Bay of Plenty
REGIONAL COUNCIL

Bay of Plenty Waste and Resource Efficiency Strategy

Contents

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Foreword

Bay of Plenty Regional Council, in partnership with industry, local government, community and business leaders has developed the Bay of Plenty Waste and Resource Efficiency Strategy. This Strategy outlines regional issues and represents our vision of 'working together for a resource efficient region'.

To realise this vision, we require the collective skills and innovative thinking of a wide cross section of the community. The Waste Resources Advisory Group established by this Strategy will bring together stakeholders from all waste sectors. Guided by the strategy, the group will work on a broad range of initiatives in waste management and minimisation.

By taking collective responsibility for the waste produced in our region and realising its resource potential, new initiatives will continue to develop, increasing economic opportunities and cementing the Bay of Plenty's reputation for being a great place to live.

I'd like to thank the individuals and businesses, large and small, which have engaged in the development of this Strategy. The broad range of views expressed has helped create a Strategy which is designed to be driven by input from all areas of the regional community.

I look forward to a region where we are increasingly efficient with our resources, including our waste. A region where our environment and people benefit as we work towards our vision. I commend the people who volunteered their time to help form the Waste Resources Advisory Group and look forward to seeing the fruits of their work.

Mary-Anne Macleod
Chief Executive
Bay of Plenty Regional Council

Background

Waste management is a responsibility and an opportunity for all of us – whether we are individuals, businesses, councils or institutions.

Working together we can maximise the benefits and minimise the harm from waste. This Strategy sets out to enable and support the vision of **working together towards a resource-efficient region.** It recognises that waste minimisation cannot be considered in isolation, either geographically or by the activity generating the waste resource. As a region we can benefit from gathering and sharing information, encouraging innovation and efficiency, ensuring the regulatory environment is fair and working together to achieve the vision we jointly hold.

The Local Government Acts 1974 and 2002 and the Waste Minimisation Act 2008 give powers and responsibilities to local government to manage waste. Amendments to the Local Government Act in 2012 focus on the efficient operation of councils. The purpose of the Act is to "meet the current and future needs of communities for good quality local infrastructure, local public services and the performance of regulatory functions in a way that is cost-effective for households and businesses." The Resource Management Act 1991 provides a framework to manage environmental, cultural, economic and social effects of resource use.

With the Waste Minimisation Act 2008 in place, the New Zealand Waste Strategy 2010 revised and all Territorial Authorities in the region adopting their Waste Management and Minimisation Plans (WMMPs) it is timely for Bay of Plenty Regional Council to update its 2004 Regional Waste Strategy to align with this new framework. This Strategy aims to support the local councils, businesses and communities to be more effective and efficient in waste management and minimisation.

To improve the accuracy of the information base in the drive for continued improvements in waste minimisation the Bay of Plenty Regional Council, together with Waikato Regional Council commissioned "Bay of Plenty and Waikato Regions Waste Stocktake". The report, published in May 2013, analyses the current situation, gaps and opportunities. It demonstrates the intertwined nature of waste management and minimisation activities in the Waikato and Bay of Plenty. Readers wanting more detail should refer directly to the Stocktake, available either from the Bay of Plenty Regional Council or at www.boprc.govt.nz > environment > pollution prevention and compliance. Data, observations and recommendations contained in the Stocktake have informed the development of this Strategy.

Glass separation for recycling

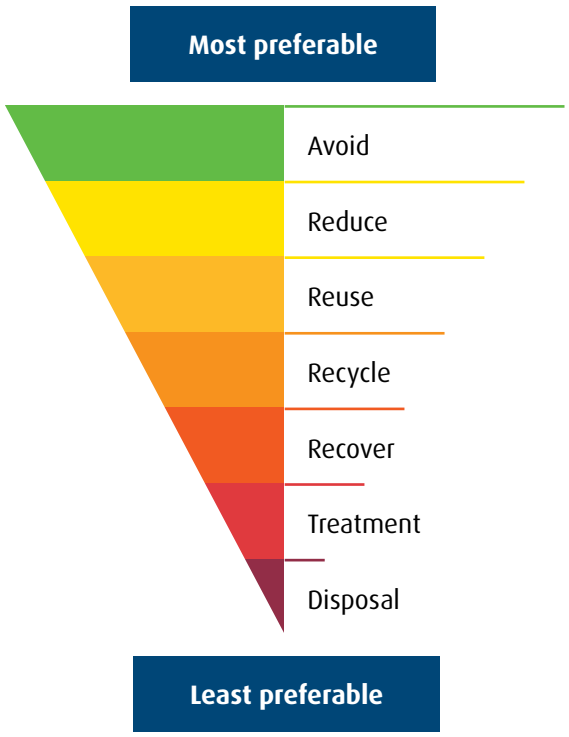
In recognition of the links between Waikato and the Bay of Plenty the general format and some content from Waikato Regional Council's *Waste to Resource Waikato Waste* and *Resource Efficiency Strategy 2012 – 2015* has been used in developing this Bay of Plenty Strategy. This provides a consistent approach for the many businesses and organisations that work across the regions' boundaries and capitalises on the good work already done.

This Strategy has been developed in partnership with a range of stakeholders from the waste industry, local government, businesses and community to create a shared vision, set of goals and focus areas for waste minimisation, viewing waste as a resource across the region. It sets a vision, identifies actions and opportunities to achieve the vision. The Strategy represents the aspirations and intentions of the key participants in waste and resource efficiency in the region and its delivery is a shared responsibility.

Scope

Resource efficiency in relation to waste management covers a wide range of activities from avoidance through to disposal, as illustrated in the waste hierarchy. The Strategy encompasses all these activities.

Fig 1: The waste hierarchy



This Strategy focuses predominantly on solid resources currently disposed of or discarded to landfill where a regionally coordinated approach makes sense. The Strategy also aims to provide solutions to address the impact of hazardous liquid wastes (including agrichemicals, oil, paint and chemicals) and other liquid wastes that have the potential to cause significant harm to the environment. Wastes such as dairy effluent, trade wastes disposed of to sewers, and sewage are addressed by the Regional Water and Land Plan or Trade Waste Bylaws and not part of this Strategy (although biosolids are included).

Section 5(1) of the Waste Minimisation Act 2008 defines waste as follows.

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

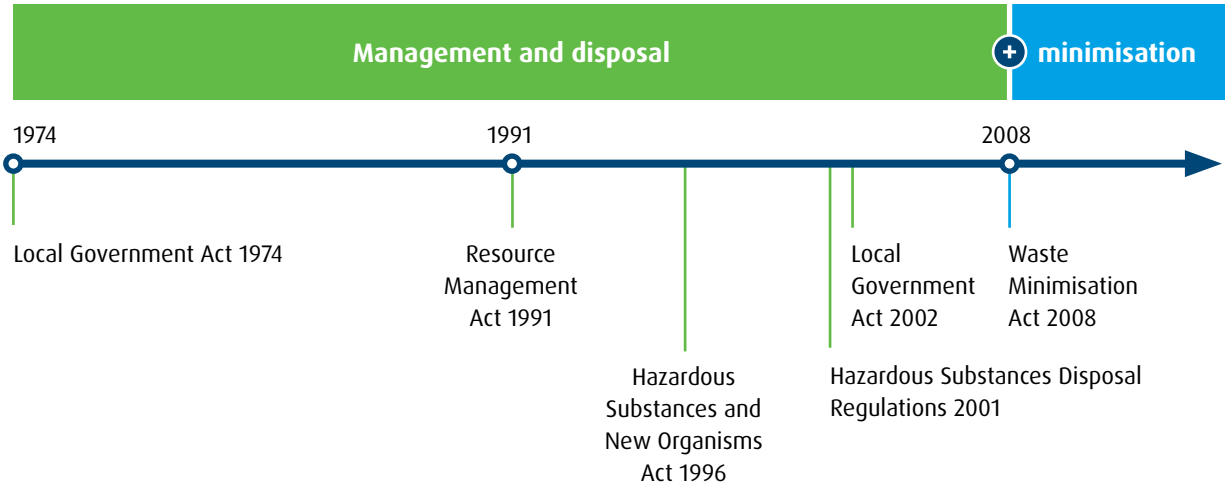
Strategic drivers for a revised regional waste strategy

Since the last Bay of Plenty Regional Waste Strategy was released in 2004, the waste landscape has changed. Key changes include:

- implementation of the Waste Minimisation Act 2008
- release of the revised New Zealand Waste Strategy 2010
- adoption of Waste Management and Minimisation Plans by all territorial authorities in the region
- identification of Bay of Plenty Regional Council's role in providing leadership on minimising waste in the 2012 – 2022 Ten Year Plan, and
- completion of Bay of Plenty and Waikato Regions Waste Stocktake in May 2013
- the emissions trading scheme which requires disposal facility operators (municipal landfills) to account for emissions and surrender units from 2014

Essential elements of these drivers are described over the page.

