WASTE MANAGEMENT AND MINIMISATION PLAN 2012 - 2018

OTOROHANGA
DISTRICT COUNCIL
make the kiwi connection

Adopted by the Otorohanga District Council at a meeting held on
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Executive Summary

The purpose of the Waste Management and Minimisation service is to provide efficient and safe collection and disposal of solid waste in an effective and environmentally acceptable manner.

To achieve this role, Council's Waste Management and Minimisation management programme includes two transfer/recycling centres, kerbside waste and recycling collection. Council's refuse and recycling collection is contracted out. Due to the District's declining population, Council does not envisage any increase in the amount of refuse going to landfill. Council intends to continue to promote recycling in the District and extend recycling opportunities for the rural sector.

Safe and efficient waste disposal and recycling services are essential for maintaining public health in communities and protecting the environment. Residual waste is transported out of the district, as Council does not have a consented landfill in its district. Recyclables are stored before being shipped to market.

1. Introduction

Council's solid waste activities comprise strategic planning, asset management and administration of contracts for delivery of refuse disposal and recycling services.

Council does not own substantial assets in relation to this activity, with such significant asset ownership limited to recycling centres in Otorohanga and Kawhia.

Council endeavours to ensure that efficient refuse and recycling services are available on a cost effective and environmentally responsible basis for all properties within the Otorohanga, Kawhia and Aotea Communities, and that rural residents can access recycling services in the urban centres if they wish to do so.

Council is also committed to working towards a progressive reduction of the quantity of solid waste going to landfill from the District in accordance with this Waste Minimisation and Management Plan.

1.1 Purpose of the Plan

The Waste Minimisation Act 2008 came into effect on 25 September 2008 and represents Government's approach to managing and minimising waste. The Waste Minimisation Act recognises the need to focus efforts higher on the waste hierarchy in terms of reducing and recovering waste earlier in its life cycle, shifting focus away from treatment and disposal. Government's two core goals, as stated in the NZ Waste Strategy, are reflected in the purpose of the Waste Minimisation Act.

- Reducing the harmful effects of waste;
- Improving the efficiency of resource use.

This Plan is intended to demonstrate responsible stewardship of Council's waste disposal assets and services on behalf of its customers and stakeholders. It also acts as a vehicle for communication with all parties with an interest in Otorohanga District Council's (ODC's) activity management practices. It provides a focus within ODC for ongoing development of good activity management and demonstrates that the potential of the waste management services is maintained at optimum cost to provide a defined level of service over the long term.

This Plan sets out Council's present waste services, activity principles and philosophy, asset management, operational management and levels of service. It also sets out Council's future direction in waste reduction and minimisation.

This WMMP also aims to fulfil Council's legal obligations under the Waste Minimisation Act 2008, and to provide the tactics that will enable Council to achieve its strategic goals most cost effectively, via the LTP process.

1.2 Scope of the Plan

Solid waste management is the way in which rubbish is managed including reducing the amount of waste being generated, how it is managed at home, and the collection of waste through to its disposal. The WMMP will help Otorohanga District Council and its community manage waste produced in the District in the best way possible.

This WMMP focuses on solid and hazardous waste produced in the Otorohanga District. It does not include liquid waste (sewage), bulk liquid hazardous waste, or bio-solids (sewage sludge).

Waste types considered in this plan:

- Material disposed of that are destined for landfill;
- Organic materials including greenwaste;
- Material able to be recycled or reused including metals (ferrous and non ferrous, plastics 1&2, paper, cardboard, textiles, glass and other recycling materials presented by the private sector;
- Hazardous materials including, batteries, electronic waste and other materials needing special treatment before disposal.

Waste is recognised as coming from a number of sources includes:

- Kerbside and on-site collection from residential, commercial and rural properties;
- Construction and demolition activities;
- Illegal dumping;
- Street Litter collections.

Waste disposal facilities relevant to the Otorohanga District are:

- Recycling Centres / Transfer Stations;
- Closed Landfill Sites;
- Cleanfill Site.

1.3 Current Status of the Plan

Otorohanga District Council adopted it first Waste Management and Minimisation Plan in 2010. The current review is to address the requirements of the WMA. This version of the WMMP is a draft for public consultation. Following the consultative process the WMMP will be finalised and adopted by Council. The intended term for this plan is for a six year period from 2012-2018.

1.4 Term of the Plan

The Waste Minimisation Act 2008 requires all plans to be reviewed by 1 July 2012, and thereafter at not longer than six-yearly intervals. This Plan covers the period 1 July 2012 to 30 June 2018 and will be reviewed no later than six years after the last review, in accordance with section 50 of the Waste Minimisation Act.

2. Vision, Goals, Objectives and Targets

2.1 Vision

Council's Vision for the 2012-22 Long Term Plan is:

"To be the best small rural Council in New Zealand"

2.2. Community Outcomes

Council's vision is supported by the following community outcomes:

- Otorohanga district is a safe place to live;
- Ensure services and facilities meet the needs of the community;
- Provide for the unique history and culture of the district;
- Promote the local economy and opportunities for sustainable economic development;
- Manage the natural and physical environment in a sustainable manner;
- Foster an involved and engaged community;
- Protect the special character of our harbours and their catchments;
- Recognise the importance of the district's rural character.

Council's considers in its 2012/13 to 2021/22 Long Term Plan that the Solid Waste Group Activity contributes to the following overarching community outcomes:

- Otorohanga district is a safe place to live;
- Ensure services and facilities meet the needs of the community;
- Manage the natural and physical environment in a sustainable manner;
- Foster an involved and engaged community;
- Protect the special character of our harbours and their catchments;

2.3 Background and Purpose

The Otorohanga District covers an area of 1976 square kilometres (197,600 hectares) comprising a strip of land approximately 30 kilometres wide that extends from the shores of the Tasman sea in the west to the Waikato River in the east. Falling within the boundaries of the Waikato Regional Council, the District is a varied area containing diverse topography, productive farmland, extensive native vegetation, ocean beaches and protected harbours. It is a District with strong historical and cultural associations, dating back to the arrival of the Tainui waka in the coastal community of Kawhia.

The Otorohanga District is primarily rural, with key centres of population at Otorohanga and Kawhia and smaller communities at Aotea and Te Kawa. The District borders with Waikato and Waipa District Councils in the north, South Waikato and Taupo District Councils in the east, and Waitomo District Council in the south (see map following this section).

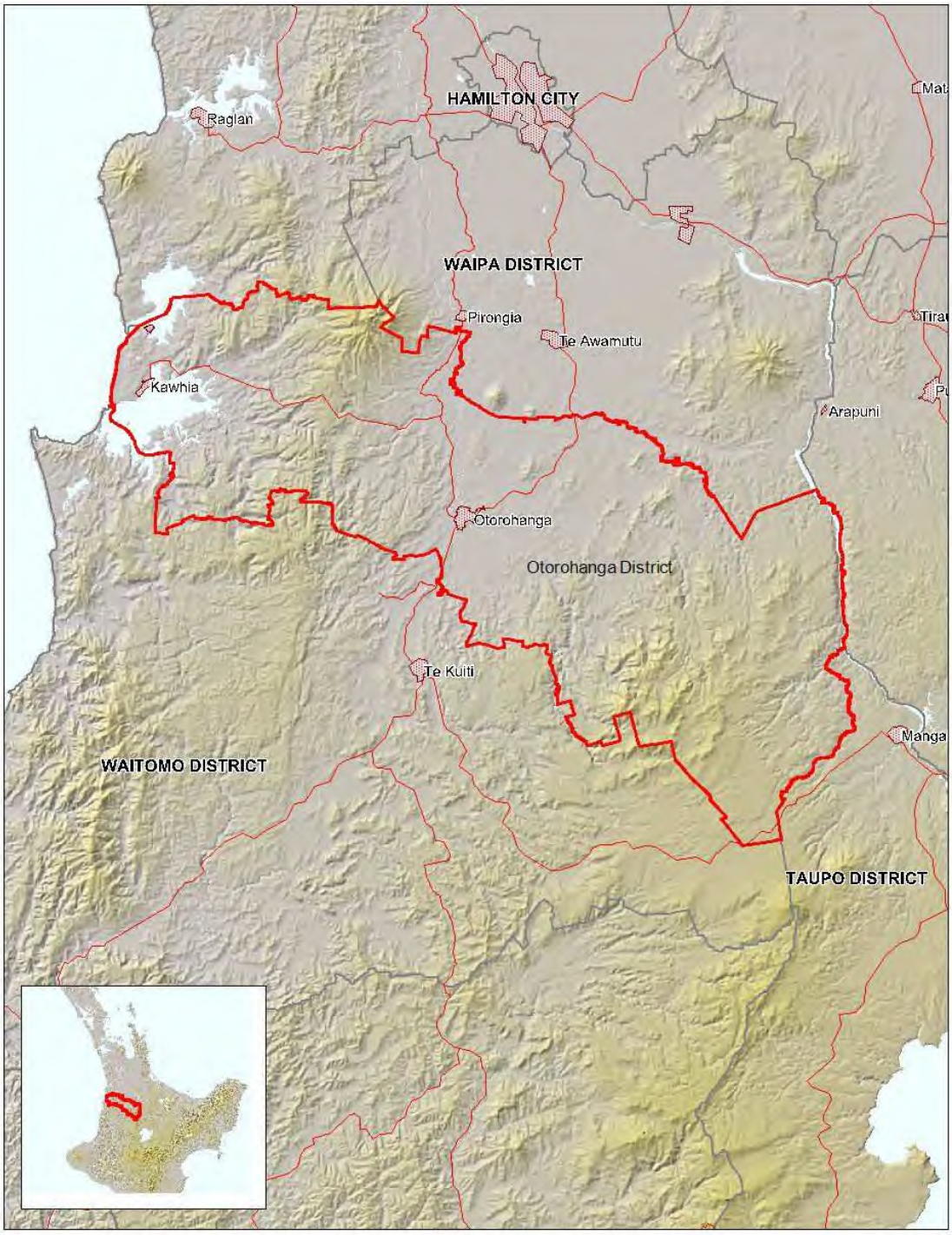
Council adopted a Solid Waste Management Strategy in February 1998. This Strategy was reviewed in 2002 as there had been significant changes in the District's management of solid waste, including the closure of its two landfills at Otorohanga and Kawhia. In addition, the adoption by Council of a ZeroWaste Plan and the development of an implementation strategy, made this an opportune time to review the Solid Waste Management Strategy.

