoa New Zealand which included:

- Improvements to kerbside recycling (including standardisation of bin services across local government areas and mandating food waste collection);
- Introduction of a container return scheme (CRS); and
- Separation of business' food waste.

Following this consultation, the Government announced changes to kerbside recycling and food scraps collections in March 2023, alongside the release of the new Waste Strategy. This includes specific requirements for all district and city councils, to be implemented between 2024 and 2030. This includes:

- Councils across Aotearoa will accept the same materials in their household collections;
- Recycling collections will be available to households in all urban areas;
- Food scraps collections will be available to households in all urban areas;
- Minimum standards for councils to divert waste from landfill; and
- Waste companies, operators and councils required to collect and report more of their waste data.

These changes will have an impact on council services and demand for organic materials recovery in Taranaki.

Alongside these announcements, the Government has deferred the introduction of a national beverage CRS. While the scheme has been deferred it has not been abandoned, as such depending on design, any future CRS will have an impact on the quantity of containers collected through kerbside recycling services and may significantly increase the value of some collected materials.

4.2.2 Waste legislation reform

The Ministry for the Environment are developing new waste legislation to replace the current Waste Minimisation Act 2008 and the Litter Act 1979. The Ministry for the Environment material notes that the new legislation will:

- Improve consistency in waste management including clear roles and responsibilities for central and local government;
- Strengthen the waste levy including broadening the scope of what the waste disposal levy funds can be spent on and adjusting the distribution of funds to territorial authorities;
- Increase regulatory powers to control products and materials;
- Improve how the waste industry operates (new regulatory tools); and
- Change how we all treat waste through making it clear who is responsible for waste at each part of its life.

The intent is to have a draft Bill to in late 2023 or early 2024. Allowing for Select Committee and other parliamentary processes this suggest the new legislation could be enacted in 2025.

4.3 Other national legislation and policy

As noted in Table 4.1, there are several other policy documents of relevance to waste management and minimisation in Taranaki. These are noted below with content drawn from the MfE Guide for Waste Management and Minimisation Planning⁹.

4.3.1 Local Government Act 2002

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

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

More broadly, the purpose of the LGA, and in particular councils' role in promoting social, economic, environmental, and cultural well needs to be considered when preparing their WMMPs and any associated plans or documents.

4.3.2 Resource Management Act 1991 (under review)

The Resource Management Act 1991 (RMA) promotes sustainable management of natural and physical resources. Although it does not specifically define 'waste', the RMA addresses waste management and minimisation through controls on the environmental effects of waste

⁹ Waste Assessments and Waste Management and Minimisation Planning – A Guide for Territorial Authorities, MfE 2015.

management and minimisation activities, including facilities through national, regional and local policy, standards, plans and consent procedures. In this role, the RMA exercises considerable influence over facilities for waste disposal and recycling, recovery, treatment and others in terms of the potential impacts of these facilities on the environment.

Under Section 31 of the RMA, local authority responsibilities include 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 in district planning documents, thereby defining further land-use-related resource consent requirements for waste-related facilities.

In February 2021, the Government announced it would repeal the RMA and enact new legislation based on the recommendations of the Resource Management Review Panel. The three proposed acts are:

- Natural and Built Environments Act (NBA), as the main replacement for the RMA, to protect and restore the environment while better enabling development;
- Spatial Planning Act (SPA), requiring the development of long-term regional spatial strategies to help coordinate and integrate decisions made under relevant legislation; and
- Climate Adaptation Act (CAA), to address complex issues associated with managed retreat.

The Natural and Built Environment Bill and Spatial Planning Bill were introduced to Parliament on 15 November 2022. The Climate Change Adaptation Bill is likely to follow in 2023. For resource recovery and waste disposal activities, it is not clear how the new regime will impact on existing or planned activities. Key features such as more coordinated spatial planning and maintaining/building on existing environmental controls will generally benefit well designed and operated infrastructure.

4.3.3 Climate Change Response Act 2002, New Zealand ETS

The Climate Change Response Act 2002 and associated regulations is the Government's principal response to manage climate change. A key mechanism for this is the New Zealand Emissions Trading Scheme (NZ ETS). The NZ ETS puts a price on greenhouse gas emissions, providing an incentive for people to reduce emissions and plant forests to absorb carbon dioxide.

Certain sectors, including landfill operators, are required to acquire and surrender emission units to account for their direct greenhouse gas emissions, or the emissions associated with their products. Landfills that are subject to the waste disposal levy are required to surrender emission units to cover methane emissions generated from landfill. These disposal facilities are required to report the tonnages landfilled annually to calculate their emission unit surrender obligations.

4.3.4 Emissions Reduction Plan

In May 2022 New Zealand released a national Emissions Reduction Plan (ERP) which sets out the planned targets and actions for climate action over the next 15 years. The plan aims to enable a transition to a low-emissions, climate resilient future for Aotearoa New Zealand. As the first of its kind, the Government is placing new requirements on councils to reduce their waste emissions. According to the national ERP, emissions from waste make up approximately 4% of the county's overall waste profile. Of these waste emissions, 94% are from biogenic methane generated by the decomposition of organic materials in landfill. One of the main actions for local government is to offer a food scraps collection service by 2030.

The key actions from the plan which are relevant to waste management for the region include:

- Move to a more circular public sector (Chapter 9);

- Invest in data collection and research (Chapter 9);
- Integrate circular practices across government, communities and business (Chapter 9);
- Support businesses moving to circular economy models (Chapter 9);
- Realise cross-sector opportunities to reduce whole-of-life embodied emissions (Chapter 12);
- Enabling households and businesses to reduce organic waste (Chapter 15);
- Increasing the amount of organic waste diverted from landfill (Chapter 15);
- Reducing and diverting construction and demolition waste to beneficial uses (Chapter 15);
- Exploring bans or limits to divert more organic waste from landfill (Chapter 15);
- Increasing the capture of gas from municipal landfills (Chapter 15); and
- Improving waste data and prioritising a national waste licensing scheme (Chapter 15).

These actions align with the proposals set out in the Transforming Recycling discussion document and the National Adaptation Plan released in August 2022, as well as the improving household recycling and food scraps collection changes announced in March 2023.

Implementation will need to be supported by a mix of regulation and funding. The Waste Minimisation Fund is providing for the introduction of organic waste collection by local authorities, development of local facilities to process and recycle/reuse organic wastes, and construction and demolition waste reduction initiatives. Work is ongoing within government on regulatory approaches including national waste licensing and material bans or limits as part of the WMA review currently underway.

4.3.5 New Zealand Infrastructure Strategy (2022 – 2052)

In June 2022 New Zealand released the first 30-year Infrastructure Strategy (Rautaki Hanganga o Aotearoa) which aspires to enable a net-zero carbon emissions Aotearoa through rapid development of clean energy and by reducing the carbon emissions from infrastructure. The strategy details the challenges and opportunities which New Zealand faces, focusing on five objectives to achieve a thriving New Zealand:

- Enabling a net-zero carbon emissions Aotearoa;
- Supporting towns and regions to flourish;
- Building attractive and inclusive cities;
- Strengthening resilience to shocks and stresses; and
- Moving to a circular economy.

Waste management and minimisation is intertwined into each of these objectives and aligns with other strategies and plans released including the Emissions Reduction Plan and Transforming Recycling discussion document.

4.3.6 Litter Act 1979 (under review)

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

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

Councils' powers under the Litter Act can be used to address illegal dumping issues that may be included in the scope of a Council's WMMP. As noted above, current waste management legislation reform is considering the Litter Act alongside the WMA (2008).

4.3.7 Health Act 1956

The Health Act 1956 places obligations on councils (if required by the Minister of Health) to provide sanitary works for the collection and disposal of rubbish, for the purpose of public health protection (Part 2 – Powers and duties of local authorities, Section 25). The Act specifically identifies certain waste management practices as nuisances (Section 29) and offensive trades (Third Schedule). The Health Act enables councils to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.

4.3.8 Hazardous Substances and New Organisms Act 1996

The purpose of the Hazardous Substances and New Organisms (HSNO) Act 1996 is to protect the environment, and the health and safety of communities, by preventing or managing the adverse effects of hazardous substances and new organisms. The Act covers waste hazardous substances but not mixtures of materials that have not been manufactured.

4.4 Regional policy

The Taranaki Regional Council is responsible for developing the Taranaki Regional Policy Statement, which provides an overview of the resource management issues in the Taranaki region. The policy statement sets the policy framework in the region, where appropriate referencing national policy. The Regional Policy Statement is supporting a series of regional plans and strategies including the Regional Waste Strategy for Taranaki which details waste management and minimisation activities.

The regional plans set resource specific policies and impose controls in the form of rules, some of these plans (for example, the natural resources plan) are currently under review and may affect waste issues and opportunities across the region. These plans are relevant for the council's activities (e.g., transfer station, landfill) as well as activities undertaken by others (farm dumps, burning of waste, disposal of clean fill).

4.5 Local policy

Taranaki waste management and minimisation documentation and relevant supporting policy is summarised in Table 4.1.

Table 4.1: Relevant waste management policy in the Taranaki Region

Policy	New Plymouth	Stratford	South Taranaki
Financial Planning documents	Annual Plan 2022/2023 Long Term Plan 2021 - 2031 - Waste Management and Minimisation (Page 133)	Annual Plan 2022-23 Long Term Plan 2021 – 2031 – Solid Waste (Page 91)	Annual Plan 2022 – 23 Long Term Plan 2021 – 2031 – Solid Waste (Page 113)
Statutory Planning Documents	Operative District Plan (adopted April 2010) Proposed District Plan (adopted October 2021)	Operative District Plan (adopted February 2014)	Operative District Plan (adopted January 2021)
Waste Planning documents	Waste Assessment 2017	Waste Assessment 2018 Microsoft Word - Waste Management and	Waste Assessment 2018 Waste Management and Minimisation Plan (2018)

Policy	New Plymouth	Stratford	South Taranaki
	Waste Management and Minimisation Plan (adopted November 2017)	Minimisation Plan WMMP 2018	
Asset Management Planning	Asset Management Plan Waste Management and Minimisation (2021-2031)	Solid Waste Asset Management Plan 2021 – 2031 (adopted May 2021)	Solid Waste Asset Management Plan
Bylaws	Solid Waste Management and Minimisation Bylaw 2019 (adopted September 2019)	Solid Waste Management and Minimisation Bylaw (July 2020)	Solid Waste Bylaw 2013 (adopted November 2013)

4.5.1 Council Long-Term Plans

All district councils within New Zealand must adopt a LTP as per clause 93 of the Local Government Act 2002. The LTP must be reviewed every three years and include information on activities, goods or services provided by council, and specific funding and financial management policies and information.

The waste management and minimisation outcomes from the three district councils LTPs are summarised in Table 4.2.

Table 4.2: District Council's Long-Term Plan activities and outcomes for waste management and minimisation activity

	Activity	Community Outcome / Sustainable Solution	Council Role
NPDC	<ul style="list-style-type: none"> Promoting zero waste and waste minimisation in the district. Managing kerbside collection and operate four rural transfer stations and the New Plymouth Resource Recovery Facility. Managing nine closed landfills and legacy sites. 	<ul style="list-style-type: none"> Supporting households and businesses to minimise the amount of waste disposed to landfill. Enabling people to easily and conveniently divert waste from landfill. Encouraging waste minimisation and better waste management practices to support sustainability, protect the environment for current and future generations. 	Provider
SDC	<ul style="list-style-type: none"> Providing domestic rubbish and recycling services to the households in the urban area of Stratford and Midhirst. Contracting out the operations of Stratford transfer station which allows for the disposal of general waste, recycling and green waste across the district. Managing three closed landfills and legacy sites. 	<ul style="list-style-type: none"> Ensuring the levels of waste generated are reducing; and waste collection services meet the needs of the community. Actively contributing to the community outcomes of Sustainable Environment and Enabling Economy. 	Provider

	Activity	Community Outcome / Sustainable Solution	Council Role
STDC	<ul style="list-style-type: none"> • Providing a kerbside collection service for rubbish, recyclables and an opt in organic waste (green waste) collection. • Operating seven rural transfer stations providing access to waste disposal facilities and recycling. • Managing seven closed landfills and legacy sites. 	<ul style="list-style-type: none"> • Reducing the amount of waste going to landfill through increased recycling and reprocessing. • Compliance with resource consents and aftercare management. • Regular monitoring of gas emissions and leachate from closed landfills. • Regular monitoring of known illegal activity at sites and areas, erecting signage, public education and enforcement. • Keeping transfer stations charges/fees at affordable levels. 	Provider

More detail on the Community Outcomes and Priorities within each District's LTP are provided in Appendix A.

4.5.2 Waste bylaws

Each district has solid waste bylaws implemented from 2019 – 2020¹⁰ which are localised rules or regulations made by the district council under national legislation that ensure the district is a safe and healthy place. The bylaws cover effective and efficient waste management, reduction and minimisation practices, regulate waste and recycling collection and disposal, including ownership of the waste stream, rubbish storage and waste management.

4.5.3 Other relevant local plans and priorities

Each council has a District Plan, controlling the use of land and associated activities under the Resource Management Act 1991.

The councils have also signalled their intention to start work programmes to understand and respond to the challenges facing their organisations, communities and the wider district from the effects of climate change.

- NPDC has made progress in developing an emissions reduction plan;
- STDC is currently developing an emissions reduction plan. Minimising emissions from the waste the council manages is a key component to achieving their carbon reduction goals; and
- SDC are yet to set a specific district emission goal.

Each council's work on climate change is underpinned by the regional roadmap in the Taranaki 2050 vision¹¹ which includes goals for the region to equitably transition to a low emission economy.

4.6 Policy context and implementation – gap analysis

There is a comprehensive framework in place for waste minimisation and management in Taranaki with an increasing focus on emissions reduction. While there is significant legislation review underway and associated uncertainty in the future, the government has signalled a stronger regional focus (through the Resource Management Reform process) and a shift to a circular economy approach for waste and materials management.

¹⁰ NPDC published in 2019, SDC published in 2020 and STDC published in 2020.

¹¹ <https://www.taranaki.co.nz/assets/Uploads/Like-No-Other/Taranaki-2050-Roadmap.pdf>

Key points to note for the policy context include:

- Clear signal from government regarding a shift to circular economy thinking;
- Stated intention to implement mandatory product stewardship, providing alternative means to fund the capture and reprocessing of unwanted materials;
- Strong links between emissions reduction, waste minimisation and materials recovery (particularly organic materials); and
- Ongoing funding pressures for local government activity, offset by reinvestment of waste levy funds in resource recovery infrastructure, and behaviour change at a national and local level.

5 Existing services and infrastructure

5.1 Introduction

Waste and resource recovery infrastructure and services are provided across the region as part of Zero Waste Taranaki. Services are provided by the three councils, contractors to the council, private service providers and community groups across the region. The services currently available are detailed by waste hierarchy category in Table 5.1.

Table 5.1: Summary of waste services in Taranaki

Infrastructure/Service		Council Provided	Providers ¹²
Reduce	Education and behaviour change (across waste hierarchy)	<ul style="list-style-type: none"> Regional education strategy and campaigns. TRC education officer available for waste lessons. Regional waste minimisation officer. National campaigns (LFHW, Plastic Free July etc) Distribution of waste disposal levy grants. Tours of waste facilities Social media posts and campaigns. Zero Waste Taranaki website. Sustainable living education trust licence (STDC). The Junction workshops and community engagement (NPDC) 	<ul style="list-style-type: none"> Kate Meads workshops¹³. Taranaki Environmental Education Trust. Enviroschools. Taranaki Conservationists. Curious Minds programme. Impact (funded by Ministry for Youth Development – working with youth aged 12-24). Sustainable Taranaki
Reuse	Second hand trading and upcycling	<ul style="list-style-type: none"> The Junction reuse shop (NPDC). The Sorting Depot (NPDC) <i>under development</i>. Commercial reuse and recycling options (NPDC). 	<ul style="list-style-type: none"> Charity shops. Websites for reuse, buy and sell (TradeMe, Freecycle). Building recyclers Food banks / soup kitchens.
Recycle	Collection	<ul style="list-style-type: none"> NPDC – Fortnightly collection of 240 L mixed recycling bin & 60 L glass crate. Collection of whiteware and tyres at Transfer Stations. SDC – Fortnightly collection of 240 L mixed recycling bin & 60 L glass crate. Collection of whiteware, E-waste and scrap metal at transfer stations. STDC – Weekly collection of 140 L mixed recycling bin & 60 L glass crate. Collection of whiteware, tyres and E-waste at transfer stations. Public recycling bin collection. 	<ul style="list-style-type: none"> Residential kerbside collection by one private contractor. Commercial mixed recycling collections by two providers. Rural / farm waste recycled through Agrecovery and Plasback. Alternative recycling or disposal options (to the kerbside collection) are available for some materials e.g. soft plastics at supermarkets. <p>All recycling is processed outside of region.</p>

¹² The list of other providers who feed into the waste services within Taranaki region is not exhaustive of all services offered.

¹³ Kate Mead workshops include waste-free parenting, a food lovers masterclasses and menstrual cups workshops.

Infrastructure/Service		Council Provided	Providers ¹²
	Transfer stations	<ul style="list-style-type: none"> NPDC has five transfer stations. SDC has one transfer station. STDC has seven transfer stations. <p><i>Transfer stations and the waste accepted are detailed in Section 5.4.1.</i></p>	<ul style="list-style-type: none"> One private transfer station located in NPDC.
	Resource recovery facilities	<ul style="list-style-type: none"> The Sorting Depot (NPDC) <i>under development</i>. New Plymouth Resource Recovery Facility (includes MRF, RTS and The Junction) (NPDC) 	<ul style="list-style-type: none"> Private scrap metal dealers, concrete and untreated timber contractors. Private commercial and industrial skip providers.
Recover	Organic waste collection and drop off	<ul style="list-style-type: none"> NPDC – food scraps collection. STDC – Opt-in fortnightly collection of 240 L green waste bin¹⁴. Green waste drop off at New Plymouth, Inglewood, Ōkato, Manaia, Tongaporutu, Stratford, Eltham, Ōpunakē, Hāwera, Pātea, Waitōtara and Waverly Transfer Stations. 	<ul style="list-style-type: none"> Commercial landscaping business and farms (small scale). Commercial collectors processing green waste to compost. E.g., Easy Earth. Community gardens offering a food waste drop off to compost service.
Treat	Hazardous waste	<ul style="list-style-type: none"> Residential hazardous waste is accepted at New Plymouth and Hāwera transfer stations. Agrecovery provide agrichemical collection which is part-funded by the councils. 	<ul style="list-style-type: none"> PaintWise paint take back scheme is available at Resene ColourShop in New Plymouth. E-waste recycling services including Noel Leemings take back services. Commercial hazardous waste is collected and transported to Auckland for treatment/disposal.
Dispose	Collection	<ul style="list-style-type: none"> NPDC – Fortnightly collection of 140 L bin. SDC – Weekly collection of 120 L bin. STDC – Weekly collection of 120 L bin. Illegal waste dumping collection service. Public litter bin service. 	<ul style="list-style-type: none"> Private commercial wheelie and front load bin providers.
	Transfer stations	<ul style="list-style-type: none"> Waste disposal at all transfer station (user pays). 	<ul style="list-style-type: none"> One private transfer station located in NPDC.

¹⁴ STDC will accept up to 10% of food in green waste bins <https://www.southtaranaki.com/our-servicesE/rubbish-and-recycling/kerbside-collection/voluntary-green-waste-kerbside-collection-service>

Infrastructure/Service		Council Provided	Providers ¹²
	Landfill	<ul style="list-style-type: none"> • No active landfills in Taranaki region. • NPDC has nine closed landfills. • STDC has 7 closed landfills. • SDC has 3 closed landfills. 	N/A
	Cleanfills	<ul style="list-style-type: none"> • A list of active cleanfills in the region are detailed in Appendix D . 	<ul style="list-style-type: none"> • Cleanfills are privately operated.

5.2 Education and behaviour change

In the current WMMPs, behavioural change has become a priority for the councils. Behaviour change is a matter of changing people's attitudes and beliefs, while shifting social norms. The councils aim to facilitate behaviour change through the following levers:

- Built infrastructure – Ensuring people have access to facilities to responsibly manage their waste;
- Policy – Establishing requirements to positively influence behaviours e.g. solid waste bylaws;
- Advocacy – Supporting individuals, organisations, and industry to make more informed decisions and assisting with planning; and
- Education – Ensuring people are well informed of the points above, recognise the impact of their behaviours for waste in the region and nationally.

All councils have engaged in, and continue to facilitate, collaboration that champions the waste hierarchy, and a systems thinking approach to waste management and minimisation. The significance of behaviour change and collaboration to Taranaki's waste programme has been recognised through the appointment of a dedicated Behaviour Change Team at NPDC to build on and expand the work undertaken by the Regional Waste Minimisation Officer (RWMO). SDC and STDC also have behavioural change embedded in the roles of their environmental and sustainability teams.

The potential of behaviour change initiatives to reduce waste is increasingly being recognised by sector groups such as WasteMINZ, as well as the MfE.

The councils participate in a number of coordinated behaviour change campaigns including:

- Plastic Free July – A global movement encouraging people to refuse single-use plastics;
- Love Food Hate Waste (LFHW) – Delivered by 60 councils around New Zealand across September each year, LFHW provides tips and recipes that help to reduce food waste;
- Kate Meads annual workshops for the community and schools – waste-free parenting, a food lovers masterclasses and menstrual cups workshops;
- Clean-up Week (September) – The councils support the 'Keep New Zealand Beautiful Clean-Up Week' by providing free disposal of litter collected, promoting events, and being involved in clean-ups in their local communities; and
- Recycling Week (October) – Encouraging residents and businesses to be conscious about their procurement and disposal practices to adopt effective recycling habits.

In addition to these campaigns, the councils have implemented a regional annual education plan which outlines waste minimisation related activities and campaigns for specific community groups within Taranaki (), with individual councils also offering additional initiatives and services.

Table 5.2: Regional annual education plan

Group	Zero Waste Taranaki (region wide)	Council specific
Community	<ul style="list-style-type: none"> • Kate Meads workshops¹⁵ • Toitupu Toiora, Taranaki Green Initiative (Zero Waste Events) • Community pop up events at markets • Recycling campaigns • Zero Waste Taranaki website • Operations campaigns (twice annually) 	<ul style="list-style-type: none"> • SDC Repair café events-circular economy • NPDC - Composting and worm farm workshops; The Junction waste reduction workshops and events • STDC - Community Composting workshops.
Schools	<ul style="list-style-type: none"> • Composting and worm farm workshops • Zero Waste Education programme • Kate Meads workshops (menstrual cups) • Enviroschools • Back to school events 	<ul style="list-style-type: none"> • NPDC - Waste education programme for schools and The Junction & MRF tours • STDC – Transfer Station tours • SDC – Transfer Station tours
Businesses	<ul style="list-style-type: none"> • Downloadable resources • Advice and support for businesses 	<ul style="list-style-type: none"> • NPDC – Resource Wise Business Programme and construction waste reduction plans • STDC – Business support • SDC – Business support and waste audits
Rural	<ul style="list-style-type: none"> • Agrecovery 'One stop shop events' 	

5.3 Collection services

The councils provide collection services through a current regional waste services contract which expires on 30 September 2024. The contract covers the services detailed in Table 5.3.

The councils are responsible for management of rubbish and recycling services in public areas (such as public waste containers) either through a council team or contractor. The councils also support litter clean-up activities with community groups such as church groups, including activities like beach clean-ups.

As the councils provide the waste collection and disposal services, they are also responsible for the associated emissions; this includes emissions from transport. As highlighted in the timeline in Section 2, during 2019, NPDC added six electric vehicles in their collection fleet as part of an effort to reduce emissions associated with waste management in the district. Currently NPDC waste collection fleet is 50% electric (excluding backup vehicles which are diesel).

5.3.1 Council provided residential collection

The councils provide kerbside collection services across the region for landfill waste, recyclables and organics (Table 5.3), delivered through an external provider / contractor. In 2022, NPDC provided this service to 30,265 households, SDC to 2,643 households, and STDC to 8,618 households. This service is provided to all urban areas and some rural areas but is not currently available to all properties in rural locations.

¹⁵ Kate Mead workshops include waste-free parenting, a food lovers masterclasses and menstrual cups workshops.

Table 5.3: Current collection services provided by the councils

Service	NPDC	SDC	STDC
Landfill waste collection	Fortnightly collection of 140 L bin	Weekly collection of 120 L bin	Weekly collection of 120 L bin
Recycling collection	Fortnightly collection of 240 L mixed recycling bin & 60 L glass crate	Fortnightly collection of 240 L mixed recycling bin & 60 L glass crate	Weekly collection of 140 L mixed recycling bin & 60 L glass crate
Organic materials collection	Weekly collection of 23 L food scraps bin	N/A	Opt-in fortnightly collection of 240 L green waste bin ¹⁶

Glass bottles and jars are collected as a separate recycling stream in a 60 L crate provided to each household; all colours are accepted although lids must be removed and discarded. Other recyclables including paper, cardboard, aluminium, tin cans and plastics 1, 2 and 5 are collected in the council specific bins.

NPDC collects food scraps as part of their kerbside collection service. STDC collects green waste⁷ via an opt-in, user pays system. SDC does not collect any food scraps or green waste from the kerbside. NPDC has prohibited compostable green waste in landfill bins through the bylaw.

All remaining household waste including soft plastics (not collected as part of the recyclable collection), broken glass (wrapped and in small quantities), sanitary items, nappies, polystyrene meat trays and other items not suitable for recycling or composting are collected through the kerbside landfill waste bins.

5.3.2 Private residential collection

There are a range of landfill, recycling and/or green waste collection service providers in the region (Table 5.1). These private services can offer more flexibility in relation to bin size and collection frequency than the council services. Typically, properties in rural locations where councils do not provide a waste collection service will utilise private services. A regional behavioural change survey, completed in July 2022, demonstrates that 81% of respondents who lived rurally and do not qualify for council provided kerbside collection utilise transfer stations to drop off recycling for free.

5.3.3 Commercial and/or industrial collection

Collections from commercial and industrial sites are not within the scope of any of the councils' waste management services and the needs of the commercial sector are generally met through private service providers.

Services available to businesses include:

- Landfill waste collection;
- Collection of recyclable materials including scrap metal, paper/cardboard, plastics, glass and mixed recyclables (plastics, paper, cans);
- Collection of organic materials; and
- Collection of reusable items (charity shops).

¹⁶ STDC will accept up to 10% of food in green waste bins <https://www.southtaranaki.com/our-servicesE/rubbish-and-recycling/kerbside-collection/voluntary-green-waste-kerbside-collection-service>

5.4 Waste and resource recovery infrastructure

5.4.1 Transfer stations

There is a network of transfer stations across the three districts that receive waste and recoverable material from households and businesses (refer to Appendix B for full list and Figure 5.1 for map). In the New Plymouth district there are five transfer stations (four operated by NPDC and one operated by a private contractor). There are seven transfer stations operated by STDC and one transfer station operated by SDC. A sixth private transfer station is operated in New Plymouth but does not offer access to the public.

The Council transfer stations are relatively small in scale, collecting approximately 32,500 tonnes of waste per year between them. Residents and businesses in NPDC, SDC and STDC have the ability to drop recycling for free at all transfer stations. Green waste is also accepted for a charge, set cheaper than landfill disposal to encourage separation of green waste for composting.

Car tyres can be dropped off at council owned transfer stations in New Plymouth and South Taranaki. Fees and conditions are set by each transfer station and range from \$10 per car tyre to \$40 per tractor tyre. Councils set fees through Long Term and Annual Plan processes and New Plymouth Transfer Station fees are set by the operator.

Special waste¹⁷ from across the region must be transported directly to landfill via private waste contractors. Transfer stations across the region do not accept special waste.

Household quantities of hazardous wastes are primarily managed by the councils through the districts primary transfer stations (New Plymouth, Stratford and Hāwera). New Plymouth Transfer Station also accepts specific commercial hazardous waste volumes for a fee. Hazardous wastes are logged as they are received, and stored in the hazardous waste store until a full load is accumulated. The disposal or recovery of the hazardous wastes is contracted out as required.

¹⁷ The term “special waste” is used in to describe categories of waste that present particular problems and that need specific policies for their management. These include used oil, used tyres, old electronic goods, farm plastics and end-of-life motor vehicles. (Review of Targets in the Waste Strategy, Ministry for the Environment)

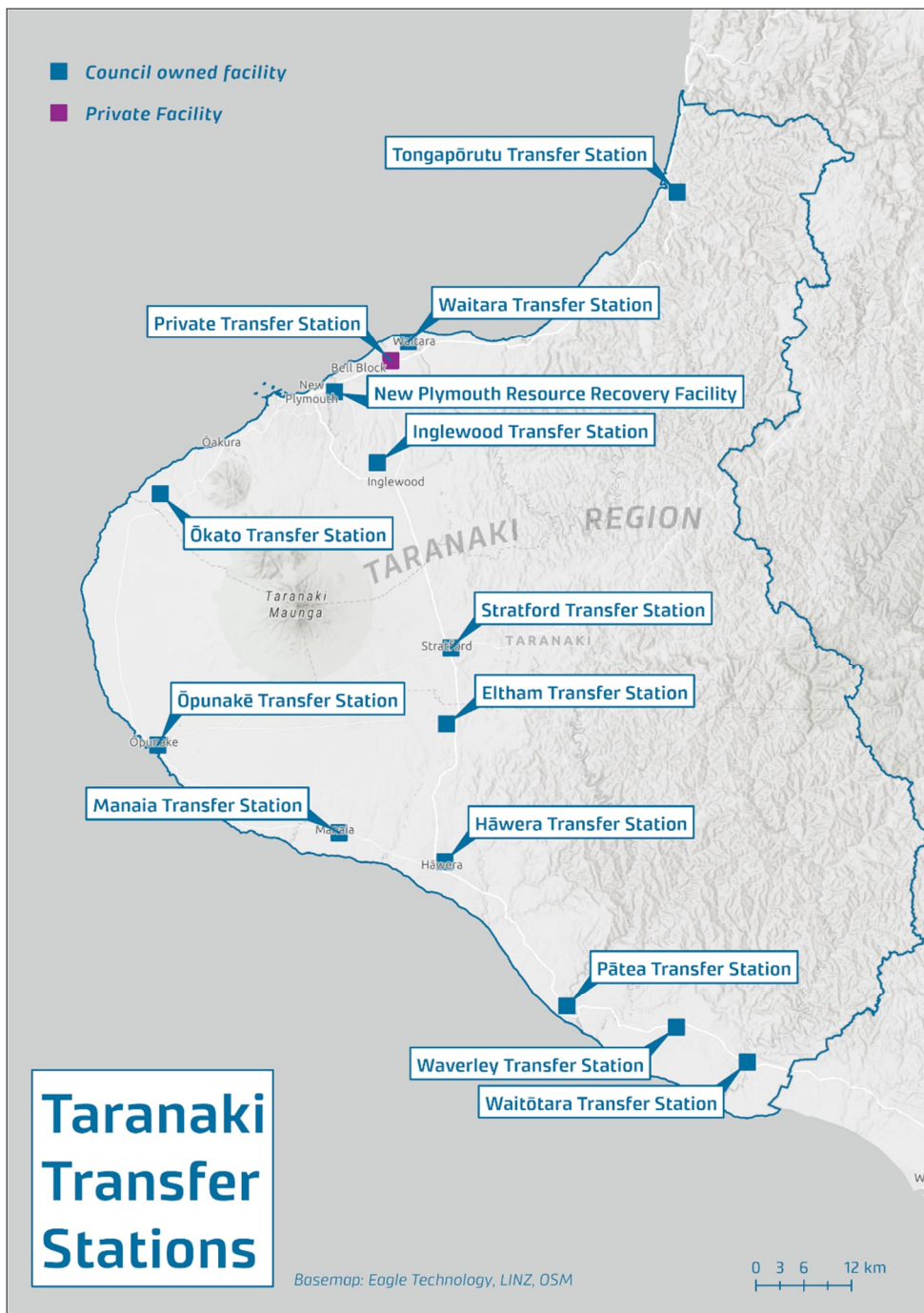


Figure 5.1: Taranaki region transfer station locations.

In March 2020, The Junction, which is a community facility operated by WISE Charitable Trust and Sustainable Taranaki, opened on Colson Road in New Plymouth. The Junction includes a free drop-off area for recyclable and reusable material, a shop for the resale of reusable items and an educational space. The facility encourages residents and commercial customers to use their facility to keep quality materials from entering landfill.

5.4.1.1 The Sorting Depot

NPDC are currently constructing The Sorting Depot which will be a commercial waste recovery facility servicing the region. The facility will sort reusable and recyclable materials from mixed skips of dry waste, primarily from the construction and demolition sector. Through providing a sorting

service, thousands of kilograms of valuable material will be kept in use promoting a circular, lower emission system.

5.4.1.2 E-waste

E-waste can be dropped off at multiple locations across the region including The Junction Zero Waste Hub, and Hāwera and Stratford transfer stations. Fees are charged by items dropped off, although these are mostly subsidised by the respective council.

Once a significant collection of e-waste has been acquired the items are shipped to E-cycle in Auckland where products are dismantled and separated into component or material categories. These materials are then sent to local and international specialist recyclers for conversion back into raw materials or for reuse in new products.

E-waste across the region can also be dropped off at certain Noel Leeming retail stores who manage an e-waste recycling scheme.

5.4.2 Materials processing and markets

5.4.2.1 Dry recycling (kerbside collected, commercial collections and transfer station drop off)

Mixed recyclables and glass from the councils' kerbside collections and transfer stations are transported to the New Plymouth MRF at Colson Road. Materials are sorted, baled and transported out of the region for processing.

While destinations change with specific supply contracts over time, materials are generally processed as follows.

- Aluminium and steel cans are sent to New Zealand based re-processors or exported for reprocessing into new metal products;
- Glass is sent to Auckland for reprocessing into new bottles and jars;
- Paper is sent to paper Hawkes Bay for processing into new products;
- Cardboard is sent to OJI for processing into new cardboard products;
- PET plastic containers (resin code 1) are recycled into new food packaging in Lower Hutt; and
- HDPE (resin code 2 plastics) and PP (resin code 5 plastics) are recycled into new products in the Manawatū.

5.4.2.2 Organic waste

The Taranaki councils are progressively working to reduce organic material entering landfill. The NPDC solid waste bylaw restricts residents from disposing of compostable green waste in their landfill waste containers. As noted previously, Government is proposing mandated separate food waste collection from households and food waste separation from business in line with the 2022 Emissions Reduction Plan and 2023 Waste Strategy.

Processing of organic material is undertaken both within and outside Taranaki (Table 5.4). Food scraps collected from households in New Plymouth, green waste from all three councils and some organic materials/by products from primary processing are transported out of the region for processing.

In 2021/22, the Councils undertook a feasibility study investigating the options for organics material recovery and processing in the region. The study involved engagement with Iwi and also a number of primary processors. The project has moved into an early procurement stage, with the councils working alongside Fonterra, Silver Fern Farms and ANZCO through the process. An expression of interest went to market in early 2023. This approach is a good example of Councils and other stakeholders taking a collaborative circular economy approach seeking to maximise the value of unwanted materials and enabling a regenerative approach to the use of resources.

Table 5.4: Organic processing facilities in the Taranaki region

Location	Materials accepted	Processing	Product
New Plymouth	Green waste and untreated timber	Mulching, wood chipping	Mulch, wood chip
South Taranaki	Dead stock, by products from meat and poultry processing	Rendering	Meat and bone meal
New Plymouth	Garden waste	Aerobic composting	Feed, fertiliser
Northern Taranaki	Green waste, paunch grass, bark, chicken mortalities, chicken manure, drilling mud	Composting, vermi-composting	Compost, vermi-compost
South Taranaki	Blood	Blood processing	Feed, fertiliser
South Taranaki	Green waste	Mulching, wood chipping	Mulch, wood chip
New Plymouth	Pre-consumer food waste	Delivery of pre-consumer food waste to stock food (mostly piggeries)	Stock food
New Plymouth	Wood chip, chicken litter	Composting of chicken litter into soil amendment for dairy farmers	Compost
New Plymouth	Food waste, woody green waste	Depackaging of food waste for stock food, mulching woody green waste from arborist activities	Mulch, stock food
Stratford	Green waste	Aerobic composting	Compost
Across the region	Food waste (unpackaged)	Stock food	Stock food

5.4.2.3 Other materials

E-waste items are shipped to E-cycle in Auckland where products are dismantled and separated into component or material categories. These materials are then sent to local and international specialist recyclers for conversion back into raw materials or for reuse in new products.