Fig 2: Waste Minimisation Act 2008 (WMA)



Waste Minimisation Act 2008 (WMA)

This act changes the focus from previous waste legislation that emphasised disposal to the new approach of promoting waste minimisation.

The key aim of the Waste Minimisation Act 2008 is to reduce the environmental impact of waste in New Zealand by encouraging waste reduction, and better use and reprocessing of materials. The Act also introduced a levy on materials disposed of at municipal landfills.

The purpose of the Act (as stated in Part 1) is:

to encourage waste minimisation and a decrease in waste disposal in order to:

- *protect the environment from harm; and*
- *provide environmental, social, economic and cultural benefits.*

Unitary and territorial authorities have specific responsibilities under the Act, and receive direct funding from the waste levy. Regional Councils have no specific obligations, but have generally chosen to develop regional strategies to work with territorial authorities, industry and community enterprise to achieve shared waste minimisation objectives for their regions. This is in recognition of their role in resource management, the benefits of having a regional perspective and the potential economies of scale that can be seen at a regional level.

Revised New Zealand Waste Strategy (2010)

The revised New Zealand Waste Strategy (NZWS), released in October 2010 has two high level goals.

These are:

- *to reduce harm*
- *to improve the efficiency of resource use.*

The revised NZWS states regional council responsibilities as follows:

'Under the Resource Management Act, regional councils regulate the environmental effects of waste disposal facilities by granting and monitoring resource consents. Regional councils can also play an important role in facilitating a collaborative approach to waste management and minimisation planning amongst territorial authorities.'

The National Waste Strategy clearly supports the facilitation, coordination and collaboration role regional councils can play in supporting shared waste minimisation objectives.

Waste management and minimisation plans (territorial authorities)

The Waste Minimisation Act requires territorial authorities to have a Waste Management and Minimisation Plan (WMMP) in place to promote effective and efficient waste management. TAs can make waste bylaws to support their Plans. They receive direct funding from the waste levy to assist waste minimisation activities.

Waste assessments were required as a preliminary step to identify key issues and action in the WMMP. The scope of these assessments extends to all waste streams and services, including those beyond the TA's immediate control.

Common objectives in local WMMPs are:

- Reducing waste in accordance with the waste hierarchy
- Reducing waste to landfills, increasing diversion
- Providing education for waste minimisation
- Encouraging community solutions and innovation
- Advocating for producer responsibility
- Improving data collection and reliability
- Reducing harm caused by inappropriate disposal

Bay of Plenty Regional Council (BOPRC)

The Regional Council's Ten Year Plan outlines the work it proposes to do during the next 10 years and the budget to undertake the work. The plan highlights the role of the Council as a regional leader, working towards growing the Bay of Plenty sustainably. It proposes to do this by working collaboratively with our partners and stakeholders, building relationships with other organisations that make savings, work smarter, share knowledge and gain efficiencies.

Providing leadership on minimising waste, including hazardous waste generated by people is identified as a key role in the Ten Year Plan. Bay of Plenty Regional Council has responsibilities under s30 of the Resource Management Act 1991 (Functions of Regional Councils):

- *to achieve integrated management of the region's natural and physical resources and*
- *to regulate discharge of contaminants into the environment.*

The RMA interfaces with waste management through controls on the environmental effects of waste management facilities. Policy and rules in the Regional Water and Land Plan govern discharges to land, air and water. The Council issues resource consents for discharges associated with establishing and operating waste processing/disposal facilities, industrial sites and waste producers. The Council is also responsible for enforcement and compliance of activities permitted or consented under the Regional Water and Land Plan. Applications for resource consent received under the RMA must be considered on the merits of the proposal in relation to the Regional Water and Land Plan and purpose of RMA. Waste minimisation is not mentioned in the RMA.

The Waste Minimisation Act does not assign a specific role to regional councils in waste management, but most regional councils accept a role based on responsibilities under the Local Government Act 2002 and the New Zealand Waste Strategy.

Examples of activities relating to waste which the Regional Council currently supports or has an involvement with are:

Activity	Examples
Education, facilitation and collaboration	▪ Cleaner production, business waste minimisation and community groups ▪ Enviro-schools programme ▪ Project Litefoot (waste minimisation in sports clubs, support WMF application) ▪ Waste Exchange (www.nothrow.co.nz) ▪ Online waste and recycling directory (www.recycle.boprc.govt.nz) ▪ Sustainable Business Network ▪ Conscious Consumers ▪ Waikato and Bay of Plenty Waste Liaison Group
Support for services/ activities	▪ Assist with waste minimisation and other fund applications as appropriate ▪ Hydrohub – portable water dispensing unit ▪ LoveNZ programme ▪ Environment Enhancement Fund ▪ Regional Infrastructure Fund (potential)
Pollution prevention	▪ 24 hour pollution hotline response ▪ Monitoring and enforcement of plan and consent conditions ▪ Industrial site audits and pollution prevention programmes
Consent processing	▪ Authorise discharges to water/ land/air from fill operations in accordance with provisions in Regional Water and Land Plan and Air Plan and the RMA
Regional coordination	▪ Develop and implement Regional Waste Strategy ▪ Participate in cross-regional waste liaison group ▪ BOPLASS – Local Authority Shared Services ▪ Bay of Connections Economic Growth Strategy ▪ Advocacy to central government (product stewardship) ▪ Facilitate regional data collection and analysis ▪ Strengthen alliances and partnerships via advocacy and facilitation ▪ Part of project team for residual waste guideline review

SECTION 1

The Bay of Plenty now and into the future

Waste in the Bay of Plenty: a regional picture

The Bay of Plenty has a land area of approximately 12,253 km, with an estimated population (2011) of 300,000 people. The region comprises seven territorial authorities (TAs) – Tauranga, Rotorua, Western Bay of Plenty, Whakatāne, Ōpōtiki, Kawerau and part of Taupō. The population is growing, especially in the western end of the region.

Around two thirds of the region is forested, including 20 percent in production forestry. A further 20 percent of land is in pasture. The region is a growing part of New Zealand, with key strengths being its proximity to major domestic markets, the largest export port in New Zealand, rich natural resources of geothermal energy, fertile soils and good climate. These natural resources drive the region's economic activity in horticulture, especially kiwifruit, forestry, farming and tourism.

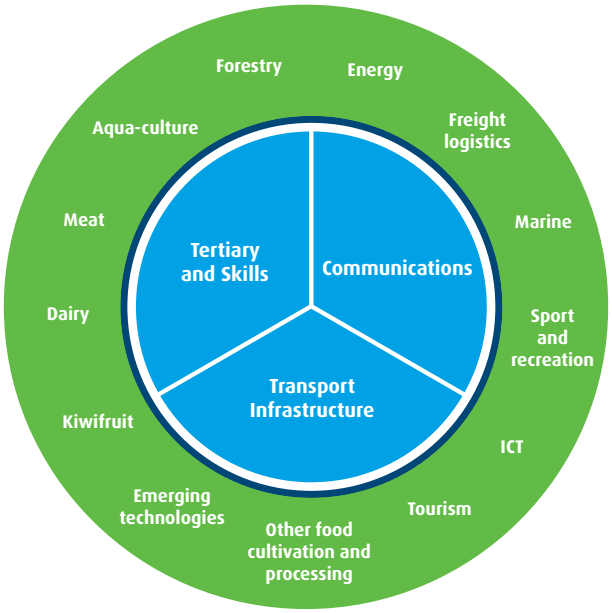
The *Bay of Connections Regional Economic Growth Strategy*[1] is the regional economic development framework. It supports sector strategies that encourage economic growth within the region. It identifies the region's attractive environment as providing a strong foundation for the Bay of Plenty brand and the increasing importance of environmental matters, including waste, as impacting on future expectations of how things are done in the Bay of Connections area.

Priority growth sectors identified in the Strategy are shown in Figure 3.

The region's waste resources are processed or disposed of through a range of facilities owned by the TAs, private providers, community groups and waste generators. The region has only one municipal landfill (owned and operated by Rotorua District Council). A bylaw prohibits any waste from outside the Rotorua district being disposed of at this landfill. Historically most TAs provided landfills within their district, but the high cost of gaining and complying with resource consent for landfills accepting municipal waste (municipal landfills) has resulted in their rationalisation, with large volumes of waste for disposal being transported to privately-owned landfills out of the region. The distance to disposal is an issue, especially in the eastern part of the region, with Ōpōtiki being 188 km from the nearest landfill

[1] *http://www.boprc.govt.nz/knowledge-centre/strategies/bay-of-connections-growth-strategy/*

Fig 3: Bay of Connections priority growth sectors



in Tokoroa and 233 km from Tirohia. This provides incentives waste minimisation, and also creates an opportunity for the region's economy.

Three companies have recently approached the Bay of Plenty Regional Council with waste to energy technology proposals using the region's waste stream. These proposals involve innovative use of technology and could have a significant impact on the economy and waste disposal in the region if successfully implemented. They would generate employment, produce energy and divert waste. As these proposals are commercially sensitive and competing for similar resources there is currently limited information in the public domain. Successful realisation of any of these proposals depends on fulfilling both financial and regulatory requirements.