The Local Government Amendment Act (No.4) 1996 required local authorities to amend or update its Waste Management Plan. This update gave an overview of the solid waste situation and outlined the general direction of solid waste management for the next ten years, and was carried out and adopted by Council in 2003.

With the introduction by Government of the Waste Minimisation Act 2008, Council is now required to review / adopt a Waste Management and Minimisation Plan by 2012. It is a requirement of this Act that Council undertakes a waste assessment (Sec 51) prior to conducting the review.

A more detailed action plan, giving directions and priorities for the term of the Waste Minimisation and Management Plan is attached as Appendix A. However, no specific waste reduction targets are set for the first two years since there is a lack of information upon which to base them.

In order to achieve the objectives of the Plan it is important that the community have substantial input to the process and take ownership of the strategy and its initiatives. A consultative process as set down in the Act must be followed. It is hoped that the development of the strategy will generate a higher level of public participation in Waste Management issues.



2.4 Objectives and Targets

Solid waste services are provided to the urban communities because there is considered to be an expectation amongst urban residents that Council will do so, and it is believed that a failure to do so may contribute towards uncontrolled refuse dumping, burning and potentially unsanitary conditions in these communities.

The Health Act 1956 requires Council to provide this activity to ensure that the public suffers no adverse affects due to the accumulation of refuse.

The objectives of this Waste Management and Minimisation Plan are:

1) To promote the concept of waste minimisation, and to encourage individuals, households and businesses to take responsibility for their waste, and to provide leadership, information and support to all groups.
2) To actively encourage community participation in all waste reduction activities.
3) To target specific components of the waste stream in all sectors of the community and achieve optimum reduction, re-use and recycling of them.
4) To understand our waste stream to enable measurement of changes and the effectiveness of reduction initiatives.
5) To progressively extend the range of waste stream components targeted and facilitate their reduction, re-use or diversion to recycling.
6) To ensure that the costs of waste disposal are progressively apportioned to those who generate the waste.

2.5 Council's Role

It should also be noted that Council does not hold a monopoly in respect of solid waste services in the District, and various private contractors provide both refuse disposal and (to a lesser extent) recycling services, and rural property owners frequently rely on 'on-site' methods of solid waste disposal.

It is therefore difficult to reliably estimate what proportion of the 'market' for solid waste that Council's services hold, particularly in relation to refuse. It is believed that the services provided by Council are likely to be of benefit to approximately 50% of households in the District, though the proportion of refuse that passes through Council's services is likely to be significantly lower, since other service providers may provide cheaper services for bulk refuse disposal.

Council is currently undertaking a telephone survey to establish the extent to which recycling is being undertaken by the business sector of the community (including the farming fraternity), and to establish the amount of waste being generated and where it is being disposed.

Council's primary objective is not to provide 'cheap' refuse disposal, because to do so would conflict with the concept of waste minimisation. Council's refuse services are instead mainly intended to enable urban residents to conveniently dispose of the relatively small quantities of residual waste that will remain after other waste minimisation methods (including re-use, recycling and resource recovery) have been employed.

The alternative to expending ever-increasing sums on transport and disposal is to invest in the reduction and eventual elimination of waste.

2.6 Public Health Protection

The proposals outlined are considered sufficient to ensure that the public health and well-being of district residents is protected, and will contribute to the promotion of efficient and effective waste management and minimisation.

3. Policies, Plans and Regulation

3.1 Legislation

The following pieces of legislation outline the roles of territorial authorities in waste management and minimisation in New Zealand:

- Waste Minimisation Act 2008;
- The Local Government Act 2002;
- The Hazardous Substances and New Organisms Act 1996;
- The Resource Management Act 1991 as amended;
- The Health Act 1956;
- The Health and Safety In Employment Act 1992;
- Climate Change (Emissions Trading) Amendment Act 2008;
- The New Zealand Waste Strategy – Reducing Harm, Improving Efficiency;
- Waikato Regional Council's Waste Strategy

Waste Minimisation Act 2008

The Waste Minimisation Act 2008 (WMA) requires Councils to develop a Waste Management and Minimisation Plan.

The purpose of the Act is:

> *To encourage waste minimisation and a decrease in waste disposal in order to protect the environment from harm and provide environmental, social, economic, and cultural benefits.*

A key element of the Act is the introduction of national product stewardship schemes for priority products and a $10 per tonne levy on all wastes to landfill. 50% of the levy money collected is distributed back to territorial authorities on a per capita basis.

Territorial authorities are required to review its Waste Management and Minimisation Plan (WMMP) no later than 1 July 2012. The Plan sets out the responsibility of territorial authorities to promote effective and efficient waste management and minimisation.

Local Government Act 2002

The Local Government Act 2002 contains provisions for waste management and minimisation with regards to consultation, bylaws and incorporation of information regarding waste management and minimisation in the Long Term Plan (LTP). The WMMP must be adopted using the special consultative procedure prescribed in the Act.

New Zealand Waste Strategy

The New Zealand Waste Strategy sets out the Government's long-term priorities for waste management in New Zealand. The Strategy's two goals provide direction to local government, businesses (including the waste industry), and communities on where to focus their efforts in order to deliver environmental, social and economic benefits to all New Zealanders. The goals are:

- Reducing the harmful effects of waste;
- Improving the efficiency of resource use.

The Strategy's flexible approach will ensure waste management activities are appropriate for local situations. The Strategy provides national guidance for waste management and provides a framework to support local and central government to move towards common goals and address particular waste issues.

The WMA (Section 44) requires that Council have regard to the NZWS or other such policy which is subsequently developed, when preparing a WMMP.

Health Act 1956

The Health Act 1956 requires:

- Local Authorities to provide 'sanitary works', the definition of which includes waterworks, drainage works, wastewater works, works for collection and disposal of refuse, cemeteries and crematoria and includes all lands, buildings, machinery, reservoirs, dams, tanks, pipes and appliances used in connection with any such works;
- Empowers the Minister to require local authorities to undertake works necessary to protect public health;
- Requires provision in any dwelling house of suitable appliances for the disposal of refuse, water and sufficient sanitary conveniences;
- Empowers councils to make bylaws covering conditions to be observed in the construction and approval of drains.

Other Relevant Legislation

Council also gives consideration to the Hazardous Substance and New Organisms Act 1996, the Resource Management Act 1991, the Health & Safety in Employment Act 1992 and the Climate Change (Emissions Trading) Amendment Act 2008.

3.2 Otorohanga District Council's Internal Documents

The key internal planning document influencing this WMMP is Council's 2012/13 to 2021/22 Long Term Plan (LTP) which sets out Council's role in maintaining and promoting well being in the District. The Asset Management Plan (AMP) is a "tactical" plan in support of the Council's LTP, with linkages to the Council's District Plan. The AMP is the means for developing appropriate strategies and policies for the long-term management of Council's activities and related assets, and the basis for analysing the impact of Corporate strategic options on levels of service and long term funding needs.

The following summarises the linkages between AMP's and the other key components of the strategic planning and management of Council:

Long Term Plan	The broad strategic direction of Council set in the context of current and future customer requirements, many of which relate to the performance and financial requirements of the assets which are the subject of asset management planning.
Annual Plan	The service level options and associated costs developed in the AMP are fed into the Annual Plan consultation process.
District Plan	The District Plan regulates the shape and form of sustainable land use and activities pertinent to the achievement of the District's environmental outcomes. It identifies and protects anticipated growth areas and formalises urban supply boundaries for utility services. It provides the mechanism for mitigating adverse effects on the natural and physical environment.
Financial Plan	Financial plans developed in each AMP are consolidated into the short and long-term programmes of Council. AMP's improve financial planning by instigating planned long term maintenance and operation

programmes and provides justification for works programmes and levels of funding.