While some tyres are sent out of region for re-treading, most tyres are collected at transfer stations in the region. NPDC are sending tyres to Cambridge for recycling and some tyres are collected for use as fuel at a Whangārei cement manufacturing plant. STDC collect tyres at the Hāwera Transfer Stations. SDC currently do not accept tyres at Stratford Transfer Station, a tyre business in Stratford accepts end-of-life tyres for a small fee for disposal. Any tyres recovered from illegal dumping are processed through the Transfer Station. Tyres are not accepted at Bonny Glen Landfill.

NPDC are working with an end-of-life tyre processor to establish operations adjacent to the Sorting Depot. This site will accept materials from transfer stations as well as through commercial collections from across the region.

5.4.3 Landfill

Colson Road Landfill was the only landfill operating in the region until the site closed in 2019. Waste from the region is now being transported to Bonny Glen Landfill in the Rangitikei district. Bonny Glen has a total airspace of 12.7 million m³ and is expected to service the waste disposal needs of the surrounding region for the next 50 years.

Some materials (such as contaminated soils unsuitable for disposal at Bonny Glen) are transported to Hampton Downs Landfill in Waikato.

5.4.4 Cleanfill

The Taranaki region has 16 consented 'cleanfill'¹⁸ operations across the three districts. Material accepted at these facilities is regulated by Taranaki Regional Council who complete annual and bi-annual reporting of the operations. The current cleanfills (Appendix D) primarily accept material from commercial entities or internal projects only restricting access to public waste.

5.4.5 Closed Landfills

There are 19 closed landfills across the region which are actively monitored. It is the landowner's (usually the relevant district council) responsibility to manage closed landfills and the associated risks once closed. NPDC have completed assessments of the coastal or fluvial erosion risks at ten highest risk closed landfills in the district and are currently assessing rehabilitation options where further remediation work has been identified. The most recently closed landfill (Colson Road) is currently being capped, with a long term aftercare plan developed, and applications to renew consents being prepared to manage the site as a closed landfill. Planning for the future use of the site is underway in partnership with Ngati Tawhirikura hapu. The future use may incorporate a cleanfill operation to fill the hole left from the excavation of clean clay for capping the landfill.

¹⁸ A "cleanfill" is defined as a facility that accepts only virgin excavated natural material such as clay, soil, or rock, for disposal which has no adverse impact on the environment. (Overview of the Waste Disposal Levy, Ministry for the Environment). These sites may also meet the definitions of managed fill for waste accounting purposes.

5.4.6 Other waste streams

5.4.6.1 Agricultural waste

The Agrecovery programme provides New Zealand's primary sector with responsible and sustainable systems for the recovery of 'on farm' plastics and the disposal of unwanted chemicals. It currently provides four nationwide programmes for containers 0 – 60 L, drums 61 – 1,000 L, LDPE bag recycling and chemicals.

There are a range of Agrecovery container collection sites¹⁹ within agricultural retailers including Farmlands and NZ Farm Source across the Taranaki region, Figure 5.2.

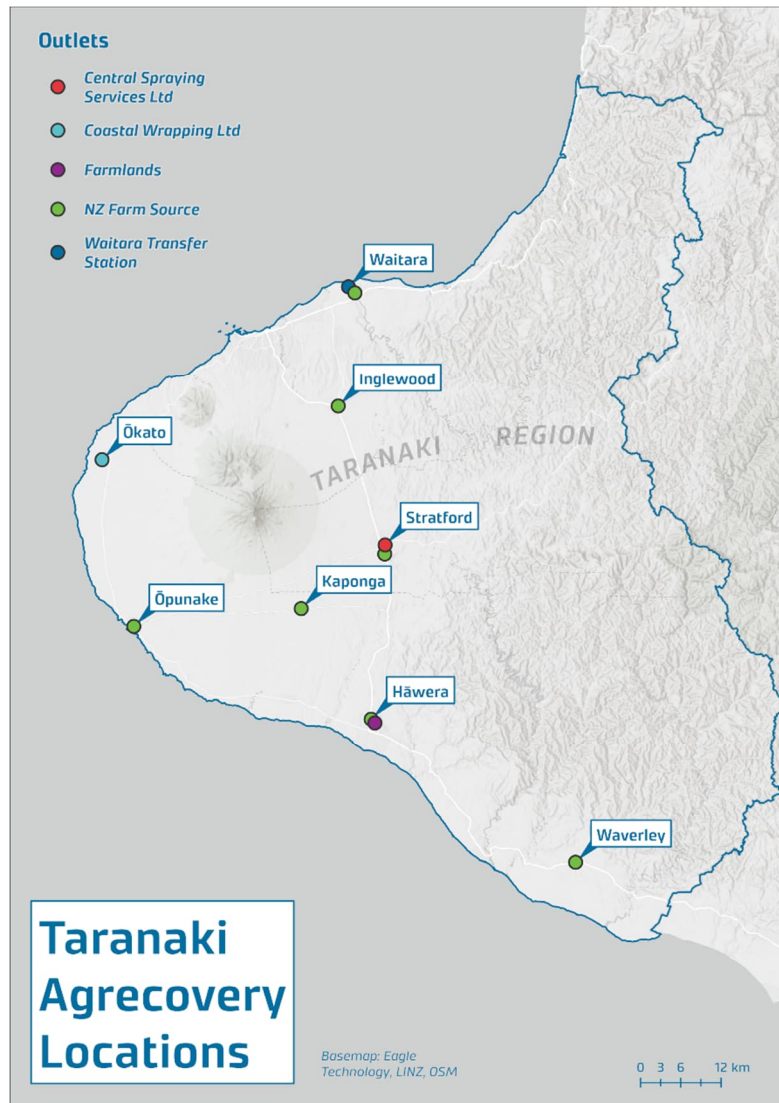


Figure 5.2: Taranaki region Agrecovery collection sites.

Plasback also offer recycling for agricultural plastic items including bale wrap, silage pit covers, small low density polyethylene feed bags, shrink wrap, pallet covers, woven polypropylene bags, Ecolab drums, vineyard nets and twine. The plastics are recycled into new products like pest traps, rubbish bins and Tuffboard. SDC promotes recycling of agricultural plastic items at Riverlea Contractors Limited.

¹⁹ <https://agrecovery.co.nz/resources/sites-and-events/taranaki/>

5.4.6.2 Medical waste

Taranaki District Health Board (TDHB) have published a Waste Management and Minimisation guidance document²⁰ for all residents within the region who generate medical waste at home. The guidance details the following processes:

- Needles, syringes, lancets and other sharp objects should be placed in a hard or puncture resistant plastic or metal container with a screw on tightly secured lid. These containers can then be taken to a local pharmacy who will dispose of these in their sharps bin;
- Soiled bandages, disposal sheets, used gloves and other textile bio-hazardous wastes should be securely fastened in waste bags and disposed of in council kerbside collection landfill containers;
- Surplus and expired medications should be returned to a local pharmacy for disposal;
- Patients who have Peritoneal Dialysis (PD) therapy at home are provided with two waste bins - a blue coloured bin for printed solution PD bags and a green coloured bin for the over pouch. Baxter Healthcare will collect the waste from the patients house including the cardboard used to package the PD therapy kit free of charge; and
- Biohazardous bags supplied by TDHB for infectious waste which are to be disposed of at The Base Hospital (New Plymouth) or Hawera Hospital by the household.

Medical waste that is collected from hospitals is managed by the TDHB. Where Baxter's or other private healthcare contractors are used, waste is managed by the contractor. There are not perceived to be significant issues with this approach at present. It is logical for the TDHB to take an active role in guiding the region on medical waste management, and to ensure adequate service provision in the future.

5.4.6.3 Hazardous waste

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

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

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

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

²⁰ <https://www.tdhb.org.nz/misc/documents/sustainability/Go-Zero-Carbon-Waste.pdf>

Contaminated soils, containing a range of organic and inorganic contaminants, may require treatment and/or removal as part of site remediation processes. Depending on contaminant characteristics, levels and any treatment these soils may be suitable for reuse in situ, disposal at a managed fill facility or disposal at a Class 1 landfill.

5.4.6.4 Event waste

The region actively encourages community groups, event organisers and attendees to minimise and manage waste at events. Through Toitupu Toiora, Taranaki's Green Initiative, the councils have developed a Zero Waste Event Guide which is accessible through each of the Council websites. In New Plymouth, the solid waste bylaw requires any event held on Council land to submit an Event Waste Minimisation Plan to Council.

The Councils also offer resources including waste minimisation plans to help organisations consider the waste likely to be generated and how best to manage the waste streams. The process also offers funding to event organisers for the diversion of materials and Zero Waste volunteers if certain diversion thresholds are met.

Through Toitupu Toiora, events can utilise colour bin lids with signs and wrap-around skirts to highlight organic, recycling and landfill bins helping achieve zero waste at events. Those who attend events in the region are primarily Taranaki residents or from neighbouring regions who share similar waste container colours, therefore should be familiar with the waste management practices implemented at the events.

5.4.6.5 Construction and demolition waste

The region is actively encouraging and, in some cases, mandating construction and demolition (C&D) organisations to manage the generation of waste. In New Plymouth, the solid waste bylaw required any person/organisation applying for building consent for non-residential building work with an estimated value of >\$500,000 must also submit a site waste management and minimisation plan for approval by NPDC. Although not stated within the by-law SDC and STDC encourage construction organisations to actively manage waste. Management of C&D waste will be strengthened by the new Building Act requirements which will mandate energy performance rating requirements for buildings, and waste minimisation plans for construction and demolition projects.

The Sorting Depot as detailed in Section 5.4.1.1 will provide a facility for the recovery of commercial waste within the region.

5.4.7 Litter and illegal dumping

Public litter bins are provided in the urban centres and popular visitors spots throughout the region. Issues specific to the region include roadside dumping of household items (including furniture and whiteware), tyres and green waste.

Within New Plymouth, Zero Waste Stations have been introduced throughout the district. The stations provide mixed recycling, glass, food and landfill waste bins and aim to transition behaviour change of residents and tourists to manage their waste appropriately. The goal is to replace all litter bins progressively over time with Zero Waste Stations.

5.5 Waste and resource recovery infrastructure – key issues identified

The information presented in Section 5 enables a range of issues to be identified. In many cases these also present opportunities for the councils, community and/or the private sector to improve waste management and minimisation, or navigate the transition to a circular economy, in the Taranaki Region.

Issues identified include:

- There are limited processors of recovered material in the district, therefore most recyclable materials are sent out of the region for processing;
- With the waste disposal levy increasing, resulting in increased landfill costs, it is anticipated that more people will proactively divert reusable material by utilising existing bulky material recycling services at transfer stations, for example larger quantities of cardboard, scrap metal, untreated timber and reusable items. This has potential implications for the current configuration at each transfer station and the ability to receive and manage greater volumes of recyclable materials;
- The Government's plans to defer the introduction of a CRS will create some short to medium term uncertainty for impacts on materials captured through kerbside recycling, and the value of materials targeted by any scheme. In particular the implementation of services in response to the Government's standardised kerbside service announcements will need to consider this uncertainty;
- The Government's announcements to standardise kerbside services across all councils will have implications for current services and processing infrastructure. To implement the relevant requirements SDC and STDC will need to introduce kerbside food waste collections by 2030 and local or regional processing infrastructure will be required for the collection of food scraps;
- The Government's plans to mandate food waste separation for businesses will also require local processing capacity for this material;
- With the focus on organic materials recovery, processing will need to be accompanied by development of sustainable markets for products, potentially including biogas, digestate and compost or similar products; and
- Farm waste is likely to make up a substantial proportion of the total waste that is currently being generated in the region, however there is limited information on the management of farm waste in Taranaki. Further work to increase awareness of the problems associated with improper disposal may drive demand for better services with implications for infrastructure requirements and material flows. Ministry for Primary Industries (MPI) and MfE are currently working on requirements for farm management plans which will include waste management.

The current system is focussed on effective management of landfill waste and targeting domestic recyclables, including organic waste, with support from non-profit activity focussed on reuse. The current facilities which have been supplemented by new or upgraded approaches for extracting value from commercial waste and organic materials, are largely fit for their intended purpose. Working with partners, such as tyre recyclers at The Sorting Depot or organic materials processors and the primary sector, is likely to be the key area of change over the next few years. This relies on both flexible facilities and approach to partnering with contractors and key material generators.

Given the changing legislative and policy environment, council infrastructure and services will have a role in product stewardship and standardised kerbside services implementation. The extent of this role is yet to be defined. Changes over the coming years that will require careful consideration alongside existing projects include:

- Designing flexible spaces including allowance for multiple parties on each site;
- Providing for changing material flows e.g. increased separation and handling of materials;
- The need to provide for refunds (under a CRS) and reusable material and item sales; and
- Contracts involving multiple parties (such as organic materials processing arrangements).

6 Material quantities, composition and system performance

This section summarises the quantity of materials generated, the composition of waste disposed of to landfill or recycled, and the impact of our behaviour change programmes.

This document focuses primarily on the period between 2010 and 2022. Waste quantities, composition and material flows prior to this period are detailed in the previous Waste Assessments. Where appropriate, comparison has been made between the quantities and predictions made in the 2017 Waste Assessment and what has actually happened.

6.1 Population

The 2018 Census²¹ estimate of population in 2018 and 2022 (Statistics NZ)²² are provided in Table 6.1.

Table 6.1: Population estimates (Statistics NZ)

Council	Estimated population (2018)	Estimated population (2022)
NPDC	80,679	87,700
STDC	27,534	29,600
SDC	9,474	10,150

6.2 Council kerbside collection from households

6.2.1 Kerbside waste composition

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

For this Waste Assessment, Council kerbside collections from households including landfill and recycling bin waste composition data is used to summarise the amount of waste generated and how much material is captured for recycling or recovery. This draws on Solid Waste Analysis Protocol (SWAP) audits of landfill waste from kerbside collections and transfer stations undertaken for the councils between 2021 and 2022²³, data from recyclable materials processing and kerbside recycling bin audits.

It is worthwhile looking at the organic waste data in light of the signalled move to mandating organic waste collections and differences in current services across the region. Data for New Plymouth suggests around 25% of the landfill waste bin (2.7 kg per week) is food scraps. In South Taranaki this increases to 37% (3.2 kg per week). In Stratford data suggests that 60% of the kerbside landfill bin is organic material, applying the average proportion of food waste from New Plymouth and South

²¹ Population Taranaki Region, Accessed from: <https://www.stats.govt.nz/tools/2018-census-place-summaries/taranaki-region>, August 2022

²² <https://www.stats.govt.nz/information-releases/subnational-population-estimates-at-30-june-2022-provisional/>

²³ Composition of Solid Waste in New Plymouth and South Taranaki Districts, Waste Not Consulting, May 2022; Information Report, Waste Data Report from the Stratford District SWAP Survey, SDC, 8 June 2022; Residential Kerbside Recycling Bin Audit Report, NPDC, December 2021 to January 2022 (ECM 8715188); and Information Report, Waste Data Report from the Stratford District SWAP Survey, SDC, 8 June 2022.

Taranaki it is estimated 41% of total kerbside landfill waste is food scraps in Stratford (3.8 kg per week). This data suggests that while food scraps are being separated by the NPDC food scraps service, there is potential to improve the capture of food waste in New Plymouth and increase overall capture through new collections in SDC and STDC.

The data also indicates that green waste makes up around 10% of the landfill waste bin despite this material being banned in New Plymouth. The proportion and quantity are similar for New Plymouth and South Taranaki.

Figure 6.1 shows materials collected from households at kerbside including waste to landfill and material collected for recycling on a per person basis for 2016 and 2022. Key insights and opportunities include:

- Organic material (green waste and food waste) continues to make up the largest proportion of waste generated at kerbside (Figure 6.1). Food waste makes up the majority of organic waste at kerbside comprising over 70% of organic waste in New Plymouth and almost 80% of organic waste in South Taranaki.
- The total amount of organic waste collected has increased with most of this increase captured for recovery (largely as a result of the NPDC food scraps collection service). There continues to be a large proportion of organic waste disposed of to landfill highlighting the potential to further reduce waste to landfill (and emissions) through reducing organic waste generation and increasing material capture.
- The majority of glass, paper and cardboard material generated is captured for recycling and the data suggests there has been a small decrease in the total amount of these materials generated per person between 2016 and 2022. With these high capture rates the key opportunity for these materials is to promote waste reduction.
- Plastics are also a significant material stream at kerbside and while there has been a reduction in plastic waste generated per person over time, there is a low capture rate with the majority of plastic material landfilled. The reduction in plastic used by residents is likely to reflect a higher awareness in the community on where plastic recycling goes. As a result of the China national sword policy and higher public profile for plastic recycling this created, including the landfilling of mixed plastic that could not be recycled) and a resulting shift to alternative (more sustainable) packaging options. The landfilling of plastic is likely to be associated with the many different types of plastic, including some mixed material plastics, and related confusion by the community on which of these are recyclable.
 - In January 2023 MfE issued an updated plan for phasing out hard to recycle and single-use plastics including produce bags, plates, bowls and cutlery, plastic straws, produce labels and all over PVC and polystyrene food and drink packaging. The key opportunity for plastic is to continue to advocate for waste reduction, particularly for plastics that are difficult to recycle (around 8% for South Taranaki, 10% for New Plymouth bins). Soft plastics are a significant proportion of the non recyclable plastics (5-6%) in landfill bins.
- Metals are a relatively small proportion of kerbside materials, but the data suggests a relatively low capture rate. In addition to promoting waste reduction there is potential to improve capture of metals through informing households about recycling options. If Central Government go ahead with proposed plans to implement a CRS, greater capture of metals at kerbside could be achieved alongside continued educational support.
- Sanitary waste has increased between 2016 and 2022. Potential contributions to this could be an aging population in the region, and growth of the region since 2016. While there are no options for recovering these at present, the opportunity to promote or normalise the use of reusable sanitary products could reduce the amount of sanitary waste generated.

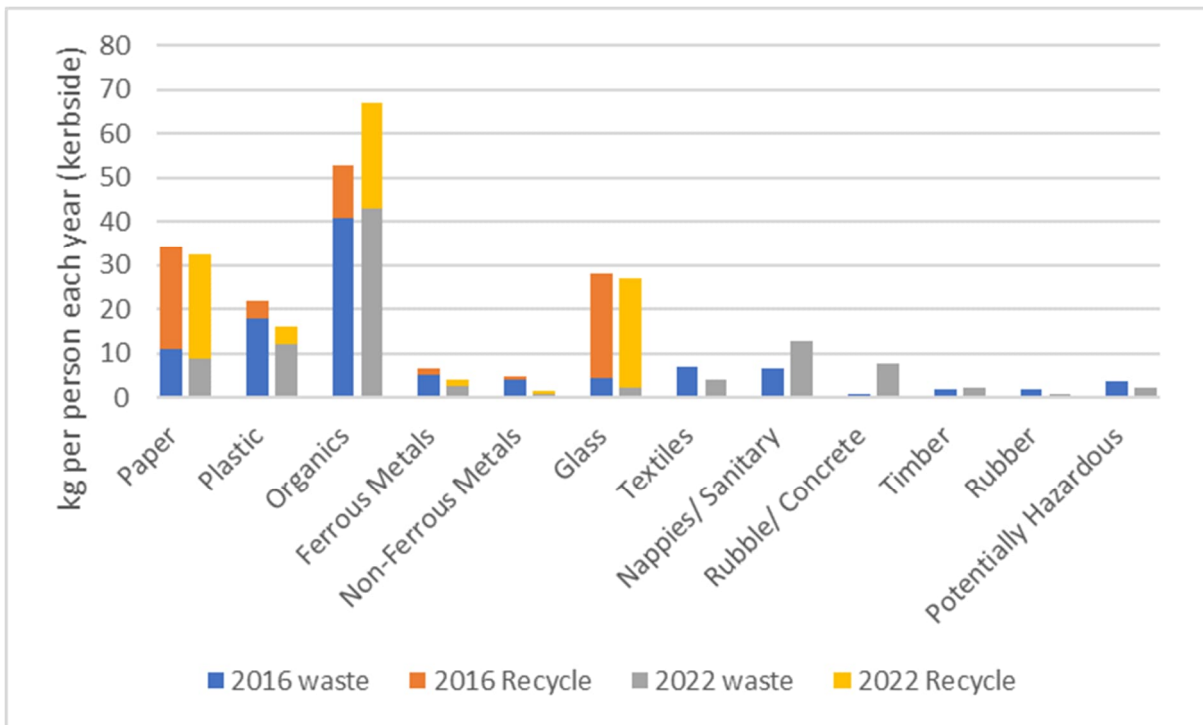


Figure 6.1: Composition of material collected at kerbside per person – 2016 and 2022.

Figure 6.2 shows the current composition of kerbside waste sent to landfill, illustrating that organic waste is the highest proportion.

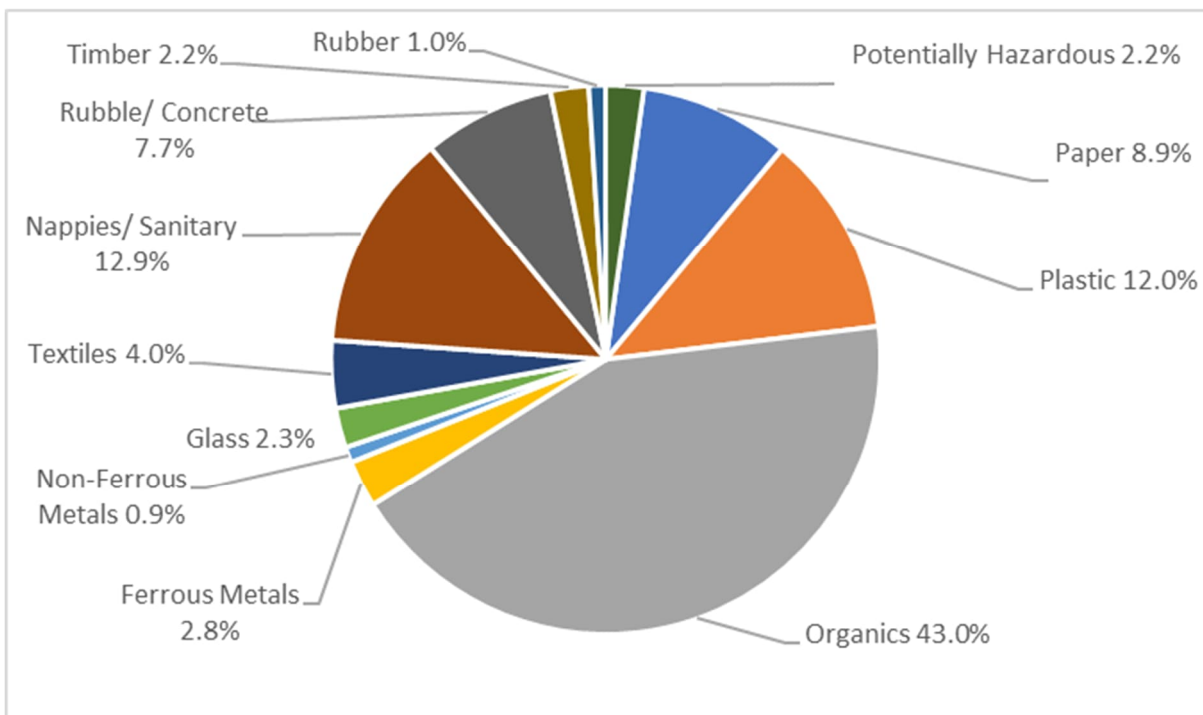


Figure 6.2: Composition of kerbside waste to landfill 2022

6.2.2 Kerbside recycling quantities

Figure 6.3 presents kerbside recycling quantities from 2010/11 to 2021/22. The data clearly demonstrates the impact of new collection services including the shift to separated glass (2015/16), green waste collections in South Taranaki (data only available from 2015/16, collection introduced earlier) and the implementation of the food scraps in New Plymouth (2019). There is no data on the quantity of material captured through private green waste collections.

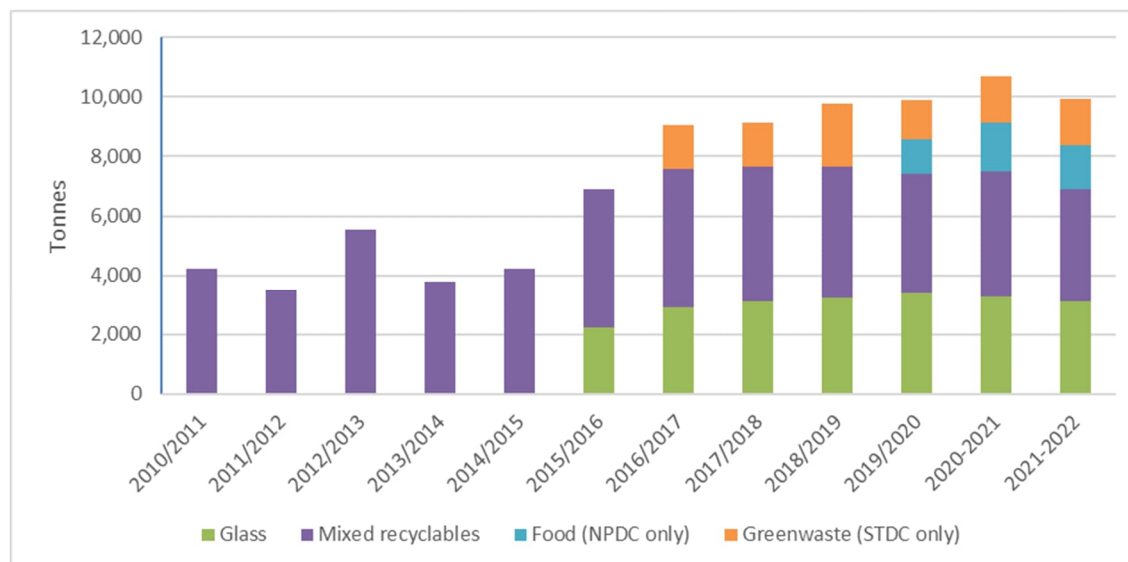


Figure 6.3: Regional kerbside recycling volumes (council volumes only). NB glass was included within mixed recyclables prior to 2014/15

Organic materials recovery

In 2021/22 kerbside collections (food waste for New Plymouth, optional green waste for South Taranaki) captures around 35% of organic waste 'available' at kerbside. This includes an estimated 33% of available material in New Plymouth and 46% of available material in South Taranaki.

The organic waste remaining in landfill bins at kerbside is made up of food waste (25% of total waste in New Plymouth, 38% if total waste in South Taranaki) and green waste (around 10%). This suggests that food waste collection in New Plymouth is having an impact that is likely to be replicated in South Taranaki and Stratford when food waste collections are introduced. The data also highlights that food waste collection is unlikely to capture all food waste in landfill bins.

Green waste is banned from rubbish bins in New Plymouth but the data suggests that further education and enforcement is required for this ban to be effective.

Plastics and container recycling

The landscape for plastics and other beverage container recycling is changing including:

- Mandated collection of specific materials.
- Government signalling the likely implementation of a container return scheme (deferred to 2024 or later).
- Moves to ban or restrict hard to recycle plastics.

If well implemented, these changes will reduce the amount of non-recyclable plastic disposed of in kerbside bins and potentially reduce the quantity of some materials collected for recycling at kerbside. Councils have limited ability to directly influence these changes, but should continue to work with central government and the packaging sector to reduce wastage and encourage the use of easily recyclable materials where reusable packaging is not viable.

Although the proposed CRS has been deferred, in the longer term it will target plastic (excluding milk), glass, tetrapak and aluminium containers. The intent of the scheme is to capture materials outside the home but by offering a refund for each container returned the scheme is likely to impact on kerbside recycling quantities as well.

- Plastic containers make up around 8% of kerbside recycling. A CRS scheme will target a relatively small proportion of plastics collected at kerbside with containers for milk, many non beverage food products and cleaning products excluded. The removal of PET 1 containers will have an impact on revenue;
- Glass containers make up around 45% of kerbside recycling. A CRS will target beverage containers but not food jars currently targeted by kerbside recycling in Taranaki;
- Paper/cardboard makes up around 43% of kerbside recycling. A CRS could target liquid paperboard products, which are currently excluded from kerbside recycling collections in Taranaki i.e. there should be minimal impact on kerbside recycling; and
- Non-ferrous (aluminium) containers make up only 1% of kerbside recycling. Removal of aluminium cans from kerbside recycling will have an impact on revenue but limited impact on the quantity of materials collected.

6.2.3 Kerbside recycling contamination

Contamination of collected recyclables with non-recyclable items is an ongoing issue. The councils adopted a target of 8% contamination by weight of recyclables when the MRF began operating in 2015. Contamination rates have fluctuated but increased over time and have never met the 8% target (Figure 6.4). This is considered to be due to the following factors:

- In 2018, the China National Sword policy placed tighter restrictions on China's acceptance of recyclable materials including not accepting mixed paper and mixed plastics. In New Zealand this resulted in:
 - Mixed plastics stockpiled to be exported being temporarily sent to landfill as there was no longer a recycling market for these plastics;
 - Due to the international market being flooded with mixed paper that was no longer accepted in China, commodity prices dropped and for a period, councils had to pay for paper to be recycled rather than receiving revenue; and
 - Publicity and media articles around these changes highlighting how recycling was managed internationally and potentially undermining people's belief that recycling was actually occurring, which resulted in less care taken when recycling at home.

In response to changes in plastics markets, councils across New Zealand, including in Taranaki, restricted plastics accepted for recycling to types 1, 2 and 5 only, and began sorting these into single higher value and recyclable streams. The resource recovery network across New Zealand was also reviewed and resulted in local recycling reprocessing options being developed for these plastics in New Zealand as well as upgrades to MRF plant to improve sorting quality and efficiency. In 2022 the New Plymouth MRF installed an optical sorter for plastics improving segregation which has lowered contamination rates in product from the MRF.

During 2020 when Covid-19 Pandemic lockdowns were introduced, recycling and organic collections across the country (including Taranaki) were temporarily put on hold. When they were reintroduced, it took residents a while to readjust to regular recycling habits, with the highest contamination rates recorded (Figure 6.5).

Since mid-2020 there has been a downward trend in contamination rates (refer orange trend line in Figure 6.4), likely due to post covid adjustments, education to residents on good recycling habits, improvements to the MRF processing to detect contamination on the sort line and auditing of kerbside bins and collection vehicles. Even with this interpreted decline, contamination rates continue to remain high.

Recycling bin audits in 2021/22 revealed that the main contaminants in recycling bins are lids, dirty recycling, and non-recyclable plastics (particularly soft plastics). Data from a behavioural change waste survey in July 2022 indicated that within the region 15-20% of respondents chose not to follow recycling guidelines even though they were aware of guidelines. This may be a contributing reason for contamination from kerbside recycling.

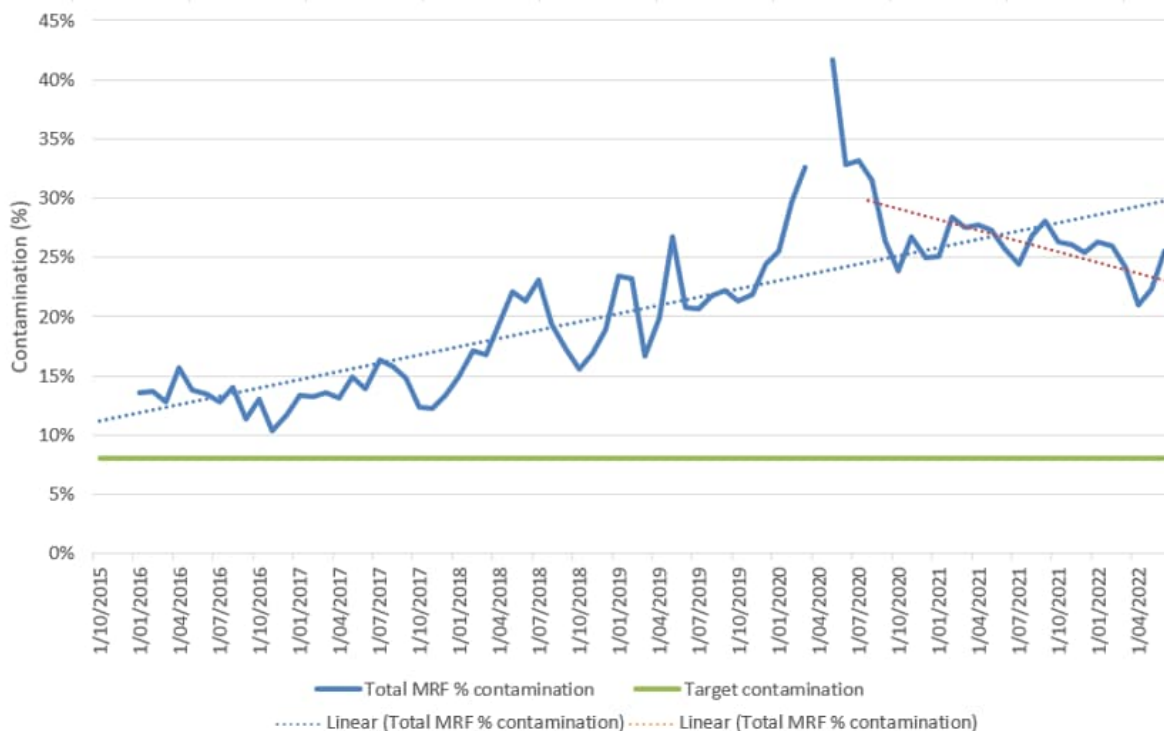


Figure 6.4: Percentage contamination at the New Plymouth MRF.²⁴

²⁴ Data gap is due to closures during Covid-19 lockdown.

6.2.4 Kerbside landfill waste quantities

Figure 6.5 provides a summary of landfill waste collected from the kerbside by councils in the region from 2016 to 2022.

In general, the per capita figures are reflecting the combination of collection services provided in each district.

NPDC provide recycling and food waste collection, alongside a fortnightly collection of the landfill bin, and as a result, have the lowest per capita waste to landfill.

STDC and SDC provide a weekly landfill collection with no food scraps collection, this results in a higher waste disposal per person. STDC's green waste collection contributes to a lower waste per person per capita for STDC than SDC. These differences between Councils demonstrate the benefits of providing a range of kerbside material streams and considering landfill waste collection frequency to maximise recovery of resources.

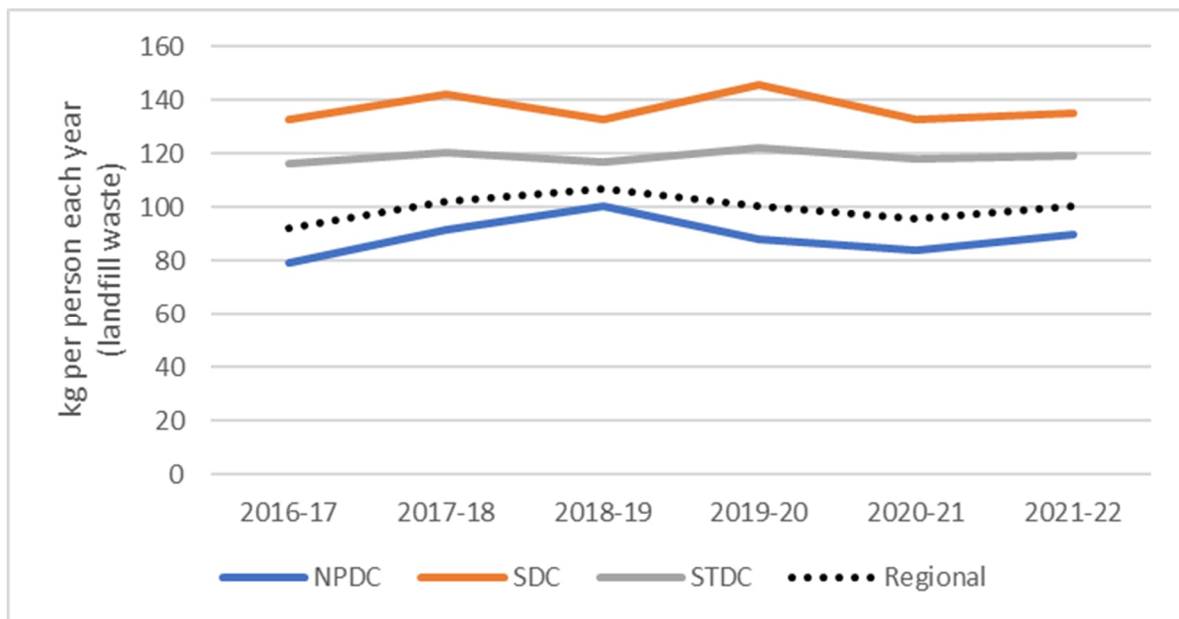


Figure 6.5: Kerbside landfill waste collection (2016 – 2022).

6.3 Commercial collection

There is limited data available to the Councils in relation to commercial collections. Material dropped at transfer stations (commercial and domestic) is addressed in Section 6.4. The composition and quantities of commercial waste presented in Figure 6.6 have been developed from two sources:

- General waste to landfill excluding waste collected at kerbside by councils and dropped off at transfer stations – SWAP analysis at Colson Road Landfill (2016)²⁵, pro-rated to 2022; and
- Recyclable materials – commercial waste study (2020).