In addition to these waste-to-energy proposals, a $4.7 million grant from the Waste Minimisation Fund is assisting development of an innovative biosolids to energy, fertiliser and chemicals demonstration plant in Rotorua called Terax™.

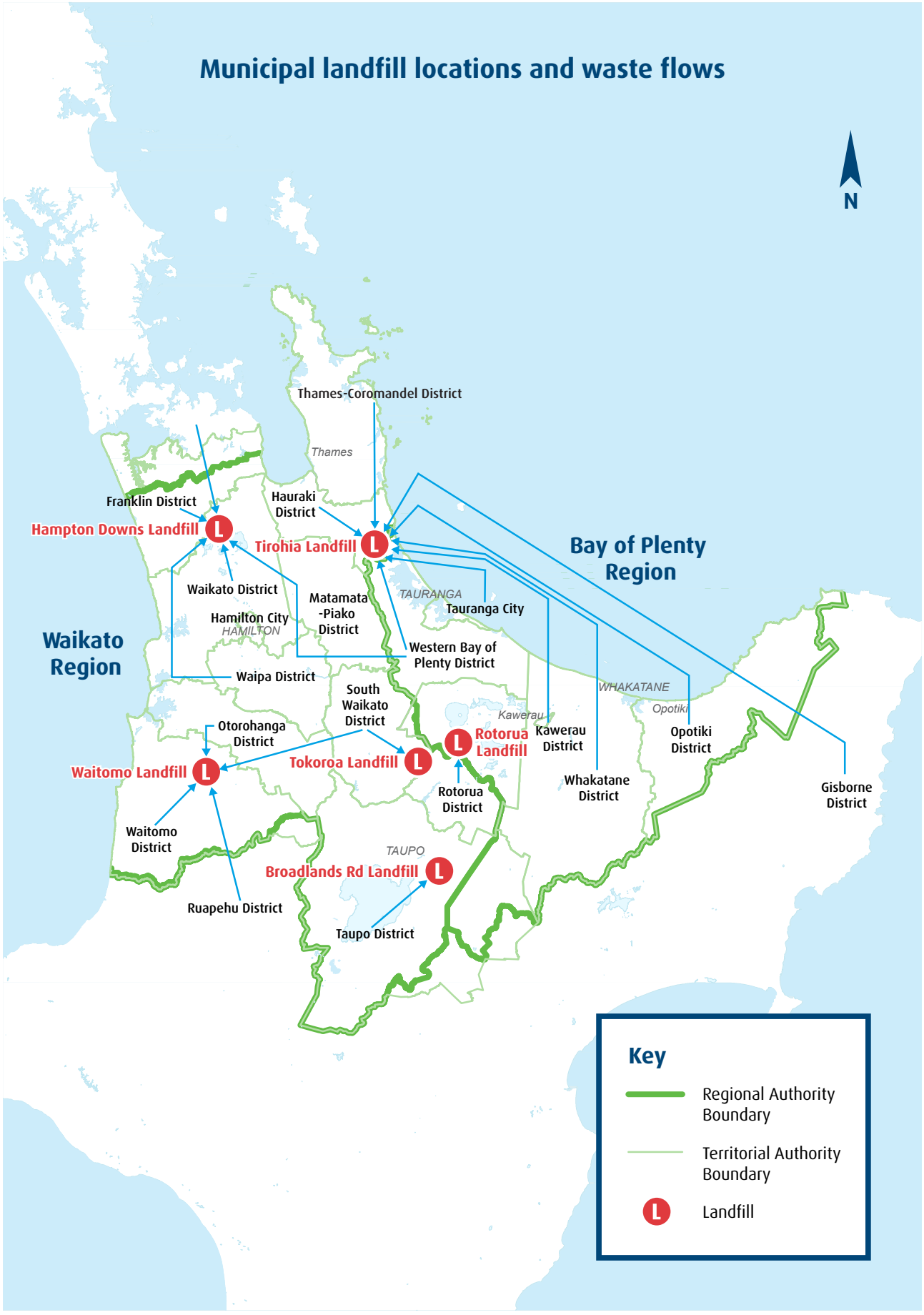
Liquid waste treatment and disposal (excluding that disposed of via reticulated sewage system or on-site disposal) is provided commercially by private operators. Where local treatment and disposal options are not available, material is transported out of the region.

The region also has two disposal sites associated with industrial operations (Carter Holt Harvey/Nörske Skog, Pukepine Sawmills), several consented sites that accept clean fill and a range of non-municipal waste. A privately-owned Materials Recovery Facility (MRF) is provided in Tauranga. This MRF accepts dry recyclables/commodities which are sorted and transported out of the region for processing. A multitude of initiatives, facilities and services operated at a community or business level play important roles in resource recovery in the region.

Because much of the infrastructure and services relating to waste management is privately provided, commercial competitiveness is a major driver of the range of options available and the cost of accessing them. Private provision of waste services has created challenges for TAs seeking to exert influence or obtain data.

The Ten Year Plans of the councils, developed under the Local Government Act 2002, identify and fund waste management activities. Waste Management and Minimisation Plans, required under the Waste Minimisation Act, provide a high-level policy statement that reflects each TAs waste management and minimisation objectives and methods for achieving those objectives.

Commissioning TERAX Pilot Plant, Rotorua. Photo courtesy of Scion


Municipal landfill locations and waste flows
N
Thames-Coromandel District
Thames
Franklin District
Hauraki District
Hampton Downs Landfill
Tirohia Landfill
Bay of Plenty Region
Waikato District
Matamata -Piako District
TAURANGA
Tauranga City
Hamilton City
HAMILTON
Waikato Region
Western Bay of Plenty District
Waipa District
South Waikato District
WHAKATANE
Opotiki
Kawerau
Otorohanga District
Rotorua Landfill
Kawerau District
Opotiki District
Waitomo Landfill
Tokoroa Landfill
Whakatane District
Gisborne District
Rotorua District
Waitomo District
TAUPO
Broadlands Rd Landfill
Ruapehu District
Taupo District
Key
Regional Authority Boundary
Territorial Authority Boundary
Landfill

Waste data and statistics

The Bay of Plenty has limited and variable waste data available. Waste data across the country is generally poor or of variable quality and completeness. This is compounded by limited access to data on privately collected wastes (due to commercial sensitivities) and the absence of a coordinated mechanism or central repository for gathering, analysing and disseminating data. The movement of waste between regions, as highlighted on page 13, is a further complication. In some districts we have a good understanding of council-controlled (municipal) waste streams gathered from district council waste assessments. Data presented in the strategy is the best available at present, and in many cases represents the combined totals of Waikato and Bay of Plenty. Data used in this Strategy is taken from the Waste Stocktake, which should be referred to for greater detail.

Kerbside municipal waste collection is highly visible but only a small part of the region's waste, estimated as approximately one quarter of waste to municipal landfill and only 13 percent of total waste disposed of regionally. Most of the region's waste is managed privately.

The Waste Stocktake estimated that:

- 0.51 tonnes of waste is disposed of at municipal landfill for every resident of the region every year, with 0.183 tonnes of this is from kerbside collection
- Excluding natural materials such as clay, more than this quantity is disposed of at other land disposal sites (managed, mono or clean fills)
- Half of the waste disposed of at municipal fills could readily be diverted
- Diverted materials equates to 23 percent of the waste stream (excluding natural virgin excavated material)

"Other land disposal sites" refers to sites where waste is disposed of to land but the site is not included in the WMA's definition of a disposal facility and therefore is exempted from the waste levy and emissions trading scheme requirements. These sites have a number of names, including farm dumps, cleanfills, monofills (accepting a small number of industrial by products), construction and demolition fills, B-class landfills and non-municipal landfills.

Even when virgin materials such as clay are excluded, the quantity of material disposed of to land disposal sites that doesn't meet the Waste Minimisation Act definition of a disposal facility is greater than that disposed of to landfills that does meet the definition.

Technical guidelines for disposal to land of residual waste and other material are being developed. These guidelines, once adopted, will support consistent definitions and practices in landfill operations.

Waste Quantities and Destinations (Bay of Plenty and Waikato)

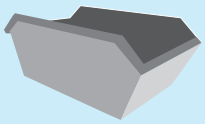
Destination	Composition	Bay of Plenty quantity (tonnes per annum)	Combined Waikato Bay of Plenty quantity (tonnes per annum)
Municipal Landfill	Kerbside	48,192	127,121
	C & D	13,879	40,578
	ICI	43,346	126,735
	Landscaping	7,514	21,971
	Residential	10,688	31,248
	Special	3,574	6,427
	Total	**127,193**	**354,080**
Other Landfill	Excavated material	NA	411,300
	Other wastes	NA	375,700
	Total	**NA**	**787,000**
Diverted from landfill	Dry recycling	NA	91,992
	Other (green waste, woodwaste etc)	NA	241,200
	Total	**NA**	**333,192**
		Grand total	**1,474,272**

Key	
Kerbside	All waste collected from both residential and private facilities by both Council and private waste collectors
C&D	Construction and demolition waste
ICI	Industrial commercial and institutional waste
Special	Biosolids and road sweepings and some large industrial waste streams

Note that separate Bay of Plenty data was not readily available for all destinations. Information is derived from tables 18, 20, 31 and 32 of the Waste Stocktake.