Contracts — The service levels, strategies and information requirements contained in the AMP become the basis for performance orientated contracts let for service delivery

Waste Assessment

The Waste Minimisation Act 2008 requires Councils to complete a waste assessment and to have regard to the assessment in preparation of the plan. The assessment provides the necessary background information on waste and diverted material streams to determine priorities. The required assessment is included in this WMMP – refer to Appendix B.

3.3 Considerations

3.3.1 Definition

Waste is any material, solid, liquid or gaseous, that is unwanted and/or undervalued, and discarded or discharged by its owner.

This definition recognises that what one person or organisation regards as waste, can be a useful resource when used again for a beneficial purpose.

3.3.2 Waste Management Hierarchy

The internationally recognised hierarchy uses the 5Rs – Reduce, Reuse, Recycle, Recover, Residue Disposal descending order of priority.

This approach to waste management is recognised in the Local Government Amendment Act 1996 by inclusion in Section 557.

Councils are directed to consider these five methods of waste management in priority order.

a) **Reduce** – the highest priority and the heart of zero waste. It refers to avoiding making waste in the first place.

It is achieved domestically by such measures as selective purchasing – buying goods, which will last, or are designed to be repaired, by buying goods in bulk rather than in small containers, not buying one-trip disposable items etc. Far from requiring a new attitude to resources, it necessitates a return to a previous philosophy.

b) **Reuse** – the second priority, is the further use of products in their existing form for their original or similar purpose.

Domestically – the development of second chance shops at recycling centres enable reuse. Many of these offer repair or certification of electrical appliances etc.

Commercially - multiple use of pallets and containers is a form of reuse. The national organisation Agrecovery Rural Recycling Programme enables re-use of silage wrap, plastic containers, unwanted and expired chemicals and garden plastics.

c) **Recycle** – this aspect has received most attention, and is clearly the focus of most community action. A limited range of materials is collected at kerbside and at drop-off points. However, it is only third in priority after reduction and re-use. It reduces

the processing of materials to create new products, rather than using virgin materials. As such it is a valuable method of diversion for the waste stream, but are requiring in many cases on-going support – by way of avoided disposal costs, to make viable.

d) **Recovery** – there is a lot of biomass, energy and materials in waste which can be recovered e.g. composting and worm-farming recover nutrients.

e) **Residue Disposal** – the disposal of the declining volume of waste created, which cannot currently be diverted from the waste stream.

By following the 5R's hierarchical approach and the use of the hierarchy, significant environmental benefits will result, both by avoiding waste creation and in diverting materials from the waste stream.

The current emphasis is focused on the least cost method of collection and disposal of wastes, with recycling on par with these activities.

The scope of waste management activities in the Otorohanga District includes kerbside collection of refuse and recyclables, extended recycling facilities, ownership of two Recycling Centres/Transfer Stations. and education programmes in schools.

Under the Waste Minimisation Act 2008 Council are also required to consider the following:

- Ensure that the collection, transport, and disposal of waste do not, or are not likely to, cause a nuisance; and
- Have regard to the New Zealand Waste Strategy, or any government policy on waste management and minimisation that replaces the strategy; and
- Have regard to the most recent assessment undertaken by the territorial authority under section 51; and
- Use the special consultative procedure set out in section 83 of the Local Government Act 2002 and,
- In doing so, the most recent assessment undertaken by the territorial authority under section 51 must be notified with the statement of proposal.

3.3.3 Funding Mechanisms

The current funding of Council's solid waste management services is split. It allows for a combination of general and targeted rates which covers mainly the original establishment cost and disposal of recyclables, while user charges is used to fund operational cost related to collection and disposal structured such that it is an incentive for waste minimisation.

3.3.4 Accessibility

Accessibility to recycling services is available to those receiving a kerbside recycling collection in conjunction with the weekly bagged refuse collection funded through a targeted rate by community to reflect the operational environment within which such services has to be provided. There are recycling and disposal facilities at the two recycling centres. The standard of these facilities is appropriate for the service level identified and are supervised. In addition recycling centres have been established at two rural schools / communities.

4. Waste Issues

4.1 Summary of Composition of Waste and Diverted Materials

The waste stream includes all solid waste produced in the district not merely waste collected by Council.

Council does not have accurate up-to-date information available to them on the tonnage of material being sent from the district to landfill, due to this information being undertaken by private contractors and limited reporting requirements in place.

In rural areas on-site disposal commonly occurs, therefore, the opportunity for waste minimisation and the capture of information regarding the nature and quantity of these recyclable or recoverable materials is unknown. If this waste was dealt with through Recycling Centres, transfer stations or landfills, data on waste to landfill and waste minimisation effects would be more accurate and more certainty about environmentally beneficial disposal could be achieved.

The Otorohanga District Council, carried out an analysis of the kerbside bagged refuse collection in 2002. The results from the waste analysis are presented in the table and figure below:

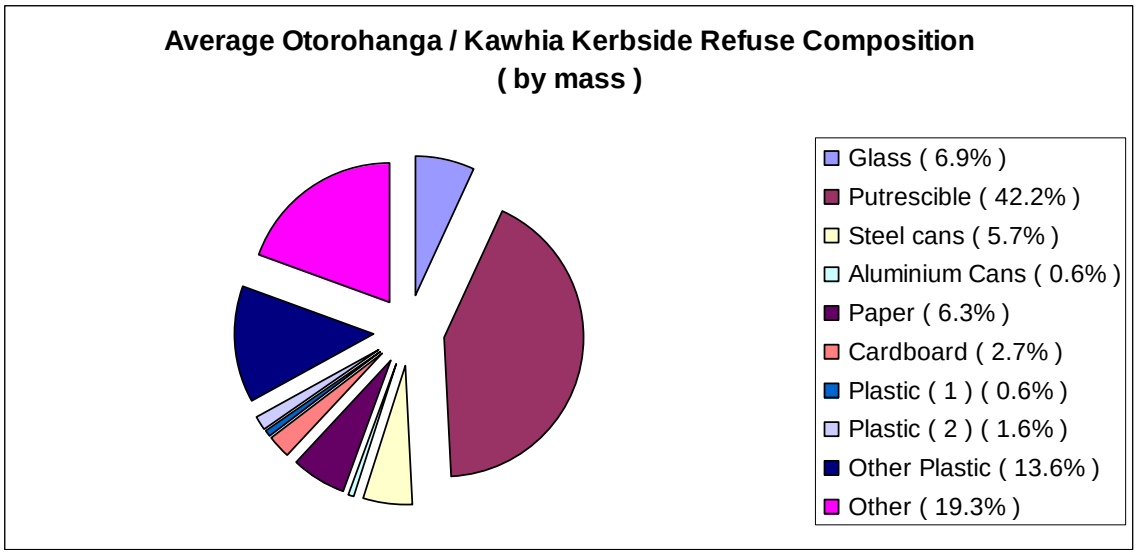


Fig 1 : Composition of Waste – Otorohanga / Kawhia Kerbside 2002

Neighbouring Council's have also undertaken similar surveys, with the resultant need for more education and diversion of organic waste. The composition of these surveys is detailed in Appendix B – Waste Assessment.

Without the biodegradable components, the remainder of the waste may be viewed as merely a collection of resources – many of which are immediately recyclable – plastics, glass, metal etc.

Materials not currently recyclable are the subject of on-going research and diversion methods eventually become available. Recent examples include – agricultural plastic wrapping and various building materials etc.

The use of recycled materials not only avoids future environmental problems at disposal sites but reduces the use of virgin raw materials which are finite resources, thus enhancing sustainability.

Operational Management

Council's Solid Waste services are provided under contract by Supa Bins, a locally based solid waste management company that is a division of EnviroWaste. This Contractor has provided Council with very reliable services over a long period with only a very limited level of contract management input required from Council staff.

The existing contracts are considered to provide excellent value for money, though Council is conscious that Supa Bins / EnviroWaste is potentially in a relatively strong commercial position with limited effective local competition, and as such there could be potential for future increases in contract prices.

4.2 Summary of Existing Waste Management and Minimisation Infrastructure and Services

The only significant Council owned assets in relation to solid waste management are Recycling Centres in Otorohanga and Kawhia, and street litter and recycling bins.

Both Recycling Centres are less than ten years old and consist only of developed land and simple buildings, with all required ancillary equipment provided by a Contractor. As such the asset management responsibilities of Council in relation to these sites, and in general, are expected to be relatively limited, with only minor maintenance works expected to be required over the next 10 years.

Council currently provides the following solid waste management services on a routine basis:

- Kerbside collection of refuse and 'standard'* recyclables in the Otorohanga, Kawhia and Aotea Communities;
- Street litter bins in the Otorohanga and Kawhia Communities;
- Street litter recycling bins in Otorohanga;
- Staffed Recycling Centres in Otorohanga and Kawhia providing refuse transfer, recycling and re-use services;
- An unattended community run recycling centre at the Ngutunui School.