With a lack of more current data available it should be noted that the composition of the waste may have changed over the past six years. This is particularly the case with the changes in waste management across the region due to changing markets for recyclable materials, increasing costs for waste disposal and changing economic conditions (including the impacts of Covid-19).

²⁵ The 2016 data captures all commercial waste. The more recent 2022 waste composition survey did not capture quantity or composition of commercial waste that is staged through a private transfer station in New Plymouth.

The composition of commercial waste to landfill between 2016 and 2022 (Figure 6.6) is similar residential kerbside collections (Figure 6.1) for paper/cardboard and metals. The data suggests that:

- There has been an increase in the total quantity of paper/cardboard, plastics, glass and textiles going to landfill;
- The capture of paper/cardboard and metals for recycling is relatively high;
- Timber and rubble/concrete (all to landfill) has decreased, likely reflecting increasing costs for landfill disposal and some diversion to Class 2, 3 or 4 landfills, and more recently, a new recycling option for treated timber offered at New Plymouth Transfer Station;
- Where there are limited alternative recovery options available, quantities have increased, for example textiles and rubber; and
- Multiple materials streams present opportunities to increase recycling or recovery including organic materials, timber, rubble/concrete and rubber (as noted in Section 5). In all cases there are initiatives in progress to capture these materials for recovery or recycling.

Some activities are not reflected in the data presented here but should be noted.

- Tyre recycling was established in the New Plymouth district in 2022, providing a recycling option for rubber. As commercial tyre recycling options become more established the quantity of rubber landfilled is likely to decrease; and
- A large amount of organic material from primary processing activities is applied to land or processed into soil amendment products. The total quantity used in this way is in the order of 130,000 tonnes each year, i.e. much larger than organic materials landfilled from commercial activities (around 4,000 tonnes each year).

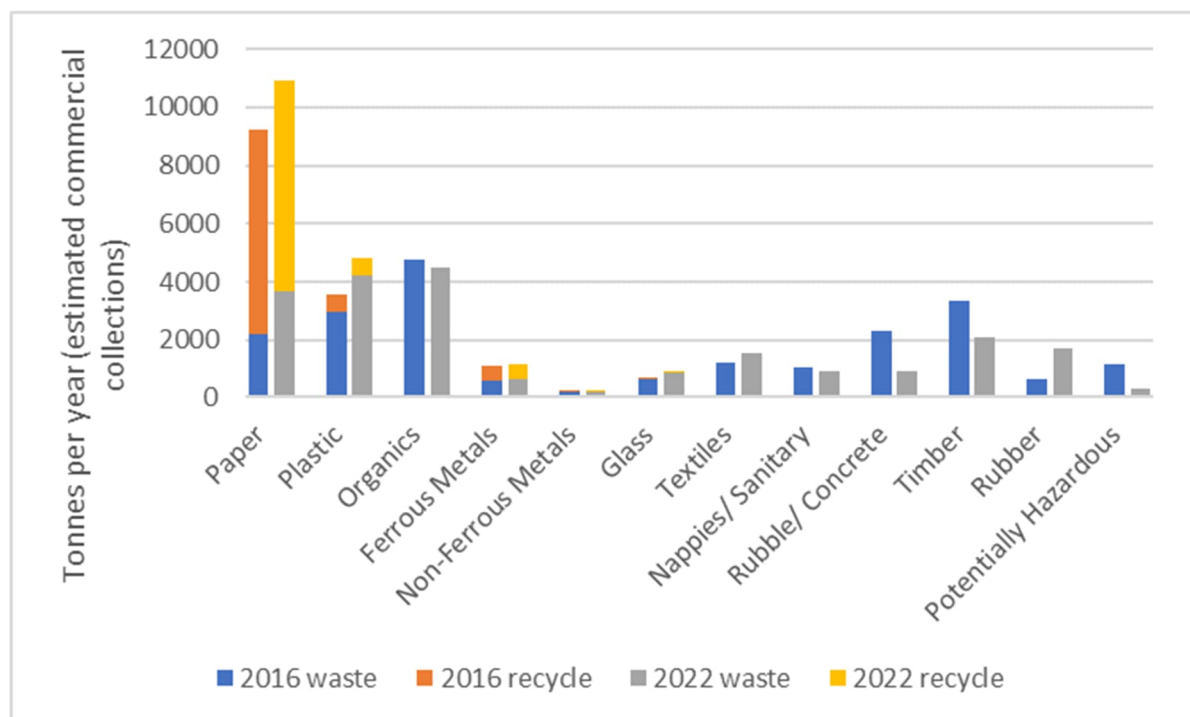


Figure 6.6: Commercial waste to landfill and recovery composition – 2016 and 2022.

6.4 Material diversion and landfill waste at transfer stations

6.4.1 Reuse – The Junction

The Junction opened on Colson Road in New Plymouth in March 2020 and waste diversion data has been recorded since September 2020 (Table 6.2).

Table 6.2: Annual diversion from The Junction reuse shop

	September 2020 – August 2021	September 2021 – August 2022
Tonnes diverted from landfill (tonnes)	130	184
Diversion rate of items dropped off at The Junction	97%	96%

Since opening in March 2020, The Junction has diverted 314 tonnes²⁶ of material from landfill through reuse/resale and recycling schemes. Seventy nine percent of the items which enter the facility are sold with the expectation that the majority of these materials are then reused or upcycled (Figure 6.7). An additional 17.6% of material is recycled through specific schemes (including recycling of e-waste, batteries and liquid paper board) or through the New Plymouth MRF and 3.3% is assessed as unsuitable for reuse or recycling and is therefore sent to landfill.

While the Figure 6.7: The Junction material and waste streams (March 2020 – August 2022). tonnage diverted from landfill represents an estimated 0.4% of the waste generated in New Plymouth, the facility is important in highlighting the potential to reuse and repurpose materials and engaging the community in long term behaviour change through interactions with the shop and education workshops and tours offered by the facility.

This is an very high diversion rate. This is likely to reflect a good understanding in the community of items suitable for managing through The Junction. The Junction model could be emulated by other councils with particular focus on capturing suitable materials.

²⁶ Data from March 2020 to August 2022. The Junction financial year runs from September to August which differs to Council's financial year period.

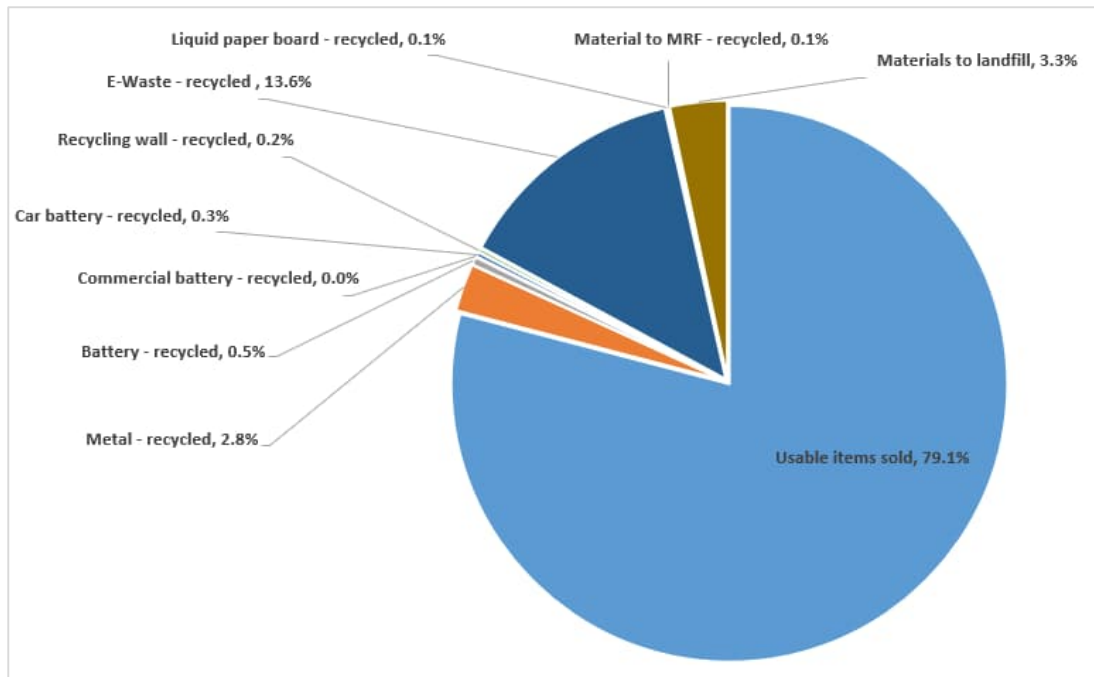


Figure 6.7: The Junction material and waste streams (March 2020 – August 2022).

6.4.2 Overall transfer station and resource recovery trends

Out of the 13 transfer stations in the region, the New Plymouth and Hāwera transfer stations manage the greatest quantity of material and overall transfer station material quantities have been increased steadily between 2016-17 to 2021-22 (Figure 6.8) Stratford Transfer Station has a higher diversion rate than other sites in the region, reasons for this include:

- Higher proportions of commercial waste being transported to the larger facilities (Hawera or New Plymouth) as part of commercial collection rounds. Commercial waste is generally mixed waste which is destined for landfill;
- The population of SDC is largely rural who only bring recycling to the transfer station and dispose of other wastes through alternative means e.g. feeding food scraps to pigs, utilising rural recovery programmes such as Agrecovery; and
- Committed staff and leadership at the Stratford Transfer Station ensuring segregation of material streams.

Since 2010 there have been increasing quantities of recoverable materials (Figure 6.8), however the bulk of material moving through transfer stations is landfilled. As most of the transfer stations have been originally designed as disposal facilities with recovery services added over time, there is an opportunity to redesign / upgrade transfer stations to focus more on recovery and perhaps utilise these sites as part of a region wide resource recovery network.

The dip in recovery for 2019/2020 is as a result of Covid-19 lockdowns (early 2020) when the acceptance of recyclable material was temporarily halted at transfer stations, and any collected recycling was landfilled.

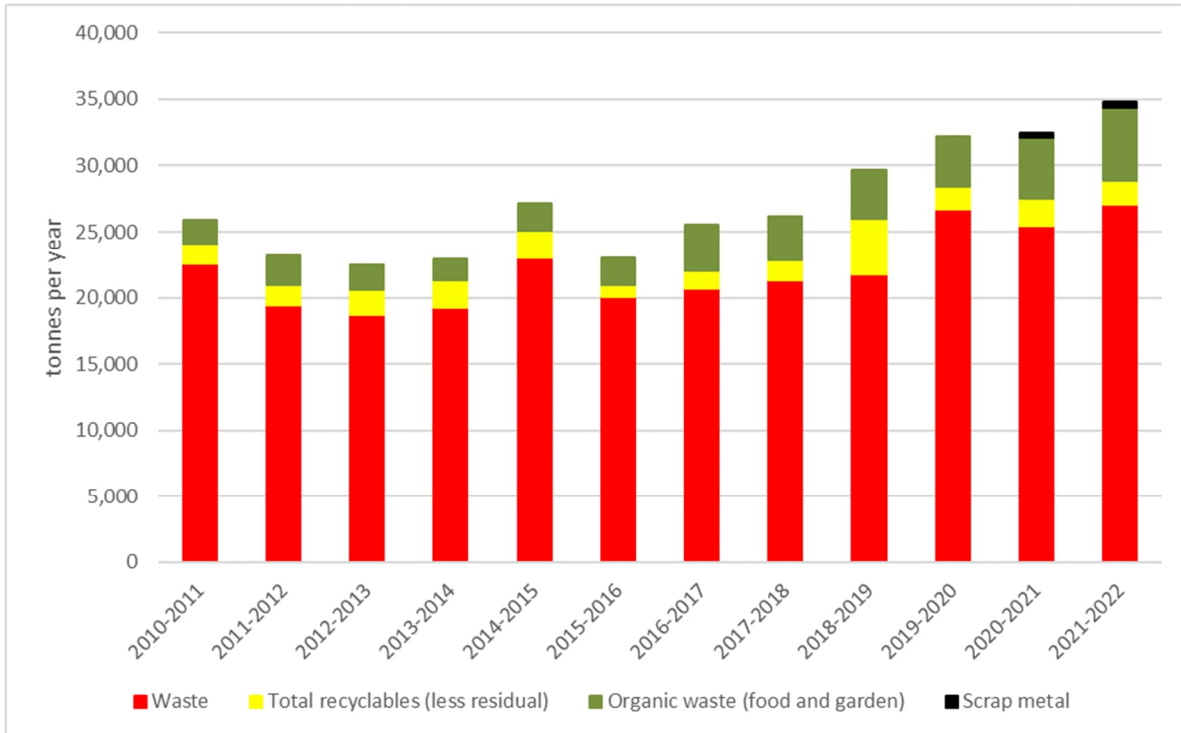


Figure 6.8: Regional transfer station waste and recovery (council data 2010 - 2021)

Considering components of the material stream that could be recovered provides useful guidance on materials to target at transfer stations across the region based on data from New Plymouth and Hawera. As for commercial waste, the opportunities are reflected in current initiatives including organic waste recovery and materials to be targeted by The Sorting Depot (cardboard, timber, rubble/concrete, timber). These materials are expected to be significant across the transfer station network, in particular cardboard, metal and organic materials. Plastics (agricultural film) and treated timber) will also be significant for sites with a large rural catchment.

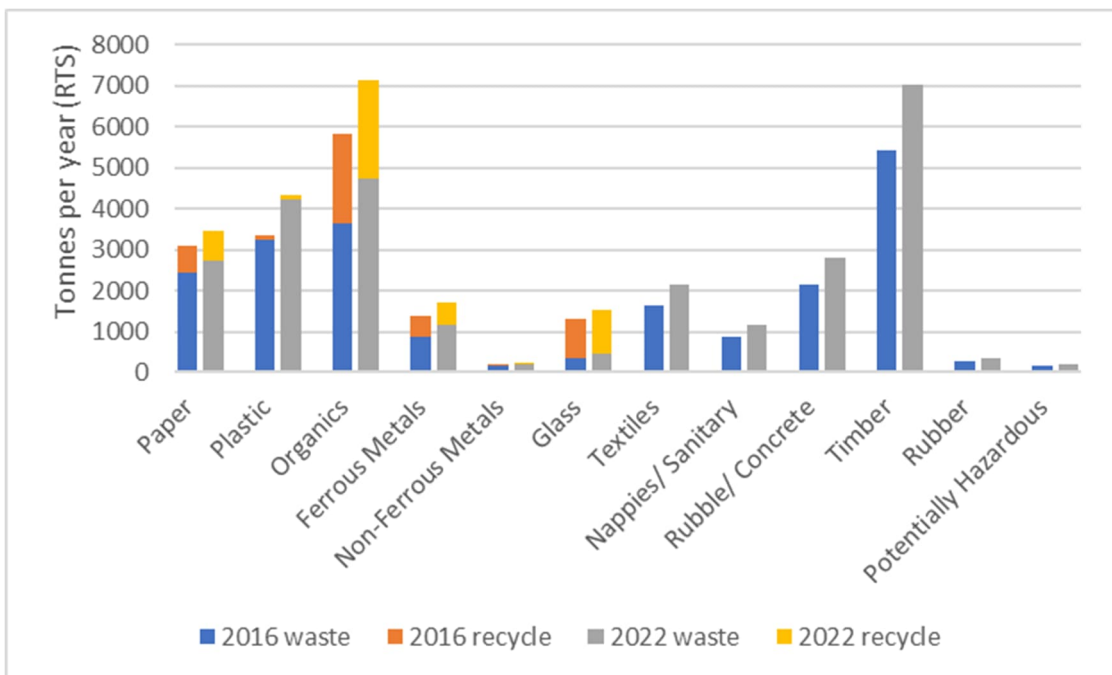


Figure 6.9: Regional transfer station waste and recovery composition (2016 and 2022)

6.5 Total waste stream

6.5.1 Total waste to landfill

The total waste to landfill from across the region including both council and private waste collection and transfer station services from 2010 to 2022 is summarised in Figure 6.10. Data from private waste contractors is not complete and therefore some assumptions have been made for 2015 onwards based the data available.

Overall waste to landfill in Taranaki has generally decreased since 2015/16 with a slight increase in 2021/22. NPDC landfill tonnage has been steadily decreasing, SDC remains steady, and STDC shows an increasing trend in the last three years. A portion of the decrease for NPDC can be attributed to private waste contractors consolidating waste material at their own facilities within the region, which is then transferred out of the region, without passing through council transfer stations. The slight decrease from 2019/20 onwards for NPDC can also be attributed to the introduction of the kerbside food scraps collection (1,500 tonnes per year) and opening of The Junction diverts on average 157 tonnes of waste per year.

In STDC prior to the closure of Colson Road Landfill, private waste contractors would transport waste directly to landfill, however these contractors now utilise the Hāwera Transfer Station, where the waste is consolidated before being transported to Bonny Glen Landfill. This has resulted in an increase of around 3,000 tonnes per year for STDC.

Waste per capita at a regional level has decreased up to 2020/21 with an increase in 2021/22. SDC has significantly lower waste per capita, it is likely this is a reflection of the rural nature of the district (waste managed on farm) and commercial waste being transported directly to Hāwera or New Plymouth. STDC appears to have an increase from 2020/21 (of over 20%), the reasons for this are not clear.

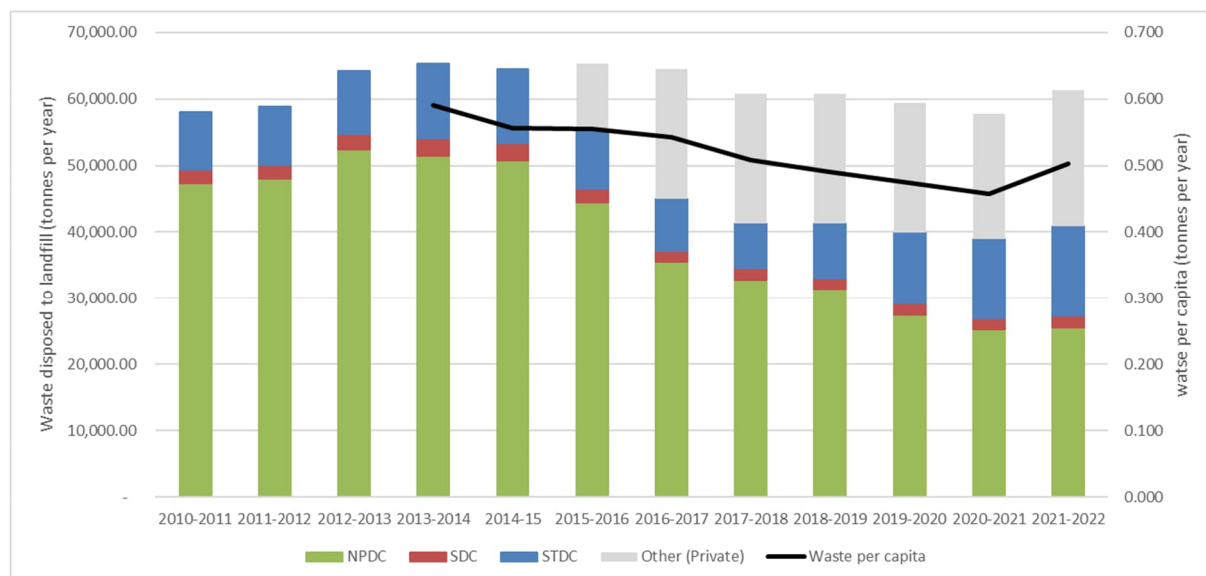


Figure 6.10: Total waste to landfill by district.

6.5.2 Special waste

Prior to the closure of Colson Road Landfill in August 2019, all special waste was disposed to landfill within the region. Special waste only was accepted at Colson Road Landfill between August 2019 and October 2020 to allow the commercial sector to put in place alternative disposal options.

Special waste is now transported out of the region to Bonny Glen Landfill (where appropriate), or for some materials to Hampton Downs Landfill in north Waikato. The quantity of special waste has dropped significantly as a result of the closure of Colson Road Landfill with some special waste streams identifying attentive treatment and disposal options instead of landfilling (i.e. grease traps and sump cleaning). However, it is likely that there are some data gaps. The quantity of various categories of special waste from 2010/11 to 2021/22 are provided in Figure 6.11: Special waste from Taranaki region. .

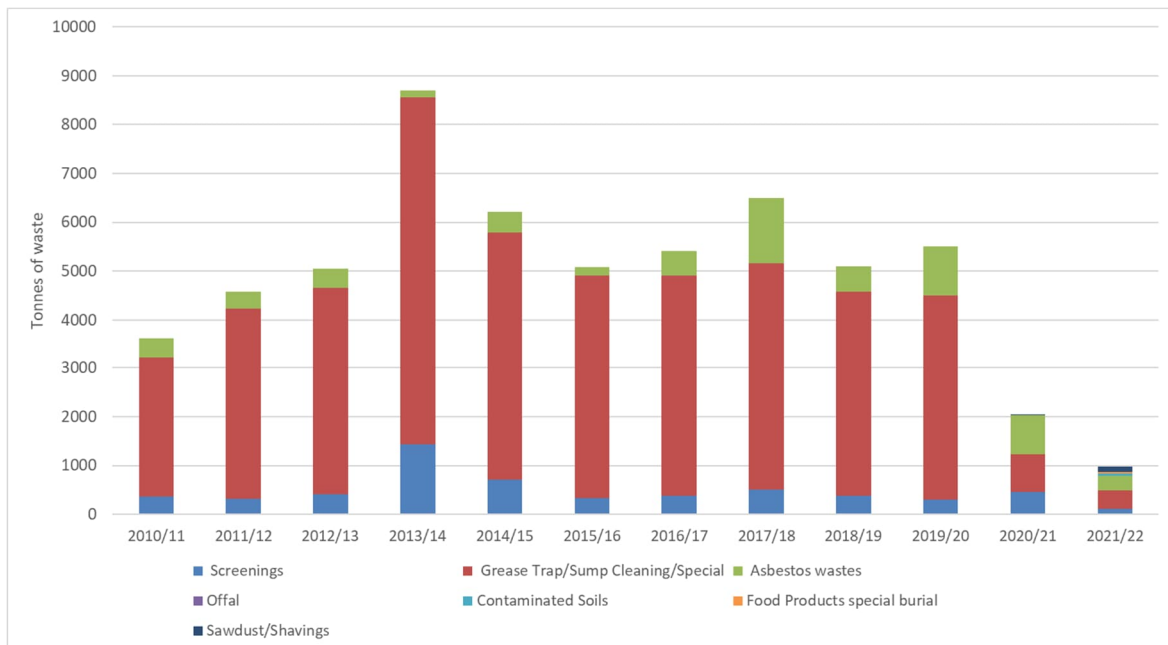


Figure 6.11: Special waste from Taranaki region.

6.6 Other material streams

6.6.1 Illegal dumping

The amount of illegal dumping across Taranaki is difficult to quantify, but can be measured through the number of notifications that councils receive (service requests). There is a higher number of requests in the New Plymouth district in comparison to the other districts (Figure 6.12), which can be attributed to a higher population density.

The number of service requests generally peaks during the summer months. Although prices of waste disposal have increased over the period, illegal waste disposal has remained relatively static, suggesting that illegal dumping is not driven by increasing landfill prices despite regular feedback from the community that this will occur.

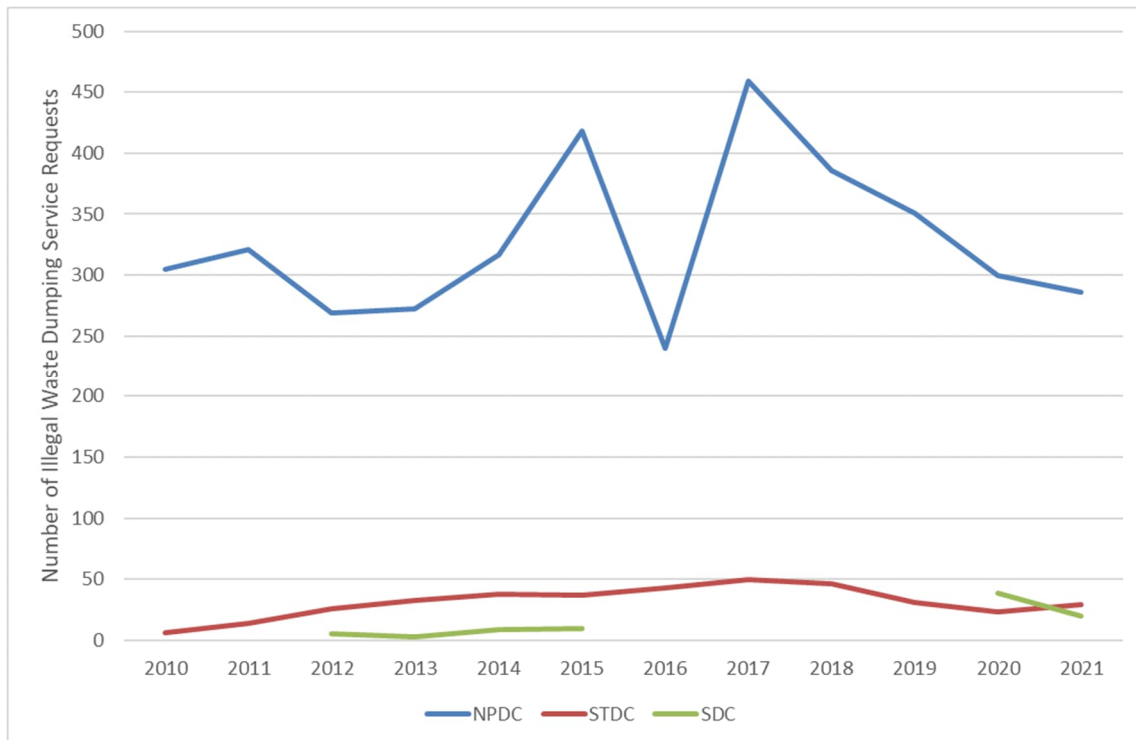


Figure 6.12: Number of service requests for waste illegally dumped in Taranaki (note SDC data unavailable for some years)

6.6.2 Agricultural waste

A recycling programme is currently available for agricultural waste through Agrecovery. Containers up to 60 Litres are free to recycle, with paid schemes for larger containers at participating retailers including NZ Farm Source, Farmlands and Waitara Transfer Station. As discussed in Section 5.2 each Council in the region has held periodic 'One Stop Shop' events, which encourage farmers and growers to safely and responsibly dispose of various agricultural waste streams in one go. Figure 6.13 details the total Agrecovery waste collected in the event held in May 2021.

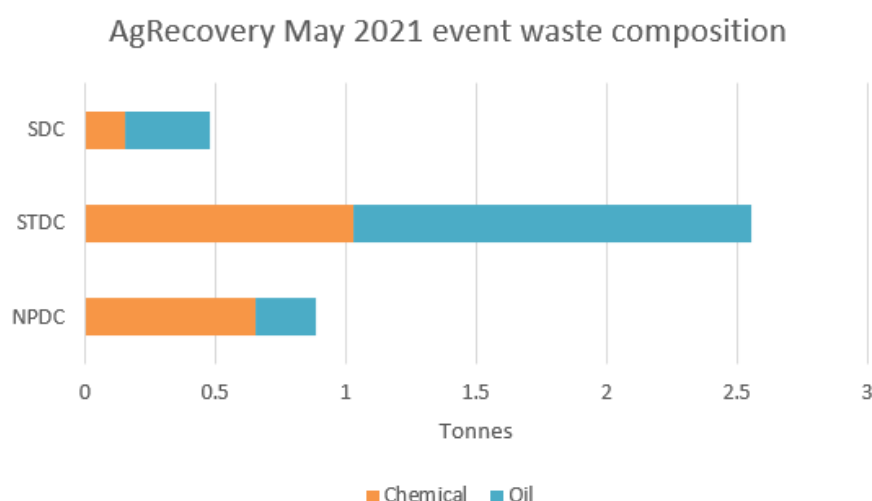


Figure 6.13: Agrecovery waste from One Stop Shop event May 2021.

Plasbak also offer services but there is no information currently available to Councils on the quantity of material captured for recovery.

6.6.3 Medical waste

Medical and cytotoxic waste²⁷ data from hospitals and health clinics across the region has been obtained from Taranaki District Health Board (TDHB, now Te Whatu Ora Taranaki) and is shown Figure 6.14. The data shows consistent volumes of waste have been generated since July 2020.

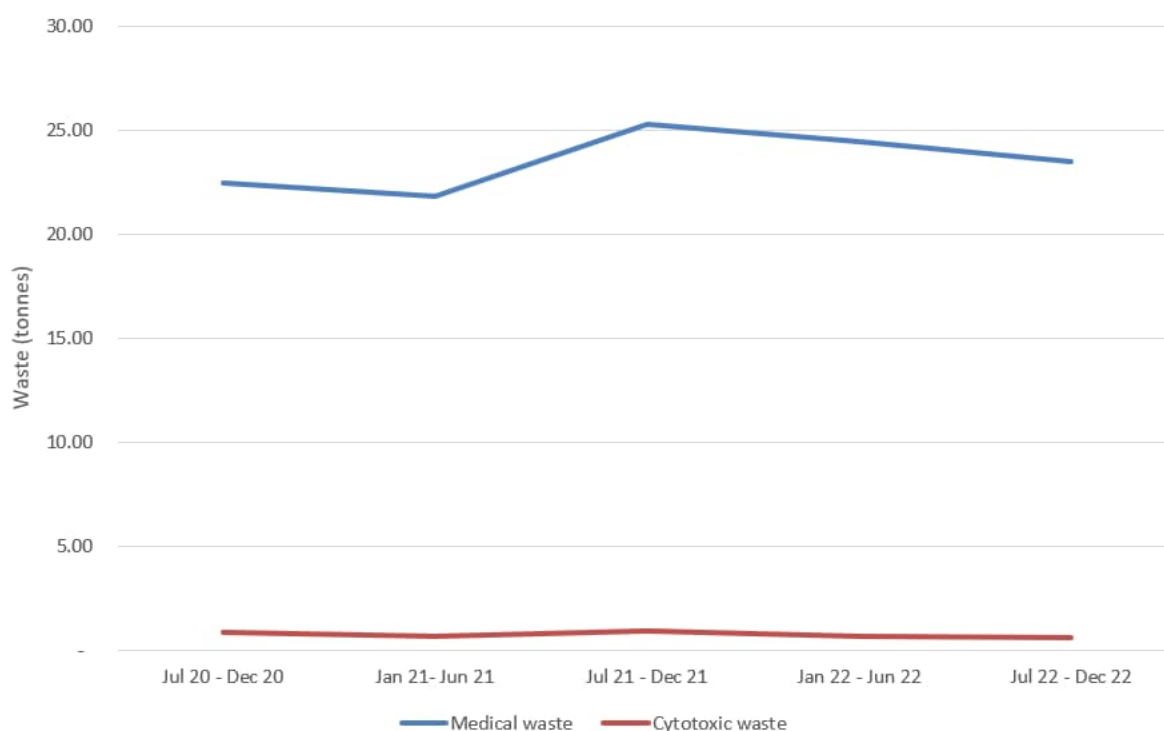


Figure 6.14: Medical and cytotoxic waste volumes (July 2020 – December 2022)²⁸

6.6.4 Event waste

Currently NPDC is the only council collating waste data related to events. From the events in April – October 2022 which implemented an event waste minimisation plan and where waste data was available, an average of 75% diversion was achieved.

Events which took place in the New Plymouth council managed Events and Venues (NPEV) contributed 90% of the total event waste (7.10 tonnes in total, Figure 6.15) and were able to achieve 88% diversion from landfill. This is credited to the mandated waste minimisation plans for these venues and dedicated resources to assist with waste management as well as a collaboration across the NPEV and Resource Recovery teams to work towards zero waste within the organisation. Events run by the community, which account for 10% of the waste (0.77 tonnes), managed to achieve 78% diversion.

There is an opportunity to expand this approach to events across the region to better record event waste minimisation, support communities to run zero waste events and reduce material to landfill.

²⁷ Cytotoxic waste is any material contaminated with residues or preparations that are toxic to cells.

²⁸ Note – July to December 2022 medical waste data was not available therefore the average of the previous two years has been used to predict volumes.

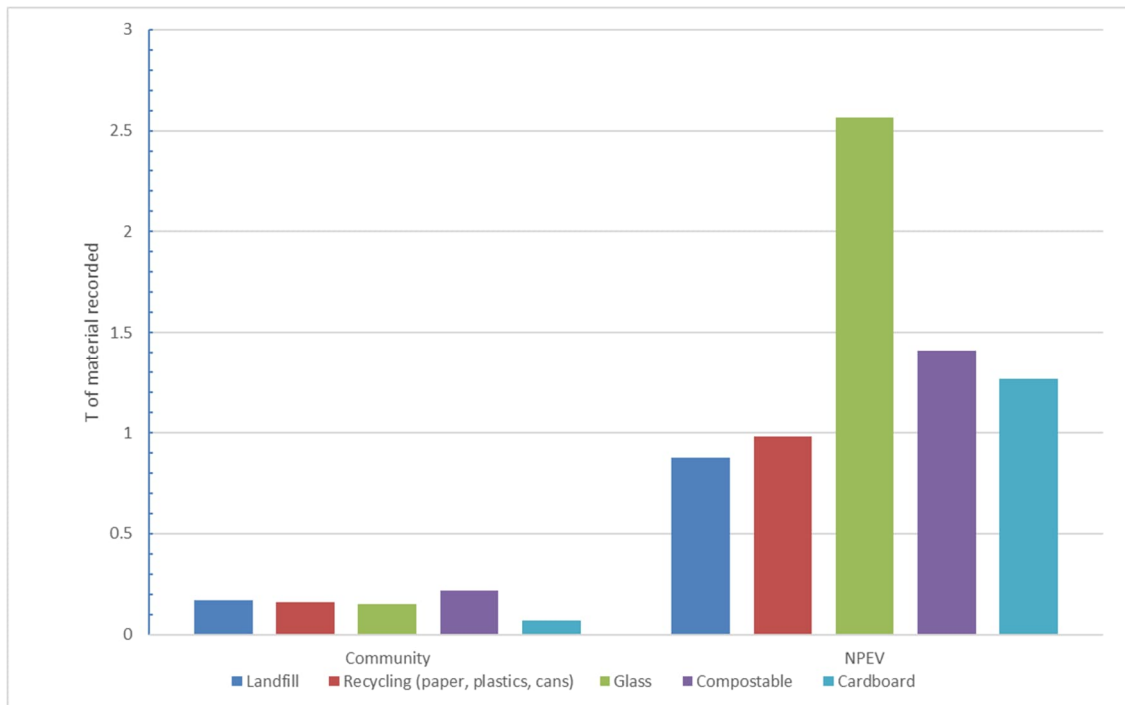


Figure 6.15: Event waste composition and quantities (April to October 2022)

6.6.5 Unquantified waste

There are several waste streams that are known to exist, but are difficult to quantify. Examples include:

- Private household collections of landfill waste, where it does not enter the council transfer station network and therefore these quantities are not recorded by the councils;
- Rural waste managed on farms; there is an increasing level of interest in rural waste across New Zealand. As the rural sector considers the implications of current waste management approaches it is likely that increasing quantities of materials from farming activities will enter the council waste management system, either via the transfer station network or through commercial on-farm collections;
- Materials captured for recycling or recovery as part of commercial activity:
 - Scrap metal;
 - Other construction and demolition waste; and
 - Waste materials managed within manufacturing operations (wood processing residues).

This means that both waste disposed to landfill and waste diverted/recovered across the region are likely to be underestimated.