Bay of Plenty and Waikato waste summary

SOURCE



87%
Industrial, commercial and greenwaste

13%
Kerbside and council drop-off (excludes greenwaste)

1,474,272 t **Tonnes of waste**

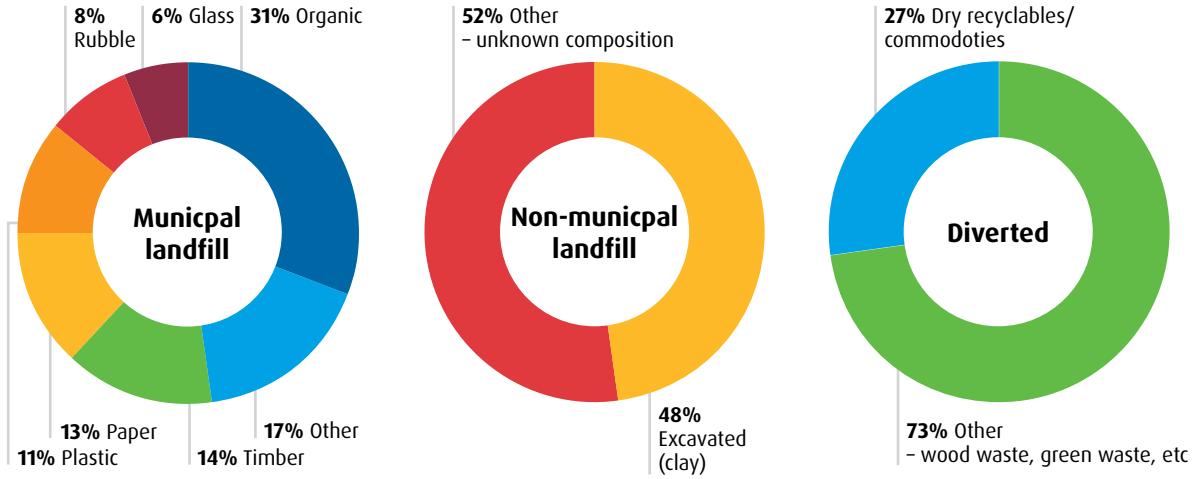
DESTINATION

24%
Municpal landfill

53%
Non-municpal landfill

23%
Diverted

COMPOSITION



Relationships, roles and responsibilities

Central Government

New Zealand Waste Strategy

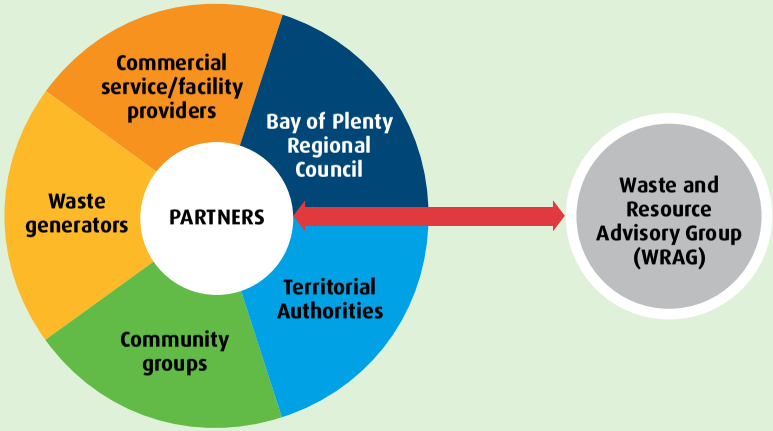
LEGISLATIVE FRAMEWORK			
	1	**Waste Minimisation Act 2008**	Waste management and minimisation plans Waste disposal levy Waste minimisation fund Product stewardship Other regulations
	2	**Local Government Act 2002**	By-laws Long-term council community plans
	3	**Hazardous Substances and New Organisms Act 1996**	Regulations and group standards related to waste
	4	**Climate Change Response Act 2002**	Disposal facility regulations
	5	**Resource Management Act 1991**	National environment standards
	6	**Other tools**	International conventions Ministry guidelines, codes of practice and voluntary initiatives

Bay of Plenty Regional Waste and Resource Efficiency Strategy

Vision: *Working together for a more resource efficient region*

Our goals are:

- *to protect our communities, land, water and air from harmful and hazardous wastes*
- *to encourage resource efficiency and beneficial reuse of wastes that create sustainable economic growth in the region*
- *to work together to encourage and support innovative affordable solutions, with a preference for local solutions*
- *to reduce waste to landfill*
- *to promote consistence regulation and compliance monitoring requirements.*



ROLES AND RESPONSIBILITIES

Bay of Plenty Regional Council	Territorial Authorities	Community groups	Waste generators	Commercial service/facility providers	WRAG
Regional leadership and coordination Pollution prevention Education and support Consent and compliance Advocacy Data collection	Waste management and minimisation plans Land use consent and compliance Services & facilities Bylaws Data collection and reporting Advocacy Public health	Provide advice and support to all partners Advocacy Services and facilities	Resource efficiency Minimise harm Implement programmes	Data collection Advocacy Services and facilities	Coordination Advocacy Planning Strategy implementation Reporting

A new approach: waste as a resource

This strategy has an underlying vision that waste disposal represents an unrecognised opportunity to improve resource efficiency, to reduce environmental harm and create a more sustainable community.

It seeks to utilise the diverse skill set of local people involved in waste activities to identify, support and implement solutions that reduce waste, and convert waste to a resource.

It is not about just managing and mitigating the effects of wasted materials. It is about addressing the fundamental ways in which materials flow through and are used in the economy and working to maximise the value of these materials for local economic, environmental and social benefit.

A strategic approach is needed to consider the appropriate roles for the private, public and community sector in delivering the desired outcomes. In a cyclical economy where all resources are viewed as having value, the private sector will have a natural incentive in minimise waste production and to work to achieve the highest value uses from discarded materials. In this hypothetical perfect world the private sector would, with minimal regulation, achieve waste minimisation outcomes.

However we are clearly not operating in a cyclical economy where resources are necessarily highly valued. “In the current situation the level of value placed on resources varies considerably over time and depends on their source and quality. In order to advance waste minimisation objectives there is a need for direction and input from the public sector. From this perspective each sector has valid roles in terms of what is required now and what must be done to work towards the ultimate vision of zero waste.” (Eunomia Research and Consulting Ltd and Waste Not Consulting Ltd, 2013 Bay of Plenty and Waikato Regions Waste Stocktake).

Regional opportunities

This Strategy is an opportunity to develop a more effective and coordinated regional and cross-regional approach to increase beneficial reuse, resource efficiency and recovery. Key stakeholders have indicated their interest in working together and have identified opportunities including:

- aggregation of potential regional resources such as organic wastes
- coordinated procurement of product and services
- increasing linkages between generators and processors
- shared research and innovation opportunities
- support market development for resources such as construction and demolition wastes and organics
- collaborative investment in programmes and infrastructure planning and development such as the development of a resource recovery network or park to increase economies of scale and that also provide economic, environmental, social and cultural benefits for all
- prioritising and delivering initiatives identified in this Strategy
- more consistent regulations and compliance monitoring

Whiteware recycling

Regional Waste Strategy workshop

Coordinated approach to data and information gathering and dissemination

A coordinated and standardised data and information structure needs to be developed to meet the needs of neighbouring regions, local councils, industry and the community. This information would:

- assist stakeholders to identify opportunities for further waste minimisation initiatives
- support market development and business opportunities
- enable everyone to measure improvement and effectiveness of programmes
- support national reporting requirements

The need for a national waste data framework has been identified at a national level. WasteMINZ are likely to lead the development of the framework. At a local level there will be a need to participate in this process, to ensure gathering the necessary information is supported by robust protocols and processes and to use the information.

Having influence via cross-regional and national forums

Bay of Plenty Regional Council attends the national Waste and Contaminated Land Forum (along with other regional councils from across the country) and the Waikato and Bay of Plenty Waste Liaison Group (including representation from Taranaki Regional Council, New Plymouth District Council, Gisborne District Council and Ruapehu District Council) with representation from the Ministry for the Environment in both forums. These forums bring together waste officers, planners and managers to discuss national and local opportunities, issues and policies, share information and resources and foster collaboration on waste minimisation projects and initiatives. The forums provide a valuable platform from which to advocate on behalf of stakeholders and provides an opportunity for industry and community to interface with local and Central Government.

Vision and goals

The following vision for the region captures an amalgamation of ideas discussed during regional key stakeholder workshops that were attended by industry, local government and community stakeholders:

"Working together for a resource efficient region"

Our vision recognises that reducing waste and improving resource efficiency is a shared responsibility.