These recycling and re-use services are provided on a free basis, but all of Council's refuse services have a significant direct 'user pays' component, which is intended to encourage waste minimisation in accordance with Council's adopted Waste Management and Minimisation Plan, as described in the following section.

Since 2000 Council has not operated any landfills, and the majority of residual solid waste collected in the District is transported to the Te Kuiti Landfill in the Waitomo District for disposal. The landfills formerly operated by ODC in Otorohanga and Kawhia have now been closed, capped and are complying with all Resource Consent conditions for these sites.

Standard' recyclable materials are currently paper, cardboard, type 1 and 2 plastics, glass bottles and jars, steel and aluminium cans.

4.3 Summary of District Specific Issues

In summary, the district specific issues considered include:

- To address the remaining amount of waste going to landfill that could be recycled;
- High cost for refuse and recycling in lower populated rural areas;
- The Contractor and landfill operators have not efficiently kept track of waste from specific regions and therefore a breakdown of waste is not available. Council's current Waste Contractor is reviewing its data collection methods so that the required

reliable information is provided. Council will include requirements that returns of all waste generated from Council Contracts will be notified to Council and will continue to work with other waste contractors to obtain indicative data on waste they are disposing of.

- At -0.5% population growth in the District, Council envisages services and quantities to remain static;
- The cost of disposal in landfills has increased dramatically with the introduction of the Waste Minimisation Act 2008. Costs for disposal at Te Kuiti are now $133 (incl GST) per tonne;
- The cost of transport to landfill has increased as the distance to landfill has increased;
- Unavailability of compliant household and agricultural hazardous waste collection facilities;
- Suitable disposal options of agricultural by products such as silage wrap etc;
- Development of event recycling protocol.

5. Proposed Methods for Achieving Effective and Efficient Waste Management and Minimisation

5.1 Summary of Current Management of Key Waste and Diverted Material Streams

The table below summarises some of the current process in the District for managing waste and diverted material streams.

Waste Stream	How they are managed
Household waste	Kerbside refuse collection and recycling centres. Waste disposed of to landfill out of the district
Household diverted material	Kerbside recycling collection and recycling centres for drop-off of recyclables; separated glass is taken to Visy glass for processing; plastic, steel tins and aluminum cans is currently delivered co-mingled to the Taupo branch of ESL; paper and cardboard are carted to Hamilton to make cardboard through CHH's paper Mills
Steel, car batteries, LPG cylinders	Collected at both recycling centres then on sold to scrap dealers; customers referred directly to local scrap dealer
Greenwaste	Collected at both recycling centres then delivered to Waitomo District Council landfill for processing
Hazardous waste	No hazardous chemical waste is accepted at the recycling centres within the district but small amounts will be accepted at the Waitomo District Council landfill once their hazardous waste containers become certified. Agrecovery collects unwanted farm chemicals.
Commercial wastes and diverted materials	Landfill disposal
Construction and Demolition waste	Unknown
Bio-solids	Buried at landfill or spread on land
E-waste	Accepted at both Recycling Centres for delivery to an approved eWaste collector; customers referred directly to local scrap dealer
Tyres	Silage pits – farming fraternity

Table 1 : Current Processes for Waste Diversion

5.2 Options for the Future

A substantial reduction in waste to landfill can be achieved by the application of the waste management hierarchy to each sector of the community producing waste – residential, commercial and industrial. The waste stream from each sector has its own characteristics and each sector will respond to different measures.

Methods: To be successful, an integrated programme is necessary, which provides:

Education and Promotion – to allow the development of community awareness.
Enabling the Community – enabling awareness to be converted into action.
Incentives – to reward those making the effort.
Future Demand – consider the future levels of service for waste disposal and recycling

<u>Education and Promotion</u>

This is the key activity, the necessary first step in an integrated programme, since it involves both changes in attitude and in behaviour.

a) Attitude – we all create waste, and have to take responsibility for it, individually or as a business. Waste must be viewed as a potential resource. In nature and earlier societies there was no such thing as waste – it is a relatively new phenomenon.

b) Behaviour – the adoption of waste avoidance methods offers the best long-term benefit.

An effective waste education programme that encourages more recycling and less general waste that reaches all sectors producing waste in:

a) Schools – a priority since by 2025, today's students will have households of their own.
During 2003 a waste programme was established for recovery of food waste through worm farms in almost all primary schools in the district.
Paper4trees is currently active in seven primary schools and the secondary school in the district.
Extension of the programme to include other aspects of waste, and the opportunity for schools to adopt a waste minimisation policy would increase its value to the district.

b) Community groups – talks and exhibitions reach all sectors.

c) Commercial and industrial sectors can receive advice and assistance in identifying waste, conducting waste audits etc, which is termed - cleaner production.

d) Households – education is normally by the distribution of promotional materials plus information on specific aspects directed on a house-by-house basis.

Enabling the Community

a) By identifying components in the waste stream that can be diverted from it by reuse and recycling.

b) Provide facilities for the reception or collection of separated materials.

c) Progressively extend the range of materials recycled.

Incentives

After the provision of information and facilities to enable waste minimisation, support can be offered to those taking the time to do the right thing by making sure that those who make waste meet the true costs of its disposal.

Future Demands

Future demand for Council's refuse and recycling services is dependant on a number of factors, including:

- Population / Community Changes; currently little additional demand expected through such mechanisms

- Development of Council Services: the nature and extent of Council services will influence utilisation – for example improved / extended recycling centres are likely to encourage usage. The additional revenue made available from the landfill levy under the Waste Minimisation Act is likely to facilitate this.

- Changes in Markets for Recyclables: this may lead to changes in the scope and costs to the public of Council's recycling services, that will in turn influence demand;

- Central Government Policy: the new legislation focusing on waste minimisation will clearly affect refuse and recyclable material quantities;

- Pricing of Alternative Private Refuse / Recycling Services: competing private services for refuse disposal already exist in the District, and may offer lower prices than some Council services;

- Landfill Acceptance Criteria and Costs: changing landfill acceptance policies and costs must be reflected in Council services, with rising landfill costs potentially encouraging inappropriate waste disposal practices;

- Waste Minimisation Education: or other causes of attitudinal change.

The combined effect of these factors is very difficult to assess. In the short term it is expected that quantities of refuse passing through Council's solid waste services will slightly decrease, whilst quantities of recycled or re-used items will increase, but it is not considered possible to reliably predict the extent of these changes.

The following table outlines potential options for the future:

Type of Activity	Potential Options
Collection	• Continue with existing kerbside collection services; • Ensure that all waste is collected, transported and disposed of in a safe manner; • Continuation of providing waste sorting and recycling at recycling centres.
Recovery and Reuse	• Continuation of provision for greenwaste at landfill; • Continuation of re-use shop at Otorohanga Recycling Centre.
Recycling	• Continue with existing kerbside recycling collection service; • Continue to collect the current range of recyclable items at the Otorohanga and Kawhia Recycling Centres; • Expand recycling collection points in the rural area; • Support recycling initiatives/opportunities as they arise.
Treatment and Disposal	• Support the development of special waste treatment facilities by ensuring Council contracts require appropriate disposal.

6. Funding the Plan

6.1 Refuse Collection and Disposal

The residents of Otorohanga, Kawhia and Aotea communities will fund the costs through a Uniform Targeted Rate.

Council's refuse services have a significant direct 'user pays' component (purchase of refuse bags and costs at Otorohanga and Kawhia facilities), which is intended to encourage waste minimisation in accordance with this Plan.

6.2 Recycling

Recyling and re-use services are provided on a free to use basis. The costs of operation and maintenance being met from the Collection and Disposal Rates.

6.3 Solid Waste Management

Council considers that both Otorohanga and Kawhia closed landfills and recycling centres should be funded 80% from the Otorohanga and Kawhia/Aotea communities respectively and 20% from the rural area.

Information on the reasoning behind this funding method can be found in the Revenue and Financial Policy, of Council's LTP 2012/13 to 2021/22.

6.4 Waste Disposal Levy

With the introduction of the Waste Minimisation Act 2008, a waste disposal levy has been imposed on waste disposed of at a disposal facility. The levy payable is $10 per tonne (exclusive of GST). This levy must be paid to the Government.

Territorial authorities receive a population based share of the total levy money collected in respect of a financial year.

This funding is to be used for the development of waste minimisation within the district. Council's current priority is to extend the availability and services for recycling in the rural area. The first payment was received by Council in January 2010 and thereafter at three monthly intervals. A separate account and reporting system has been established.

Council has developed priority calculations for the establishment of rural recycling centres within the District, based on population density and other relevant factors. These calculations are based on collection costs only, not establishment or other maintenance costs. See Appendix B for location evaluation method and supported documentation.