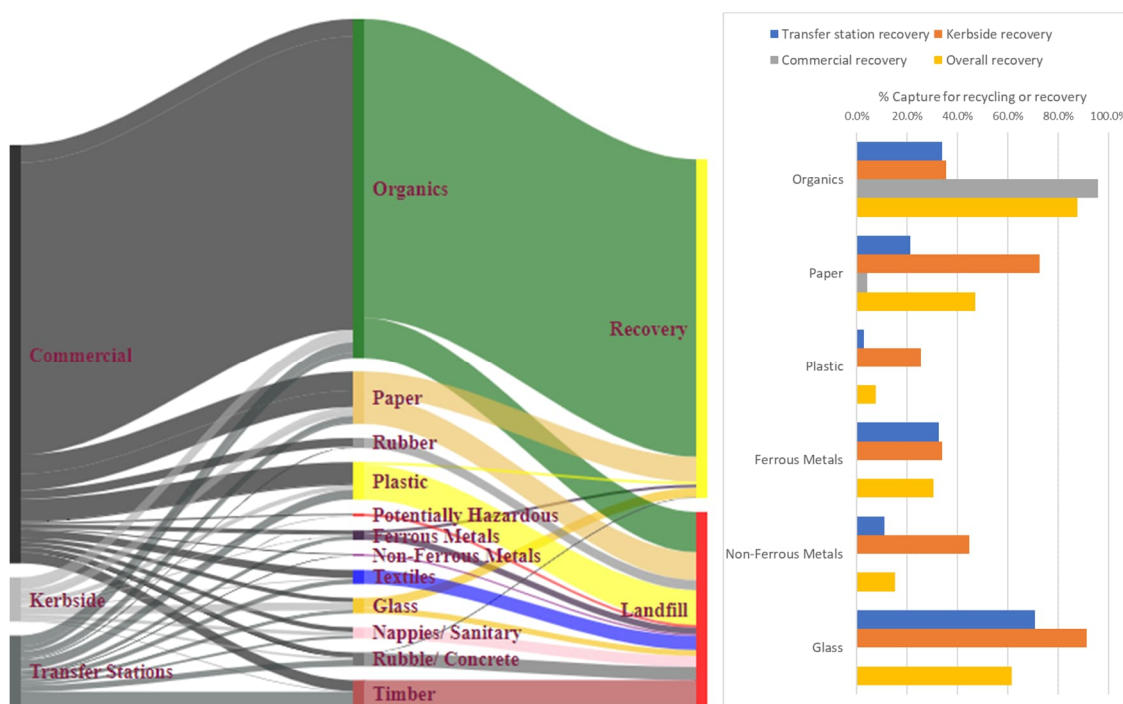
6.7 Material flows – key issues identified

Providing an overall view on waste generation and how materials are managed (through recycling, recovery or landfill) allows recovery rates to be determined for various materials streams and an assessment of where there are opportunities to increase the capture of materials for recycling or recovery.

The sankey diagram (Figure 6.16) shows how materials are captured (i.e. through commercial collections direct to landfill or processor, or via kerbside collection or transfer stations) and the proportion of these materials that are recovered or disposed to landfill.

The material flows presented in Figure 6.16 suggests that:

- The capture of organic materials from commercial activities (including primary processors) is high (> 80%); however the low capture of organic waste through transfer stations and kerbside collection could be an area of focus to increase the capture rate.
- Paper (including cardboard) recovery through kerbside collections is relatively high, but there is potential to increase capture at transfer stations and from commercial activities;
- Plastic recovery is generally low across the services, however a high proportion of plastic generated is not currently recyclable (plastics 3, 4, 6, 7 and plastic film, over 80%), particularly through kerbside collection. There is potential to increase capture of plastics not accepted at kerbside through transfer stations and from commercial activities alongside advocating for reduced plastic and the use of easily recyclable plastics where possible;
- Metals recovery is low across the board although, given the market demand for metals, the capture rate is likely to be under-estimated given the limited information about metals recovery through scrap metal dealers across the region;
- Glass recovery at transfer stations and through residential kerbside collections is high. There is potential to increase capture from commercial activities although the data is likely to be under reporting glass capture from commercial activity; and
- Nappies/sanitary and textiles are also significant materials streams. While there are options for the recovery of textiles, these tend to result in lower value products such as rags;
 - Further work on the recovery of textiles could be a focus alongside behaviour change programmes to encourage residents and businesses to avoid generating sanitary or textile waste where possible.



The bar chart to the right of the Sankey diagram illustrates the proportion of material captured for recycling and recovery from materials drop off at transfer stations (blue bar), collected at kerbside (orange bar) and from commercial activities (grey bar). The yellow bar presents the combined proportion of material captured.

Figure 6.16: Sankey diagram of material flow within Taranaki Region.

In many cases materials are transported to other parts of the North Island for recovery, recycling or disposal (Table 6.3). The exception is organic material with a significant proportion of processed and used in Taranaki.

Table 6.3: Material flows across the region

Material	Consolidation location	Final destination
Landfill waste	Colson Road Transfer Station (NPDC) Hāwera Transfer Station (SDC and STDC)	Bonny Glen Landfill, Rangitikei District
Paper and cardboard	New Plymouth MRF	Kinlieth or Penrose (Oji paper mills), Hawkes Bay (Hawk Group)
Plastics	New Plymouth MRF	Various in New Zealand
Glass	New Plymouth MRF	OI, Auckland
Organic materials	Colson Road Transfer Station (NPDC) Stratford Transfer Station (SDC) Hāwera Transfer Station (STDC)	Local and out of region processing including compost facility in Foxton, Horowhenua.

6.8 Waste related carbon emissions

Councils are not responsible for emissions associated with the creation of waste from households or businesses. However, in order for Aotearoa New Zealand to meet its national emissions reduction goals, councils across the country will have to begin measuring and reducing their emissions.

NPDC and STDC have started this process. NPDC's draft District Emissions Reduction Plan²⁹ puts forward the goal of reducing its organisational and district-wide emissions footprints to net zero by 2050 for all gases other than biogenic methane. STDC has the overarching goal of being a net zero carbon organisation by 2050, for all gases other than biogenic methane. NPDC and STDC both have a draft goal of at least a 10% reduction in biogenic methane emissions by 2030, and a 24-47% reduction by 2050 (compared with 2017 levels). This goal is a part of Te Rautaki Toitū te Taiao, STDC's Environment and Sustainability Strategy³⁰. For further context on New Zealand's national Emission Reduction Plan see Section 4.3.4.

Due to resource limitations, SDC has not yet measured its organisational emissions or released formal emissions reduction goals, however this is on the agenda for the council and SDC is current developing an emissions reduction plan.

Despite this work, the councils currently do not measure the full lifecycle emissions embodied within each waste product or waste stream, but the councils can actively work towards challenging consumer behaviours particularly through circular economy approaches. The councils have implemented educational programmes as part of Zero Waste Taranaki, waste management bylaws and influencing commercial construction projects through Construction Waste Reduction Plans (in NPDC), all of which contribute to driving a circular economy approach and therefore emissions reduction.

Councils, and other large purchasers of products, services and infrastructure, can influence waste, and emissions through procurement. This includes ensuring that decisions are informed or led by emissions considerations and/or requiring emissions reductions as pass fail criteria. Requiring reporting on emissions for all products and services is a first step in this process.

²⁹ <https://www.npdc.govt.nz/media/3p1osxga/draft-district-wide-emissions-reduction-plan.pdf> (expected to be finalised in mid 2023).

³⁰ <https://www.southtaranaki.com/our-council/environment-and-sustainability/environment-and-sustainability-strategy>

For NPDC, the latest data on emissions (financial year 2017 – 2018) indicates that waste was 70% of the organisational profile. At that time, Colson Road Landfill was still operational. Due to NPDC running this operational landfill, as well as additional closed landfills in the district, landfill gas emissions made up most of the waste emissions. Although the Colson Road Landfill has closed, decomposition of waste, and the associated release of methane, continues to occur within the landfill. However a landfill gas capture system was retrofitted to the landfill, with the purpose of reducing odour in 2018. While this captures some gas, the efficiency of the capture system is low and Colson Road Landfill continues to be the single largest source of organisational emissions for NPDC.

STDC's most recent organisational emission profile covers financial year 2020 – 2021. Emissions from waste management accounts for 24% of STDC's operational emissions, this includes 21% community waste to landfill and 3% community green waste processed to compost. The majority of these emissions are from organic material decomposition in the landfill and associated methane production. The remaining emissions, which account for less than 10% of total emissions, are from transport associated with the collection and transfer of material to processing or disposal facilities.

SDC is currently preparing an organisational emissions profile. The majority of waste emissions for SDC are anticipated to be from the 3 closed landfills, transportation of landfill waste and recycling out of Stratford and further processing.

Since the closure of Colson Road Landfill, Bonny Glen Landfill now receives the regions landfill waste. NPDCs food scraps are sent to Hampton Downs for processing. This change in final destination has resulted in a portion of Scope 1 (direct emissions) to scope 3 (indirect emissions) being passed from the Taranaki region to other regions.

Figure 6.17 presents indicative emissions from landfill based on waste quantity and composition from 2016 and 2022, and default emissions factors for landfilled waste. Total emissions from landfill in 2022 are estimated at over 85,000 T CO_{2eq}³¹. This translates to 1.41 T CO₂ per tonne of waste and 0.684 T of CO₂ per person. This is a reduction in emissions per person but an increase in total emissions and emissions per tonne of landfill waste.

Material disposed of at Bonny Glen landfill will result in significantly reduced emissions due to the highly efficient landfill gas capture system. This reduces the indicative disposal related emissions to less than 11,000 T CO_{2eq} for 2022.

Organic material diversion activities have saved significant emissions, in the order of 8% of potential landfill emissions based on the quantity of material diverted.

- Capture of green waste for composting at transfer stations has saved around 3,600 T CO_{2eq} each year;
- Capture of green waste through the STDC green waste collection has saved around 2,300 T CO_{2eq} each year; and
- Capture of food scrap waste for composting through the NPDC food scrap collection has saved around 1,600 T CO_{2eq} each year.

Paper/cardboard recovery also delivers significant emissions savings by avoiding landfill disposal. Based on avoided emissions from landfill alone, recovering paper has resulted in an estimated saving of 11,000 T CO_{2eq} each year or around 11% of potential emissions.

³¹ The actual landfill emissions depend on the disposal site used. In 2016 - 2019 material was disposed at Colson Road landfill where default emissions factor was used. In 2022, at Bonny Glen landfill a unique emissions factor can be calculated.

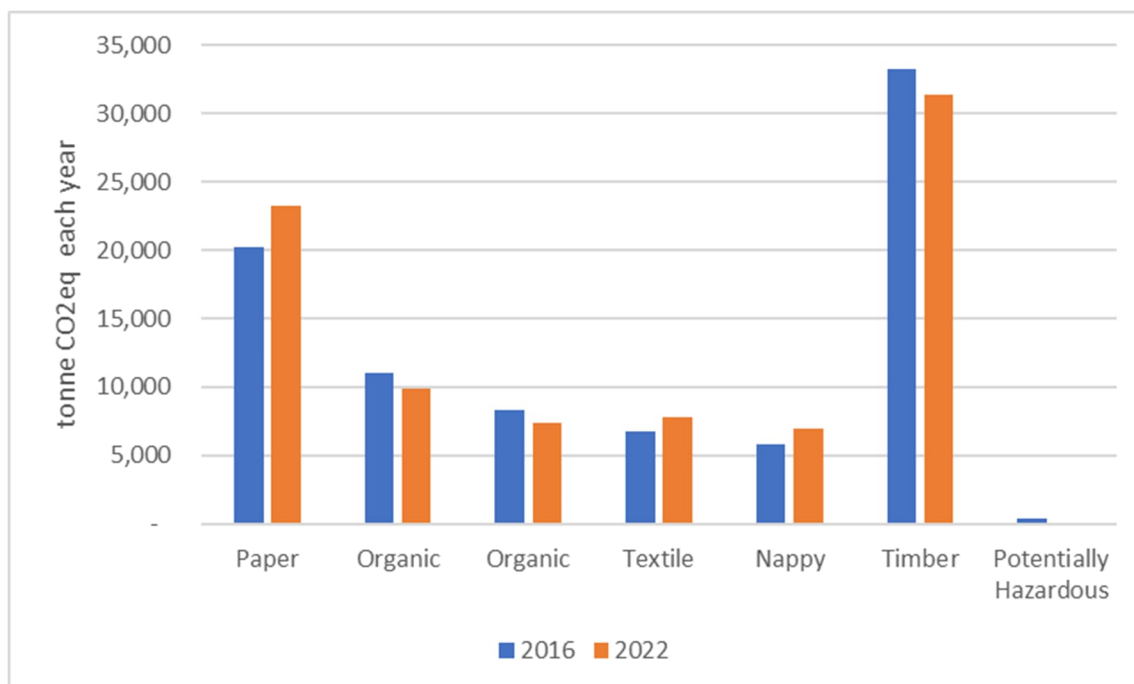


Figure 6.17: Indicative CO_{2eq} emissions from material disposed to landfill.

6.9 Costs for waste management and minimisation

6.9.1 Funding approach

The 2021-31 LTPs set the budgets for the council waste management and minimisation activity. This includes rates funding for some services and user charges at council waste recovery and recycling facilities (Table 6.4).

Table 6.4: Funding type by Council

Council	Funding type
NPDC	Services are funded through general rates, a targeted rate (kerbside collection), waste levies, revenue from the sale of recyclable commodities and from user charges at transfer stations and the Resource Recovery Facility. Recycling and domestic volumes of hazardous waste do not attract user charges Capital improvements are funded from development reserves and borrowing, while the renewal and replacement of assets is funded from NPDC's renewal reserves.
STDC	Kerbside collection is under targeted rates and disposal under general rates (STDC only). Operations and capital work are funded through charges for services, revenue, targeted rates, UAGC (uniform annual general charge), transfer from reserves, other funding (including community and industry funding or other government sources), the waste disposal levy and the Waste Minimisation Fund (where applicable when this has been received for specific projects).
SDC	

Landfill waste dropped off at the transfer stations along with certain recyclable materials (green waste, tyres, electronic waste and whiteware) attract user charges. The user charges do not cover the full cost of providing the service, with the shortfall covered from the funding sources noted above. This is typical for similar facilities in New Zealand with recycling and hazardous waste management funded through rates and waste levy.

The funding approach is consistent with the principles set out in the current WMMPs, whereby council costs for waste management services are, where possible, covered by the users of that service.

6.9.2 Waste Disposal Levy

Table 6.5 details the increased funding which each council will receive as a result of the waste disposal levy increases occurring up until 2025, assuming static waste to landfill across New Zealand. Adjusted figures are also provided, recognising the plans to reduce material disposed of to landfill over time.

Any decrease in the volume of waste to landfill will reduce the payment to each council. The Transforming Recycling discussion document proposed a series of targets for reducing landfill disposal through to 2030. This included reducing business waste disposal by 30 - 50% and household waste disposal by 60 - 70%.

Using Taranaki data a 50 - 60% reduction in waste to landfill will result in an associated reduction in levy revenue. The adjusted figures assume a 50% reduction is achieved by 2030 with material disposed to landfill reducing from 2023 to 2030. However, achieving these targets relies on a number of levers and policies at the national level that should shift the cost of waste disposal onto manufacturers, retailers and consumers, reducing the cost burden on councils.

As noted in Section 4 signalled changes to waste related legislation have the potential to impact on the funding provided to each of the Councils. This includes changes to the way that levy funds are allocated to Councils, direction on services to be provided (potentially with Council or contestable levy funding) and implementation of product stewardship schemes for materials currently handled through Council service.

Table 6.5: Future Waste Disposal Levy Funding

Financial Year	Levy (Class 1 Landfill)	Estimated levy payment to each Council					
		NPDC	NPDC adjusted	SDC	SDC adjusted	STDC	STDC adjusted
2021/22	\$20	\$300,000		\$64,000		\$150,000	
2022/23	\$30	\$600,000	\$567,000	\$96,000	\$91,000	\$180,000	\$170,000
2023/24	\$50	\$1,140,000	\$1,013,000	\$160,000	\$142,000	\$290,000	\$258,000
2024/25	\$60	\$1,350,000	\$1,125,000	\$192,000	\$160,000	\$340,000	\$283,000
2030/31	\$60	\$1,350,000	\$675,000	\$192,000	\$96,000	\$340,000	\$170,000

6.9.3 Comparing costs

Appendix C provides information on user charges for each of the council facilities and services. Revenue from user charges is supplemented by rates for waste services. It is also useful to look at total council spend on waste minimisation and management activity and compare this across Taranaki and with selected other councils.

Table 6.6 summarises the range in spend on a per resident basis and the costs involved in providing services across the three councils and two others in New Zealand. Current spend for a given service level in Taranaki are consistent with other areas and similar service levels. Referring to the capture of recyclable materials and food scraps through household collections noted in Section 6 the higher spend per resident in New Plymouth is delivering a lower per capita waste to landfill compared to South Taranaki and Stratford.

Table 6.6: Comparison of annual council costs on waste services (rates imposed and total cost per household)

	NPDC	SDC	STDC	PNCC	Rangitikei
Targeted rate	\$182	\$389	\$196	\$221	\$146
Kerbside waste collection	✓	✓	✓	✓	✓
Kerbside recycling	✓	✓	✓	✓	✓
Kerbside food or garden	✓		✓		
Transfer stations	✓	✓	✓	✓	✓
Total spend (M)	\$17.2	\$0.9	\$4.6	\$9.5	\$2.2
Total spend per resident	\$196	\$90	\$158	\$106	\$140
Total spend per household	\$564	\$337	\$537	\$310	\$460

6.10 Forecast of future demand

6.10.1 The changing landscape for resource recovery and waste management

There are a range of drivers that mean methods and priorities for waste management and minimisation are likely to continue to evolve, with an increasing emphasis on diversion of waste from landfill and recovery of material value. These changes are anticipated to change the characteristics of materials requiring management. Key change drivers include:

- Increased cost of landfill – landfill costs have risen in the past due to higher environmental standards under the RMA, general increase in the cost of doing business (fuel, wages), and increases in the Waste Disposal Levy and the New Zealand Emissions Trading Scheme;
- Investment in waste recovery infrastructure – through the Waste Minimisation Fund and local government investment³²;
- Requirements in the New Zealand Waste Strategy and the review of the Waste Minimisation Act 2008, Emissions Reduction Plan and National Adaptation Plan all signal a focus on recovery of a range of materials streams, including policy tools such as mandatory kerbside collection and/or local processing facilities;
- Product Stewardship and plans to implement a regulated scheme to increase incentives for circular resource use and the responsibilities of producers for managing end-of-life products;
- The proposed CRS, potentially shifting packaging choices for included containers and changing materials flows with containers moving out of kerbside recycling into the scheme. The government has deferred further work on the CRS until at least 2024 creating some short to medium term uncertainty for impacts on materials currently captured through kerbside recycling;
- Collection systems – more convenient recycling systems with more capacity help drive an increase in the capture of materials for recycling;
- Waste industry capabilities – as the waste and resource recovery sector evolves in response to commercial, legislative and policy drivers (local and national), their national capability to design and implement resource recovery in cost effective ways will increase. Local policy drivers include actions and targets in the WMMP, implementation of bylaws and licensing, and council purchasing behaviour; and
- Recycling and recovered materials markets – recovery of materials from the waste stream for reuse and recycling is heavily dependent on the recovered materials having an economic value. Markets for recycled commodities are influenced by prevailing economic conditions and most significantly by commodity prices for the equivalent virgin materials. In some cases, purchasing behaviour of key market participants is also important, for example council as a transport authority prioritising recycled aggregate use.

6.10.2 Summary of demand factors

Forecasts of waste 'generated' have been developed using population projections, historic waste quantities and the specific factors relevant to the three district councils which include:

- Steady population growth to 2048 in the resident population;
- Dwelling growth across particular areas in the region;
- Potential introduction of a CRS;

³² <https://www.mfe.govt.nz/consultations/landfill-levy>

- Introduction of product stewardship schemes and changes in material use (for example bans on specific materials); and
- Greater uptake and availability in future organics collection and processing services.

In general, the factors that have the greatest influence on potential demand for waste and resource recovery services are population and household growth, construction and demolition activity, economic growth and changes in the collection service or recovery of materials.

6.10.3 Population and household projections

It is useful to consider projections for future household growth as the numbers of households can relate directly to the delivery of council collection services and facilities, and the demand for these. The most recent projections are detailed in Table 6.7.

Table 6.7: Region household projections 2020 - 2048

District	2020 dwellings	2048 projected dwellings	% increase
NPDC	33,723	34,021	0.9% increase
SDC	2,594	2,746	5.5% increase
STDC	8,509	8,694	2.1% increase

Note: Data from Stats NZ. 2048 predictions are based on a medium forecast scenario.

Managing this growth-related demand, specifically how it impacts on the councils' for existing council provided services, will be key to ensuring that planning for future infrastructure meets the requirements for the region through the years.

6.10.4 Waste generation

Figure 6.18 provides a summary of forecast waste generation. This includes material collected and disposed of to landfill and material captured for recycling or recovery. If current waste generation is maintained and linked to population and household numbers, waste generation will grow slowly out to 2048 driven by a growing population. The orange line (landfill waste) shows a decline, this is based on recovery of an additional 5% of materials generated each 5-year period. The growing proportion of material recovered is reflected in the grey portion of the graph.

From an emissions perspective, the reduction in waste disposal translates into a 16% reduction in landfill related emissions at default emissions factors for landfilled material.

As noted in the discussion earlier in this section, the opportunities to achieve this increase in recovery include targeting paper/cardboard and metals from commercial activities and organic materials from kerbside collections and transfer stations. More specifically, materials streams with increasing recovery include:

- Paper/cardboard – through the Sorting Depot and ongoing promoting of recycling activities;
- Metals - through the Sorting Depot and ongoing promoting of recycling activities;
- Organic materials – through kerbside collections, business collections and introduction of coordinated in-region organic materials recovery; and
- Timber – through the Sorting Depot.

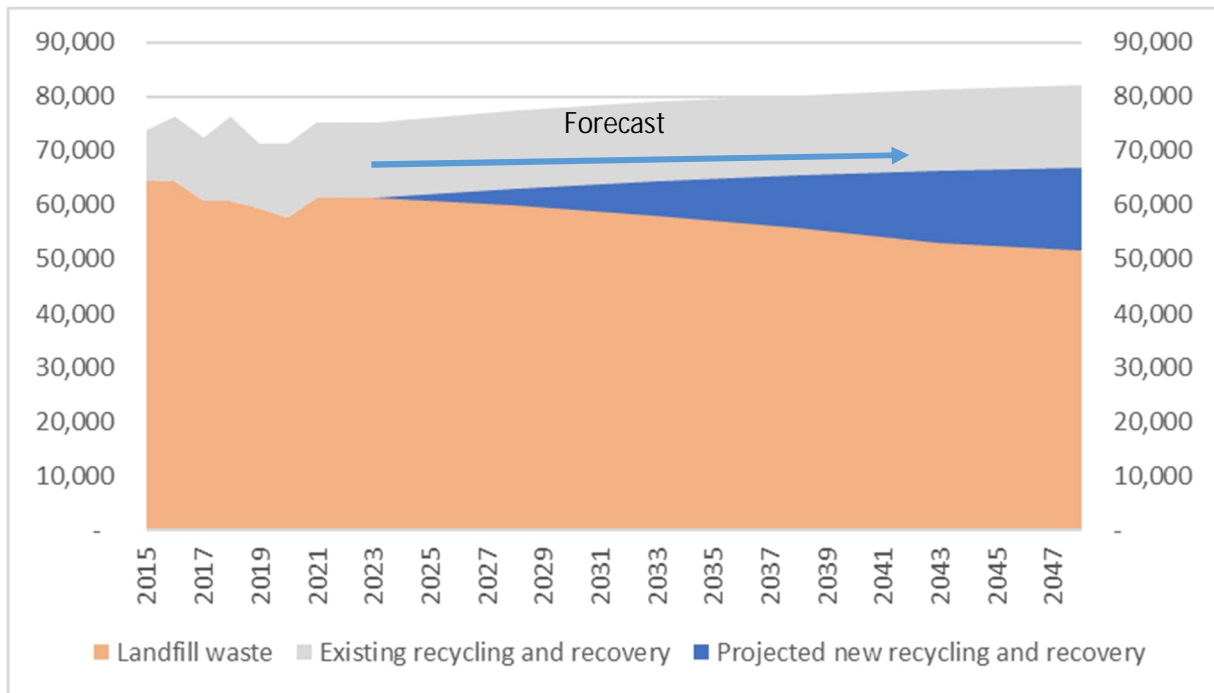


Figure 6.18: Forecast waste generation to 2048.

Note: Data from 2015 – 2021 is actual reported total landfill waste and recycling (council data and estimates for private sector controlled material) and data from 2023 onwards is projected tonnages. The analysis of factors driving demand for waste services in the future suggests that changes in demand are most likely to be driven by shifts in peak populations and economic development. If new waste management approaches are introduced, this could shift material between disposal and recycling/recovery.

6.11 Material flows and future demand – gap analysis

The aim of waste planning at a territorial authority level is to achieve effective and efficient waste management and minimisation. Using the available information, the key waste issues which should be addressed in the WMMP are listed below:

- There continues to be gaps in the data on waste flows;
 - Some material is handled entirely by the private sector, further work is required with the private sector to improve the understanding of the full materials stream (landfilled, recycled and recovered) to allow all parties to collaborate to reduce materials generation and increase the proportion of materials recycled or recovered;
 - Collection of data for other / difficult waste streams (e.g. medical waste and hazardous waste) is recommended to help understand the volume of waste generated and how to best manage the specific waste streams;
- Farm waste is likely to make up a substantial proportion of the total waste that is currently being generated in the region. Further work to increase understanding of the problems associated with farm waste will better inform decisions on appropriate services for this sector;
- Reporting of emissions associated with waste services and management within the region is not consistent. Consistency of data reporting across the region will help inform decision-making;

- If there is no change in consumption by households and businesses, total waste generation is anticipated to increase. Through successful capture of materials will shift the quantity of waste placed in landfill to recovery and recycling, but will come at a cost to businesses and householders;
- Education and behaviour change are important to reduce the generation of materials, enhance the use of existing infrastructure, improve the capture of materials for recycling and recovery and address contamination in recycling;
- There is considerable opportunity to increase the capture of materials (specifically paper, metals, and organic materials) for diversion;
- Increasing the processing of materials in the Taranaki region will increase economic opportunities (jobs, materials processing, etc) but relies on sustainable markets for process outputs, i.e. investing in a local circular economy where possible;
- Planned new local infrastructure (e.g., organic material processing facility(ies) and the Sorting Depot) will have an impact on quantity of material which is recycled or recovered;
- Contamination in kerbside recycling remains consistently high. Work is required to understand underlying barriers to recycling well, alongside leveraging national policy change such as alignment with national standardisation of what is collected for recycling; and
- Illegal dumping continues to occur.

PART 2 – WHERE DO WE WANT TO BE?

7 Framework

The future that we would like to see for waste is driven by a vision and goals framework.

Four key drivers have been considered in developing our future direction.

1. District Councils' Strategic Direction;
2. Te Ao Māori;
3. Te rautaki para Waste Strategy 2023; and
4. Circular Economy principles

Building on the Visions, Goals and Objectives set out in the previous WMMPs, a review of where the community wanted our region to be in the future was undertaken. The framework has been expanded to align with Te Ao Māori (Māori World View) by including overarching guiding principles developed with feedback from Taranaki Whānau Whānui (the nine Iwi of Taranaki). The relationship between Vision, Goals and Objectives is illustrated in Figure 7.1 and defined in Table 7.1.



Figure 7.1: Vision, goals, objectives and targets and guiding principles

Table 7.1: Definitions for vision, goals, objectives and targets (adapted from MfE 2015)

	Definition
Vision	The aspirational outcome for the Taranaki region - providing an overall direction and focus.
Goal	What the Councils want to achieve through the WMMP. The goal is not aspirational; it is achievable within the next six years. It is a major step in achieving Council's vision for the WMMP.
Objectives	The specific strategies and policies to support the achievement of the goals. Objectives are 'SMART' (specific, measurable, achievable, relevant and timely).
Targets	A clear and measurable way to determine how well the Council is achieving its goals. Targets should also be SMART.

7.1 Developing our guiding principles, vision, goals and objectives

7.1.1 Regional approach

The councils have collaborated regionally to engage with our community on what the future could look like for the region in relation to waste management and minimisation. The guiding principles, vision, goals and objectives have been reviewed and developed based on input from waste officers, key stakeholders, iwi and hapū, industry representatives and the wider community. The output from this process has produced a regional draft strategic framework for waste which ensures a consistent direction across the region. The regional strategic framework is presented in this Waste Assessment and may be tailored to each district within their WMMPs.

7.1.2 Iwi and hapū input into guiding principles

In 2021 a series of wānanga with iwi and hapū were completed as part of the feasibility study for an organic material recovery facility which identified ngā kaupapa matua (key themes and bottom lines), and he whiringa paearu (assessment criteria for development of future stages of the organics project). Building on these, iwi environmental management plans were reviewed and a draft guiding principles approach was developed where Te Ao Māori and council waste principles were aligned.

One on one meetings with iwi and hapū were also undertaken to further develop and refine the guiding principles as well as explore vision and goal statements for the next WMMP. The iwi we engaged with were: Ngāti Maniapoto, Ngāti Tama, Ngāti Mutunga, Te Ati Awa, Taranaki Iwi, Ngāruahine, Ngāti Ruanui, Ngāa Rauru, Ngāti Maru. Two further wānanga were held across Taranaki with multiple iwi and associated hapū to confirm updated guiding principles alongside possible options that could be implemented. Taking into consideration all the feedback and discussions, the councils engaged Rautāpatu to develop a guiding principles model that aligned with the Aotearoa Waste Strategy, discussions with iwi and hapū, and the draft visions, goals and objectives.

The full guiding principles model and the explanation for all terms can be found in Appendix E.

7.1.3 Stakeholder input into vision, goals and objections

To capture the views of the stakeholders in our community a series of engagement sessions were facilitated by councils. These sessions were targeted at those in the community who have a significant contribution to waste generation and therefore were invested in the implementation of a circular economy in the region. More broadly an online survey was also made available to the whole Taranaki community to capture their input (Figure 7.2 see graphic below). The aim of the sessions

and the survey was to identify what was important for our community to inform the vision and the goals.

	3 Stakeholder Workshops	Stakeholders were invited to contribute our vision and goals development
	35 Businesses & Organisations	The workshops represented a range of stakeholders from around Taranaki
	250 Survey Responses	We invited the community to feed back on vision and goal statements we developed
	48 Vision and Goal Statements	From all workshops and the community survey

Figure 7.2: Stakeholder participation on potential vision and goals

Key words and themes which were identified by the community as aspects that made for successful waste management and minimisation outcomes were collated and have been captured in the word clouds to inform the vision statement (Figure 7.3) and goals (Figure 7.4).



Figure 7.3: Key themes from the vision workshops

The support from the stakeholders attending and inputting to the vision and goals workshop demonstrates the energy within the community to improve current practices. With these sessions, the councils were able to integrate community voice into their proposed vision statement and goal.



Figure 7.4: Key themes for the goals

7.2 Proposed Guiding Principles, Vision, goals, objectives



Guiding Principle Definitions

Empowering Partnerships: is a foundational principle in standing up a shared community vision and values. As a community, our efforts will be guided by the principles of partnership, participation and protection as outlined in Te Tiriti o Waitangi.

Taiao Ora, Tangata Ora: is a guiding principle that refers to the health and well-being of the natural environment. It acknowledges our actions and decisions have a direct impact on the environment, and the state of the environment also effects our physical, spiritual, mental and emotional health.

Connectedness: is a powerful tool for waste minimisation, helping to create sustainable practices that promote environmental and human health.

Responsibility: Waste is the responsibility of us all. We encourage industries and consumers to consider temporal, social, and ecological limitations while prioritising the preservation of our planet.

Equity: We aim to ensure the costs and benefits of change are distributed equally among communities and across generations. This means that waste reduction initiatives should not disproportionately burden certain groups of people or communities, such as low-income or marginalized populations.

7.3 Targets

The Aotearoa New Zealand Waste Strategy has the following targets that Taranaki must contribute to achieving by 2030:

- Waste Generation: reduce the amount of material entering the waste management system by 10 per cent per person;
- Waste Disposal: reduce the amount of material that needs final disposal by 30 per cent per person; and
- Waste Emissions: reduce the biogenic methane emissions from waste by at least 30 per cent.

Supporting targets, specific to kerbside collections standardisation, have also been set by Central Government, which the councils must achieve. Of the total household waste placed at kerbside, councils will need to divert:

- 30 per cent by 2026;
- 40 per cent by 2028; and
- 50 per cent by 2030.

In addition, targets should also align with councils' Long Term Plan performance measures, Asset Management Plan key performance indicators and the Taranaki Regional Behaviour Change Strategy measures. The targets in Table 7.2 align with these, and the expected performance of proposed prioritised actions outlined in Section 8.6 of this Waste Assessment.

Table 7.2: Proposed targets

Targets	Regional targets	
	Baseline 2021/22	Target
Waste generation³³		
Reduce the amount of material entering the waste management system by 10% per person by 2029	0.58	0.52
Waste to landfill		
Reduce the total waste tonnes per capita going to the regional landfill by 30% per person by 2029 (T/capita/annum)	0.31	0.22
Reduce the total waste tonnes per household going to landfill from the Council kerbside collection (T/person/year)	0.18	5% per year
Diversion of waste		
Increase the amount of household waste diverted to recycling (Council provided kerbside collection only, excludes green waste).	36%	30% by July 2026 40% by July 2028 50% by July 2030
Reduce contamination of Council provided kerbside recycling delivered to the MRF	21.45%	15% by 2030/ 2% reduction per year
Waste emissions		
Increase organics ³⁴ capture at transfer station and kerbside (%)	36.5%	50% capture of organic material by 2030
Reduce the biogenic methane emissions from waste by 2030 (CO ₂ e)	TBC ³⁵	30%
Customer satisfaction³⁶		
Percentage of community satisfied with the solid waste service.	N/A	N/A
Total number of complaints received about the Council's solid waste service	N/A	N/A
Equity and Access		
Increase awareness and use of council services (baseline data to come)	34% Awareness and 19% Usage	5% increase in awareness and use in biennial survey
Environmental health and safety³⁷		
Maintain 100 per cent compliance with resource consent conditions for Council-operated solid waste district facilities	N/A	N/A

³³ Council data used for baseline as there is limited data on district and region wide waste generation.

³⁴ Organics include food waste and green waste.

³⁵ Councils are awaiting guidance from central government on the calculation of biogenic methane emissions from waste before a baseline is confirmed for the region.

³⁶ Targets set and measured at district council level, refer to Appendix F

³⁷ Targets set and measured at district council level, refer to Appendix F

Targets	Regional targets	
	Baseline 2021/22	Target
Community engagement		
Three annual education campaigns on waste minimisation	3	3
Waste community engagement survey completed every two years	1	1

Note: Individual district council targets are detailed in Appendix F.

Note: Targets coloured blue are from the regions Long Term Plans (LTP) and green are national targets.

PART 3 – HOW ARE WE GOING TO GET THERE?

8 Options identified

8.1 Introduction

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

This section summarises the identification and evaluation of options to meet the forecast demands of the district and to meet the goals and targets set out in Section 6 and 6, to continue our journey to Zero Waste 2050 and a circular economy. We have started with identifying a wide range of possible options, or 'possibilities'. These have then been evaluated to identify priorities. The prioritised options from this assessment will be incorporated into the draft WMMP Action Plan for each council.

For the Taranaki region the total quantity of waste generated is forecast to increase over the life of this plan in line with population growth and economic activity. Infrastructure planning needs to take account of this growth and also drive a reduction in total waste generated (whether recovered or landfilled) as well as waste disposed to landfill.

Section 5.5 identified the gaps and opportunities where options will enable further progress towards our vision. Based on this it is noted that:

- Nationally the waste sector is going through significant changes and Taranaki needs to be well set up to anticipate, resource and implement these within our local context.
- Achieving a circular economy cannot be done by Council alone, progress relies on further community and council collaboration locally and nationally with a cross sector approach. This is a worthy goal as the benefits of the circular economy include climate change resilience, and a low emissions, thriving and equitable local economy in balance with nature.
- Partnering with Iwi and Hapū to identify and deliver outcomes is consistent with a Tiriti led approach and allow mana whenua to implement kaitiakitanga.
- Taranaki has a good foundation of waste and resource recovery infrastructure and services in place or planned;
- Our communities could be enabled to better use our existing services to maximise reduction, reuse and recovery through:
 - increased behaviour change support and education,
 - ensuring that services and education are equally accessible to everyone including the rural, minority groups (including disabled people and ethnic populations) and lower socio-economic communities.
- There is potential to increase the capture of material for recovery or recycling; this assessment has highlighted organic materials (food and green waste), construction materials (rubble/concrete and timber), paper and plastic noting local processing and use will reduce carbon emissions associated with recovery.
- There are limited services to cater for the rural sector and potential for increased materials entering the waste stream from rural properties as on farm practices improve.
- Obtaining reliable data on waste and material management activity across the region will be key to informing our future planning and measuring our transition to a circular economy.

8.2 Identifying options

8.2.1 Materials life cycle and opportunities to achieve change

There are a wide range of approaches to achieve our goals and work towards our vision that could be adopted in Taranaki. A useful way to consider how we can make effective change is how the option combines infrastructure (including collection), education/information and regulation/policy. These are supported by having the right data to inform strategic and operational decision making.