This Strategy will establish a coordinated and informed region that is able to prioritise regional waste issues and opportunities. It requires participation from all sectors of the waste management community, identifies key focus areas and actions. It is flexible about how the Waste Resources Advisory Group will prioritise and deliver outcomes. The Regional Council will continue its limited funding support to achieve the vision and deliver on actions identified in focus areas but expects that this will be in partnership with other public and private sector groups as appropriate.

To achieve our vision, our goals are:

- to protect our communities, land, water and air from harmful and hazardous wastes
- to encourage resource efficiency and beneficial reuse of wastes that create sustainable economic growth in the region
- to work together to encourage and support innovative affordable solutions, with a preference for local solutions
- to reduce waste to landfill
- to promote consistent regulation and compliance monitoring requirements

These goals will reduce environmental harm, provide economic development opportunities and increase employment within the Bay of Plenty. However, these benefits can only be accrued through strong, collaborative partnerships and alliances.

Guiding Principles

The following principles have been developed from discussions at workshops held to develop this strategy and in discussion with interested parties. These principles are a guide to decision making:

1. Recognition of the internationally accepted waste hierarchy, which aims to move from waste disposal to waste prevention.
2. Exploring local solutions while being practical regarding economies of scale. Keeping the waste resource local can aid the local economy and keeps responsibility for waste in the mind of those who produce the waste. Local communities are best placed to decide what works for them.
3. Solutions need to be cost effective.
4. Closed loop or cyclical production to improve resource efficiency within industry and business.
5. Keeping the big issues in front of the decision makers. We need to be proactive in communicating the importance of waste issues to decision makers.
6. Working collaboratively with others to maximise the opportunities and share learnings, while respecting the rights of individual businesses.
7. Advocating for product stewardship, requiring manufacturers to share the responsibility for their products.
8. Getting the most from external funding sources.
9. An innovative "can do" attitude to solving problems that hinder waste minimisation.
10. Measure and report progress, celebrate success.

Implementation

Event recycling. Photo courtesy of Tauranga City Council

Waste Resources Advisory Group (WRAG)

An advisory group with a leadership and operational role to play in implementing this strategy is proposed, with membership from a range of business, community and Council organisations. Successful delivery will require the active involvement of members.

It is important that the WRAG has a broad membership, including public, private and community representatives. Initially everyone expressing an interest will be invited to attend a meeting to determine the appropriate size of the group, terms of reference and leadership structure. Bay of Plenty Regional Council will coordinate the initial setting up of this group.

The terms of reference will be determined in the initial meeting. The group will subsequently need to prioritise, deliver and report on waste and resource efficiency initiatives. In this regard the group should be led but not constrained by initiatives identified in the Strategy. As time progresses new opportunities will arise, and where these are consistent with the vision and goals, the group should be free to pursue them. The initiatives have purposefully been set at a level that gives direction but enables flexibility regarding the priority and means of delivery. Bay of Plenty Regional Council will organise and fund the administration of the group, while group members are expected to support actions as appropriate. Members will also be responsible for communicating to and from their own organisations.

Key focus area A specifically relates to the group and its role in overseeing Strategy delivery.

Waikato and Bay of Plenty Waste Liaison Group

This group has existed since 2002 and brings together waste management staff from local authorities in the Waikato and Bay of Plenty to discuss waste issues and initiatives. The proposed role of this group in relation to the Strategy includes:

- identification of potential joint projects that require regional or inter-regional coordination
- informing the WRAG on the effectiveness of the regional waste strategy
- monitoring region-wide projects and initiatives and informing their respective organisations on progress.

The group currently meets three times a year. Private sector representation is invited to this meeting when information is required to support the objectives of local council waste management and minimisation plans and the regional strategies.

The Upper North Island Strategic Alliance (UNISA)

Regional and metropolitan councils in the upper North Island (Auckland Council, Northland Regional Council, Bay of Plenty Regional Council, Waikato Regional Council, Hamilton City Council, Tauranga City Council and Whangarei District Council) agreed to collaborate for responding to, and managing, a range of inter-regional and inter-metropolitan issues. UNISA had its first formal meeting and a signing ceremony on Saturday 8 October 2011. First and second order issues have been set out in an Agreement, with waste being recognised as a first order issue. A work programme is being developed that takes a staged approach to progressing these first order issues, with the focus for 2012 on economic development linkages, transport (including rail, roads and freight), ports (including inland ports) and tourism. Relationships between UNISA members will enhance the opportunity to progress waste issues between staff.

Bay of Plenty Local Authority Shared Services (BOPLASS)

BOPLASS has been set up specifically to add value to councils by assisting them to investigate, procure, develop and deliver shared services where a business case shows that they provide benefit to the (voluntary) council users by either improved levels of service, reduced costs, improved efficiency and/or increased value through innovation.

Currently there are no joint procurement or shared services arrangements relating to waste management and resource efficiency in the region. The Waste Stocktake recommends that a joint procurement approach be considered with regard to waste contracts or new services such as organic waste collections and processing.

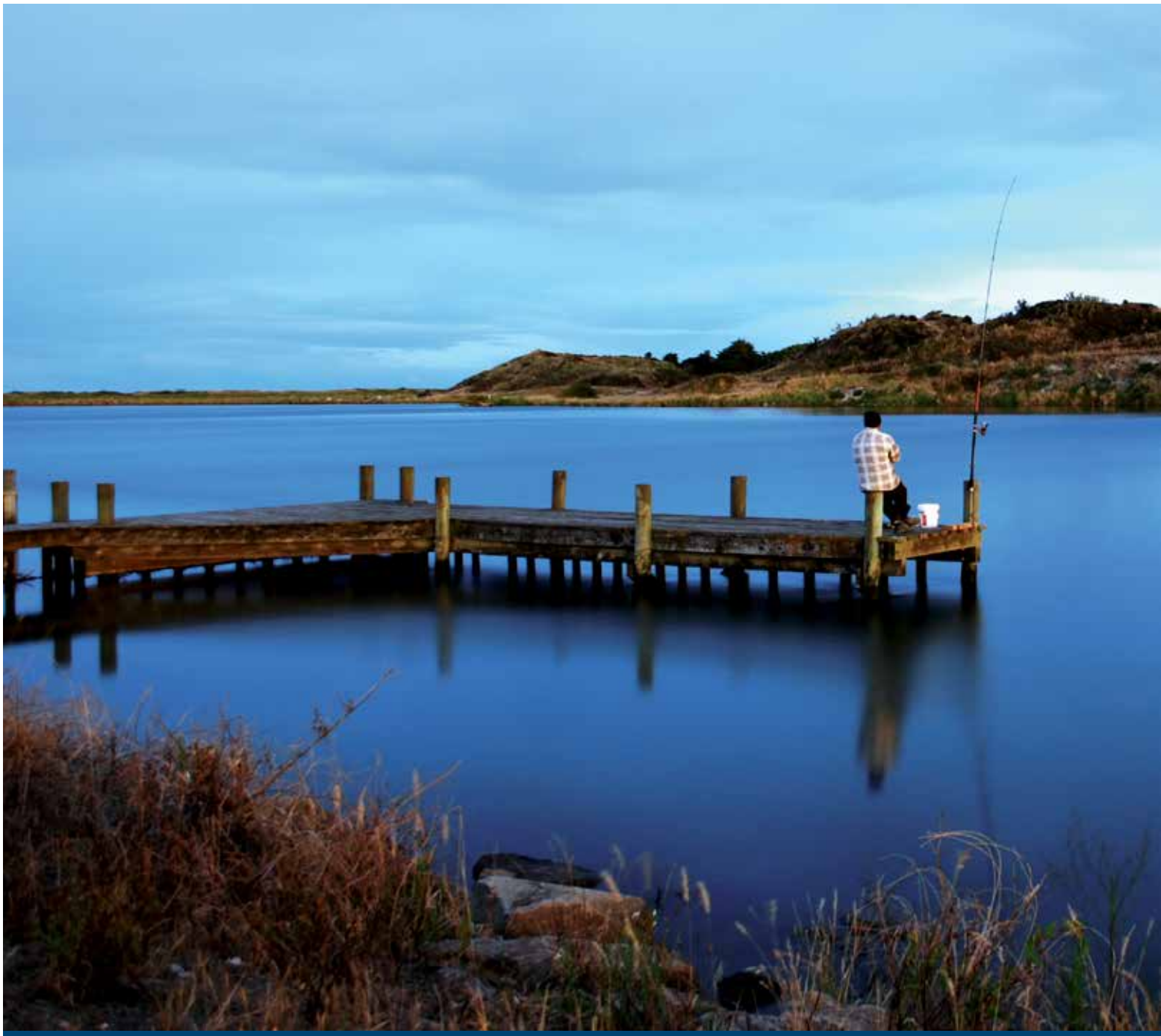
Review

Progress and change within the waste sector can occur quickly and it is recommended that this Strategy is reviewed after 10 years, with the option of earlier review should the need be identified by WRAG.