7. Monitoring and Reporting Progress

7.1 Monitoring and Reporting

The following items are currently being pursued by Council and the methods for monitoring these are detailed below. From time to time Council may review its Waste Management and Minimisation programme and any additional programme as listed in Appendix A, and a suitable monitoring and reporting programme will be implemented.

No.	Objective	Method of assessment	Timeframe
1	To promote the concept of waste minimisation, and to encourage individuals, households and businesses to take responsibility for their waste, and to provide leadership, information and support to all groups	Assess the outcomes of Council's promotional and advertising activities	Annually
2	To actively encourage community participation in all waste reduction activities	Assess the outcomes of Council's promotional and advertising activities	Annually
3	To target specific components of the waste stream in all sectors of the community and achieve optimum reduction, re-use and recycling of them	Assess range of recyclable materials with national trends and previous years quantities	Annually
4	To understand our waste stream to enable measurement of changes and the effectiveness of reduction initiatives	Maintain a database of waste material providing information on waste streams and detailing which items can be recycled and reused, where and how	Ongoing with quarterly updates
5	To progressively extend the range of waste stream components targeted and facilitate their reduction, re-use or diversion to recycling	Assess range of recyclable materials with national trends and previous years quantities	Annually
6	To ensure that the costs of waste disposal are progressively apportioned to those who generate the waste	Compare cost portion from Council's financial budgets, estimates and expenditure	Annually

APPENDIX A
ACTION PLAN

Waste Management and Minimisation Plan
Projects – 2012 to 2018

1. Introduction

The projects listed are subject to annual funding and decisions will be made based on priority at the time.

The following measures provide for the gathering of data, for waste awareness education and choices of action in the different sectors producing waste. Action is based on the waste stream of the various sectors, rather than on individual materials in the waste stream, since each sector has different characteristics.

All waste produced must be considered, from commercial, industrial and residential sectors, including that removed by all other contractors, in addition to the waste collected under contract to Council.

There is little data available on materials landfilled or currently recycled from the district. No targets are proposed at this stage, since there is currently insufficient data to base them on.

2. Funding Structure

Refuse Collection and Disposal - The residents of Otorohanga, Kawhia and Aotea communities will fund the costs through a Uniform Targeted Rate.

Recycling - Recycling and re-use services are provided on a free to use basis. The costs of operation and maintenance being met from the Collection and Disposal Rates.

Solid Waste Management - Council considers that both Otorohanga and Kawhia closed landfills and recycling centres should be funded 80% from the Otorohanga and Kawhia/Aotea communities respectively and 20% from the rural area.

Waste Minimisation - Council is dependent on the availability of funding from the waste disposal levy to fund waste minimisation projects. Council currently funds two education programmes within the district and the ongoing costs involved with managing the Street Recycling Bins. Council's next priority is to extend the availability and services for recycling in the rural area. Realistically Council's waste minimisation funds can only achieve these current actions during the timeframe of this WMMP.

3. Targets and Measurement

Council is dependant on central government to establish and implement product stewardship provisions. At the time of drafting this WMMP no priority product stewardship schemes had been developed and therefore it is not possible to incorporate any benefits from such schemes into targets for waste minimisation.

4. Action Plan

Following is Council's Action Plan, with links to Council's objectives as listed on page four of this Plan.

1. Waste Awareness

WHAT	HOW	INDICATIVE TIMEFRAME
1. Schools	• Support the Paper4Trees programme in primary and secondary schools within the district; • Support the EnviroSchools programme in primary schools within the district.	Current and ongoing
Meets Council's WMMP Objective No. 1		
2. Community	• Require all events on Council land, or which are Council funded, to have a waste minimisation plan; • Update Council's website with useful recycling information and links to complementary websites.	Where practicable and economic December 2012
Meets Council's WMMP Objective Nos 2 & 4		

2. Residential Waste

WHAT	HOW	INDICATIVE TIMEFRAME
1. Urban Residents	• Continue with the present kerbside collection of waste and the recyclables – glass bottles & jars, plastic bottles (1 & 2), aluminium and steel cans, paper and cardboard; • Promote an awareness of waste avoidance methods and participation in recycling, by the distribution of promotional materials.	Current and ongoing
Meets Council's WMMP Objective No. 4		
2. Recyclable Materials	• Retain existing range of recyclable materials being collected; • Support recycling initiatives / opportunities as they arise.	Current and ongoing
Meets Council's WMMP Objective No. 4		
3. Recycling Facilities	• Improve current facilities as required.	Where practicable and economic
Meets Council's WMMP Objective No. 4		
4. Rural Residents	• Operate and/or support three additional recycling centres at rural schools or relevant community centres. Schools/communities would be responsible for the day-to-day management of the facilities but serviced by Council.	December 2013
Meets Council's WMMP Objective No. 4		

3. Commercial Waste

WHAT	HOW	INDICATIVE TIMEFRAME
1. District Council	• Support and promote Council's WMMP in all operations – e.g. tree clearance, vegetation control and disposal; • Specifications in contract documents to require appropriate management of waste; • Support and promote the use of recycled material in civil projects eg glass.	Where practicable and economic
Meets Council's WMMP Objective Nos 1, 2, 3 and 4		
2. Business	• Encourage all businesses to provide in-house recycling facilities via the Otorohanga Businesses Association.	Ongoing
Meets Council's WMMP Objective Nos 1, 2, 3, 4, 5 and 6		
3. Food and Hospitality	• Increase the diversion of food and other biodegradable wastes from the waste stream. Council's Environmental Health Officer will carry out education at the time of inspection of food premises.	Ongoing
Meets Council's WMMP Objective Nos 1, 2, 3, 4, 5 and 6		
4. Garden Contractors	• Contractors will be encouraged to shred and chip green waste on site, rather than deliver it to a community facility; • Establish recycling outlet in Otorohanga to receive plastic waste generated by gardeners.	Ongoing 2013
Meets Council's WMMP Objective Nos 1, 2, 3, 4, 5 and 6		

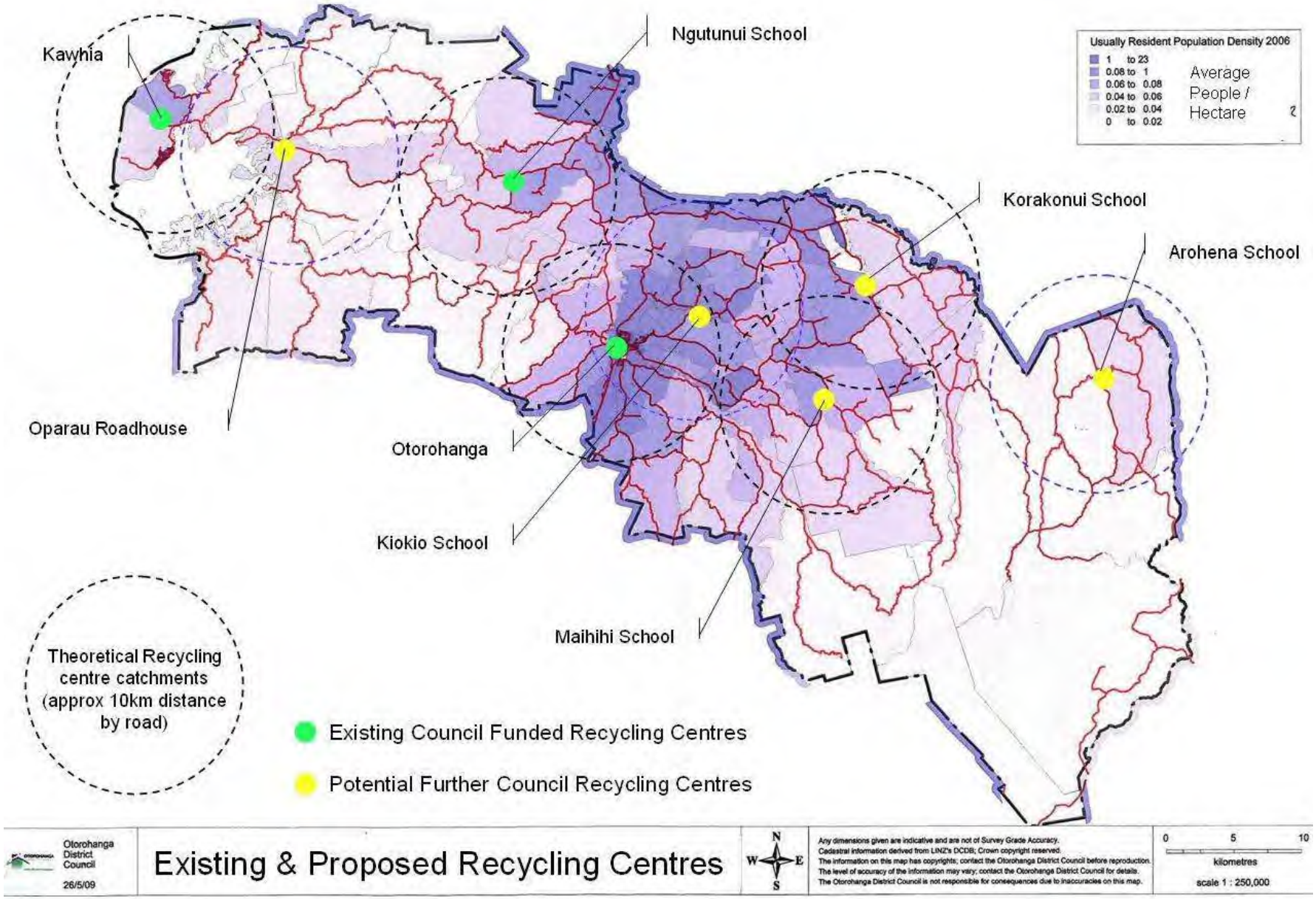
4. Industrial Waste

WHAT	HOW	INDICATIVE TIMEFRAME
1. Rural	• Encourage the rural community to recycle: o silage wrap; o agrichemical and animal health plastic containers; o any other recycling opportunities as arise.	Ongoing
Meets Council's WMMP Objective Nos 1, 2, 3, 4, 5 and 6		