As noted previously, transitioning to a circular economy approach involves considering materials through their entire life cycle, considering production, product design, use and regeneration. Maximising the value of materials recovered through waste minimisation and management activities and actively collaborating with the community and private sector are also important (Figure 8.1

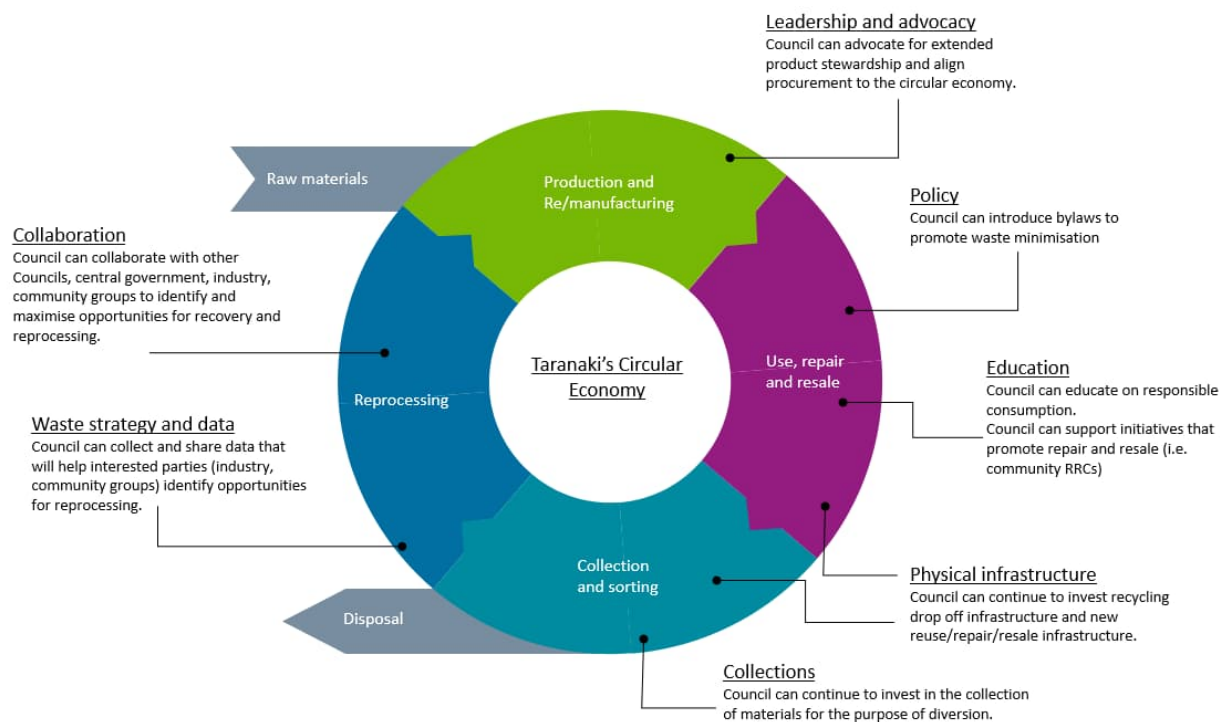


Figure 8.1: Components of Councils contribution to a circular economy in Taranaki

For this waste assessment, options have been identified by considering key challenges for waste management and minimisation in Taranaki in line with the desire to have a circular economy implemented in the region. The options reference approaches adopted in other regions of New Zealand and identify solutions unique to Taranaki. Options have also been considered with reference to the current recovery rates of key materials. The process for identifying these options is detailed in Figure 8.2: Option identification process .

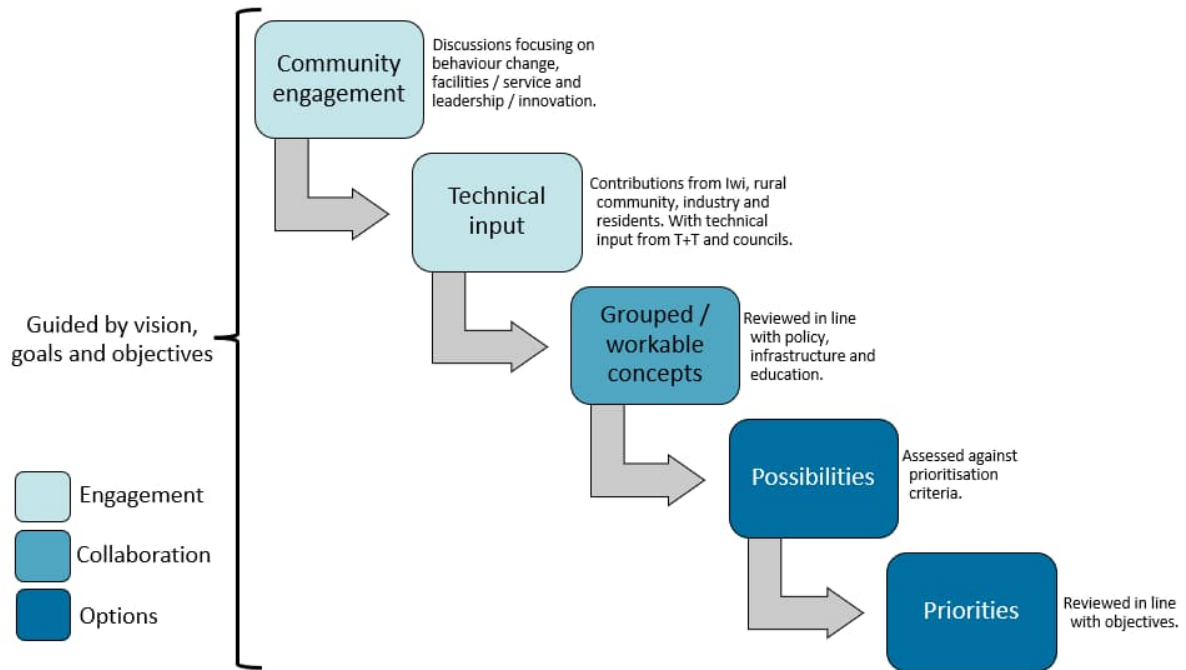


Figure 8.2: Option identification process

8.2.2 Community workshops

During March and April 2023, 14 workshops with the community throughout Taranaki along with an online survey took place to collate options on the future of Taranaki’s material and waste management. The workshops focused on three specific priority areas for Taranaki including, behaviour change and education, facilities and services, and leadership and innovation. Figure 8-3 details the attendees at the workshops and the total number of captured ideas. Workshopping with separate community groups allowed for exploration the opportunities and differences in relation to these groups where different combinations of options might better achieve our shared goals. This assisted in the formation of the possible options in Section 8.3.

	14 workshops	Stakeholders were invited to share their solutions for the future
	127 Attendants	Mana Whenua, Partners, Community, Schools, Commercial, Waste Service Providers, Rural Communities and council staff attended our workshops
	638 Statements & Ideas	We captured the ideas from all stakeholders to build the long list of options to cater for the waste demands of Taranaki

Figure 8-3: Community workshops engagement

Workshop feedback (Figure 8.4, Figure 8.5 and Figure 8.6) highlighted the what options were important to each group of communities.

8.2.2.1 General community workshops

The general community stakeholder groups (which included schools, residents and industry members, Figure 8.4) demonstrated a desire for greater policy to enforce change, more communication to educate the region on existing diversion opportunities and the longer term impacts of current practices, and a desire for councils to hold a greater leadership role, connecting and supporting pre-existing groups who operate within the circular economy remit.

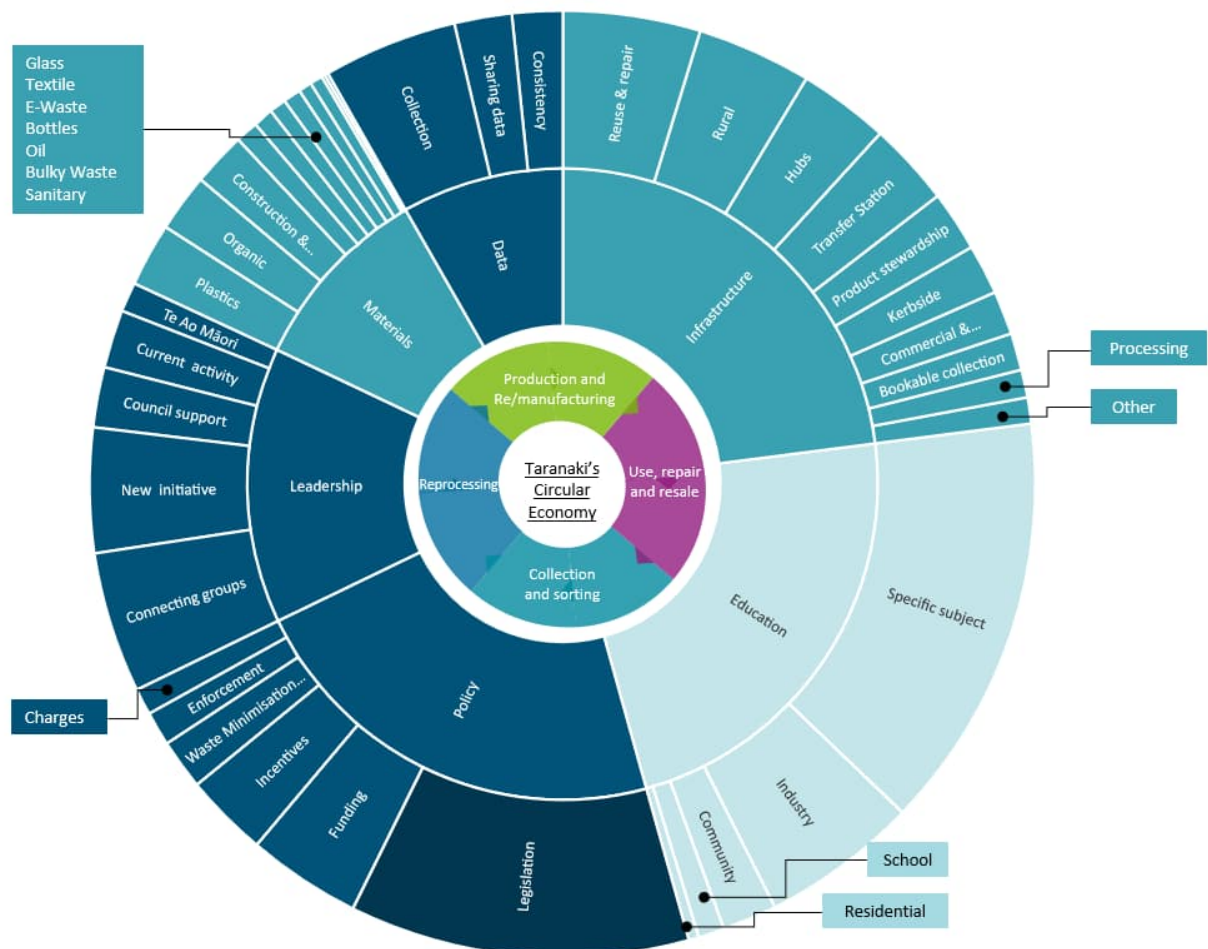


Figure 8.4: General community stakeholder groups workshop feedback

8.2.2.2 Rural community workshops

For the rural community (Figure 8.5) infrastructure is a prominent theme with access to services and product stewardship schemes being a key theme. Education also represented a significant portion of the discussion with better communication of specific topics and services requested.

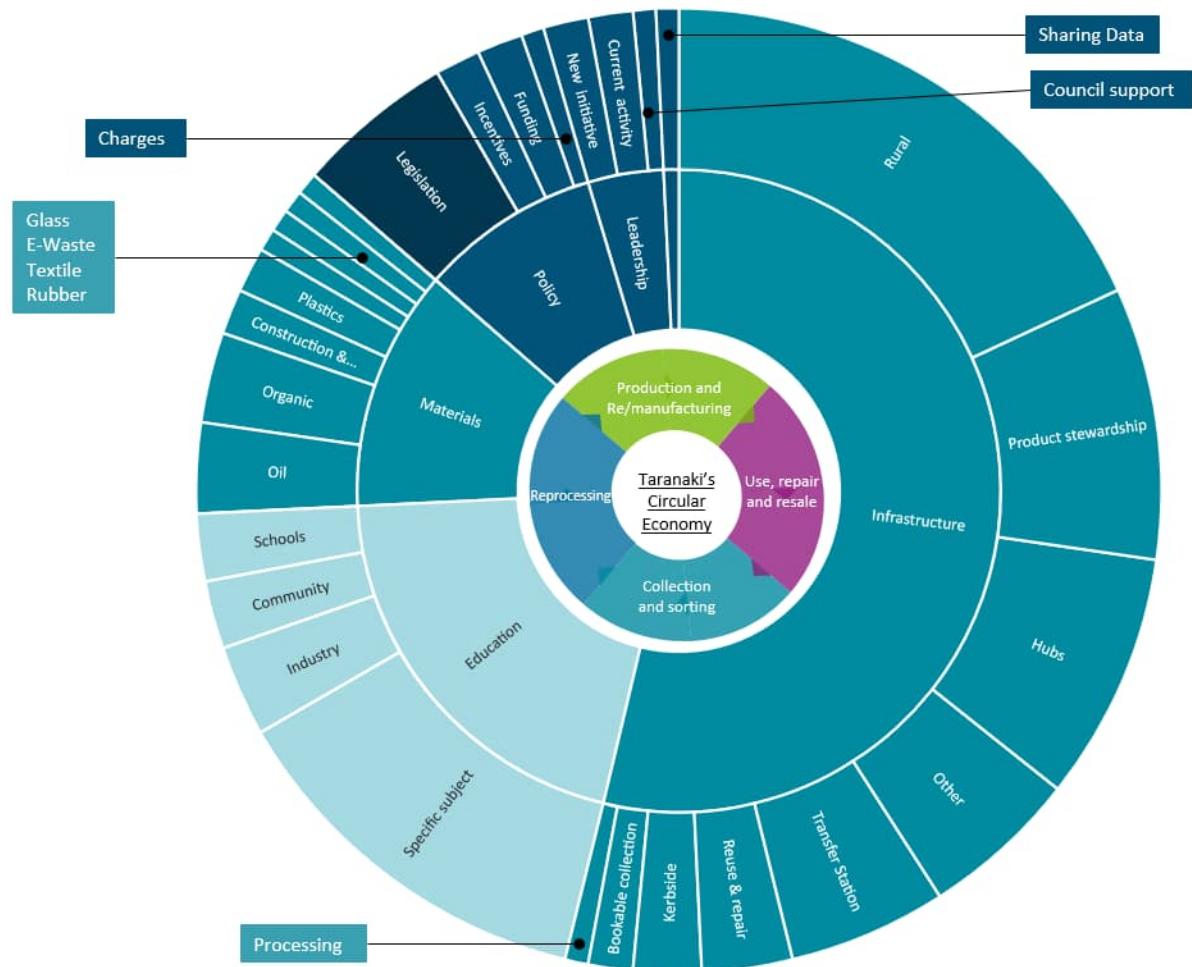


Figure 8.5: Rural community workshop feedback

8.2.2.3 Iwi and Hapū workshops

The three councils have proactively sought the input from Iwi and Hapū on recent resource recovery initiatives. In 2021/22, the councils undertook a study into options for organics recovery in the region which included several workshops with Iwi and Hapū to identify opportunities for collaboration and make sure proposed solutions reflected the views of those engaged with. During April/May 2023 the councils engaged with Iwi and Hapū through workshops exploring the future of waste and material management in Taranaki, these discussions are ongoing. Options were identified to target improvements in material management and collaboration within the region, these are discussed further in Section 8.3.

There is a strong interest from Iwi and Hapū to see local recovery solutions developed that are reliable and minimise the potential impact to the environment.

Engagement undertaken to date with Iwi and Hapū locally on the topic of waste management has highlighted:

- How mātauranga Māori is increasingly being drawn upon for approaches and solutions to environmental issues such as 'waste' management;
- Waste recovery is seen in the broader context of sustainability, as an important aspect of their role as mana whenua; and

- Tiriti-driven partnership and collaboration is important in all waste issues and there is a need for the councils to share decision making powers and take a co-design approach.

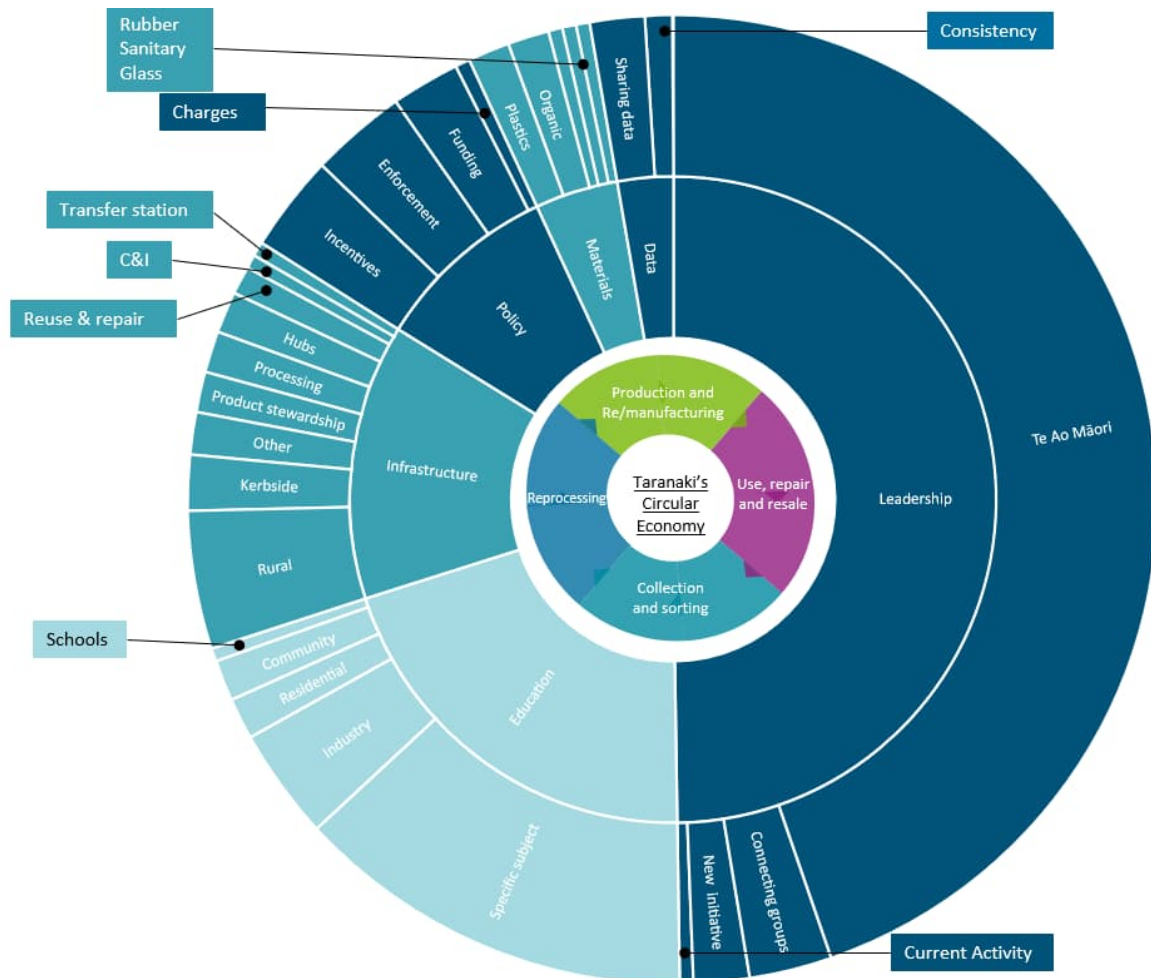


Figure 8.6: Iwi community workshop feedback

All stakeholders were unaware of some or all of the current activities available in each district as options were proposed where work is currently taking place. Alongside the workshops, components have been identified in the assessment of the current waste situation in Taranaki (Part 1 of this Waste Assessment), the gap analysis and existing knowledge of issues and opportunities within the region from technical consultants and council staff.

8.3 Possibilities for Taranaki

From all the ideas provided by our communities, 11 Focus Areas or Target Materials have been identified, within which there are a number of possibilities that could be implemented – the Possibilities (Table 8.1). These possibilities build on existing and already planned activity.

To develop pathways for circularity in Taranaki and achieve effective change in each of these Focus Areas, there would ideally be a combination of possibilities covering:

- policy (e.g. Central Government policy, district bylaws),
- infrastructure (e.g. The Junction, kerbside collection, signage) and
- education (e.g. targeted education and behaviour change programmes).

The influence of national policy, local policy, infrastructure and education sit across different areas of the circular economy (Figure 8.7: Level of influence of change levers in the circular economy framework).

Table 8.1 sets out a list of possibilities, using this approach, with consideration is given to:

- the Current activities in place;
- Planned changes still to be implemented; and
- Possibilities - future options not currently planned.

The long list of possibilities are tested against the applicability to Taranaki Region using the prioritisation criteria in Section 8.4.

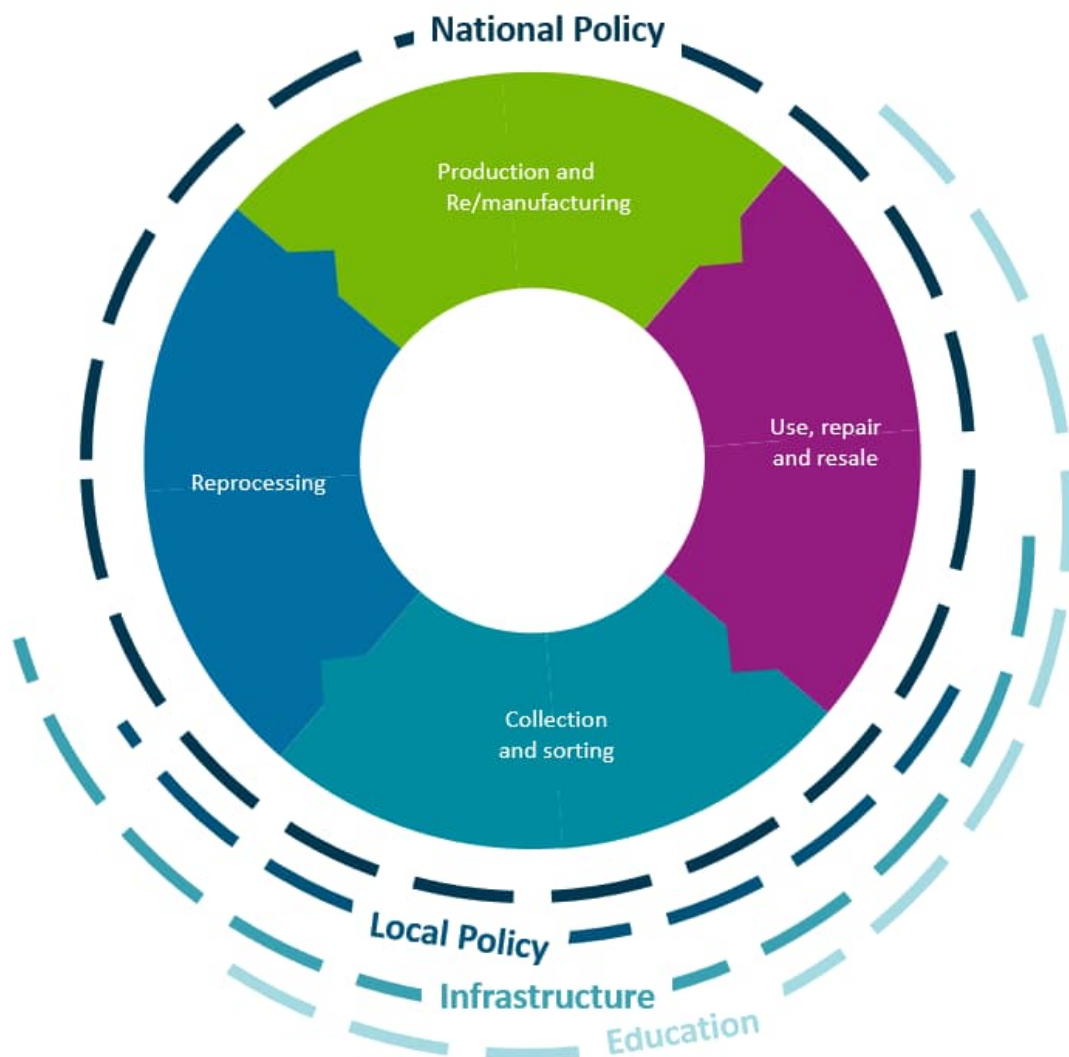
















Figure 8.7: Level of influence of change levers in the circular economy framework




Table 8.1: Possible options development in line with current and planned activities





Focus area and / or target material	Intervention	Current <i>What is happening? (Nationally and regionally)</i>	Planned future <i>What is planned to happen? (Nationally and regionally)</i>	Possibilities <i>What opportunities are there to improve? (Possibilities in bold address multiple focus areas)</i>
Commercial waste including construction and demolition (C&D) material	Policy 	<ul style="list-style-type: none"> No specific policy on waste minimisation for construction sector. NPDC bylaw requires construction Waste Reduction Plans for non-residential buildings estimated value of >\$500,000 Contestable funds using waste levy revenue 	<ul style="list-style-type: none"> The Building Act amendments to include mandatory waste minimisation plans for all construction and demolition projects. The Emissions Reduction Plan actions on construction waste (15.3.1). Waste Strategy focus on organic material recovery, including timber from construction and demolition. Landfill levy increase. Increased engagement with our designers and suppliers on emissions and waste reduction. 	<ul style="list-style-type: none"> Encourage circular design principles embedded in policy to ensure early design and procurement reduce waste and emissions. Advocate for Central Government to mandate material recovery for C&D projects. Mandate material management plans as part of building consents through existing Solid Waste Bylaw. Fast track building consent applications for construction organisations who can demonstrate circular design processes and effective material management practices. Update existing solid waste bylaw requiring waste contractors to provide detailed material capture data for projects. Regional consistency in bylaws for C&D materials. STDC and SDC bylaws to be reviewed to include licencing in preparation for Building Act changes. Evaluate existing Construction Waste Reduction Plan process and develop regional implementation plan for Building Act changes
	Infrastructure 	<ul style="list-style-type: none"> No dedicated C&D infrastructure in the region. The Junction which can be utilised for individual items. Building reuse shops Concrete recycling 	<ul style="list-style-type: none"> The Sorting Depot construction under way. 	<ul style="list-style-type: none"> Expand recovery facilities through transfer station and resource recovery network Investigate and support new markets in Taranaki and North Island. Facilitate connection of construction organisations and existing material reusers and consumers e.g. MenzShed. Advocate C&D organisations to use small scale skip bags instead of skip bins to allow for greater segregation. Advocate C&D organisations to use skip bins with compartment for segregation of waste. Collaborate with waste contractors to provide covers for skips to prevent illegal dumping, contamination and damage of materials through weather (e.g. wet timber) Establish cleanfill operation at Colson Road Landfill to allow for controlled disposal of uncontaminated soil and enable future use (NPDC).
	Education 	<ul style="list-style-type: none"> Resources available through private (commercial and not for profit) and public (council) organisations. Zero Waste Taranaki website (including A-Z recycling directory) Waste Reduction Guide (NPDC) Commercial Waste Minimisation Adviser support Resource Wise Business (NPDC) 	<ul style="list-style-type: none"> Councils to collaborate with construction industry on waste management initiatives and Waste Reduction/Minimisation Plan development. 	<ul style="list-style-type: none"> Council, industry and community collaborate to expand A-Z recycling directory to highlight circular services in the region. Encourage source segregation of C&D materials. Council to issue penalties for non-complaint organisations in relation to solid waste by-law. Collaborate with design and construction organisations to share knowledge on sustainable building methods and designing waste out of the construction process. Utilise existing construction waste reduction resources (e.g. BRANZ) and share in accessible formats Collaborate with design and demolition industry to deconstruct rather than demolish



Focus area and / or target material	Intervention	Current <i>What is happening? (Nationally and regionally)</i>	Planned future <i>What is planned to happen? (Nationally and regionally)</i>	Possibilities <i>What opportunities are there to improve? (Possibilities in bold address multiple focus areas)</i>
Organics recovery	Policy 	<ul style="list-style-type: none"> NPDC bylaw mandates household landfill containers must not contain compostable green waste. Contestable funds using waste levy revenue 	<ul style="list-style-type: none"> Organic kerbside collection to become mandatory nationally by 2030. The Proposed National Waste Data Framework will require more reporting on domestic kerbside and commercial organics. Landfill levy increase. Mandatory requirement for restaurants, cafes, other food outlet and schools to utilise food waste diversion services including food banks, soup kitchens and then composting services. 	<ul style="list-style-type: none"> Support local businesses and waste services providers to ensure organic material recovery services are available for all. Explore ways to make some compost produced in the region available for revegetation and/or community kai production. Contributing towards healthy soil for food resilience in the region. More support for local food rescue of surplus food to reduce waste and alleviate food insecurity.
	Infrastructure 	<ul style="list-style-type: none"> NPDC food scraps collection service. STDC opt in green waste collection service. Out of region organic processing facilities and small community groups activity. In-region composting Private food collection services. Food scraps bins at events (NPDC). 	<ul style="list-style-type: none"> Council / industry collaboration on EOI for organic material processing facility in Taranaki. Organics collection for SDC and STDC. 	<ul style="list-style-type: none"> Food and/or food and green waste kerbside collection implemented for all properties currently receiving council kerbside collection (SDC (new) and STDC (expansion), NPDC green waste) Establish a regional organic material processing facility(ies). Investigate local solution for treated timber.
	Education 	<ul style="list-style-type: none"> Council educational resources and workshops available. Let's Compost initiative (Sustainable Taranaki) 	<ul style="list-style-type: none"> Continue behavioural change plan and programme set to continue. Dedicated organics focus for NPDC based on barriers, benefits and preferred communication methods. 	<ul style="list-style-type: none"> Expand cross cutting education plan and programme to include reducing food waste, food rescue and organic materials recovery. Research and educate on the connection between compost, emissions reduction, soil health and food production / resilience. Council to educate through community case studies of initiatives and services available through platforms appropriate to the different audiences. Establish a community-based composting network through marae, community gardens, planting our place initiatives and food resilience projects.
Rural waste services	Policy 	<ul style="list-style-type: none"> Waste Management Act 2008 requirements Regional Plan rules which manage rural waste management including farm dumps. Voluntary Product Stewardship Schemes (Agrecovery, Plasback) 	<ul style="list-style-type: none"> Resource Management Act (RMA) reform and Emissions Reduction Plan (ERP) impacting current performance of rural activities to improve environmental outcomes. 	<ul style="list-style-type: none"> Councils to review bylaws to address rural waste and identify where support is required. Council to complete spot auditing in rural locations to ensure compliance with waste regulations and by-laws. Advocate for product stewardship schemes for rural waste streams. Support roll out or expansion of any voluntary or mandatory product stewardship schemes within the region.
	Infrastructure 	<ul style="list-style-type: none"> Limited by distance, transfer station services are available to all in key service centres. Rural supply stores offer some recycling drop-off as part of voluntary product stewardship schemes. Agrecovery and Plasback collections 	<ul style="list-style-type: none"> No plans to currently extend services Upgrade rural transfer stations to create a resource recovery network (NPDC) (improving recycling and recovery options at rural transfers stations and linking to The Junction). 	<ul style="list-style-type: none"> Investigate and implement mobile transfer station for waste and recycling for rural community in region. Kerbside collection to extend to rural areas where feasible. Collaborate with existing / new council services in rural areas to generate 'hubs' for services. Upgrade rural transfer stations to be "one-stop-shop" for recovery needs (i.e. mini Junction) and expand what can be accepted for recycling. Review council transfer station hours to reflect community access needs. Recycling facilities which are not restricted by opening hours e.g. recycling bins in community centre car parks, schools or sports grounds. Establish partnership with R.O.S.E (Recovering Oil Saves the Environment) product stewardship scheme and have collection points across the region.






Focus area and / or target material	Intervention	Current <i>What is happening? (Nationally and regionally)</i>	Planned future <i>What is planned to happen? (Nationally and regionally)</i>	Possibilities <i>What opportunities are there to improve? (Possibilities in bold address multiple focus areas)</i>
	Education 	<ul style="list-style-type: none"> Council educational resources and workshops available 	<ul style="list-style-type: none"> Educational plan and programme set to continue. 	<ul style="list-style-type: none"> Council, industry and community collaborate to expand A-Z recycling directory to highlight circular services in the region. Educate through community networks, utilising case studies, initiatives and services available. Promote the Junction regionally. Create a rural communication plan evaluating barriers and benefits of reducing waste plus preferred methods of communication. Create champions in rural areas to encourage positive behaviour change. Develop rural waste minimisation programme utilising existing rural networks (i.e. Taranaki Catchment Communities). Provide on-farm guide to waste minimisation (i.e. farms with multiple households – how they could manage recycling hubs on farms). Provide funding for farms to set up onsite storage to enable segregation of recyclables from domestic household waste generated on farms. Collaborate with waste service providers to provide fit for purpose collection services for recoverable farm waste. Attend rural community events to promote resource recovery options available and understand local issues.
Reuse and repair culture embedded in region	Policy 	<ul style="list-style-type: none"> Consumer Guarantees Act. Funding from central and local government for initiatives which support a regional circular economy. Contestable funds using waste levy revenue 	<ul style="list-style-type: none"> Regulated product stewardship with six priority products. Additional funding available through waste levy increases. 	<ul style="list-style-type: none"> Advocate for additional regulated product stewardship schemes and right to repair legislation. Establish voluntary performance targets for industries and businesses in the region to hold accountable for waste generation. Advocate for retailers to have repair policy to avoid waste. Set standard at council events by requiring stalls and food trucks to use reusable items preventing the generation of single use waste. Council to lead the way and have established procurement policy which prioritise repair of equipment before disposal and replace. Establish a reuse and repair programme for the district to promote a regenerative economy in the region.
	Infrastructure 	<ul style="list-style-type: none"> The Junction is an established facility. Repair cafes in SDC Re-filleries at supermarkets and other retail stores 	<ul style="list-style-type: none"> The Junction increases services to offer repairs (e.g. textile repairs, electrical item repairs). The Sorting Depot 	<ul style="list-style-type: none"> The Junction and other existing council facilities offer loans of equipment (e.g. sewing machines and tools) to enable repairs. Collaborate with community groups and repair businesses to expand 'repair cafes' throughout region Utilise existing council owned / leased property to host repair workshops. Investigate and implement share schemes of items (e.g. lawn mowers) through existing infrastructure (e.g. transfer stations and the Junction) or via a product/material sharing platform e.g. MUTU. Advocate with retailers to expand re-fillery services within the region.

Focus area and / or target material	Intervention	Current <i>What is happening? (Nationally and regionally)</i>	Planned future <i>What is planned to happen? (Nationally and regionally)</i>	Possibilities <i>What opportunities are there to improve? (Possibilities in bold address multiple focus areas)</i>
	Education 	<ul style="list-style-type: none"> • Council educational resources and workshops available. • Promote reuse initiatives (Again Again, Bringt reusable cups and containers) • Zero Waste Taranaki Website • The Junction offers repair education sessions to the community e.g. sewing tutorials, basic electrical repairs. 	<ul style="list-style-type: none"> • Reuse and repair adopted as a Behaviour Change campaign focus across the region. 	<ul style="list-style-type: none"> • Educate through community case studies of initiatives and services available. • Include hubs for product stewardship collection points to existing services on websites and other communications. • Collaboration between community groups and council to offer repair services. • Council, industry and community collaborate to expand A-Z recycling directory to highlight circular services in the region. • Encourage community groups to register on nationwide circular economy platforms e.g. Project Moonshot or regional platforms including Zero Waste Taranaki • Regularly share waste data with the public. • Offer / arrange free or subsidised workshops in repairs to encourage keeping materials and products in circulation.
Increase effectiveness / use of collection and resource recovery services and reduce contamination	Policy 	<ul style="list-style-type: none"> • Waste bylaws for all councils • Waste minimisation plans required for events on Council land and grants to support diversion (NPDC). • Regional collaboration to align services, manage joint contracts and infrastructure, and regionally consistent messaging and education through Regional Waste Minimisation Officer. • Contamination of kerbside recycling reporting (NPDC). • 	<ul style="list-style-type: none"> • National standardisation for what is accepted for recycling at kerbside. • Expansion of the kerbside collection service to businesses, marae and not-for-profit organisations (NPDC). • The Proposed National Waste Data Framework will require more reporting on domestic kerbside contamination. 	<ul style="list-style-type: none"> • Advocate for additional regulated product stewardship schemes, right to repair legislation and CRS. • Support Central Government in researching methods for remanufacturing hard to recycle plastics (resin codes 3, 4, 6,7 and mixed) and production of granules for remoulding or chemical recycling. • Establish different rate bands for households based on occupancy to allow for additional waste containers to further segregate waste streams. • Advocate central government to mandate sustainability ratings on product packaging. • Introduce penalties for households where there is non-compliance with solid waste bylaw. • Implement demerit points system for households who are repeat offenders of contamination. Once a certain number of points are reached members of the household must attend an education session. • Advocate to central government to implement rules for product producer and retailers to take ownership for packaging and offer take back schemes. • Collaborate with waste service providers to develop ways to achieve kerbside collection diversion targets. • Update solid waste bylaws to mandate reusables items (e.g. bowls and cups) at events.
	Infrastructure 	<ul style="list-style-type: none"> • Kerbside collection service to all urban areas in region provide a base service to ensure minimum standard for public health. • Glass and mixed recycling containers provided to all urban areas in region. • Transfer stations available across the region offering landfill disposal and recycling. 	<ul style="list-style-type: none"> • Align Taranaki council recycling services with standardised list (only aerosol cans to be changed) 	<ul style="list-style-type: none"> • Collect soft plastics at kerbside. • Establish hubs for collection of difficult materials / common contaminants of recycling e.g. supermarkets. • Retrofit or include in new bins, RFID tags to allow better identification of properties with kerbside contamination to be followed up with; report data collected publicly? • Infrastructure to scan kerbside bins for contamination. If contamination is present waste will not be collected. • Opt in for additional kerbside containers/larger containers for households with above average occupant numbers. • Council to keep stock of reusable items (e.g. bowls and cups) to be issued at events to reduce waste generation from packaging and containers.