In order to track progress WRAG needs to report to the Bay of Plenty Regional Council Operations Monitoring and Regulation Committee annually.

SECTION 2

Strategic actions and initiatives 2013 - 2023



Key focus areas

The vision and goals of this Strategy will be achieved through six key focus areas developed in collaboration with key industry, community and local government partners.

The focus areas and associated initiatives include:

A	B	C	D	E	F
Foster collaboration, partnerships and promote forward planning	**Improve data and information management**	**Review regulatory environment governing waste**	**Increase resource efficiency and beneficial reuse**	**Reduce harmful impacts of waste**	**Stimulate research and innovation**

Note: Focus area A: Foster collaboration, partnerships and forward planning is an overarching activity that will determine the implementation, timing and priority of other areas.

All of the focus areas relate to and support each other. For example if improved data management demonstrated that large quantities of potentially recyclable material were being disposed of to landfill, a potential recycler might identify an opportunity, work with an innovator to develop a process that utilised the material to produce a valuable end product.

The Strategy has not allocated funding for any specific initiatives. This is to enable flexibility in supporting opportunities as they arise. WRAG will be well placed to make submissions to the Ten Year Plan or Annual Plan process to seek funding where appropriate. Also it is expected that Strategy partners (private sector, other Councils) will contribute where the initiative is relevant to their activities. The group should also look to seek funding from other sources such as the Waste Minimisation Fund.

The Regional Council will be providing staff time for strategy implementation and in the 2013/14 financial year the BOPRC budget for waste related activities (after existing commitments are met) is approximately $75,000. This budget is expected to be available annually subject to the annual plan process and will be Regional Council contribution to support co-funded initiatives identified and agreed to by WRAG.

Focus area B proposes annual reporting to the Regional Council's Operations Monitoring and Review Committee.

FOCUS AREA A

Foster collaboration, partnerships and promote forward planning

Why do we need to do this?

Achieving our vision is a big task that will need to utilise the collective skills, resources and innovative thinking of the whole community. Waste is generated by all and waste services are supplied by a wide range of innovators and businesses in the community. While each of these groups has a different perspective there is opportunity to work together to improve outcomes. Public, private and community sectors each have important roles to play in resource efficiency.

What actions are currently underway or recently completed in this area?

- Cross-regional waste liaison group
- Education initiatives

Potential new initiatives

- Establish a waste resources advisory group (WRAG) that:
  - Develops its own terms of reference, and leadership structure
  - Prioritises, delivers and reports on the initiatives identified in this Strategy
  - Identifies communication needs to engage the wider community
  - Makes submissions to relevant planning, regulatory documents
  - Identifies, co-ordinates and seeks funding for activities
  - Identifies and responds to trends, needs and opportunities that affect waste management
- In conjunction with the Civil Defence Emergency Management Group determine the need for and, if necessary, develop a plan for waste management in emergency situations
- Work with Waikato Regional Council on cross-regional education and promotion initiatives
- Promote the environmental benefits of compost and vermicompost in agriculture
- Investigate and support local initiatives

Regional Waste Strategy Waste workshop

What does success look like?

- Group with representatives from a range of sectors is established and meets regularly
- Group able to report successes in developing new initiatives to reduce waste, improve information availability
- Forward planning for future needs
- Efficiencies in waste management and minimisation activities identified
- Continuation of current initiatives
- Plan developed for waste management in emergency situations
- Group identifies and submits to relevant planning and funding opportunities

FOCUS AREA B

Improve Data and Information management

Why do we need to do this?

Improving the reliability, quality and access to information helps stakeholders identify opportunities, enables progress to be measured, and supports improved efficiency. The Waste Stocktake identified a lack of data for both council and privately controlled waste streams as a common theme in WMMPs. Incomplete data adversely affects the ability of those involved in the waste sector to develop informed policy, assess the effectiveness (or need for) their activities. Improved data will help meet national and international obligations. Good data management is comprehensive, uses consistent terminology, standardised methodology and has agreement on access.

Waste data problems are not unique to the Bay of Plenty. WasteMINZ workshopped the issue in May 2013 with all sectors agreeing that a WasteMINZ led national framework was necessary. Discussions are progressing. Nationally, the need for data framework is currently being discussed. With much waste moving between districts and regions there is a need to ensure reliable data is collected in a consistent manner to support waste accounting at a district, regional, national and international level. At the workshop in 2013 WasteMINZ members from all sector groups agreed that WasteMINZ should lead the development of a national waste data framework.

What actions are currently underway or recently completed in this area?

- Waste Stocktake for Waikato and Bay of Plenty Regions has been completed (2013)
- TA's WMMPs contain a range of data
- Municipal landfills report to MfE for levy purposes
- Organic waste options study
- Discussions at national level to develop national waste data framework
- WasteMINZ has applied to the contestable fund to set up a national data gathering program

Potential new initiatives

- Develop and maintain a regional (or cross-regional) waste network to collate and make data available
- Develop protocols with private industries involved in waste collection, transport and disposal/ recycling to enable information to be provided in a commercially sensitive way
- Develop or adopt a template to achieve consistent reporting
- Coordinate waste assessments
- Alignment with national initiatives
- Investigate mandatory waste tracking and the Liquid and Hazardous Waste Code of Compliance (WasteTrack)

What does success look like?

- A reliable waste data network that meets all obligations is established and populated with data
- Information is available from the network to councils, community and business sectors, while protecting commercial sensitivities
- Information enables progress to be measured and gaps to be identified
- Information is used to inform future opportunities
- The Regional Council and TAs have detailed information about the generation, collection and disposal of liquid and hazardous wastes
- An annual report for waste and resource efficiency is published by WRAG and enables tracking of progress and identification of opportunities. The report is provided to the Regional Council's Operations, Monitoring and Regulation Committee.

FOCUS AREA C

Review regulatory environment governing waste

Why do we need to do this?

Ensuring the appropriate regulatory controls are in place and given effect to underpins all aspects of the Strategy. There is a need for regulatory intervention to avoid harm, to incentivise good practice and support data gathering. Illegal low cost disposal can result in environmental harm, reduces opportunities for reuse and recycling and undermines those businesses that meet legal requirements. Awareness and consistent implementation of regulatory provisions is critical to ensuring they are effective.

The Waste Stocktake identified that legal requirements can act as a barrier to waste minimisation. Barriers include difficulties in gaining consent for sites and differences between districts and regions that make it difficult for operators working in more than one district to comply.

Note that the Waste Resources Advisory Group may lobby Central Government to address perceived inconsistencies in the regulatory framework (for example Resource Management Act and Waste Minimisation Act), but in the absence of change, need to deliver the vision within the existing regulatory constraints.

What actions are currently underway or recently completed in this area?

- All TAs have waste bylaws
- The Regional Water and Land Plan have provisions relating to waste management
- Resource consents are in place for waste facilities and waste generators where applicable
- Compliance and enforcement undertaken on consented sites and risk activities
- Review of national residual waste guidelines currently underway and propose new criteria for cleanfill and managed/controlled fill.

Potential new initiatives

- Review and identify best practice in bylaw to promote consistency where appropriate
- Review Regional Water and Land Plan provisions relating to waste at plan review time
- Develop and implement best practice for consenting and compliance including data collection and revised definitions for cleanfills, managed/controlled fills using the Technical Guidelines for the disposal to land of residual waste and their material
- Lobby Central Government to broaden levy collection to include managed fills

What does success look like?

- WRAG provide feedback/submissions to bylaw and plan reviews
- Increasing confidence of industry that TAs and Bay of Plenty Regional Council regulatory provisions are fit for purpose and applied consistently
- Reliable consistent data provided by all sectors
- Waste disposal and minimisation activities do not cause environmental harm
- Improved consent and permitted activity compliance is achieved

FOCUS AREA D

Increase product stewardship, resource efficiency and beneficial reuse

Why do we need to do this?

Product stewardship, resource efficiency and beneficial reuse are opportunities for economic and environmental gain. The opportunities range from the design and production of low impact products and services to the recovery of materials for reuse or further processing. With limited access to municipal landfills for much of the region there are additional incentives to save on transport costs and to benefit the local community. Innovation and entrepreneurial thinking will be key to making progress.

In addition to the environmental and economic reasons for resource efficiency many of the region's key industries are very conscious of the market advantages demonstrating such an approach delivers.

What actions are currently underway or recently completed in this area?

- Numerous private and public facilities are dedicated to this area
- Websites www.nothrow.co.nz and www.recycle.boprc.govt.nz direct the community to available opportunities
- Education in schools and cleaner production advice for businesses is available
- Individual programmes of many businesses
- Accredited product stewardship schemes currently exist for used oil, glass packaging, refrigerants, agricultural chemicals, paint and branded carpet tiles
- The Regional Council supports and/or co-funds a variety of initiatives.