APPENDIX B
RURAL RECYCLING CENTRE LOCATIONS
PRIORITY CALCULATIONS

Assessed Site Suitability – Including Cost Issues

Potential Recycling Facility Location	Site Suitability Index	Cost per collection from site	Collection Cost per Suitability Index Point	Cost/Yr with fortnightly collections	Cumulative Additional Cost / Year (2012)
Ngutunui School	**21**	$137	$6.29	$3,562	Nil (existing)
Otewa	**13**	$84	$6.46	$2,184	$2,184
Maihihi	**17**	$132	$7.76	$3,432	$5,616
Kiokio School	**16**	$132	$8.25	$3,432	$9,048
Arohena School	**28**	$273	$9.75	$7,098	$16,146
Te Kawa X Rds (SH3)	**10**	$132*	$13.20	$3,432	
Korakonui	**15**	$200*	$13.33	$5,200	
Te Kawa Village	**12**	$132*	$16.67	$3,432	
Oparau Roadhouse	**15**	$273	$18.20	$7,098	
Hauturu	**11**	$273*	$24.82	$7,.098	


Kawhia
Ngutunui School
Usually Resident Population Density 2006
1 to 23
0.08 to 1
0.06 to 0.08
0.04 to 0.06
0.02 to 0.04
0 to 0.02
Average People / Hectare
Korakonui School
Arohena School
Oparau Roadhouse
Otorohanga
Kiokio School
Maihihi School
Theoretical Recycling centre catchments (approx 10km distance by road)
Existing Council Funded Recycling Centres
Potential Further Council Recycling Centres
Otorohanga District Council
26/5/09
Existing & Proposed Recycling Centres
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Any dimensions given are indicative and are not of Survey Grade Accuracy.
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WASTE ASSESSMENT 2011

OTOROHANGA DISTRICT COUNCIL

make the kiwi connection

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Otorohanga District Council has a statutory responsibility to promote effective and efficient waste management and minimisation within the Otorohanga District under section 42 of the New Zealand Waste Minimisation Act 2008 (WMA) and to review its Waste Management and Minimisation Plan no later than 1 July 2012.

Section 50 of the WMA requires all Territorial Authorities to prepare a 'Waste Assessment' in accordance with Section 51 of the Act. The Waste Assessment is the first step in conducting a comprehensive review of Otorohanga District Council's WMMP. The Waste Assessment compiles available information on waste and diverted materials generated within the Otorohanga District. Future demands for waste facilities and services are considered and the assessment looks at the practicable options available to meet those future demands while achieving Otorohanga District Council's waste management and minimisation objectives.

Council's waste management and minimisation activities are focused on the reduction and diversion of solid waste. It includes educational programmes targeted at improving awareness of the benefits of waste reduction and services available, promotion of and support for community initiatives.

Preparation for this document commenced in August 2011, using information assembled from a variety of sources. Every effort has been made to achieve a reasonable degree of accuracy in this assessment.

The information obtained in this waste assessment was considered appropriate when giving regards to:

- The significance of the information;
- The costs of, and difficulty in, obtaining the information;
- The extent of the Council's resources;
- The possibility that the Council may be directed under the Health Act 1956 to provide the services referred to in that Act.

THE WASTE SITUATION

1. Limits of Information

This section outlines the available information about waste and diverted material generated in the Otorohanga District which is recycled, recovered, treated or disposed of to landfill. The information includes available data about quantities, composition, source and destination of waste and diverted material.

Waste operators collecting waste within the Otorohanga District are, as yet, not required to be licensed by Council. The information in this assessment has been collated from data collected from Council's only contractor providing the collections and by staff of the Otorohanga District Council. This however is not a full account of the waste and diverted material generated within the district as unknown quantities of refuse and recycling are collected by a number of private collectors running small operations.

In rural areas on-site disposal commonly occurs, therefore, the opportunity for waste minimisation and the capture of information regarding the nature and quantity of these recyclable or recoverable materials is unknown. If this waste was dealt with through Recycling Centres, recycling centres or landfills, data on waste to landfill and waste minimisation effects would be more accurate and more certainty about environmentally beneficial disposal could be achieved.

2. Quantity of Waste – Waikato Region

In 2007 there were five municipal solid waste landfills for general waste in the Waikato Region, five disposal sites associated with industrial operations and at least 13 consented cleanfills of significant size. Of the five regional landfills, two are the main repositories for waste - Hampton Downs and Tirohia Landfills. Both landfills accept waste from Hamilton City and other parts of the Waikato and Auckland regions.

The largest of the regional landfills, at Hampton Downs near Meremere, has a consented volume of 30,000,000m^3 over a term expiring in 2030. Its consent was issued in 2001.

Waikato Regional Council's 1996 survey of Hamilton City and the six District Council areas measured about 151,000 tonnes of waste discarded. Of this, 90,000 tonnes went to the Horotiu landfill, which at that time received waste from Hamilton, Te Awamutu and the Thames-Coromandel District.

From this survey and population information it is estimated that in 1996, on average, each person in the Waikato Region generated 528 kg of household waste. It also identified that 150,000 to 200,000 tonnes of waste came from businesses and commercial properties. The survey also found that composition of waste varied significantly between communities.

A further survey of District Councils in 2001 indicated that the amount of household waste generated per person increased slightly to 594 kg.

3. Quantity of Waste - Otorohanga District

Council's Solid Waste Contractor sends all its refuse to the Waitomo District Landfill at Te Kuiti. It is the nearest municipal landfill to the District and is a fully engineered and consented site. The landfill has a consented capacity of 232,000 tonnes. Waitomo District Council have advised that their physical capacity of Cells 1 to 4, as stated in their approved Design Report (May 2006) for the amended landfill design, totals 350,000m3. This equates to a tonnage of approximately 295,000 tonnes after allowing for compaction (1tonne /m^3), cover material and capping (15%). Of this amount, approximately 127,000 tonnes is estimated to have been filled to December 2010, leaving 168,000 tonnes of remaining capacity within the approved design. At an average filling rate of 10,000 tonnes per year, the approved landfill design offers approximately 16 years of capacity. A survey completed by Waitomo District Council in January 2011, followed by some computer modelling work, showed that a total of 450,000 tonnes could be accommodated within the existing approved footprint.

The following tables illustrate the volumes of refuse from Otorohanga District Council's kerbside collection and Recycling Centres for 2010 and 2011. The information provided to Council is indicative only.

Tonnage for Kerbside and Recycling Centres 2010			
Kerbside		**Recycling Centres**	
Otorohanga	157.82	Otorohanga	93.6
Kawhia & Aotea	37.34	Kawhia	34.2
		Oparau	0
Total Kerbside	195.16	Total Recycling Centre	127.2

Tonnage for Kerbside and Recycling Centres 2011			
Kerbside		**Recycling Centres**	
Otorohanga	219.01	Otorohanga	112.8
Kawhia & Aotea	56.35	Kawhia	46.56
		Oparau	2.808
Total Kerbside	275.36	Total Recycling Centre	162.16

Table 1 : Tonnage for Kerbside and Recycling Centre Waste

Council employs a Litter Control Officer who travels all of Council's roads and the State Highways over the period of a month. During this period, on average, she collects 4.55 tonnes of litter per month. This is transferred to the Waitomo District Council landfill.

4. Waste Composition

Re-use and recycling provide opportunities to divert waste from the landfill. Identifying materials that are in the waste stream can show what valuable materials are being thrown away which could be recycled, reused or recovered. This information helps develop waste minimisation policies, targets and waste minimisation education programmes to improve recycling within the district. Council can and does support private recycling initiatives, where they are economically and environmentally sustainable and fit within its overall waste management objectives.

5. Waste Composition – New Zealand

New Zealand disposed of an estimated 3.156 million tonnes of waste to landfills in 2006. The Ministry for the Environment, Environmental Report Card July 2009, estimates the composition of waste disposed of to landfills in New Zealand by reporting the results of waste composition audits at four national indicator sites (landfills). The sites are a sample of the 60-plus landfills across the country and provide a best available national picture of waste disposal patterns in New Zealand.