Focus area and / or target material	Intervention	Current <i>What is happening? (Nationally and regionally)</i>	Planned future <i>What is planned to happen? (Nationally and regionally)</i>	Possibilities <i>What opportunities are there to improve? (Possibilities in bold address multiple focus areas)</i>
	Education 	<ul style="list-style-type: none"> • Council educational resources and workshops available. • Bin inspections and composition audits • Three strikes approach to contamination warnings • Regular campaigns on how to use the service well 	<ul style="list-style-type: none"> • Educational plan and programme set to continue. 	<ul style="list-style-type: none"> • Council, industry and community collaborate to expand A-Z recycling directory to highlight circular services in the region. • Regularly share waste data with region and expand reporting to include carbon emissions. • Increase accessibility of information (easy read, multilingual including Te Reo, various platforms etc). Educate through community case studies of initiatives and services available. • Utilise targeted methods to reach specific communities on how to maximise the use of council services for waste reduction, increased recycling and circular economy including media communication e.g. appropriate social media channels to reach younger community members, Te Reo television channel) • Report on emissions from waste management activities and diversion rates from different activities / material streams.
Influence behaviour around what we consume and increase recovery of materials	Policy 	<ul style="list-style-type: none"> • National government WMA policy and regulations. • Contestable funds using waste levy revenue • Plastic bans 	<ul style="list-style-type: none"> • Legislation changes due to be implemented in 2024/25 which will affect current material and waste practices. These include Container Return Scheme (CRS), Product Stewardship schemes for specific materials. • Central Government is likely to push greater regional focus on implementation of circular systems through the Resource Management Reform process. 	<ul style="list-style-type: none"> • Encourage central government to establish performance targets for the commercial sector. • Funding for material recovery for not-for-profit agencies in region. • Funding for recovery options which add value e.g. new or increasing material capture. • Advocate for research and development in reducing the quantity of hazardous product production and consumption in New Zealand. • Support sustainable practices by offering new parents and care homes reusable sanitary wear. • Free or discounted reusable products (e.g. sanitary wear) to reduce waste generated. • Amend solid waste bylaw to mandate organisations over certain size (employee number / revenue) to report material management plans demonstrating efforts to implement the waste hierarchy. • Amend solid waste bylaw to mandate private waste contractors to transparently report waste volumes to regional and district councils. • Advocate for action against greenwashing claims on products and services. • Advocate for research investigating recovery options for textiles which are currently sent to landfill. Materials such as wool retain some value which can be repurposed.
	Infrastructure 	<ul style="list-style-type: none"> • Kerbside collection service, transfer stations and reuse options (The Junction) 	<ul style="list-style-type: none"> • The Sorting Depot set to open in 2023. • Organic EOI under way. 	<ul style="list-style-type: none"> • Facilitate share schemes of items (e.g. lawn mowers) through existing infrastructure (e.g. transfer stations and the Junction). • Collaborate on sustainable services supporting the community e.g. cleaning service for reusable nappies in the region to promote use and discourage single use sanitary items. • Create a network of resource recovery facilities through existing transfer stations. • Investigate alternative disposal or recovery options for medical, hazardous, and sanitary waste. • Install cameras at Transfer Stations / weighbridges to automatically identify waste streams and recoverable materials.

Focus area and / or target material	Intervention	Current <i>What is happening? (Nationally and regionally)</i>	Planned future <i>What is planned to happen? (Nationally and regionally)</i>	Possibilities <i>What opportunities are there to improve? (Possibilities in bold address multiple focus areas)</i>
	Education 	<ul style="list-style-type: none"> Council educational resources and workshops available. Advice and waste audit services to community, businesses and schools (NPDC). 	<ul style="list-style-type: none"> Educational plan and programme set to continue. 	<ul style="list-style-type: none"> Expand and promote existing offer to support community for grant applications and other process forms. Communicate material and waste management pathways transparently. Celebrate /reward businesses, schools and community groups who are going beyond waste diversion requirements (newsletter shout outs, funding/vouchers etc) Education programmes for the community, schools and industry focusing on steps to become more sustainable (including; reducing waste from food shopping, textile waste and the effects, responsible consumer habits etc) Offer waste audits service to community, businesses and schools (SDC and STDC). Education campaign documenting product lifecycle - linear vs circular and how this can be embedded in Taranaki through resources and community innovation. Work with local retailers (larger corporate and local) to promote better purchasing choices Investigate methods to gather data and share stories around recovery of materials. Council to educate households and businesses about the environmental impacts of PFAS in plastic and fibre (cardboard), particularly businesses looking to move to compostable packaging which may contain PFAS.
Illegal dumping	Policy 	<ul style="list-style-type: none"> Waste bylaws for all councils Community groups who complete voluntary clean ups of beaches, parks etc to be given free access to transfer stations to dispose of waste. 	<ul style="list-style-type: none"> Litter Act legislation review. 	<ul style="list-style-type: none"> Introduce penalties for those caught illegally dumping through security cameras included as part of solid waste bylaw. Rebates/discounts for current resource recovery infrastructure for Community Service Card holders. Establish partnerships with product stewardship schemes for commonly dumped items e.g. Rebound mattress recycling programme, tyrewise for vehicle tyres.
	Infrastructure 	<ul style="list-style-type: none"> Transfer stations accept all household waste streams. 	<ul style="list-style-type: none"> The Sorting Depot due to open in 2023. 	<ul style="list-style-type: none"> Bookable collections for bulky waste items (e.g. white wear) at regular frequencies (e.g. monthly). Install security cameras at illegal dumping hotspots to deter dumping, capture data and follow up with dumpers to take responsibility for their waste. Offer alternative disposal and or recycling options for commonly dumped materials (i.e. mattresses, TVs, whiteware)
	Education 	<ul style="list-style-type: none"> Communication of services through council websites, paper based and radio. 0800 dumping number to report dumped waste 	<ul style="list-style-type: none"> Educational plan and programme set to continue. 	<ul style="list-style-type: none"> Collaborate with organisations to clean up and address hotspots or illegal dumpers (i.e. DoC, TRC, district councils, NZTA, Charity reuse shops) Investigate the drivers or motivations for illegal dumpers and develop targeted behaviour change techniques to engage with illegal dumpers Council, industry and community collaborate to expand A-Z recycling directory to highlight circular services in the region. Communicate the scale of mismanagement of materials and waste to Taranaki specifically through data which is easily understandable. Implement or update procurement policies for council projects to incorporate and prioritise broader outcomes for the community related to waste and emissions reduction.

Focus area and / or target material	Intervention	Current <i>What is happening? (Nationally and regionally)</i>	Planned future <i>What is planned to happen? (Nationally and regionally)</i>	Possibilities <i>What opportunities are there to improve? (Possibilities in bold address multiple focus areas)</i>
Supply chain and community engagement in circular economy	Policy 	<ul style="list-style-type: none"> Consumer Guarantees Act. Funding from central and local government for initiatives which support a regional circular economy. 	<ul style="list-style-type: none"> Regulated product stewardship with six priority products. Additional funding available through waste levy increases 	<ul style="list-style-type: none"> Develop and implement a Taranaki Circular Economy Road Map which identifies current and potential future activities which align with circular economy approach. Where council notice gaps in circular economy infrastructure through mapping exercise (see Education point below), council to engage with central government. Advocate central government to implement rules for product producers and retailers to take ownership for packaging and offer take back schemes. Establish voluntary performance targets for industry and businesses in the region to hold them accountable for waste generation (including downstream waste generation). Advocate for review of New Zealand standards to allow for more recycled content in manufacture of products. Advocate for right to repair legislation. Monitor use of circular economy infrastructure and services in the region to assess uptake and where greater communication of services is required.
	Infrastructure 	<ul style="list-style-type: none"> Transfer stations accept all household waste streams. 	<ul style="list-style-type: none"> The Sorting Depot set to open in 2023. Organic EOI under way. 	<ul style="list-style-type: none"> Advocate for organics ban to landfill to ensure feedstock is committed to recovery facilities to create value and reduce GHG emissions. Investigate setting up MUTU (asset sharing system) on a regional level for businesses to share products. Implement or support additional infrastructure and services identified in the Circular Economy Roadmap.
	Education 	<ul style="list-style-type: none"> Council educational resources and workshops available. 	<ul style="list-style-type: none"> Educational plan and programme set to continue. 	<ul style="list-style-type: none"> Map out activities to demonstrate current circular activities and systems in the region and those accessible to the region (e.g. services in North Island). Communicate transparently how Waste Levy Funding and other grant funding has been distributed within the region. Rebrand as a circular region to change mindsets. Council, industry and community collaborate to expand A-Z recycling directory to highlight circular services in the region. Collaborate with councils, CCOs, organisations and community groups to launch regional circular economy conference.
Reduce carbon emissions alongside waste reduction and plan for adaptation to climate change	Policy 	<ul style="list-style-type: none"> Emissions Reduction Plan (NPDC) Development and implementation of a Decarbonisation Process that integrates emissions reduction into decision making. Engage with iwi and hāpu to plan the future use of the Colson Road Landfill site. 	<ul style="list-style-type: none"> Emissions Reduction Plan (SDC and STDC) 	<ul style="list-style-type: none"> Implement or update procurement policies for council projects to incorporate and prioritise broader outcomes for the community e related to waste and emissions reduction. Increase engagement with supply chain and private sector to find opportunities to collaborate to reduce waste and emissions. Increase local recycling / reuse infrastructure to enhance climate change resilience. Increase organics (food scraps and green waste) recovery with processed products being used in planting and biodiversity work or remediation of historic landfills. Monitor and remediate historic landfills at risk of coastal or river erosion. Establish a regional emergency management plan for waste resulting from civil defence events.

Focus area and / or target material	Intervention	Current <i>What is happening? (Nationally and regionally)</i>	Planned future <i>What is planned to happen? (Nationally and regionally)</i>	Possibilities <i>What opportunities are there to improve? (Possibilities in bold address multiple focus areas)</i>
	Infrastructure 	<ul style="list-style-type: none"> • Electric truck fleet for part of kerbside collection (NPDC) • Landfill gas capture at closed Colson Road landfill • Identified closed landfills at risk of erosions due to sea level changes and extreme weather events (NPDC) 	<ul style="list-style-type: none"> • Feasibility study to expand landfill gas capture network at closed Colson Road landfill. • Apply decarbonisation approach to new infrastructure (The Junction) • Allow for innovation to reduce emissions in retender of regional waste services contract. 	<ul style="list-style-type: none"> • Expand landfill gas capture network at closed Colson Road landfill (NPDC). • Expand landfill gas capture to all closed landfills. • Investigate use of hydrogen for long haul heavy transport where materials are transported out of the region. • Support development of local processing and new markets for treated timber and other materials that are transported out of region for recycling. • Improve the leachate overflow system at the closed Colson Road Landfill to cater for the effects of climate change.
	Education 	<ul style="list-style-type: none"> • Collaboration on region wide sustainable behaviour change programmes which communicate positive environmental impacts 	<ul style="list-style-type: none"> • Educational plan and programme to incorporate emissions and climate change impacts of circular economy. 	<ul style="list-style-type: none"> • Expand regional waste reporting to include carbon emissions by waste stream. • Report on emissions from waste management activities and diversion rates from different activities / material streams. • Promote actions that address waste and carbon reduction. • Utilise the Zero Waste Taranaki website to host information and provide monthly / quarterly data to the community through dashboards. .
Tiriti partnerships	Policy 	<ul style="list-style-type: none"> • Grants for Para kore 	<ul style="list-style-type: none"> • Embedding/prioritising Te Ao Maori within next Waste Management and Minimisation Plan 	<ul style="list-style-type: none"> • Include Mana Whenua rep on regional committee. • Investigate options for increased participation in governance or decision making. • Promote/provide resources to Iwi and Hapū for managing historic landfill sites
	Infrastructure 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Expand kerbside service to businesses, marae and not for profit organisations in collection areas (NPDC). 	<ul style="list-style-type: none"> • Supply kerbside service to marae. • Supply compost to Marae gardens. • Investigate kerbside collection in unserved urban areas. • Investigate waste reduction options beyond kerbside collection for marae. • Investigate possible partnerships for all projects.
	Education 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Para Kore campaign supporting whānau waste reduction • Para Kore funding for marae education 	<ul style="list-style-type: none"> • Present information in a way that acknowledges connection between people and their environment. • Investigate demand for Te Reo Māori translation of waste reduction resources. • Investigate best channels to promote the Zero Waste Fund to iwi, hapū, marae and whānau. • Investigate possible partnerships for all projects. • Develop communications plan with Māori.

Note: possibilities which are in bold can be applied across multiple waste streams in the region.

8.4 Prioritising options

8.4.1 Evaluation criteria

As not all the possibilities can be implemented within budget and resource constraints, eight evaluation criteria (Table 8.3) have been developed to assist councils' decision making on priority areas for investment and confirm what actions can be proposed in the draft WMMPs for each council. Criteria have been developed to reflect the guiding principles and align with Taranaki's vision and goals.

Each possible option is rated as either high, medium or low for each criterion, and colour-coded using a traffic light system (i.e., 'low' is red apart from technical risk where 'low' is a positive therefore, colour coded green).

Ratings for each criterion were applied a number (Table 8.2) and the total score for all criteria is shown in Table 8.3. The lower the score for each possibility the more preferable that is as an option to be prioritised.

Table 8.2: Scoring key

Colour	Score
	3
	2
	1

Table 8.3: Prioritisation Criteria and rating system

Prioritisation criteria	Description	Rating		
		Low	Medium	High
Access	Solutions delivered which are equally accessible to all in the community. This includes: physical access, affordability, consistency in materials accepted, accessibility of information etc.	Access to services does not improve from current availability in the region.	Access is available to the majority of Taranaki within 50km.	All residents and community groups have access to affordable waste / material management facility within 30km.
Partnership and collaboration	Options that allow collaboration across stakeholder groups to ensure all aspects of the circular economy can be implemented should get a higher rating. Options that allow co-design with mana whenua.	No collaboration taking place.	Collaboration between existing groups and industries.	Cross collaboration between community groups, industries and other organisations, facilitation of co-design with mana whenua.
Social outcomes	Options that enable better social outcomes (i.e. grant funding, business incubation, employment).	No additional outcomes provided to the region.	Outcomes provided to small / specific groups within the region.	Outcomes which benefit multiple groups within the region.
Emissions reduction	Options that result in reductions of GHG emissions including biogenic emissions and promote regenerative design or approaches and enhance the environment.	Emissions expected to increase.	Emissions will remain consistent with current regional output.	Decrease in emissions from material and waste management activities.
Future proof	Assessment of how resilient the option is to change. Does the option set up the region to implement future national policy or circular pathways? Options that enhance the environment.	Options which maintain current environmental conditions / or resource use and not able to be easily adapted to change.	Options which can be adapted as regional consumption changes.	Options that enhance the region providing net positive sustainability outcomes.
Priority material	Assessment of priority of material capture within the region.	No legislative requirements for material capture.	Future planned legislation requirement for material capture (5+ years).	Legislation requirements for material capture currently in place or set to be in place within the next 5 years.

Prioritisation criteria	Description	Rating		
		Low	Medium	High
Recovery and markets	The level of confidence in recovery of the material and markets for the output(s) from the solution. Along with consideration from future markets which may become available in Taranaki and New Zealand.	No recovery or markets currently available in New Zealand.	Recovery is currently taking place and markets available in New Zealand with future markets emerging.	Recovery and markets current available within the New Zealand which are available to the Taranaki region.
Responsible consumption	Options need to challenge negative behaviour patterns by making the choices with greatest negative impact (to the environment, health of Taranaki and unfitting with the circular economy) less convenient for the user. Or conversely increasing the convenience of positive behaviours. The ultimate aim being to change behaviours which will change attitudes towards material consumption.	Options available encourage behaviours for overconsumption and disposal.	There are options which encourage positive behaviour patterns.	The primary options available influence positive change and behaviours.
		High	Medium	Low
Technical risk	The level of risk (High, Medium or Low risk) associated with the solution based on track record (NZ and international), complexity and supplier capability.	No proven results within New Zealand. (High risk = low rating)	Option is likely to be successful within Taranaki – proven globally or within NZ. (Medium risk = medium rating)	Technology / concept proven to be well adopted within New Zealand. (Low risk = high rating)

8.5 Evaluation

The evaluation (Table 8.4) assesses the possibilities in the 'unplanned future' column of Table 8.1.

Table 8.4: Evaluation of Possibilities for Taranaki

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
Commercial waste including construction and demolition (C&D) material	CD1	Expand recovery facilities through transfer station and resource recovery network	Independent										25
	CD2	Evaluate existing Construction Waste Reduction Plan process and develop regional implementation plan for Building Act changes	Independent										24
	CD3	Collaborate with design and construction organisations to share knowledge on sustainable building methods and designing waste out of the construction process.	Independent										24
	CD4	Facilitate connection of construction organisations and existing material reusers and consumers e.g. MenzShed.	Independent										24
	CD5	Collaborate with design and demolition industry to deconstruct rather than demolish	CD1										23
	CD6	Utilise existing construction waste reduction resources (e.g. BRANZ) and share in accessible formats.	Independent										22
	CD7	Encourage circular design principles embedded in policy to ensure early design and procurement reduce waste and emissions.	Independent										21
	CD8	Regional consistency in bylaws for C&D materials. STDC and SDC bylaws to be reviewed to include mandated material management plans in preparation for Building Act changes.	Independent										21
	CD9	Investigate and support new material markets in Taranaki and North Island.	Independent										21
	CD10	Encourage source segregation of C&D materials.	Independent										21
	CD11	Establish a clean fill site at the Colson Road Landfill to allow for controlled disposal of uncontaminated soil and enable future use (NPDC)	Independent										20
	CD12	Advocate for Central Government to mandate material recovery for C&D projects.	CD11										19
	CD13	Collaborate with waste contractors to provide covers for skips to prevent illegal dumping, contamination and damage of materials through weather (e.g. wet timber)	Independent										19

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	CD14	Fast track building consent applications for construction organisations who can demonstrate circular design processes and effective material management practices.	Independent										18
	CD15	Update existing solid waste bylaw requiring waste contractors to provide detailed mature capture data for projects.	Independent										18
	CD16	Advocate C&D organisations to use small scale skip bags instead of skip bins to allow for greater segregation.	CD11										17
	CD17	Advocate C&D organisations to use skip bins with compartment for segregation of waste.	CD11										17
	CD18	Council to issue penalties for non-complaint organisations in relation to solid waste by-law.	CD8										15
	Organics Recovery	O1	More support for local food rescue of surplus food to reduce waste and alleviate food insecurity.	Independent									
O2		Expand cross cutting education plan and programme to include reducing food waste, food rescue and organic materials recovery.	Independent										27
O3		Establish a community-based composting network through marae, community gardens, planting our place initiatives and food resilience projects.	Independent										27
O4		Support local businesses and waste services providers to ensure organic material recovery services are available for all.	O8										26
O5		Explore ways to make some compost produced in the region available for revegetation and/or community kai production. Contributing towards healthy soil for food resilience in the region.	O3/O8										26
O6		Food and/or food and greenwaste kerbside collection implemented for all properties currently receiving council kerbside collection (SDC (new) and STDC (expansion) NPDC green waste)	O8										24
O7		Research and educate on the connection between compost, emissions reduction, soil health and food production / resilience. Council to educate through community case studies of initiatives and services available through platforms appropriate to the different audiences.	Independent										24
O8		Establish a regional organic material processing facility(ies).	O6										24

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	O9	Investigate local solution for treated timber.	Independent										20
Rural waste services	R1	Upgrade rural transfer stations to be "one-stop-shop" for recovery needs (i.e. mini Junction) and expand what can be accepted for recycling.	Independent										25
	R2	Create a rural communication plan evaluating barriers and benefits of reducing waste plus preferred methods of communication.	Independent										24
	R3	Provide on-farm guide to waste minimisation (i.e. farms with multiple households – how they could manage recycling hubs on farms)	Independent										24
	R4	Provide funding for farms to set up onsite storage to enable segregation of recyclables from domestic household waste generated on farms.	Independent										24
	R5	Collaborate with waste service providers to provide fit for purpose collection services for recoverable farm waste.	Independent										24
	R6	Create champions in rural areas to encourage positive behaviour change.	Independent										23
	R7	Collaborate with existing / new council services in rural areas to generate 'hubs' for services.	Independent										23
	R8	Councils to review bylaws to address rural waste and identify where support is required.	Independent										23
	R9	Support roll out or expansion of any voluntary or mandatory product stewardship schemes within the region.	R13										23
	R10	Create champions in rural areas to encourage positive behaviour change	Independent										23
	R11	Develop rural waste minimisation programme utilising existing rural networks (i.e. Taranaki Catchment Communities)	Independent										23
	R12	Kerbside collection to extend to rural areas, where feasible	Independent										22
	R13	Advocate for product stewardship schemes for rural waste streams	Independent										22
	R14	Attend at rural community events to promote resource recovery options available and understand local issues.	Independent										22
	R15	Council to complete spot auditing in rural locations to ensure compliance with waste regulations and by-laws.	Independent										21

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	R16	Review council transfer station hours to reflect community access needs.	Independent										21
	R17	Recycling facilities which are not restricted by opening hours.	Independent										21
	R18	Establish partnership with R.O.S.E (Recovering Oil Saves the Environment).	R13										21
	R19	Investigate and implement mobile transfer station for waste and recycling for rural community in region.	Independent										21
	R20	Promote the Junction regionally	Independent										21
Reuse and repair culture embedded in region	RR1	The Junction and other existing council facilities offer loans of equipment (e.g. sewing machines and tools) to enable repairs.	Independent										25
	RR2	Collaborate with community groups and repair businesses to expand 'repair cafes' throughout region	Independent										25
	RR3	Investigate and implement share schemes of items (e.g. lawn mowers) through existing infrastructure (e.g. transfer stations and the Junction) or via a product/material sharing platform e.g. MUTU.	Independent										25
	RR4	Collaboration between community groups and council to offer repair services	Independent										25
	RR5	Encourage community groups to register on nationwide circular economy platforms e.g. Project Moonshot or regional platforms including Zero Waste Taranaki	Independent										25
	RR6	Utilise existing council owned / leased facilities to offer / arrange free or subsidised workshops in repairs to encourage keeping materials and products in circulation.	RR1/RR2										25
	RR8	Establish a reuse and repair programme for the district to promote a regenerative economy in the region.	RR1/RR2										24
	RR9	Set standard at council events by requiring stalls and food trucks to use reusable items preventing the generation of single use waste.	Independent										23
	RR10	Advocate with retailers to expand re-fillery services within the region.	Independent										23
	RR11	Hubs for product stewardship collection points to included in existing services on websites and other communications.	Independent										23
	RR12	Council to lead the way and have established procurement policy which prioritise repair of equipment before disposal and replace.	Independent										22

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	RR13	Advocate for additional regulated product stewardship schemes and right to repair legislation.	Independent										21
	RR14	Establish voluntary performance targets for industries and businesses in the region to hold accountable for waste generation.	Independent										21
	RR15	Advocate for retailers to have repair policy to avoid waste.	Independent										21
Increase effectiveness / use of collection and resource recovery services and reduce contamination	C1	Update solid waste bylaw to mandate reusables items (e.g. bowls and cups) at events.	Independent										25
	C2	Council to keep stock of reusable items (e.g. bowls and cups) to be issued at events to reduce waste generation from packaging and containers	Independent										25
	C3	Increase accessibility of information (easy read, multilingual including Te Reo, various platforms etc).	Independent										24
	C4	Offer council collateral in multiple languages to increase accessibility of information	Independent										24
	C5	Advocate central government to mandate sustainability ratings on product packaging.	Independent										24
	C6	Collaborate with waste service providers to develop ways to achieve kerbside collection diversion targets.	Independent										23
	C7	Advocate for additional regulated product stewardship schemes, right to repair legislation and CRS.	Independent										23
	C8	Utilise targeted methods to reach specific communities on how to maximise the use of council services for waste reduction, increased recycling and circular economy including media communication e.g. appropriate social media channels to reach younger community members, Te Reo television channel)	Independent										22
	C9	Retrofit or include in new bins, RFID tags to allow better identification of properties with kerbside contamination to be followed up with; report data collected publicly.	Independent										22
	C10	Support Central Government in researching methods for remanufacturing hard to recycle plastics (resin codes 3, 4, 6,7 and mixed) and production of granules for remoulding or chemical recycling.	Independent										22

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	C11	Introduce penalties for households where there is non-compliance with solid waste bylaw.	C9										21
	C12	Collect soft plastics at kerbside.	C7										21
	C13	Establish hubs for collection of difficult materials / common contaminators of recycling e.g. supermarkets.	Independent										21
	C14	Establish different rate bands for households based on occupancy to allow for additional waste containers to further segregate waste streams.	Independent										20
	C15	Opt in for additional kerbside containers/larger containers for households with above average occupant numbers.	Independent										20
	C16	Implement demerit points system for households who are repeat offenders of contamination. Once a certain number of points are reached members of the household must attend an education session.	C9										19
Influence behaviour around what we consume Industry and community consumption and increased recovery of materials	IC1	Expand and promote existing offer to support community for grant applications and other process forms.	Independent										25
	IC2	Communicate material and waste management pathways transparently.	Independent										25
	IC3	Celebrate /reward businesses, schools and community groups who are going beyond waste diversion requirements (newsletter shout outs, funding/vouchers etc)	Independent										25
	IC4	Education programmes for the community, schools and industry focusing on steps to become more sustainable (including; reducing waste from food shopping, textile waste and the effects, responsible consumer habits etc)	Independent										25
	IC5	Offer waste audits service to community, businesses and schools (SDC and STDC).	Independent										25
	IC6	Education campaign documenting product lifecycle – linear vs circular and how this can be embedded in Taranaki through resources and community innovation.	Independent										25
	IC7	Facilitate share schemes of items (e.g. lawn mowers) through existing infrastructure (e.g. transfer stations and the Junction).	Independent										24
	IC8	Collaborate on sustainable services supporting the community e.g. cleaning service for reusable nappies in the region to promote use and discourage single use sanitary items.	Independent										24

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	IC9	Create a network of resource recovery facilities through existing transfer stations.	Independent										24
	IC10	Work with local retailers (larger corporate and local) to promote better purchasing choices	Independent										24
	IC11	Investigate methods to gather data and share stories around recovery of materials.	Independent										24
	IC12	Council to educate households and businesses about the environmental impacts of PFAS in plastic and fibre (cardboard), particularly businesses looking to move to compostable packaging which may contain PFAS.	Independent										24
	IC13	Advocate for research investigating recovery options for textiles which are currently sent to landfill. Materials such as wool retain some value which can be repurposed.	Independent										23
	IC14	Funding for recovery options which add value e.g. new or increasing material capture.	Independent										23
	IC15	Advocate for action against greenwashing claims on products and services.	Independent										23
	IC16	Funding for material recovery for not-for-profit agencies in region.	Independent										22
	IC17	Advocate for research and development in reducing the quantity of hazardous product production and consumption in New Zealand.	Independent										22
	IC18	Encourage central government to establish performance targets for the commercial sector	Independent										21
	IC19	Investigate alternative disposal or recovery options for medical, hazardous, and sanitary waste.	Independent										20
	IC20	Support sustainable practices by offering new parents and care homes reusable sanitary wear.	Independent										20
	IC21	Free or discounted reusable products (e.g. sanitary wear) to reduce waste generated.	Independent										20
	IC22	Amend solid waste by law to be amended to mandate organisations over certain size (employee number / revenue) to report material management plans to council demonstrating efforts to implement the waste hierarchy.	Independent										20
	IC23	Amend solid waste bylaw to mandate private waste contractors to transparently report waste volumes to regional and district councils.	Independent										19

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	IC24	Install cameras at Transfer Stations / weighbridges to automatically identify waste streams and recoverable materials.	Independent										19
Illegal dumping	ID1	Establish partnerships with product stewardship schemes for commonly dumped items e.g. Rebound mattress recycling programme, tyrewise for vehicle tyres.	Independent										25
	ID2	Communicate the scale of mismanagement of materials and waste to Taranaki specifically through data which is easily understandable.	Independent										25
	ID3	Offer alternative disposal and or recycling options for commonly dumped materials (i.e. mattresses, TVs, whiteware)	Independent										24
	ID4	Bookable collections for bulky waste items (e.g. white wear) at regular frequencies (e.g. monthly).	Independent										22
	ID5	Rebates/discounts for current resource recovery infrastructure for Community Service Card holders.	Independent										21
	ID6	Collaborate with organisations to clean up and address hotspots or illegal dumpers (i.e. DoC, TRC, district councils, NZTA, Charity reuse shops)	Independent										21
	ID7	Investigate the driver or motivations for illegal dumpers and develop targeted behaviour change techniques to engage with illegal dumpers	Independent										21
	ID8	Introduce penalties for those caught illegally dumping through security cameras included as part of solid waste bylaw.	Independent										17
	ID9	Install security cameras at illegal dumping hotspots to deter dumping, capture data and follow up with dumpers to take responsibility for their waste	Independent										15
Supply chain and community engagement in circular economy	SC1	Advocate for organics ban to landfill to ensure feedstock is committed to recovery facilities to create value and reduce GHG emissions.	O8										25
	SC2	Investigate setting up MUTU (asset sharing system) on a regional level for businesses to share products	Independent										25
	SC3	Where council notice gaps in circular economy infrastructure through mapping exercise (see Education point below), council to engage with central government.	Independent										25

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	SC4	Establish voluntary performance targets for industry and businesses in the region to hold them accountable for waste generation (including downstream waste generation).	Independent										25
	SC5	Develop and implement a Taranaki Circular Economy Road Map which identifies current and potential future activities which align with circular economy approach.	Independent										25
	SC6	Advocate for right to repair legislation.	Independent										24
	SC7	Monitor use of circular economy infrastructure and services in the region to assess uptake and where greater communication of services is required.	Independent										24
	SC8	Map out activities to demonstrate current circular activities and systems in the region and those accessible to the region (e.g. services in North Island).	Independent										24
	SC9	Implement or support additional infrastructure and services identified in the Circular Economy Roadmap.	Independent										22
	SC10	Procurement policies within council projects to incorporate and prioritise broader outcomes for the community.	Independent										21
	SC11	Communicate transparently how Waste Levy Funding and other grant funding has been distributed within the region.	Independent										21
	SC12	Advocate for review of New Zealand standards to allow for more recycled content in manufacture of products.	Independent										19
	SC13	Rebrand as a circular region to change mindsets.	Independent										17
Reduce carbon emissions alongside waste reduction and plan for adaptation to climate change	RC1	Utilise the Zero Waste Taranaki website to host information and provide monthly / quarterly data to the community through dashboards.	Independent										25
	RC2	Councils to continue to collaborate on region wide sustainable behaviour change programmes which communicate positive environmental impacts.	Independent										25
	RC3	Increase organics (food scraps and green waste) recovery with product being used in planting and biodiversity work or remediation of historic landfills.	Independent										25
	RC4	Expand regional waste reporting to include carbon emissions by waste stream.	Independent										24

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	RC5	Report on emissions from waste management activities and diversion rates from different activities / material streams.	Independent										24
	RC6	Promote actions that address waste and carbon reduction.	Independent										24
	RC7	Support development of local processing and new markets for treated timber and other materials that are transported out of region for recycling.	Independent										23
	RC8	Increase local recycling / reuse infrastructure to enhance climate change resilience.	Independent										23
	RC9	Establish a regional emergency management plan for waste resulting from civil defence events	Independent										23
	RC10	Increase engagement with supply chain and private sector to find opportunities to collaborate to reduce waste and emissions.	Independent										22
	RC11	Investigate use of hydrogen for long haul heavy transport where materials are transported out of the region.	Independent										22
	RC12	Implement or update procurement policies for council projects to incorporate and prioritise broader outcomes for the community related to waste and emissions reduction.	Independent										21
	RC13	Monitor and remediate historic landfills at risk of coastal or river erosion	Independent										20
	RC14	Expand landfill gas capture network at closed Colson Road landfill (NPDC).	Independent										19
	RC15	Expand landfill gas capture to all closed landfills.	Independent										17
Tiriti partnerships	TP1	Supply compost to Marae gardens.	O8										26
	TP2	Promote/provide resources to Iwi and Hapū for managing historic landfill sites	Independent										25
	TP3	Develop communications plan with Māori.	Independent										25
	TP4	Present information in a way that acknowledges connection between people and their environment.	Independent										25
	TP5	Investigate demand for Te Reo Māori translation of waste reduction resources.	Independent										25
	TP6	Include Mana Whenua rep on regional committee.	Independent										24
	TP7	Investigate options for increased participation in governance or decision making.	Independent										24

Focus Area	Option code	Possible option	Option independent or reliant on other option	Access	Partnership and collaboration	Social outcomes	Emissions reduction	Future proof	Priority material	Markets	Technical risk	Responsible consumption	Score
	TP8	Investigate best channels to promote the Zero Waste Fund to iwi, hapū, marae and whānau.	Independent										24
	TP9	Supply kerbside service to marae.	Independent										24
	TP10	Investigate kerbside collection in unserved urban areas.	Independent										24
	TP11	Investigate waste reduction options beyond kerbside collection for marae.	Independent										22
Joint/regional concept	J1	Council to educate through community case studies of initiatives and services available.	Independent										24
	J2	Council, industry and community collaborate to expand A-Z recycling directory to highlight circular services in the region.	Independent										24
	J3	Council to share regular waste data with region.	Independent										22
	J4	Council to advocate central government to implement rules for product producer and retailers to take ownership for packaging and offer take back schemes.	Independent										21
	J5	Penalties for non-compliance.	CD9, C7, ID6										15

8.6 Priority options and actions

From the possibilities assessment the options which have been assessed with a high score (>20) and those which demonstrate alignment with the regions guiding principles through the prioritisation criteria (Table 8.4) have been taken forward to the shortlist assessment against objectives in Table 8.5. This shortlist assessment details the current activities in the subject area and which actions can be prioritised to further support these activities leading towards circular outcomes for the region.