Potential new initiatives

- Investigate development of region wide sector focused waste reduction and resource efficiency initiatives, for example C&D sector
- Engage with private sector to discuss voluntary measures to reduce quantities of recyclable material in kerbside and commercial waste
- Facilitate and encourage new proposals to reduce or beneficially reuse waste
- Work with existing agencies such as Bay of Connections and local economic development agencies to incorporate waste minimisation opportunities into the thinking of business leaders
- Advocate for and support additional product stewardship schemes or broadening the scope of existing schemes
- Investigate procurement opportunities that support waste minimisation goals by influencing existing groups such as BOPLASS, farm advisors (compost/vermicompost)
- Investigate greater local provision of waste management initiatives

What does success look like?

- New initiatives that decrease waste to landfill are established
- Increasing use of websites and resources that promote waste minimisation
- Decreasing per capita quantities of waste to disposal
- Increased product stewardship schemes
- Waste and resource efficiency initiatives are locally based for local waste

FOCUS AREA E

Reduce the harmful impacts of waste

Why do we need to do this?

Hazardous and harmful wastes risk contamination of land, air and water, as well as human and environmental health. These wastes require treatment or containment to avoid these risks and to maintain the region's reputation as a producer of quality food. Harmful wastes that pose a threat in the Bay of Plenty include:

- Unwanted agricultural chemicals
- Domestic hazardous waste
- Treated timber
- Used oil
- Electronic waste
- Unwanted paint
- Biosolids
- Contaminated soil
- Tyres
- Farm dumps
- Liquid waste

Currently there is no effective tracking system for these wastes in our region.

What actions are currently underway or recently completed in this area?

- Product stewardship schemes for agricultural chemicals, paint, agricultural plastics and oil
- Facilities/initiatives operated by the private sector
- Some operators use WasteTrack and one operator meets the Liquid and Hazardous Waste Code of Compliance

Potential new initiatives

- Liaise with transporters, producers and treatment/disposal sites to identify practical options for tracking of high risk waste
- Advocacy for mandatory product stewardship for harmful wastes
- Development of a waste management plan for dealing with waste in an emergency situation
- Investigate/promote/require liquid and hazardous waste transporters to use the Liquid and Hazardous Waste Code of Compliance

What does success look like?

- Safe disposal or reuse options available for all waste products
- No harmful or hazardous waste disposed to inappropriate locations
- Transporters, producers and treatment/disposal sites work together and with the Regional Council or Ministry for the Environment to enable tracking of high risk waste
- New product stewardship schemes established.

FOCUS AREA F

Stimulate research and innovation to develop new solutions

Why do we need to do this?

Waste being disposed of to landfill represents an untapped opportunity to extract value from the resource. In some cases realising that opportunity will require new and innovative solutions. The region has a track record of innovation and businesses that are keen to improve their 'green' credentials. Currently a significant amount of waste resource is lost to other regions. Using waste locally may create local employment opportunities and improve sustainable resource use

What actions are currently underway or recently completed in this area?

- A number of private sector groups are exploring waste to energy proposals
- A demonstration waste to resource plant (Rotorua)
- Waste Minimisation fund supported Bay of Plenty vermicomposting trial (Kawerau)

Potential new initiatives

- WRAG will proactively identify opportunities
- Work with Bay of Connections and/or key groups in the economy to identify opportunities
- Applications to Waste Minimisation Fund or other funding sources
- Foodwaste collection investigated

What does success look like?

- Adoption of new initiatives that reduce waste to landfill or reduce the creation of waste or reduce harm form waste
- Trials and pilot scale initiatives established

Vermicomposting, Kawerau
Photo courtesy of Martin Taylor

Summary of key regional waste and resource efficiency opportunities

This summary is provided to assist WRAG members and people reading the strategy to understand the iniatives identified in the focus areas.

Accessing consistent reliable data

Having consistent reliable data is vital to identifying opportunities and measuring progress. There is a need for standardisation of terminology, consistency between districts, enforcement of measuring and reporting requirements, a comprehensive system of data management and regular reporting.

Cleanfills and managed fills

The Waste Stocktake raised the problem of disposal facilities that accept materials not considered as cleanfill (under the Ministry for the Environment's definition) but are not municipal landfills. The Waste Stocktake estimated that a similar amount of waste (excluding excavated material) is disposed of at these facilities as municipal landfills. These fills are not subject to the waste levy and are often able to undercut municipal landfills, undermining resource recovery initiatives.

The lack of alignment between the Resource Management Act and Waste Minimisation Act creates conflict for the Regional Council, which is obligated to consider resource consent applications according to the principles of the RMA. The Regional Council is unable to refuse to consent a site on the basis that it is disposing of potentially recoverable materials.

In addition, concerns have been raised regarding compliance with the RMA at non-municipal landfills. Ensuring compliance at all sites requires active monitoring. TAs, the Regional Council, waste operators and the community have roles to play in this regard.

As previously noted, draft technical guidelines for the disposal to land of residual waste and other material will support consistent definitions and practices.

Construction and demolition wastes

Construction and demolition waste is estimated to comprise of approximately 11 percent of waste to landfills and is mainly composed of timber, concrete and rubble, although there is little reliable information available in the public domain. This sector is identified in the Waste Stocktake as having good potential for developing industry wide waste reduction and resource recovery via a cross sector working group. The stocktake recommends this sector is prioritised for waste reduction and resource efficiency initiatives

Contaminated soil and special wastes

Hazardous waste (chemicals, oil, tyres, end of life vehicles and batteries), special waste (sludge, road sweepings, pond and sump residues) and contaminated soils are of particular concern because of the potential harm they can cause to waterways and land. There is no searchable tracking system for disposal of contaminated soil and significant data gaps relating to hazardous and special waste.

A product stewardship scheme is in place for agricultural chemicals but restrictions for the scheme have significantly decreased the quantities received under the scheme compared to previous less restrictive regimes.

Dry recyclables/commodities

This description includes materials collected from kerbside and transfer stations as well as commercial premises. The calculated per capita recycling rate from the two regions is similar to other regions, except for Auckland which is achieving much higher rates. The Waste Stocktake estimated that more than quarter of waste disposed of to landfills is dry recyclables/commodities and could readily be diverted by existing processes.

Farm Dumps

The disposal of rubbish from farms to informal on-site dumps is an emerging problem. The activity is provided for by the Regional Water and Land Plan without resource consent, subject to conditions and exclusions. Compliance is not easily monitored and many materials discarded from households or farming operations have potential to cause harm when disposed of in an uncontrolled environment. Recycling, reuse or safe disposal options are available to residents across the region, although not always as a kerbside service.

Liquid wastes

At present there is little publically available data about liquid wastes volumes, treatment or disposal. The Liquid and Hazardous Waste Code of Practice is supported by the Ministry for the Environment and provides data and independent auditing of liquid

CREW shop, Whakatāne

wastes. Only one Rotorua-based service provider is registered as being code compliant, although a number of operators use the associated WasteTrack programme to record volumes and generation/ disposal locations. A number of other councils outside of the region use the Code to assist with the management of liquid wastes. Appropriate bylaws and consistent application across the region would be needed to implement this approach.

Organic wastes

Organic waste is calculated as comprising 31.5 percent of waste disposed of at municipal landfills with an estimated weight of 40,000 tonnes per year in the Bay of Plenty. In addition, the quantity of waste disposed of at managed fill sites is estimated to be greater than the landfilled volume. Some will be organic waste, but as a lot of it is dealt with outside of the public domain limited estimates of quantity are available. The Waste Stocktake and most WMMPs noted that the information about organic waste is very limited, but it represents a key opportunity for diversion.

There has been significant progress in recent years in reducing some components of organic waste in the residual waste stream. Greenwaste composting and vermicomposting of wood waste and biosolids are successfully diverting large quantities from disposal at sites within and outside the region. Generally this activity is happening in the private sector and is market driven. Compost and vermicompost producers have established markets for their products. There are currently some limitations on the use of bio-solids derived compost due to cultural and market concerns. Ensuring a good understanding of the underlying reasons for these limitations will help ensure these concerns can be addressed and sensitivities protected while maximising opportunities to utilise the resource. The Waste Stocktake identifies further opportunities to improve uptake by linking Regional Council integrated land management and procurement policy to the beneficial qualities of compost.

The Waste Stocktake notes a lack of processing facilities for food waste from both residential and commercial premises. This is an opportunity for further waste reduction, but requires leadership to resolve problems and determine the most efficient model of service delivery.

Product stewardship

Product stewardship schemes have a number of benefits including reducing harmful impacts of waste, reducing disposal to landfill and creating a closed

loop production system. While several product stewardship schemes exist, there are many key products for which no programme operates and disposal is a cost to the community and environment.

Recycling and waste diversion services and facilities

Diverted material is defined by the WMA as:

> *"Any thing that is no longer of value for its original purpose and, but for commercial or other waste minimisation activities, would be disposed or discarded"*

A wide range of programmes and waste minimisation support activities are undertaken across the region, there is room for improvement in both the type and quantity of materials recycled. The Waste Stocktake noted that 66 percent of kerbside waste and approximately half the overall waste stream could readily be recycled, recovered or composted. Foodwaste is noted as a key opportunity for collaboration and a reduction in waste to landfill. Availability of cheap disposal options discourages resource recovery initiatives.