Organic waste was the largest proportion of waste disposed of to landfills in 2007-2008, representing 28 per cent of the overall waste stream; rubble and potentially hazardous waste were next, representing about 15 per cent each; and timber represented 11 per cent. Potentially reusable wastes, such as organic waste, rubble, timber, paper, plastic, metal and glass, together represented most of the waste stream.

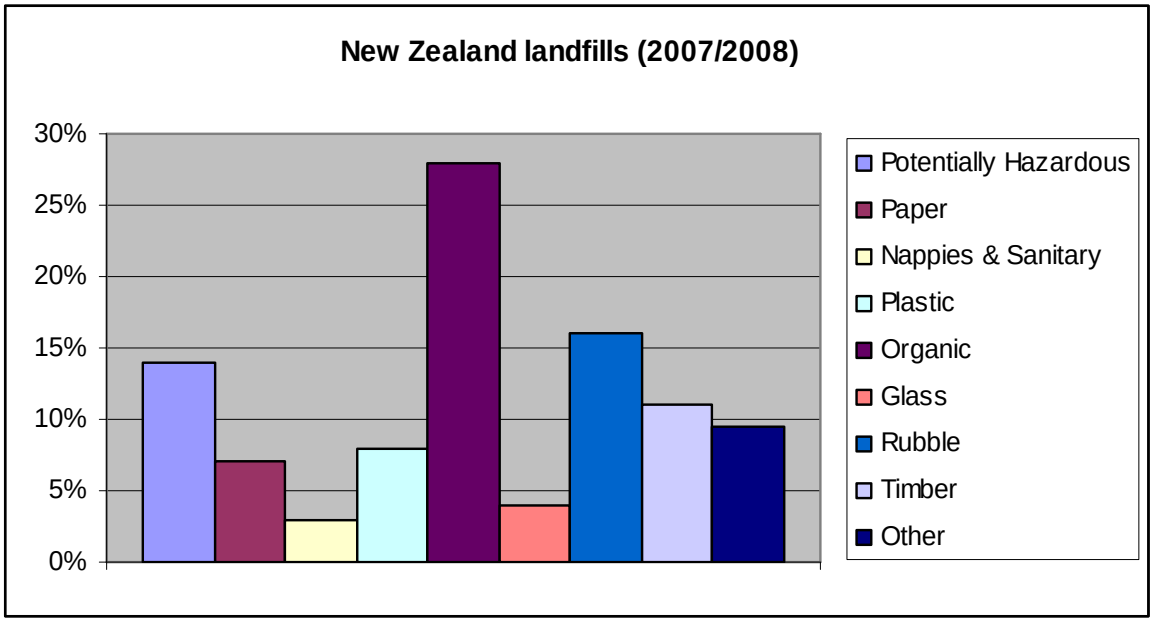

Fig 1 : Composition of Waste – New Zealand Landfills 2007-2008
Source: Ministry of Environment 2008b

Between 2002-2004 and 2007-2008, the proportions of organic, plastic, glass, and nappies and sanitary waste have increased in the New Zealand waste stream, while rubble, paper and metal waste have decreased. These changes reflect changing consumption patterns, recovery rates of recyclable materials, and construction activity.

6. Waste Composition – Waikato Region

The following estimates of the composition of waste disposed at landfills was carried out by Waste Not Consulting in 2004.

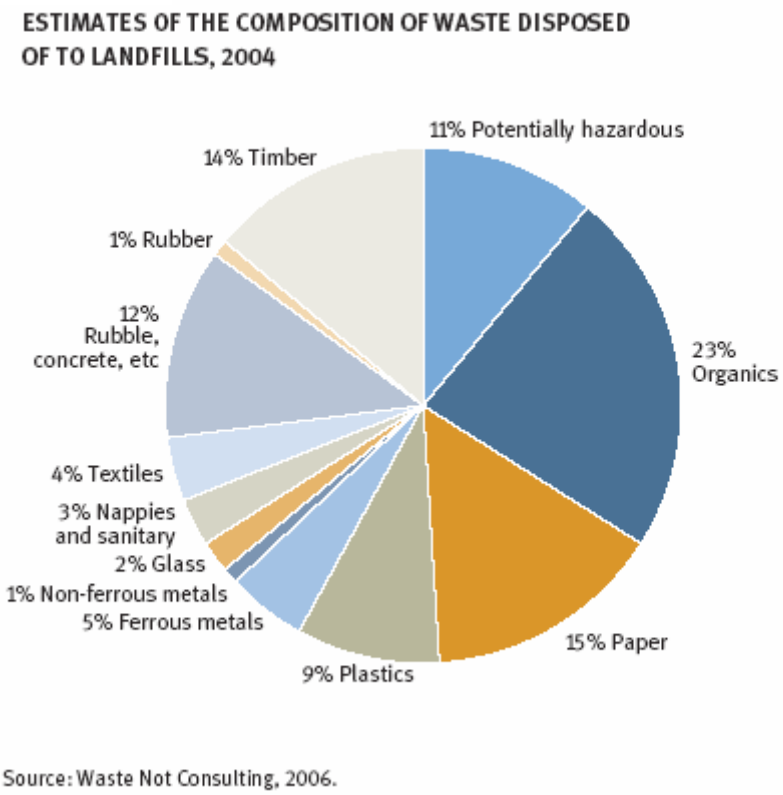

Fig 2 : Estimates of the Composition of Waste Disposed of to Landfills 2004

In 2006 Waste Not Consulting analysed the contents of rubbish bags and provided the following composition:

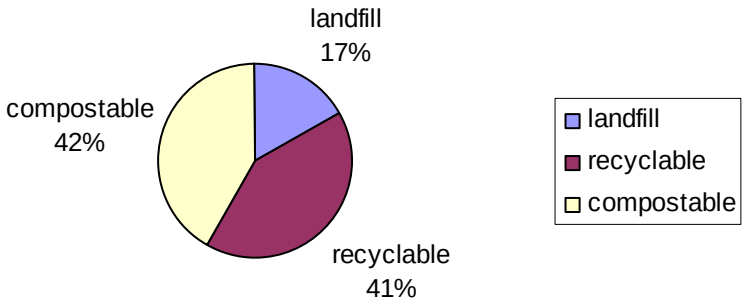

Fig 3 : Composition of Rubbish Bag Content – Waikato Region 2006

7. Waste Composition – Otorohanga District

Waste diversion programmes aim to reuse, recycle or recover waste products, with the emphasis being on waste as a resource. Programmes of this nature are typically pitched at a local level, with Council currently involved in the provision of recycling facilities and a kerbside collection of recyclables in conjunction with the refuse bag collection service.

The Otorohanga District Council, carried out an analysis of the kerbside bagged refuse collection in 2002. The findings from that exercise showed that there is potential for increased diversion of recyclables to occur, particularly in Kawhia.

The results from the waste analysis are presented in the table and figure below:

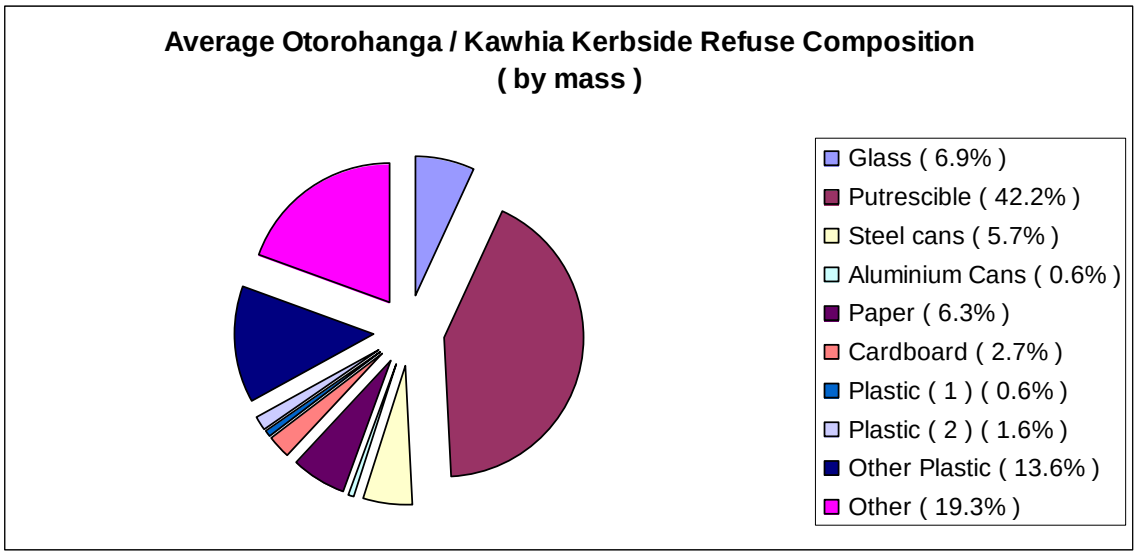

Fig 4 : Composition of Waste – Otorohanga / Kawhia Kerbside 2002

The Otorohanga District Council has similar demographics to our neighbour, Waitomo District Council, who carried out an analysis of the kerbside bagged refuse collection in July 2010. The findings from that exercise showed that there is potential for increased diversion to occur, even without growth. Approximately 50% by weight of the surveyed bags contained potentially recyclable material.