Key for Table 8.5:

Goal reference	NPDC and STDC goals	SDC goals
G1	Provide local solutions that make the most out of materials	Improve efficiency of resource use
G2	Provide methods to help people use materials wisely.	Maximise opportunities to reduce waste to landfill
G3	Enhance the environment through low waste and low emissions solutions.	Minimise the harmful and costly effects of waste

Guiding Principles:

- GP1 – Empowering partnerships
- GP2 – Taiao Ora, Tiaki Taiao
- GP3 – Connectedness
- GP4 – Responsibility
- GP5 – Equity

Objectives:



Behaviour change



Collaboration and partnership



Innovation and leadership
































Accessible facilities and services

Councils intended role:

























- Advocate / promote – To Central Govt, community or industry for change
- Regulator – to direct /govern the region/district
- Service provider –To host the service (infrastructure, programme, service)
- Collaborator/connector – To be the connecting party between groups
- Enabler – to guide and assist
- Advisor – To support community groups, lwi, residents, industry and others









Table 8.5: Shortlist assessment against objectives (Priority actions)

















Current	Prioritised new actions	Regional [®] or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
Commercial waste including construction and demolition (C&D) material					
<ul style="list-style-type: none"> NPDC bylaw construction Waste Reduction Plans. Support with contestable funds using waste levy revenue. Licencing for waste data collection (NPDC). 	Provide input in national waste licencing development to prepare region for future changes.	R	G2 / GP4		Advocate
	Encourage circular design principles embedded in policy to ensure early design and procurement reduce waste and emissions.	R	G2, G3 / GP2, GP4	 	Advocate
	Regional consistency for C&D materials. STDC and SDC bylaws to be reviewed to include mandated material management plans in preparation for Building Act changes.	R	G2 / GP4	 	Regulator
	Evaluate existing Construction Waste Reduction Plan process and develop regional implementation plan for Building Act changes	R	G2 / GP4	 	Regulator
<ul style="list-style-type: none"> The Sorting Depot due to open in 2023. Building reuse shops including The Junction. Concrete recycling. 	Expand recovery options through transfer station and resource recovery network	NP	G1, G3 / GP2, GP3	   	Service provider; collaborator
	Investigate and support new markets in Taranaki and North Island.	R	G1, G3 / GP1, GP2, GP5		Enabler; service provider, collaborator
<ul style="list-style-type: none"> Zero Waste Taranaki website (including A-Z recycling directory). 	Expand A-Z recycling directory to highlight circular services in the region.	R	G2 / GP2, GP3, GP5	 	












Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> Commercial Waste Minimisation Adviser support: <ul style="list-style-type: none"> Waste Reduction Guide (NPDC) Resource Wise Business (NPDC) Adhoc enquiries and advice. 	Connect construction organisations and existing material reusers and consumers e.g. MenzShed.	R	G2 / GP1, GP2, GP3	 	Advisor, enabler
	Expand advisor focus to: <ul style="list-style-type: none"> Encourage source segregation of C&D materials. Collaborate with design and construction organisations to share knowledge on sustainable building methods and designing waste out of the construction process. Utilise existing construction waste reduction resources (.e.g BRANZ) and share in accessible formats 	NP	G2 / GP1, GP2, GP3	   	Advisory, enabler
	Collaborate with demolition industry to deconstruct rather than demolish.	R	G2 / GP1, GP2, GP4	 	Advisory, enabler
Organics recovery					
<ul style="list-style-type: none"> Bylaw mandates household landfill containers must not contain compostable green waste (NPDC). Contestable funds using waste levy revenue. 	Food and or green waste kerbside collection implemented for all properties currently receiving council kerbside collection (SDC (new) and STDC (expansion), NPDC (green waste)	S, ST, NP	G1 / GP3, GP5	  	Service provider
<ul style="list-style-type: none"> NPDC food scraps collection service. STDC opt in green waste collection service. 	Establish a regional organic material processing facility(ies).	R	G1, G3 / GP1, GP2, GP4	   	Enabler; service provider; collaborator







Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> Out of region organic processing facilities and small community groups activity. In-region composting. Private food collection services. Council / industry collaboration on EOI for organic material processing facility in Taranaki. 	Support local businesses and waste services providers to ensure organic material recovery services are available for all.	R	G2		Enabler; service provider, collaborator
	Explore ways to make some compost produced in the region available for revegetation and/or community kai production. Contributing towards healthy soil for food resilience in the region.	R	G3 / GP2, GP3, GP5		Enabler; service provider, collaborator
	Investigate local solution for treated timber recovery.	NP	G1, G2, G3 / GP1, GP2		Collaborator, advisor, service provider
<ul style="list-style-type: none"> Council educational resources and workshops available. Behavioural Change plan and programme set to continue. Dedicated organics focus for NPDC based on barriers, benefits and preferred communication methods. 	Educate through community case studies of initiatives and services available through platforms appropriate to the different audiences	R	G2 / GP3, GP5		Advisor
	More support for local food rescue of surplus food to reduce waste and alleviate food insecurity.	R	G2 / GP3, GP5		Collaborator, advisor
	Establish a community-based composting network through marae, community gardens, planting our place initiatives and food resilience projects.	R	G1, G2 / GP1, GP2, GP3, GP5		Collaborator, advisor
	Expand cross cutting education plan and programme to include reducing food waste, food rescue and organic materials recovery.	R	G2 / GP2, GP3, GP5		Advisor
Rural waste services					
<ul style="list-style-type: none"> Waste Management Act 2008 requirements. 	Review bylaws to address rural waste and identify where support is required.	R	G2 / GP3, GP4, GP5		Regulator

















Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> Regional Plan rules which manage rural waste management including farm dumps. Voluntary Product Stewardship Schemes (Agrecovery, Plasback). Resource Management Act (RMA) reform and Emissions Reduction Plan (ERP) impacting current performance of rural activities to improve environmental outcomes. 	Support roll out or expansion of any voluntary or mandatory product stewardship schemes within the region.	R	G1, G2 / GP3, GP4, GP5	 	Collaborator, enabler, advisor
	Develop rural waste minimisation programme utilising existing rural networks (i.e. Taranaki Catchment Communities)	R	G2 / GP1, GP3, GP5	  	Enabler, collaborator
	Advocate for product stewardship schemes for rural waste streams	R	G1 / GP4	 	Advocate
<ul style="list-style-type: none"> Limited by distance, transfer station services are available to all in key service centres. Rural supply stores offer some recycling drop-off as part of voluntary product stewardship schemes. Agrecovery and Plasback collections Plans to upgrade rural transfer stations to create a resource recovery network (NPDC) (improving recycling and recovery options at rural transfers stations and linking to The Junction). 	Upgrade rural transfer stations to be “one-stop-shop” for recovery needs (i.e. mini Junction) and expand what can be accepted for recycling.	R	G2 / GP3, GP5	   	Enabler; service provider
	Collaborate with existing / new council services in rural areas to generate ‘hubs’ for services.	ST, NPDC	G2 / GP2, GP3, GP5	 	Collaborator, Service provider
	Kerbside collection to extend to rural areas, where feasible.	R	G2 / GP3, GP5	  	Service provider; regulator
	Review council transfer station hours to reflect community access needs and explore recycling facilities which are not restricted by opening hours	R	G2 / GP3, GP5	 	Service provider; enabler
	Investigate and implement mobile transfer station for waste and recycling for rural community in region.	R	G2 / GP3, GP5	   	Service provider; collaborator; enabler
<ul style="list-style-type: none"> Council educational resources and workshops available. 	Create a rural communication plan evaluating barriers and benefits of reducing waste plus preferred methods of communication.	R	G2 / GP4	 	Advisor; enabler






Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> Educational plan and programme set to continue. 	Provide on-farm guide to waste minimisation (i.e. farms with multiple households – how they could manage recycling hubs on farms).	R	G2 / GP3, GP4		Advisor; enabler
	Create champions in rural areas to encourage positive behaviour change.	R	G2 / GP3, GP4		Advisor; enabler
	Attend rural community events to promote resource recovery options available and understand local issues.	R	G2 / GP2, GP3, GP4		Advisor; enabler
	Promote The Junction regionally.	R	G2 / GP2, GP4, GP5		Advisor; enabler
Reuse and repair culture embedded in region					
<ul style="list-style-type: none"> Funding from central and local government for initiatives which support a regional circular economy. Contestable funds using waste levy revenue. Regulated product stewardship with six priority products. Additional funding available through waste levy increases. 	Investigate and implement share schemes of items (e.g. lawn mowers) through existing infrastructure (e.g. transfer stations and The Junction) or via a product/material sharing platform e.g. MUTU.	R	G1, G3 / GP1, GP2, GP3, GP5		Service provider; enabler
	Council events to set standard by requiring stalls and food trucks to use reusable items preventing the generation of single use waste.	R	G2 / GP4		Regulator; collaborator, enabler
	Advocate with retailers to expand re-fillery services within the region.	R	G2 / GP4		Advocate
	Council to lead the way and have established procurement policy which prioritise repair of equipment before disposal and replace.	R	G1 / GP4		Regulator; enabler






Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
	Advocate for additional regulated product stewardship schemes and right to repair legislation.	R	G1 / GP2, GP4, GP5	 	Advocate
	Establish voluntary performance targets for industries and businesses in the region to hold accountable for waste generation.	R	G2 / GP4	 	Regulator; advisor
	Advocate for retailers to have repair policy to avoid waste.	R	G3 / GP4		Advocate
<ul style="list-style-type: none"> The Junction is an established facility. Repair cafes in SDC. Re-filleries at supermarkets and other retail stores. The Junction increases services to offer repairs (e.g. textile repairs, electrical item repairs). The Sorting Depot due to open in 2023. 	The Junction and other existing council facilities offer loans of equipment (e.g. sewing machines and tools) to enable repairs.	NP	G1, G2 / GP5	  	Service provider; enabler
	Collaborate with community groups and repair businesses to expand 'repair cafes' throughout region	R	G1, G2 / GP1, GP3, GP5	  	Collaborator; enabler
	Hubs for product stewardship collection points to be included in existing services on websites and other communications.	R	G1, G2 / GP3, GP4, GP5	 	Service provider; enabler
<ul style="list-style-type: none"> Council educational resources and workshops available. Promote reuse initiatives (Again Again, BringIt reusable cups and containers). Zero Waste Taranaki Website. The Junction offers repair education sessions to the community e.g. sewing tutorials, basic electrical repairs. Reuse and repair adopted as a Behaviour Change campaign focus across the region. 	Encourage community groups to register on nationwide circular economy platforms e.g. Project Moonshot or regional platforms including Zero Waste Taranaki	R	G2, G3 / GP2, GP3, GP4	 	Advisor; enabler
	Regional Waste Minimisation Officers to lead reuse and repair programme for the district to promote a regenerative economy in the region.	NP	G2, G3 / GP2, GP3		Advisor; enabler
Increase effectiveness / use of collection and resource recovery services and reduce contamination					











Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> Waste bylaws for all councils. Regional collaboration to align services, manage joint contracts and infrastructure, and regionally consistent messaging. Contamination of kerbside recycling is reported (NPDC). National standardisation for what is accepted for recycling at kerbside. Expansion of the kerbside collection service to businesses, marae and not-for-profit organisations (NPDC). The Proposed National Waste Data Framework will require more reporting on domestic kerbside contamination. 	Update solid waste bylaw to mandate reusables items (e.g. bowls and cups) at events.	R	G2, G3 / GP3, GP4		Regulator; enabler
	Advocate central government to mandate sustainability ratings on product packaging.	R	G2 / GP2, GP4		Advocate
	Collaborate with waste service providers to develop ways to achieve kerbside collection diversion targets.	R	G2 / GP4	 	Collaborator; enabler
	Advocate for additional regulated product stewardship schemes and right to repair legislation and CRS.	R	G1, G2 / GP2, GP4		Advocate
<ul style="list-style-type: none"> Glass and mixed recycling containers provided to all urban areas in region. Transfer stations available across the region. Align Taranaki council recycling services with standardised list (only aerosol cans to be changed). 	Keep stock of reusable items (e.g. bowls and cups) to be issued at events to reduce waste generation from packaging and containers	NP	G1, G3 / GP2, GP4	   	Service provider; enabler
	Retrofit or include in new bins, RFID tags to allow better identification of properties with kerbside contamination to be followed up with; report data collected publicly.	NP	G2 / GP4	 	Service provider; enabler








Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
	Establish hubs for collection of difficult materials / common contaminants of recycling e.g. supermarkets.	R	G1 / GP2, GP4, GP5		Service provider; enabler; collaborator
<ul style="list-style-type: none"> • Council educational resources and workshops available. • Bin inspections and composition audits. • Three strikes approach to contamination warnings. • Regular campaigns on how to use the service well. • Educational plan and programme set to continue. 	Increase accessibility of information (easy read, multilingual including Te Reo, various platforms etc).	R	G2 / GP1, GP3, GP5		Advisor; enabler
	Utilise targeted methods to reach specific communities including media communication e.g. appropriate social media channels to reach younger community members, Te Reo television channel).	R	G2 / GP3, GP4, GP5		Advisor; enabler
Influence behaviour around what we consume Industry and community consumption and increased recovery of materials					
<ul style="list-style-type: none"> • National government WMA policy and regulations. • Contestable funds using waste levy revenue. • Plastic bans. • Legislation changes due to be implemented in 2024/25 which will affect current material and waste practices. These include Container Return Scheme (CRS), Product Stewardship schemes for specific materials. 	Expand and promote existing offer to support community for grant applications and other process forms.	R	G2 / GP1, GP4, GP5		Advocate; enabler; advisor
	SDC and STDC to offer waste audits service to community, businesses and schools.	S, ST	G2 / GP1, GP4, GP5		Service provider; advisor
	Work with local retailers (larger corporate and local) to promote better purchasing choices	R	G1 / GP4		Advocate; enabler; advisor











Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> Central Government is likely to push greater regional focus on implementation of circular systems through the Resource Management Reform process. 	Investigate methods to gather data and share stories around recovery of materials.	R	G2 / GP1, GP2, GP3, GP4		Enabler
	Advocate for research investigating recovery options for textiles which are currently sent to landfill. Materials such as wool retain some value which can be repurposed.	R	G2, G3 / GP2, GP4		Advocate; enabler; advisor
	Funding for recovery options which add value e.g. new or increasing material capture.	R	G1, G2 / GP1, GP2, GP4		Regulator; enabler
	Advocate for action against greenwashing claims on products and services.	R	G2 / GP4	 	Advocate
	Advocate for research and development in reducing the quantity of hazardous product production and consumption in New Zealand.	R	G2 / GP2, GP4	 	Advocate
	Encourage central government to establish performance targets for the commercial sector	R	G2 / GP4	 	Advocate
	Investigate alternative disposal or recovery options for medical waste, hazardous waste, sanitary.	R	G2 / GP2, GP4	 	Advocate, advisor
	Support sustainable practices by offering new parents and care homes reusable sanitary wear.	R	G3 / GP2, GP5	  	Service provider; advisor
	Amend solid waste by-law to mandate organisations over certain size (employee number / revenue) to report material	R	G2 / GP4	 	Regulator










Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
	management plans to council demonstrating efforts to implement the waste hierarchy.				
<ul style="list-style-type: none"> • Kerbside service, transfer stations and reuse options (The Junction). • The Sorting Depot due to open in 2023. • Organic EOI under way. 	Facilitate share schemes of items (e.g. lawn mowers) through existing infrastructure (e.g. transfer stations and the Junction).	R	G1 / GP2, GP5		Service provider
	Create a network of resource recovery facilities through existing transfer stations.	R	G1 / GP2, GP3, GP5		Service provider
<ul style="list-style-type: none"> • Council educational resources and workshops available. • Waste audit services to community, businesses and schools (NPDC). • Educational plan and programme set to continue. 	Communicate material and waste management pathways transparently.	R	G2 / GP2, GP4		Advisor; enabler
	Celebrate /reward businesses, schools and community groups who are going beyond waste diversion requirements (newsletter shout outs, funding/vouchers etc)	R	G2 / GP1, GP2 GP4		Advisor; collaborator enabler
	Education programmes for the community, schools and industry focusing on steps to become more sustainable (including; reducing waste from food shopping, textile waste and the effects, responsible consumer habits etc)	R	G2 / GP2, GP4		Advisor; enabler





















Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
	Collaborate on sustainable services supporting the community e.g. cleaning service for reusable nappies in the region to promote use and discourage single use sanitary items.	R	G2 / GP1, GP3		Advisor; enabler
Illegal dumping					
<ul style="list-style-type: none"> Waste bylaws for all councils. Community groups who complete voluntary clean ups of beaches, parks etc to be given free access to Transfer Stations to dispose of waste. Litter Act legislation review. 	Establish partnerships with product stewardship schemes for commonly dumped items e.g. Rebound mattress recycling programme, tyrewise for vehicle tyres.	R	G1 / GP2, GP4, GP5		Advocate; enabler; advisor
	Collaborate with organisations to clean up and address hotspots or illegal dumpers (i.e. DoC, TRC, district councils, NZTA, Charity reuse shops) to enhance the environment	R	G3 / GP1, GP2, GP4		Advocate; enabler; advisor
<ul style="list-style-type: none"> Transfer stations accept all household waste streams. The Sorting Depot due to open in 2023. 	Offer alternative disposal and or recycling options for commonly dumped materials (i.e. mattresses, TVs, whiteware)	R	G1, G2, G3 / GP2, GP3, GP5		Collaborator; enabler
	Bookable collections for bulky waste items (e.g. whitewear) at regular frequencies (e.g. monthly).	R	G1, G2 / GP3, GP5		Service provider; enabler




Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> • Communication of services through council websites, paper based and radio. • 0800 dumping number to report dumped waste. • Educational plan and programme set to continue. 	Communicate the scale of mismanagement of materials and waste to Taranaki specifically through data which is easily understandable.	R	G2 / GP2, GP4	 	Advisor; enabler
	Investigate the driver or motivations for illegal dumpers and develop targeted behaviour change techniques to engage with illegal dumpers	R	G2 / GP4		Advisor
Supply chain and community engagement in circular economy					
<ul style="list-style-type: none"> • Consumer Guarantees Act. • Funding from central and local government for initiatives which support a regional circular economy. • Regulated product stewardship with six priority products. • Additional funding available through waste levy increases. 	Advocate for organics ban to landfill to ensure feedstock is committed to recovery facilities to create value and reduce GHG emissions.	R	G2, G3 / GP2, GP4		Advocate
	Investigate setting up MUTU (asset sharing system) on a regional level for businesses to share products.	R	G1 / GP3, GP5		Advisor; Service provider
	Establish voluntary performance targets for industry and businesses in the region to hold them accountable for waste generation (including downstream waste generation).	R	G2 / GP4	  	Advocate
	Develop and implement a Taranaki Circular Economy Road Map which identifies current and potential future activities and infrastructure which align with circular economy approach.	R	G2, G3 / GP1, GP2,	 	Advocate; enabler; collaborator

Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
	Advocate for right to repair legislation.	R	G1 / G4		Advocate
	Monitor use of circular economy infrastructure and services in the region to assess uptake and where greater communication of services is required.	R	G2 / GP3, GP4	 	Advocate; enabler
	Procurement policies within council projects to incorporate and prioritise broader outcomes for the community.	R	G1, G3 / GP2, GP4	 	Regulator; enabler
<ul style="list-style-type: none"> • Transfer stations accept all household waste streams. • The Sorting Depot set to open in 2023. • Organic EOI under way. • Council educational resources and workshops available. • Educational plan and programme set to continue. 	Communicate transparently how Waste Levy Funding and other grant funding has been distributed within the region.	R	G2 / GP4		Advisor
	Education campaign documenting product lifecycle - linear vs circular and how this can be embedded in Taranaki through resources and community innovation.	R	G2 / GP2, GP3		Advisor; enabler
Reduce carbon emissions alongside waste reduction and plan for adaptation to climate change					

Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> Emissions Reduction Plan (NPDC) Development and implementation of a Decarbonisation Process that integrates emissions reduction into decision making. Emissions Reduction Plan (SDC and STDC). 	Expand regional waste reporting to include carbon emissions by waste stream and emissions from waste management activities and diversion rates from different activities / material streams.	R	G2 / GP4		Regulator; enabler
	Promote actions that address waste and carbon reduction.	R	G3 / GP2, GP4		Advocate; enabler
	Support development of local processing and new markets for treated timber and other materials that are transported out of region for recycling.	R	G1, G2, G3 / GP1, GP2, GP5	 	Collaborator; enabler
	Increased engagement with supply chain and private sector and mana whenua to find opportunities to collaborate to reduce waste and emissions.	R	G2 / GP1, GP2	 	Collaborator; enabler
	Implement or update procurement policies for council projects to incorporate and prioritise broader outcomes for the community related to waste and emissions reduction.	R	G2, G3 / GP1, GP2, GP4		Regulator; enabler
<ul style="list-style-type: none"> Electric truck fleet for part of kerbside collection (NPDC). Landfill gas capture at closed Colson Road landfill. 	Increased organics (food scraps and green waste) recovery with product being used in planting and biodiversity work or remediation of historic landfills.	S, ST	G1, G3 / GP2, GP4	  	Service provider; enabler

Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
<ul style="list-style-type: none"> Identified closed landfills at risk of erosions due to sea level changes and extreme weather events (NPDC). Feasibility study to expand landfill gas capture network at closed Colson Road landfill. Apply decarbonisation approach to new infrastructure (The Junction). Allow for innovation to reduce emissions in retender of regional waste services contract. 	Increase local recycling / reuse infrastructure to enhance climate change resilience.	R	G1, G3 / GP2, GP3, GP5		Service provider; enabler
	Expand landfill gas capture network at closed Colson Road landfill (NPDC).	NP	G3 / GP2, GP4		Service provider
	Monitor and remediate historic landfills at risk of coastal or river erosion.	NP	G3 / GP2, GP4		Service provider
	Establish a regional emergency management plan for waste resulting from civil defence events	R	G3 / GP2, GP4	 	Collaborator, service provider, advisor
<ul style="list-style-type: none"> Educational plan and programme to incorporate emissions and climate change impacts of circular economy. 	Utilise the Zero Waste Taranaki website to host information and provide monthly / quarterly data to the community through dashboards.	R	G2 / GP3, GP4		Advisor; enabler
	Councils to continue to collaborate on region wide sustainable behaviour change programmes which communicate positive environmental impacts.	R	G2 / GP2, GP3, GP4		Advisor; enabler
Tiriti partnerships					
<ul style="list-style-type: none"> Grants for Para kore. Embedding/prioritising Te Ao Māori within next Waste Management and Minimisation Plan. 	Include Mana whenua rep on regional committee.	R	G2 / GP1	 	Advocate; enabler

Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
	Investigate options with Mana whenua for increased participation in governance or decision making.	R	G2 / GP1	 	Advocate; advisor
	Investigate waste reduction options beyond kerbside collection for marae.	R	G1, G2 / GP2, GP3	 	Enabler; advisor
• N/A	Supply compost to marae gardens.	R	G1 / GP2, GP5	  	Service provider; enabler
	Supply kerbside service to marae.	R	G1 / GP3, GP5	 	Service provider; enabler
	Investigate kerbside collection in unserviced urban areas.	R	G1 / GP3, GP5	  	Service provider; enabler
<ul style="list-style-type: none"> • Para Kore campaign supporting whānau waste reduction. • Para Kore funding for marae education. 	Promote/provide resources to Iwi and Hapū for managing historic landfill sites	R	G2 / GP2	   	Advisor; enabler
	Develop communications plan with Māori.	R	G2 / GP1, GP2, GP3, GP5	   	Advisor; enabler

Current	Prioritised new actions	Regional ® or district specific (NP, S, ST)	Alignment with strategic framework	Alignment with strategic objectives	Councils intended role
	Present information in a way that acknowledges connection between people and their environment.	R	G2 / GP2, GP3		Advisor; enabler
	Investigate demand for Te Reo Māori translation of waste reduction resources.	R	G2 /GP3, GP5		Advisor; enabler
	Investigate best channels to promote the Zero Waste Fund to iwi, hapū, marae and whānau.	R	G2 / GP3, GP5		Advisor; enabler

8.7 Evaluating the impact of priority actions

Following the prioritisation of new actions, the associated spend and outcomes can be presented in a number of ways. The intent of each action is to increase the capture of materials for recovery (reduce waste to landfill) and decrease emissions. The remainder of this section sets out the impact of new capital and operational costs from a capture and emissions reduction perspective.

8.7.1 Capital spend vs tonnage diverted/material captured

Figure 8.8 presents new capital costs against new tonnes of material captured for recycling or recovery. The vertical axis notes cumulative capital spend (in millions of dollars); the horizontal axis presents new materials captured. For example:

- Investing around \$5M in refuse transfer station (RTS) upgrades is anticipated to result in the capture of additional 500 T of material each year. This is in addition to safeguarding compliance, improving customer experience and safety at each of the sites.
- Investing an additional \$4M in establishing a kerbside food organics collection (SDC, STDC) and processing capacity is anticipated to result in an additional 4,000 T of material captured each year.

Figure 8.8 doesn't address timing of the investments (for example the investment in RTS upgrades could take place over multiple years). This would smooth capital spend and reduce risks associated with securing construction resources.

In some cases capital spend effectively commits Councils to new operational spend, for example establishing new organic materials collection and processing. For the RTS upgrades, ongoing operations are already accounted for in Council budgets.

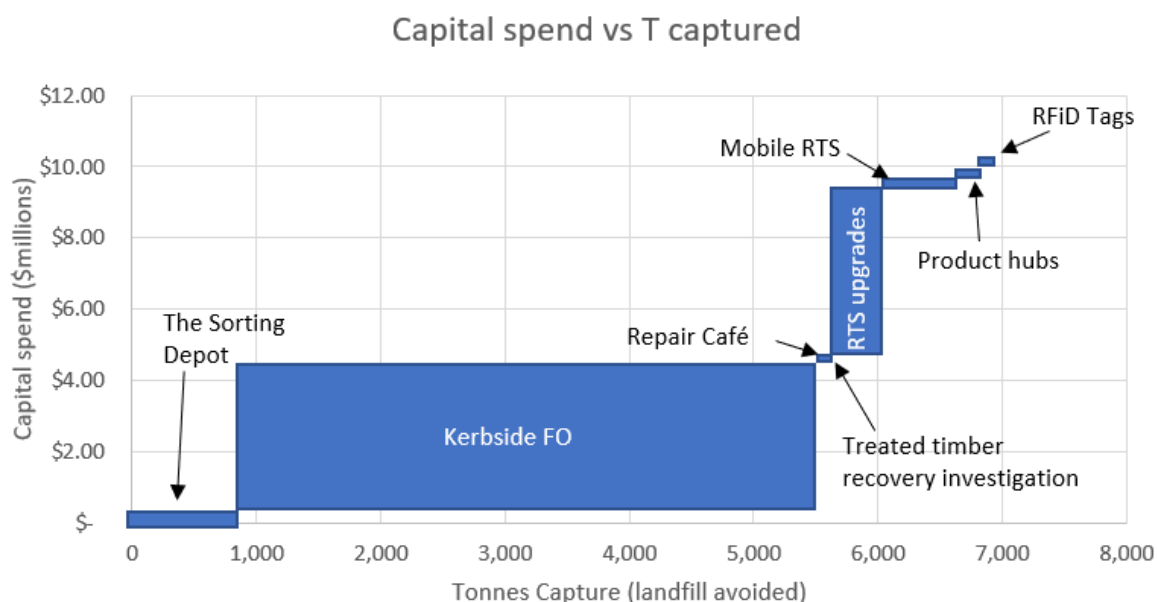


Figure 8.8: Capital investment for new activities vs. new materials capture (for recycling or recovery)

8.7.2 Capital spend vs carbon emissions avoided

Figure 8.9 presents new capital costs against new emissions reductions associated with avoided landfill disposal. The vertical axis notes cumulative capital spend (in millions of dollars); the horizontal axis presents new emissions reductions. For example:

- Investing around \$5M in refuse transfer station (RTS) upgrades is anticipated to result in new emissions reductions of around 300 T of CO_{2eq} each year. As noted above, this benefit is in addition to safeguarding compliance, improving customer experience and safety at each of the sites.
- Investing an additional \$4M in establishing a kerbside food organics collection (SDC, STDC) and processing capacity is anticipated to result in reduction of around 3,000 T of CO_{2eq} each year.

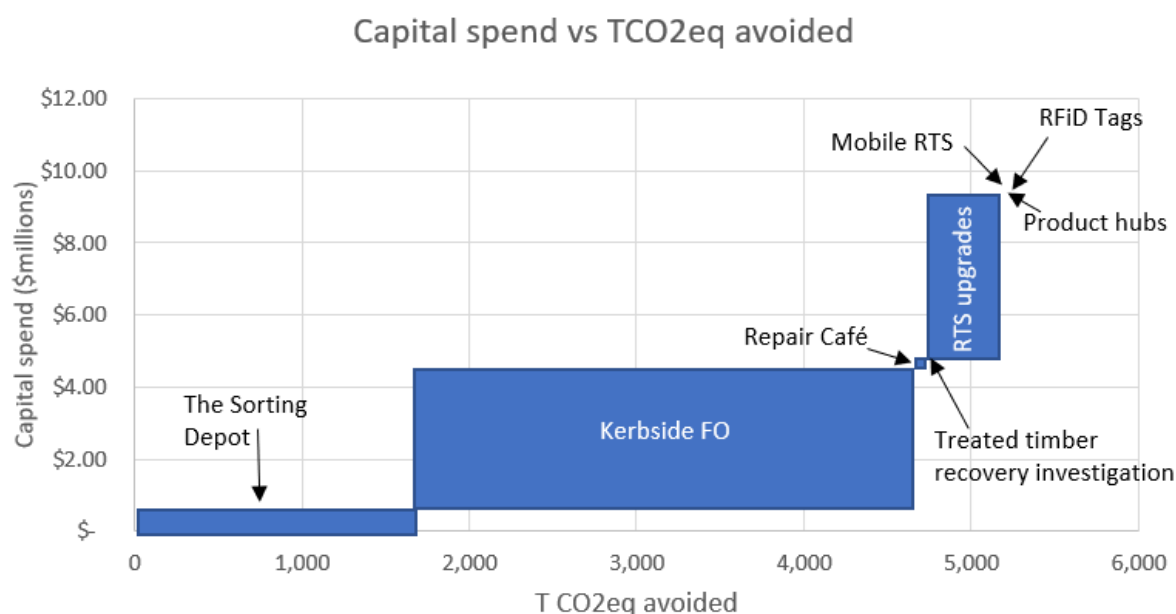


Figure 8.9: Capital investment for new activities vs. new emissions reductions

8.7.3 Supporting initiatives

There are multiple actions that are not directly related to target waste streams or infrastructure but are critical in supporting capital and operational activities. This lack of quantifiable link makes it difficult to present the cost of the supporting initiatives against increased capture or reduced emissions. It is more helpful to consider these costs as underpinning the increased capture and reduced emissions delivered by the capital investments. The capital and operational activities will have limited impact without the supporting activities and the supporting activities will have limited impact without the infrastructure and ongoing services.

A high level assessment of the cost of implementing the prioritised activities across the region suggests a total new budget of over \$400,000 each year. This translates to 3+ full time equivalent staff with operational budget to support their activity. These activities are ongoing, largely regional and could be introduced over an extended period drawing on increasing LTP budgets and/or waste levy funding.

9 Statement of proposal

Drawing on the possibilities, evaluation and shortlisted options, and the councils' intended roles in meeting future demand, councils must:

1. Include a statement of the TA's proposals for meeting the forecast demands including proposals for new or replacement infrastructure.
2. A statement about the extent to which the proposals will:
 - a. Ensure that public health is adequately protected.
 - b. Promote effective and efficient waste management and minimisation.

Table 8.5 summarises the options that the councils propose for meeting the forecast demands on waste in the district (subject to consultation and LTP). These options have been aligned to the strategic framework including goals, guiding principles and objectives. Current waste minimisation services and activities provide a good foundation and will continue to be delivered and built on to ensure:

1. Taranaki is set up to respond to future national policy changes.
2. Improved data collection and reporting to improve for planning and transparency.
3. Tackle specific waste streams and improve the capture of materials.
4. Support and increase the focus on circular economy activities.

9.1 Councils' intended role in meeting the forecast demand

9.1.1 Next six years

The councils currently provide a significant proportion of the waste services in the district via a regional contract for kerbside and transfer station services, and resource recovery facilities. This ensures public health is adequately protected by providing facilities for the safe recovery and disposal of waste. There are also a range of regional and district specific behaviour change programmes and waste minimisation activities implemented by the councils.

However, councils cannot achieve a circular economy alone and the updated regional vision focuses on enabling the community to achieve this. In addition, activities must also consider climate change. Over the next six years, through the proposed objectives in section 7.2, councils will continue to deliver a base level of services, but will focus more on supporting and enabling the community to contribute through:

- Developing partnerships and collaboration.
- Expanding behaviour change and education programmes.
- Providing leadership and supporting innovation.
- Ensuring services and facilities are accessible to everyone.

The timeline of these services and the output in contributions to reduced waste disposal to landfill are shown in Figure 9.1 and Figure 9.2.

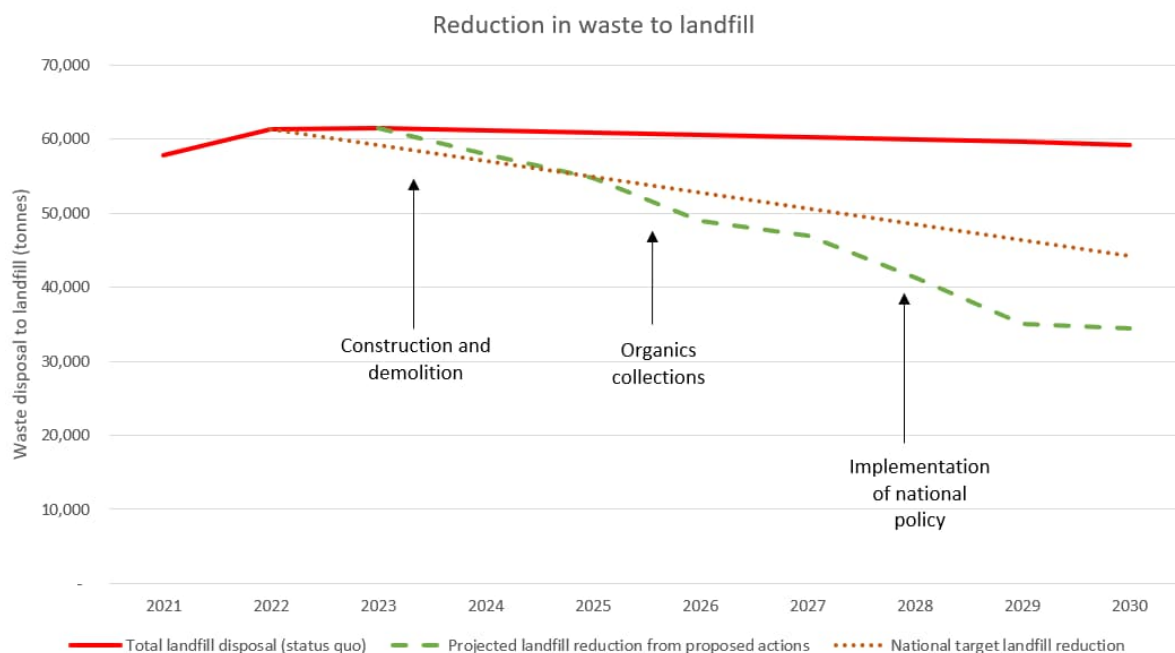


Figure 9.1: Reduction in waste to landfill with priority actions

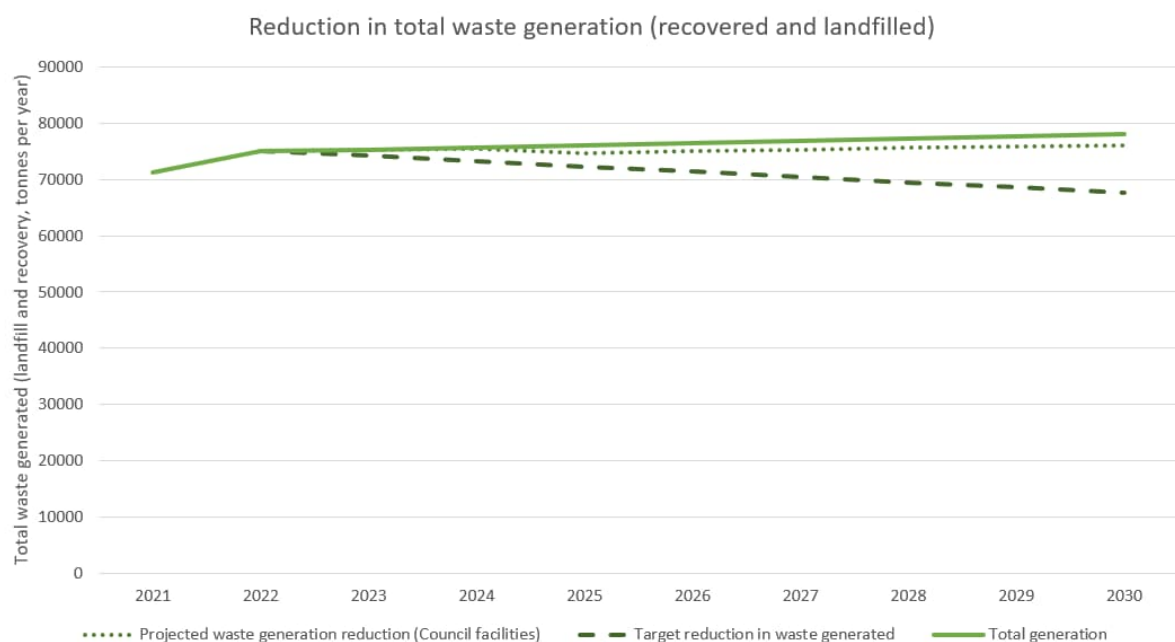


Figure 9.2: Reduction in total waste generation

9.1.2 Longer range forecast (2050)

The Aotearoa New Zealand Waste Strategy envisions a low waste, low emissions circular economy by 2050 and provides a high level roadmap to achieve this. Over the next 27 years or four Waste Management and Minimisation Plans, a significant reduction in waste to landfill will need to be achieved. Alongside this, total material entering the waste system (waste generated) also needs to reduce.