Regional Facilities

During consultation for this strategy a number of people raised concern that a large proportion of the regions waste is dealt with outside of the region, representing a lost opportunity to influence or benefit from waste minimisation and treatment. Commercial realities, such as the cost of high quality treatment and disposal facilities need to be balanced against these concerns.

Relationships and responsibilities between private, public and community sector

Delivery of waste and resource efficiency services in the region is shared between the private, public and community sectors, with considerable variability across the region. The responsibility for regulation is shared between TAs and Regional Council, although the TAs retain statutory responsibility under the WMA and LGA for management of waste in their district. Other council roles include information gathering, policy setting, collaboration, education, supporting innovation and funding initiatives.

The private sector plays an important role, either as part of a contracting arrangement to TAs or in a direct relationship with the customer. They also undertake their own research, provide data to councils and have input into policy and decision making processes.

The community sector is frequently involved in services that may be marginal for the private sector, especially where there are significant social and local economic development outcomes. They are frequently involved in service delivery and in decision-making processes.

Concrete for reuse

Commercial competitiveness has both costs and benefits, but where services and facilities are mainly outside of Council control it is more difficult to implement behaviour change and influence waste minimisation practices, increasing the importance of regulation and education in achieving objectives.

Private service providers undertake a full range of waste services in the Bay of Plenty on a commercial basis. Some are contracted to Councils (for example cleaner production advice, kerbside collections, transfer stations) while others are undertaken without the direct involvement of Councils, (hazardous and liquid waste collection, treatment and disposal, managed fills, waste collection and transport, recycling, cleanfills). These providers are integral to the success of Waste Management and Minimisation Plans and this Strategy. They also provide data to support decision making and may have input to public sector policy and strategy.

Glossary

Beneficial reuse: when a material destined for landfill is captured and made into a high-value material or product that will feed into, or benefit, another system or product. For example, transforming food waste into compost, or soil conditioner that will be used to improve the health of the soil to grow food or plant life that will be beneficial to the community or environment.

Cleanfills: *(MfE Guide to management of Cleanfills, MfE 2002)* Material that when buried will have no adverse effect on people or the environment; includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:

- combustible, putrescible, degradable or leachable components
- hazardous substances
- products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices
- materials that may present a risk to human health
- liquid waste.

(A cleanfill is any landfill that accepts only cleanfill material as defined above.)

(It is noted that this definition encompasses both cleanfill and managed/controlled fill categories in the draft Technical Guidelines for the disposal to land of residual waste and other material. In developing and implementing best practice under focus area C and revising the Regional Water and Land Plan a revised definition may be more appropriate.)

Construction and demolition waste: material generated from the construction or demolition of a building including preparation and/or clearance of the property or site. This excludes materials such as clay, soil and rock when those materials are associated with infrastructure such as road construction and maintenance, but includes building-related infrastructure.

Disposal facility: defined by the Waste Minimisation Act 2008 as a facility, including a landfill, at which waste, including household waste, is disposed of and which operates at least in part as a business to dispose of waste.

Diverted material: defined by the Waste Minimisation Act 2008 as anything that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.

Whakamarama School worm farm

Harmful waste: wastes that have the potential to cause significant harm to the environment, but are not classified as hazardous wastes. Examples include used oil, used tyres, batteries, end-of-life electronic goods, televisions and treated timber.

Hazardous waste: materials that are flammable, explosive, oxidising, corrosive, toxic, ecotoxic, radioactive or infectious. Examples include unused agricultural chemicals, solvents and cleaning fluids, medical waste, and many industrial wastes.

Industrial landfills: receive waste from individual operations, for example, sawdust and bark from timber mills or mining waste.

Municipal landfills: landfills that have consents to receive municipal wastes (waste generated by the general public). Most municipal landfills also receive wastes from commercial activities.

Organic waste: common definition, based on the putrescible waste category used in the Ministry for the Environment's 2002 Solid Waste Analysis Protocol (SWAP) includes garden waste (more commonly known as 'green waste'), food scraps and commercial organic wastes such as food processing waste. Some other wastes that may biodegrade in landfill, such as paper, cardboard, biosolids (classified as special wastes) and untreated wood are also defined as organic wastes, but these are identified separately in SWAP audits.

Product stewardship: requires producers, brand owners, importers, retailers, consumers and other parties to accept responsibility for the environmental effects of products from the beginning of the production process through to, and including, disposal at the end of the product's life. It moves some responsibility for waste to those involved in production and supply of a product and indirectly to the consumer by ensuring any residential waste costs are reflected in the purchase price. It therefore provides incentives for better product design and other measures to reduce waste and resource costs.

Putrescible waste: defined in Ministry for the Environment's 2002 Solid Waste Analysis Protocol (SWAP) includes garden waste (more commonly known as 'green waste'), food scraps and commercial organic wastes such as food processing wastes.

Recycling: reprocessing waste or diverted material to produce new materials.

Resource efficiency: using materials, energy and water more effectively so you can do more with less, and as a result there is less waste and demand on raw materials and reduced environmental impact.

Resource recovery: extraction of materials or energy from waste or diverted material for further use or processing, including making waste or diverted material into compost.

Solid wastes: includes wastes generated as a solid or converted to a solid for disposal. It includes wastes like paper, plastic, glass, metal, electronic goods, furnishings, garden and other organic wastes.

Special wastes: those wastes that cause particular problems at disposal and which may need special management to effectively recover material or ensure proper disposal. Includes catch pit cleanings (from stormwater drains etc), road sweepings, wash bay sumps and similar wastes that are not quite classed as hazardous waste but are not completely inert.

Territorial authority: (TA) defined by the Local Government Act 2002 as a city council or a district council.

Waste: is defined by the Waste Minimisation Act 2008 to:

a. mean anything disposed of or discarded; and

b. include a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and

c. to avoid doubt, includes any component or element of diverted material, if the component or element is disposed of or discarded.

E-waste collection

Waste minimisation: defined by the Waste Minimisation Act 2008 to mean reduction of waste, and the reuse, recycling and recovery of waste and diverted material.

Waste prevention: sits at the top of the waste hierarchy and refers to practices that avoid the generation of waste in the first instance.

Case studies

Ecocast a win win solution

Historically wood waste from the large Nörske Skog and Carter Holt Harvey paper mills in Kawarau has been landfilled, and biosolids from municipal waste water treatment ponds has been one of those difficult-to-get-rid-of-wastes.

Following funding from the Waste Minimisation Fund, some of this product is now being processed by worms into vermicompost, creating local jobs, a product that enhances soil productivity while reducing waste to landfill. By the end of this year the owners predict that 140,000T of waste will have been transformed. The product is in high demand from local maize growers keen to increase the yield and drought tolerance of their crop. Trials with a local maize grower last summer comparing adjoining paddocks found a 25 percent increase in dry matter and better drought resistance on the vermicompost treated paddocks. Not surprisingly, demand for this product is very high amongst maize growers.

Ōpōtiki District Council

Ōpōtiki District Council is a small, mainly rural Council that has put simple and innovative ideas into practice in their district.

With the closure of the municipal landfill and almost 200km to the nearest sanitary landfill innovative thinking was needed. Expensive options are not practical in this area, with a population of less than 9000 people at the 2006 census.

Since the adoption of zero waste in 1998 the way the people of Opotiki do things has changed. The Council has reduced waste to landfill from their district from 10,000t per annum to just 1050t by June 2011. This is a result of:

- Charging at the resource recovery centre
- District-wide recycling centres
- Education
- Mulching greenwaste
- Implementation of kerbside recycling
- Restricting the kerbside waste collection to just one 25 litre bag per resident (extra bags $1)
- No rubbish bins in reserves or on the beach, only in the CBD.

Staff have worked with the community including schools and marae. Ratepayers are kept up to date with three-monthly newsletters. Diversion activities have created new jobs and keep local money in the local community.

Road Science – Tauranga City Council Business Waste Minimisation Programme

Photo courtesy of Tauranga City Council

Road Science operates a bitumen plant at Mount Maunganui and other locations around the country.

Although some recycling was taking place at the Mount Maunganui site, a large volume of bulky waste including cardboard boxes, wooden and plastic pallets, large bulk bags, shrink wrap, office materials and other bulky hard to recycle material was being discarded in a large skip. It was estimated that approximately 70 percent of the material found in the skip could be recycled or reused.

Working with the Tauranga City Council Business Waste Minimisation Programme the company found local end-users for reusable items such as wooden and plastic pallets as well as the large reusable bulk bags. The 9 cubic metre skip was replaced with a much smaller 3 cubic metre skip. A recycling bin for all shrink wrap and plastic bags, cardboard boxes, paper and other recyclable material was introduced.

The recycling programme has been a huge success. Road Science has been successful in diverting about 75 percent of solid waste and they continue to see opportunities to recover more from the waste stream. They have used the Mount Maunganui site as a model for their other facilities around the country.

Bay of Plenty
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