Figure 9.3 shows how this could map out based on the current national work programme, and local actions.

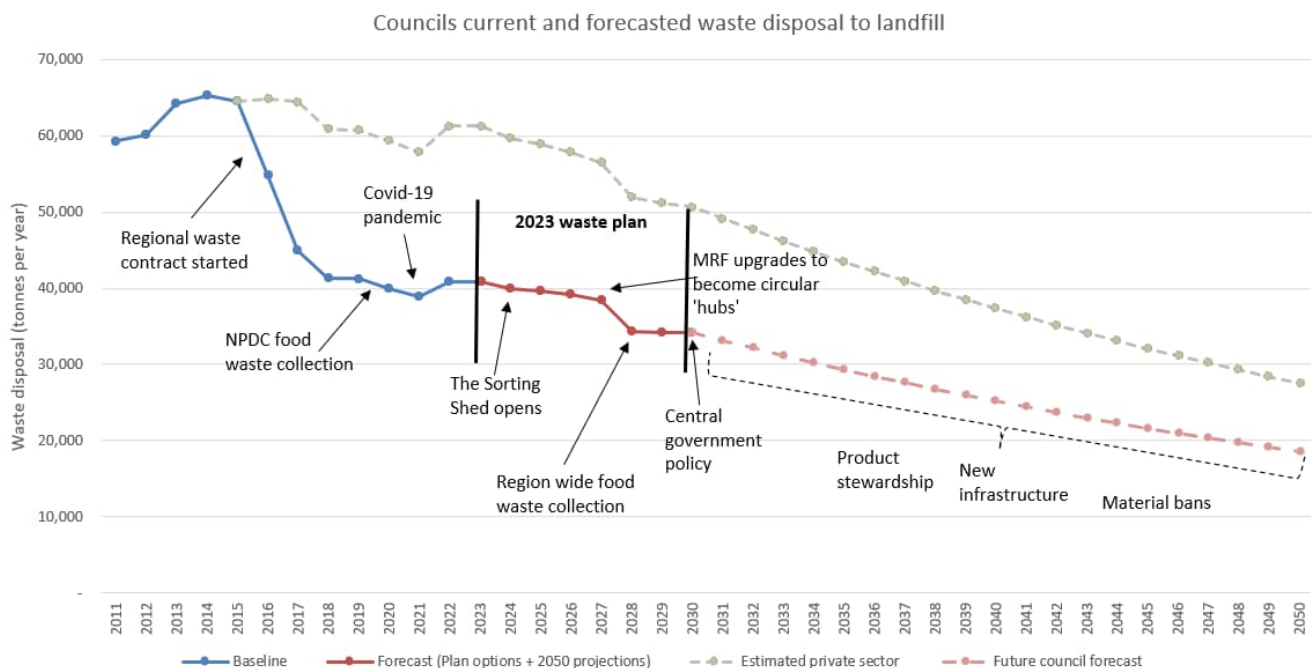


Figure 9.3: Waste disposal to landfill outlook to 2050 with priority actions

10 Medical officer of health statement

The Medical Office of Health for the National Public Health Service – Taranaki provided a statement regarding this Waste Assessment. This statement is included in Appendix G .

11 Applicability

This report has been prepared for the exclusive use of our client New Plymouth District Council, Stratford District Council and South Taranaki District Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

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Appendix A Legislation and policy

A1 Waste Minimisation Act 2008 (under review)

This plan must also have regard for the New Zealand Waste Strategy (see below). The Plan must also consider the following methods of waste management and minimisation (listed in descending order of importance):

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

The WMA (2008) is currently under review with further information on proposed changes anticipated late in 2022. The Ministry website³⁸ notes that

“The Government is also proposing new and more comprehensive legislation on waste to replace the Waste Minimisation Act 2008 and the Litter Act 1979.

New legislation will create the tools to deliver the waste strategy and ensure we make good use of funds generated by the expanded waste disposal levy.

It will also reset the purposes, governance arrangements, and roles and responsibilities in legislation and strengthen and clarify regulatory and enforcement powers.”

A2 Resource Management Act 1991

In addition, the RMA provides for the development of National Policy Statements (NPS) and for the setting of National Environmental Standards (NES). There is currently one enacted NES that directly influences the management of waste in New Zealand – the Resource Management (National Environmental Standards for Air Quality) Regulations 2004. This NES requires certain landfills (e.g., those with a capacity of more than 1 million tonnes of waste) to collect landfill gases and either flare them or use them as fuel for generating electricity. Unless exemption criteria are met, the NES for Air Quality also prohibits the lighting of fires and burning of wastes at landfills, the burning of tyres, bitumen burning for road maintenance, burning coated wire or oil, and operating high-temperature hazardous waste incinerators. These prohibitions aim to protect air quality.

In February 2021, the Government announced it would repeal the RMA and enact new legislation based on the recommendations of the Resource Management Review Panel. The three proposed acts are:

- Natural and Built Environments Act (NBA), as the main replacement for the RMA, to protect and restore the environment while better enabling development;
- Spatial Planning Act (SPA), requiring the development of long-term regional spatial strategies to help coordinate and integrate decisions made under relevant legislation; and
- Climate Adaptation Act (CAA), to address complex issues associated with managed retreat.

³⁸ <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/waste-legislation-review/> (accessed 25 July 2022)

The Government has released an exposure draft of the NBA and expect to formally introduce the NBA and SPA in late 2022. The CCA is expected to be progress on a similar timeline.

A3 Climate Change Response Act 2002, New Zealand ETS

The Climate Change Response (Zero Carbon) Amendment Act 2019 gained royal assent on 13 November 2019. Information on the Amendment Act provided on the MfE website is summarised below.

The Amendment Act provides a framework by which New Zealand can develop and implement clear and stable climate change policies that:

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

The changes do four key things:

- Set a new domestic greenhouse gas emissions reduction target for New Zealand to:
- Reduce net emissions of all greenhouse gases (except biogenic methane) to zero by 2050;
- Reduce emissions of biogenic methane to 24–47 per cent below 2017 levels by 2050, including to 10 per cent below 2017 levels by 2030.
- Establish a system of emissions budgets to act as stepping stones towards the long-term target;
- Require the Government to develop and implement policies for climate change adaptation and mitigation; and
- Establish a new, independent Climate Change Commission to provide expert advice and monitoring to help keep successive governments on track to meeting long-term goals.

A4 New Plymouth District Council

New Plymouth District Council's (NPDC) 2018-2028 LTP has been superseded by the 2021-2031 LTP plan, which was adopted on 29 June 2021.

The plan sets Community Outcomes for the New Plymouth District. These are:

- Strengthening a treaty-based partnership with tangata whenua and building partnerships with not-for-profit, private enterprise, and government to improve outcomes for all;
- Understanding and balancing our people's needs and wants through prudent delivery of quality infrastructure and services;
- Achieving wellbeing through a safe, creative, active and connected community while embracing Te Ao Māori;
- Nurturing our environment, mitigating our impact and adapting to climate change; and
- Growing a resilient, equitable and sustainable economy where people want to work, live, learn, play and invest across our district.

A5 Stratford District Council

Stratford District Council's (SDC) 2018-2028 LTP has been superseded by the 2021-2031 LTP plan, which was adopted on 22 June 2021.

The plan sets Community Outcomes for the Stratford District. These are:

- Vibrant community
- We celebrate and embrace our community's culture and traditions
- We tell our unique story
- We develop strong relationships with Iwi, Hapū and marae
- Sustainable environment
- Our natural resources can be enjoyed now and by future generations
- We are committed to working towards zero waste
- We have well planned and resilient infrastructure that meets the current and future needs of the district
- We aim to understand and support Te Ao Māori values and principles
- Connected communities
- Our neighbourhoods are safe and supported
- We enable positive healthy lifestyles, through access to health, social and recreation services
- We have a strong sense of belonging
- We value opportunities to be involved and work together as a community
- Enabling economy
- We are a welcoming and business friendly district
- We encourage a strong and diverse local economy
- We promote opportunities to visit, live and invest in the district
- We support economic opportunities for Māori

A6 South Taranaki District Council

South Taranaki District Council's (STDC) 2018-2028 LTP has been superseded by the 2021-2031 LTP plan, which was adopted on 1 July 2021.

The plan sets Community Priorities for the South Taranaki District. These are:

- A vibrant and creative District that celebrates diversity and has strong relationships with Iwi/Hapū.
- A District with healthy, safe, resilient, informed and connected people.
- A prosperous District with a sustainable economy, innovative businesses and high quality infrastructure.
- A sustainable District that manages its resources in a way that preserves the environment for future generations.

Appendix B Transfer Stations in Taranaki

Transfer Stations	Council	Location	Waste accepted
New Plymouth (Colson Road) Transfer Station	NPDC	31 Colson Road, New Plymouth	Landfill waste, green waste, some hazardous waste, whiteware and scrap metal, tyres, mixed recycling
Waitara Transfer Station	NPDC	33 Norman Street, Waitara	Whiteware (including fridges and freezers), tyres, glass bottles, aluminium cans, paper, cardboard, domestic recycling
Inglewood Transfer Station	NPDC	277 King Road, Inglewood	Whiteware (including fridges and freezers), tyres, glass bottles, aluminium cans, paper, cardboard, domestic recycling, green waste
Ōkato Transfer Station	NPDC	186 Hampton Road, Ōkato	Whiteware (including fridges and freezers), tyres, glass bottles, aluminium cans, paper, cardboard, domestic recycling, green waste
Tongapōrutu Transfer Station	NPDC	110 Hutuwai Road, Tongapōrutu	Aluminium and glass (domestic), green waste
Stratford Transfer Station	SDC	Southern end of Cordelia Street	General waste, recycling and glass, green waste, small quantities of motor oil and old IT equipment and appliances.
Eltham Transfer Station	STDC	Pinny Drive, Eltham	Green waste (pruning's, lawn clippings, garden waste and leaves), general rubbish, whiteware, recycling
Ōpunakē Transfer Station	STDC	Aytoun St, Ōpunakē	Green waste (pruning's, lawn clippings, garden waste and leaves), general rubbish, whiteware, car recycling
Manaia Transfer Station	STDC	Hassard Street, Manaia	Green waste (pruning's, lawn clippings, garden waste and leaves), general rubbish, whiteware, recycling
Hāwera Transfer Station	STDC	Scott Street, Hāwera	Green waste (pruning's, lawn clippings, garden waste and leaves), general rubbish, whiteware, car tyres, e-waste, fluorescent tubes, oil, alkaline batteries (domestic quantities), Hazardous waste (domestic quantities), recycling Kerbside general waste and recyclable.
Pātea Transfer Station	STDC	Scotland St, Pātea	Green waste (pruning's, lawn clippings, garden waste and leaves), general rubbish, whiteware, recycling
Waitōtara Transfer Station	STDC	Kells Street, Waitōtara	Green waste (pruning's, lawn clippings, garden waste and leaves), general rubbish, whiteware, recycling
Waverly Transfer Station	STDC	Oturi Road/Station Road, Waverley	Green waste (pruning's, lawn clippings, garden waste and leaves), general rubbish, whiteware, recycling

Appendix C User Charges

Appendix C Table 1: NPDC fees and charges at transfer stations³⁹

Vehicle or load type	Landfill	Green waste
60L or 15kg bag	\$10.50 per bag	\$3.00 per bag
Car boot or small hatchback	\$77.50	\$24.50
Large hatchback, station wagon or small van	\$119.50	\$29.50
Large van, ute or trailer up to 1m3	\$143.65	\$38.50
Large trailer or small truck (per m3)	Not accepted	\$42.50
Truck over one tonne payload (per m3)	Not accepted	\$42.50
Whiteware (other than fridges and freezers)	\$16.50 per item	-
Fridges and freezers	\$30.50 per item	-
Tyres (whole car tyres only - others not accepted)	\$10.00 per tyre	-
Glass bottles/aluminium cans/paper/cardboard	No charge	-
Approved recycling	No charge	-

Appendix C Table 2: SDC transfer station fees⁴⁰

Insert heading	Bag (50L)	Car boot	Car other	Drum (200L)	Small trailer and Utes (no cage)	Tandem trailer (no cage)	All other (per m ³)
Green waste	N A	\$5.00	\$8.00	\$8.00	\$10.00	\$38.00	\$18.00
Recyclables	Free	Free	Free	Free	Free	Free	Free
Scrap metal	NA	\$15.00	\$20.00	\$20.00	\$25.00	\$50.00	\$50.00
General rubbish	\$5.00	\$24.00	\$32.00	\$32.00	\$39.00	\$133.00	\$78.00

Note: 1. Whiteware is \$10.00 per unit, TVs are \$20.00 per unit, and stereos/ computers \$10.00 per unit.

2. Tyres and automotive waste are not accepted at SDC Transfer Station.

3. Application fee for Event Waste Management and Minimisation Plan (EWMMP) approval is \$100.

³⁹ Source: <https://www.npdc.govt.nz/zero-waste/recycling-and-rubbish-collection/transfer-stations/>, Accessed 2 September 2022

⁴⁰ Fees from SDC Annual Plan, <https://www.stratford.govt.nz/repository/libraries/id:2cvuccagl1cxbygm8445/hierarchy/Council%20Documents/Appendix%201%20-%20Annual%20Plan%20-%20Fees%20and%20Charges%202022%2023.pdf>, Accessed 5 Sep. 22

Appendix C Table 3: STDC Transfer station fees, general rubbish⁴¹

Insert heading	Heading
Wheelie bin (at transfer station) - 120L	\$9.00
Wheelie bin (at transfer station) - 240L	\$16.00
Large Bag (60L)	\$5.00
Cars and Station Wagons	\$29.00
Standard Single Axle Trailer	\$48.00
Standard Single Axle Trailer (raised sides)	\$165.00
Vans, Utes and 4WDs	\$71.00
Tandem Trailers/tonne	\$183.00
Whiteware	\$14.00
Others per tonne	\$183.00
Car tyres - each (up to 10)	\$16.00
Light truck tyres - each (up to 10)	\$24.00
Tractor tyres - each (up to 10)	\$40.00
Fluorescent tubes	\$4.00
Recyclables	free
Oil (per litre)	\$2.00
Public weighbridge (Hawera only)	\$31.00
Empty 9kg gas bottle	\$16.00
Alkaline Batteries (domestic quantities)	free

⁴¹ Fees from STDC website <https://www.southtaranaki.com/our-services/rubbish-and-recycling/transfer-stations/transfer-station-fees>, Accessed 5 Sep. 22

Appendix C Table 4: STDC Transfer station fees, e-waste (per item)

Category	Material
Computer Monitor - CRT Screen	\$30.00
Computer Monitor - Flat Screen	\$16.00
Desktop and Laptop Computers	\$6.00
TVs - CRT	\$45.00
TVs - Flat Screen	\$27.00
DVD and Video Players	\$10.00
Fax Machines	\$18.00
Microwaves	\$15.00
Printer (domestic)	\$18.00
Commercial/Office Printer (depending on size)	\$50 - \$70
Servers	\$7.00
Stereos	\$10.00
Small appliances (drills, alarm clocks, jugs, cameras, toasters, phones)	\$8.00
Heaters	\$13.00
Vacuum Cleaners	\$13.00
Miscellaneous (per kg)	\$5.00

Appendix C Table 5: STDC Transfer station fees, green waste

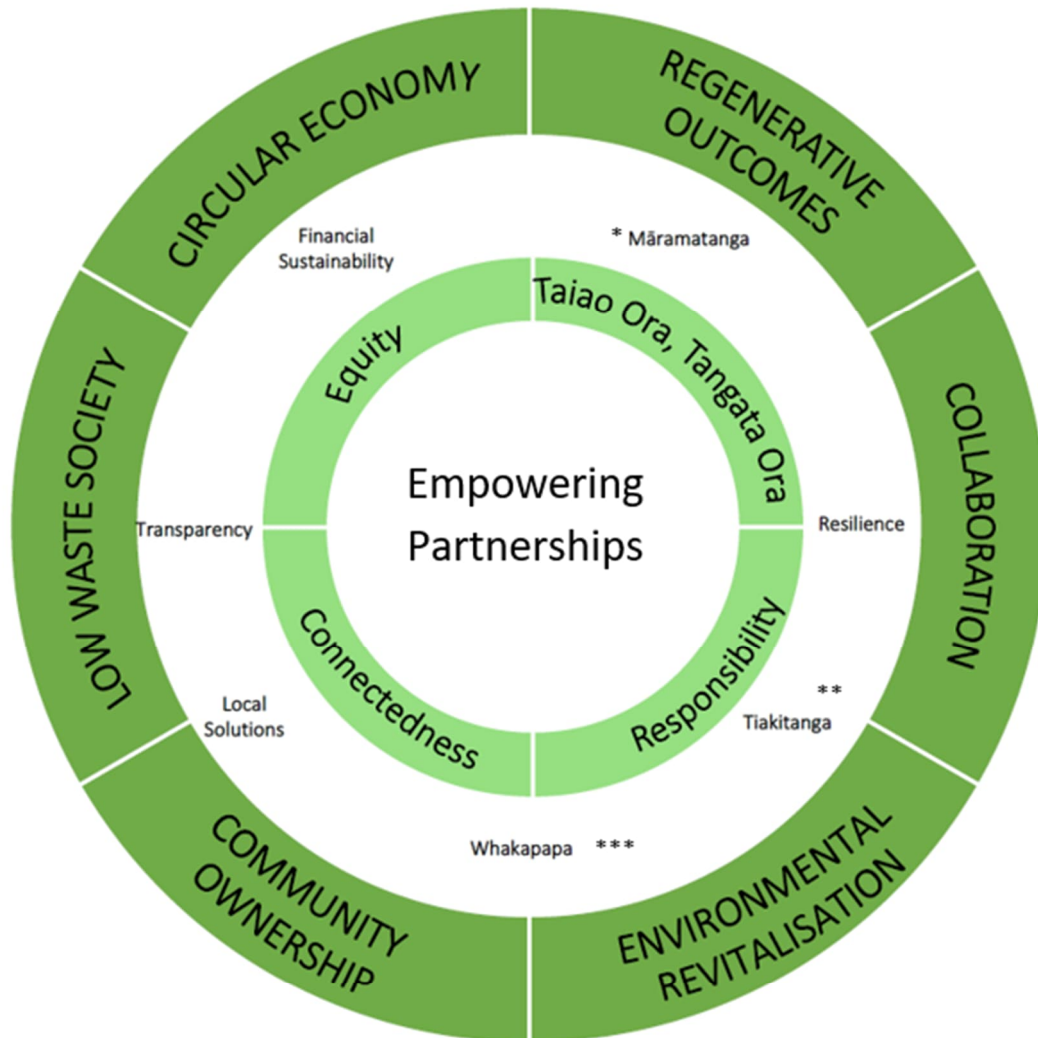
Insert heading	Heading
Wheelie bin (at transfer station) - 120L	\$5.00
Wheelie bin (at transfer station) - 240L	\$9.00
Large bag	\$3.00
Cars and Station Wagons	\$15.00
Standard Single Axle Trailer	\$26.00
Standard Single Axle Trailer (raised sides)	\$84.00
Vans, Utes and 4WDs	\$36.00
Tandem Trailers/tonne	\$92.00
Others per tonne	\$92.00

Appendix D Cleanfill locations

Cleanfill	Address	Location
Candyman Trust	Manutahi Rd, south of Bell Block.	STDC
Groundworkx Taranaki Ltd	Victoria Road, Stratford	SDC
AA Contracting Ltd	Henwood Road	NPDC
A & A George Family Trust	Dudley Road, Inglewood	NPDC
AE Riddick	Carrington Road, New Plymouth	NPDC
BJ & LB Bishop	Ahu Ahu Road, New Plymouth	NPDC
Dennis Wheeler Earthmoving Ltd	Paraite Road, Bell Block	NPDC
Downer EDI Works Ltd	Dorset Road, New Plymouth	NPDC
Downer EDI Works Ltd	Veale Road, New Plymouth	NPDC
Downer EDI Works Ltd	South Road, Hawera	STDC
Gas and Plumbing Ltd	Colson Road, New Plymouth	NPDC
Smudgy Developments	Tukapa Street, Hurdon	NPDC
TPJ Partnership	Rainie Road, Hawera	STDC
Taranaki Trucking Company Ltd	Cardiff Road, Stratford	SDC
Westown Haulage Ltd cleanfill & wood waste disposal	80 Cowling Road, Hurdon	NPDC
Westown Haulage Ltd additional cleanfill site	180 Cowling Road, Hurdon	NPDC

This list has been taken from Taranaki Regional Council 'Landfills, cleanfills & green waste' webpage. This webpage is likely to be updated regularly. The content detailed above was correct as of May 2023.

Appendix E Guiding Principles, Values and Outcomes



* *Māramatanga* - Acquisition of knowledge and wisdom through learning and experience to develop a range of solutions to meet the needs of households, businesses, and communities.

** *Tiakitanga* - Our inherited rights and obligations to ensure the mauri of the environment and community resources are healthy and strong.

*** *Whakapapa* - Ancestral lineage and interconnectedness between people and the nature. It traces the origins of the universe and explains our place in the world.

E1 GUIDING PRINCIPLES

E1.1 Empowering Partnerships

Empowering Partnerships: is a foundational principle in standing up a shared community vision and values. As a community, our efforts will be guided by the principles of partnership, participation and protection as outlined in Te Tiriti o Waitangi.

In the context of waste minimisation, Te Tiriti o Waitangi recognises the importance of the relationship between Māori and their natural resources. It acknowledges Māori communities as kaitiaki (guardians) of the land, water, and air, and recognises an inherent responsibility to protect and preserve these resources for future generations. This means Māori are not only engaged in decision-making processes, but are active participants in ensuring waste minimisation efforts positively impact all communities.

E1.2 Taiao Ora Tangata Ora

Health and well-being of the natural environment, including the land, water, air, and all living beings.

This principle recognises that we are an integral part of the natural world and our well-being reflects the health of our environment. Our actions and decisions have a direct impact on the environment, and the state of the environment also affects our physical, spiritual, mental, and emotional health.

When we focus and respect our inter-connectedness with the environment and work towards sustainable practices that promote the health and well-being of the natural world we promote the systems for health and well-being within ourselves.

In practical terms, Taiao Ora Tangata Ora involves practices such as sustainable resource management, conservation efforts, and reduction of pollution. It also involves respecting and learning from indigenous knowledge and practices that have sustained the environment for generations.

E1.3 Connectedness

Can be a powerful tool for waste minimisation, helping to create sustainable practices that promote environmental and human health.

We acknowledge the inter-connectedness between systems, places and generations in order to think of waste and its relationship to other environmental, social and economic issues, including climate change, biodiversity and localism/regionalism.

This principle recognises that waste reduction is not just about reducing the amount of waste that is generated but also about understanding the impact that waste has on the environment and on human health.

Connectedness is the quality of our relationship within communities. It emphasises the need for humans to live in harmony with our environment, systems, homes and workplace.

By applying the principle of connectedness, waste reduction efforts can be designed to address the root causes of waste generation and to promote sustainable practices that minimise waste. For example, waste reduction efforts can focus on reducing the use of single-use products, promoting recycling and composting, and encouraging the use of renewable resources.

E1.4 Responsibility

Waste is the responsibility of us all.

We encourage industries and consumers to take into account temporal, social and ecological boundaries, choosing to respect our planet's limits.

We consider how the social situation of individuals, whanau, hapū, iwi and communities, and their locations- rural and urban affect their perspectives.

Enable people, businesses and organisations and sectors to do the right thing, by improving systems, services and information.

E1.5 Equity

We aim to ensure the costs and benefits of change are distributed equally among communities and across generations.

We recognise equity is an important guiding principle in waste minimisation because it ensures that the benefits and costs of waste reduction efforts are distributed fairly among all members of society. This means that waste reduction initiatives should not disproportionately burden certain groups of people or communities, such as low-income or marginalized populations.

We recognise the unique perspectives, needs and approaches facing different local communities, businesses, hapū, iwi and whanau.

E2 VALUES

E2.1 Whakapapa

- Whakapapa provides a framework for managing our environmental and cultural resources.
- We value the perspective that we are all interconnected; we are linked through our genealogies, our relationships with each other, and our inseparable ties with all living and non-living entities with whom we share this planet.

E2.2 Tiakitanga

- Tiakitanga frames our intergenerational rights and responsibility to ensure the mauri of the environment and community resources are healthy and strong, and the life-supporting capacity of ecosystems is preserved.
- Kaitiakitanga is an active responsibility to preserve and protect people and the planet-today and for generations to come.

E2.3 Transparency

- Transparency is essential for creating a culture of sustainability and responsible waste management.
- We build trust and accountability by having transparent data and reporting, which can lead to greater collaboration and cooperation in waste minimisation efforts.
- We tell our Taranaki waste story to celebrate our resource recovery journey (reflecting on successes and lessons) in order to support a culture of excellence.
- When waste reduction efforts are transparent, it is easier to identify successes and champions, and areas where improvements can be made and to hold individuals and organisations accountable for their actions. This can help to ensure that waste reduction goals are met and that resources are used in the most efficient and effective way possible.

E2.4 Resilience

- A resilient waste management system is able to maintain its performance and effectiveness in the face of unforeseen challenges, while minimising waste generation and maximising resource recovery.
- Aim for Taranaki to become as self-sufficient at managing its own waste.
- We create opportunities to help build awareness of the circular economy to inform and inspire local communities to adopt circular practices.

- We encourage collaboration to strategically look at the entire value chain of products and services in Taranaki, to encourage a strong regional circular economy.
- We recognise that communities will be strengthened by common sense strategies that reduce the environmental impact of waste disposal and promote sustainable waste management practices.

E2.5 Māramatanga

- Māramatanga refers to the acquisition of knowledge and wisdom through learning and experience to develop a range of solutions to meet the needs of households, businesses and communities.
- We value knowledge in the pursuit of knowledge and understanding as an enabler of change.
- We are open to the insights shared by each other and appreciate the opportunity to deepen our understanding through events and activities that support a learning process.

E3 OUTCOMES

E3.1 Circular Economy

- The circular economy is an economic system that aims to keep resources in use for as long as possible, maximising their full value and minimising waste. This can be achieved through practices such as recycling, reusing, repairing, and remanufacturing.
- A circular economy supports designing products and processes with a focus on reducing waste and increasing resource efficiency. This can include implementing closed-loop systems where waste is used as a resource for new products or processes, encouraging the use of recycled materials, and promoting the sharing or leasing of products rather than ownership.
- By prioritising circular economy outcomes, local communities and businesses can not only reduce waste and environmental impact but also create new economic opportunities and increase resilience in the face of resource scarcity.

E3.2 Community Ownership

- The circular economy is an economic system that aims to keep resources in use for as long as possible, maximising their full value and minimising waste. This can be achieved through practices such as recycling, reusing, repairing, and remanufacturing.
- A circular economy supports designing products and processes with a focus on reducing waste and increasing resource efficiency. This can include implementing closed-loop systems where waste is used as a resource for new products or processes, encouraging the use of recycled materials, and promoting the sharing or leasing of products rather than ownership.
- By prioritising circular economy outcomes, local communities and businesses can not only reduce waste and environmental impact but also create new economic opportunities and increase resilience in the face of resource scarcity.

E3.3 Community Ownership

We value community ownership because it:

- Encourages responsibility and accountability with individuals, households, businesses and wider community.

- Promotes co-operation, coordination and collaboration in local neighbourhoods and communities- deepening connections and sustainable outcomes.
- Raises community leadership and empowerment.
- Promotes new ideas and strategies through the bottom-up approach.
- Responds to the needs of people of respective communities.
- Increases community participation.

E3.4 Low waste society

- A low waste society is achieved through a combination of approaches, including waste reduction, reuse, and recycling. These approaches help to minimise waste generation and ensure that the waste that is produced is managed in an environmentally friendly way.
- A low waste society targets: waste generation, waste disposal and waste emissions and complements a low emissions circular economy.
- Participation and cooperation of individuals, households, businesses, and governments are central to the success of achieving a low waste society.

E3.5 Regenerative Outcomes

- Regenerative practices help communities to become more resilient in the face of challenges such as climate change, natural disasters, and economic shocks.
- Regenerative practices can help to restore damaged ecosystems and improve biodiversity. This can lead to a healthier and more resilient natural environment.
- By reducing waste, we conserve resources such as energy, water, and raw materials. This can help to create a more sustainable and regenerative system.
- A circular economy frames waste as a resource that can be reused, recycled, or repurposed. This can lead to the creation of new products and services, and a reduction in the need for virgin materials.

E3.6 Collaboration

- This outcome refers to the result of effective collaboration among individuals or groups. Done well, this can lead to:
 - ☐ improved relationships, increased trust, and better outcomes for all involved.
 - ☐ result in the creation of new ideas, products, or services that benefit the community as a whole.
 - ☐ The pooling of resources to achieve more than they could on their own.
- Collaboration brings people with different skills, experiences, and perspectives together, leading to innovative and creative solutions to community challenges.
- Collaboration encourages a positive sense of community and belonging. When people work together, they develop relationships and build trust, which can lead to stronger social connections and a greater sense of community.
- Collaborative efforts can also help to break down barriers and promote inclusivity, as people from different backgrounds and communities come together to work towards a shared goal.

- Collaboration is at the heart of building strong and resilient communities, promoting social connections and inclusivity, and achieving positive outcomes for all members of the community.

E3.7 Environmental Revitalisation

- The restoration of degraded ecosystems, improving air and water quality, reducing pollution, conserving biodiversity, and mitigating the impacts of climate change form part of natural climate solutions in resource recovery.
- Community involvement is a critical aspect of environmental revitalisation, as it fosters a sense of ownership and responsibility for the environment, and encourages individuals to take action to protect and restore it.
- The benefits of environmental revitalisation are numerous, including: improved health and well-being for residents, increased economic opportunities through sustainable development, and enhanced resilience to the impacts of climate change.
- Environmental revitalisation helps to strengthen social cohesion and foster a sense of community pride and identity.

Appendix F District and Regional Targets

Targets	NPDC		SDC		STDC		Region	
	Baseline 2021/22	Target	Baseline 2021/22	Target	Baseline 2021/22	Target	Baseline 2021/22	Target
Waste generation								
Reduce the amount of material entering the waste management system by 10% per person by 2029	0.49	0.44	0.93	0.80	0.32	0.84	0.58	0.52
Waste to landfill								
Reduce the total waste tonnes per capita going to the regional landfill by 30% per person by 2029 (T/capita/annum)	0.20	0.46	0.655T/hh/year	0.5 T/ hh/year	0.12	0.31	0.22	0.22
Reduce the total waste tonnes per household going to landfill from the Council kerbside collection (T/person/year)	0.17	5% per year	0.46 T/ hh/year	0.34 T/ hh/year (provided SDC introduces organic waste diversion from 2027)	0.52	5% per year	0.18	5% per year
Diversion of waste								
Increase the amount of household waste diverted to recycling (Council provided kerbside collection only, excludes green waste).	42%	<ul style="list-style-type: none"> • 30% by July 2026 • 40% by July 2028 	24%	27% <i>OR</i> 40% (provided SDC introduces organic waste	19%	<ul style="list-style-type: none"> • 30% by July 2026 • 40% by July 2028 	36%	30% by July 2026 <ul style="list-style-type: none"> • 40% by July 2028 • 50% by July 2030

Targets	NPDC		SDC		STDC		Region	
	Baseline 2021/22	Target	Baseline 2021/22	Target	Baseline 2021/22	Target	Baseline 2021/22	Target
		• 50% by July 2030		diversion from 2027)		• 50% by July 2030		
Reduce contamination of Council provided kerbside recycling delivered to the MRF	21.45%	15% by 2029/ 2% reduction per year	24%	≤15%	21.45%	15% by 2030/ 2% reduction per year	21.45%	15% by 2030/ 2% reduction per year
Waste emissions								
Increase organics ⁴² capture at transfer station and kerbside (%)	TBC	50% capture of organics by 2030	TBC	58% <i>OR</i> 30% (provided SDC introduces organic waste diversion with collection at the kerbside from 2027)	201	5% per year	8,442	5% per year
Reduce the biogenic methane emissions from waste by 2030 (CO ₂ e)	TBC	10%	TBC	N/A	TBC	N/A	TBC	30%
Customer satisfaction								
Percentage of community satisfied with the solid waste service.	78%	>80%	58%	≥ 80%		>80%		N/A
Total number of complaints received about the Council's solid waste service	1.75 complaints per 1,000 households	≤2	N/A	20% of service recipients		N/A		N/A

⁴² Organic includes food and green waste.

Appendix G Medical Office of Health Statement

07 June 2023

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Kia ora

As the Medical Officer of Health for the National Public Health Service – Taranaki, I am pleased to provide this statement regarding the **Waste Assessment** undertaken by the New Plymouth, Stratford and South Taranaki district councils.

This statement is made pursuant to Section 51(5) of the Waste Minimisation Act 2008 (WMA). The purpose of the WMA is to encourage waste minimisation and a decrease in waste disposal, in order to protect the environment from harm, and to provide environmental, social, economic, and cultural benefits. It is noted that territorial authorities must consult with the Medical Officer of Health on their Waste Assessments.

Waste disposal and waste minimisation practices have a significant effect on the health of communities. Therefore, waste management and minimisation services provided by councils represent a public good, and effective waste management and minimisation contributes to public health outcomes. Waste that is not properly disposed of can contaminate land, water, and air. This can then become a health hazard and risk in terms of communicable diseases, chemical poisoning, or physical injury. Waste management also influences health through effects on the natural environment and ecosystem health, and through greenhouse gas emissions contributing to climate change. These broader mediators of human health should be considered in decisions around waste management.

Waste management and minimisation services should be safe, accessible, and affordable within communities and across the region. Equitable provision of services should include consideration of financial, socio-economic, and physical factors. It is important that waste management and minimisation actions do not result in or increase inequities.

In particular, equity for Māori and the inclusion of Māori perspectives in any plans and strategy are an important consideration. Waste management and minimisation plans should include goals that centre around collaboration and partnership with iwi and hapū.

The following more specific comments are provided in response to this Waste Assessment:

- I wish to commend the New Plymouth, Stratford, and South Taranaki district councils' collaborative approach to the completion of the Waste Assessment. This has resulted in a comprehensive, region-wide assessment that allows for an understanding of the broader picture of waste management and minimisation across Taranaki. The inclusion of targets and a variety of possible actions to help achieve the targets are positive features of the Waste Assessment that reflect the changing waste management and minimisation environment.
- The inclusion and recognition of the importance of Te Ao Māori and Mātauranga Māori in planning, alongside working in partnership with iwi and hapū, as well as the commitment to making improvements to this process in future work are to be commended.
- I strongly support and commend the commitment to the goal of zero waste and moving Taranaki towards a circular economy. Actions taken that reduce the amount of waste produced has public health benefits, including benefits in terms of reduced effects on the climate and the environment. To increase engagement and support from the community in this regard, I would encourage that the waste management and minimisation strategy include the active promotion of this vision and goals.
- The reduction of greenhouse gas emissions related to waste is an important part of addressing climate change and is therefore important for public health, especially considering that the impacts of climate change are likely to be inequitably distributed. I strongly support the reduction of waste-related emissions being included in the goals as well as investment in greenhouse gas reduction infrastructure and technologies related to waste management.
- In addition to population growth being considered as part of the Waste Assessment, I would recommend that the councils consider the changing ways in which people may be living within the region in the future (for example increasing urban density/increased apartment living) to ensure the effective management of waste, organics and recycling is included as part of the planning process.
- I support the provision of education and behaviour change initiatives alongside service improvement, as this can play a significant role in improving waste management and minimisation. It is essential that these are delivered in an appropriate and widespread way. For example, service improvement such as increasing access to soft plastic recycling or e-waste disposal facilities alongside an education programme can support making the good choice the easy choice. I also encourage that the councils aim to take an active role where possible in advocating

for change regarding how consumer items are packaged and the type of packaging materials used.

- I strongly recommend that planning for waste management in response to emergencies, for example severe weather events, is included as part of the waste management and minimisation strategy. Waste generated during emergency events can present a risk to public health - for example flood-contaminated waste can be a biohazard and can attract vermin and mosquitos. Waste planning for emergencies supports timely and effective decision-making during emergency events. I support the work being done to risk assess closed/historic/informal landfills as these may be affected by, for example, flood events.
- I support increased services for those living in rural areas and the ongoing investigations into strategies to improve rural waste disposal practices.

In conclusion, I would encourage a region-wide commitment to ongoing investment in resourcing and support for the waste management and minimisation workplan, the ongoing development of the partnership with iwi and hapū, the transition to the circular economy, and the work on greenhouse gas emissions reduction. I encourage ongoing council investment in these areas, all of which make essential contributions to wellbeing and the protection of health.

Ngā mihi



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