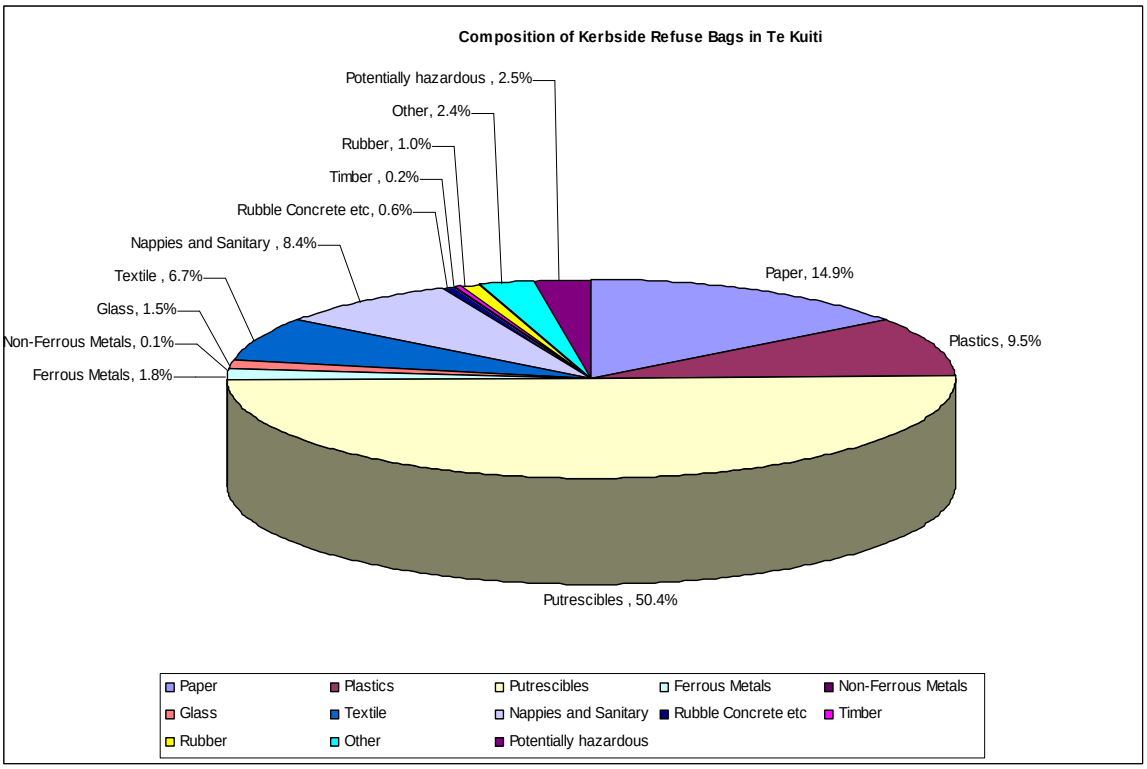

Fig 5 : Composition of Residential Bagged Waste Entering Landfill from Te Kuiti Kerbside 2010

In summary, approximately 50% of all kerbside waste going to landfill is potentially able to be diverted. It is evident that more emphasis on the recycling of organic material, paper and plastics is required.

A comparison of audit results recorded by Te Kuiti kerbside bagged refuse in 1997, 2008 and 2010 (see table below) shows that the greatest opportunity for reducing demand on landfill capacity is by targeting residential organic wastes, which has increased greatly in volume since the 2008 audit.

Waste Composition	Te Kuiti (1997)	Te Kuiti (2008)	Te Kuiti (2010)	Change %
Organic	54%	29%	50.4%	**+21.4%**
Paper	19%	25%	14.9%	**-10.1%**
Plastic	7%	13%	9.5%	**-3.5%**
Glass	3%	8%	1.5%	**-6.5%**
Metal	6%	7%	1.95%	**-5.05%**
Nappies and sanitary	Not recorded	4%	8.4%	**+4.4%**
Textiles	5%	3%	6.7%	**+3.7%**
Construction	0	1%	0.8%	**-0.2%**
Other	6%	10%	5.9%	**-4.1%**

Table 2 : Comparisons of Composition of Kerbside Bagged Refuse Te Kuiti 1997, 2008 and 2010

EXISTING SERVICES

This section provides information of the key waste management and minimisation services provided throughout the district. Council ensures a range of services is provided to meet the Waste Minimisation Act 2008 requirements and to ensure refuse is adequately collected and disposed of for the purpose of public health protection under the requirements of the Public Health Act 1956.

The Otorohanga District Waste Management and Minimisation Plan comprises a mix of key strategic waste facilities and services that currently service the district. These include kerbside collection of refuse and recyclables, street litter and recycling bins, recycling facilities and waste transfer stations. Continuation of education programmes raise awareness of the benefits of waste minimisation and the services Council provides in support of waste management in the district.

1. Waste Services

A weekly kerbside refuse bag collection service is provided in the following communities:

- Otorohanga;
- Kawhia;
- Aotea.

The collection activity provides an efficient and cost effective means of collecting household refuse from medium to high density urban areas in order to safeguard public health and the environment. Official refuse bags are available on a user-pays basis from grocery outlets throughout the district and neighbouring communities. This service has been available since April 1998 and is an equitable method for residents utilising the service. In the context of waste minimisation practices, fees and charges provide a proven incentive for residents to reduce volumes of waste for disposal and increase resource recovery through recycling.

All commercial businesses have access to the kerbside collection or can make their own private arrangements.

A street litter bin collection service is provided by Council in strategic sites throughout the Otorohanga and Kawhia townships. Collections for the coastal community, which experience high summer visitor numbers, is increased over the summer period.

Otorohanga Refuse Bin

Kawhia Refuse Bin

Waste may also be deposited at Council's two Recycling Centres, for which a user-charge is levied.

There are no facilities to allow collection or disposal of waste from rural households, although rural residents have access to Council's Recycling Centres.

The following table shows the current collection services:

Location	Kerbside Refuse Collection	Kerbside Recycling Collection	Litter Bin Collection	Transfer Station (TS)	Recycling Centre
Otorohanga	✓ Wednesdays	✓ Wednesdays	✓ Daily	✓	✓ at TS
Kawhia	✓ Mondays	✓ Mondays	✓ Daily	✓	✓ at TS
Aotea	✓ Mondays	✓ Mondays			✓ at TS
Oparau				✓	
Ngutunui					✓ at School

Table 3 : Existing Waste Management Services

The following factors affect refuse collection and management:

- Higher cost for refuse collection in lower populated rural areas;
- Difficulties in obtaining data from private sector

2. Recycling Services

The WMA defines recycling as the reprocessing of waste or diverted material to produce new material.

There are two refuse and recycling centres in the Otorohanga District. These stations act as central collection points where the recyclable and reusable materials are separated out from waste prior to landfill, as rural properties in the district are not provided with a weekly recycling service. Council provides for the collection, without charge, of recyclable material at both Recycling Centres. Both these facilities also accept greenwaste, treated timber, scrap steel and other items (see table below) for a fee, making diversion a priority.

Council also provides a 're-use' shop at the Otorohanga Recycling Centre. These facilities provide an opportunity for a not-for-profit community based organisation to fundraise, at no charge.

Otorohanga Recycling Centre

The following table shows the recycling services provided in the District:

Name	Location	Key Services	Operator
Otorohanga Recycling Centre	40 Progress Drive, Otorohanga	Recycling Centre and waste transfer	EnviroWaste
Kawhia Recycling Centre	Lake Road, Kawhia	Recycling Centre and waste transfer	EnviroWaste
Ngutunui Recycling Centre	Ngutunui Road, Ngutunui	Recycling Centre	Ngutunui School Board of Trustees
Arohena Recycling Centre	Kahorekau Rd	Recycling Centre	Arohena Recycling Group

Table 4 : Recycling Services Provided in the District

Kerbside recycling services have been operating in the District since April 1998, with limited services offered prior to this date.

60 litre recycling containers are provided to all properties on the kerbside collection routes. Recyclables collected each week are glass, tins, aluminium cans, plastics 1 & 2, paper and cardboard.

All commercial businesses have access to recycling through the kerbside collections, although once the quantities of recycled material exceeds 20kg or more than the volume of the recycling container they are required to take their recycling to the Recycling Centres or make their own private arrangements.

15 recycling bins (Recycling in Public Places Initiative - RIPPI) were installed in December 2008 in the Central Business District and tourist areas within Otorohanga community, thanks to a grant from the Ministry for the Environment. This project is now self sustainable and serviced from the Council's waste disposal levy.

Recycling activities are consistent with the higher order waste diversion priority, and help to minimise unnecessary disposal of resources at landfill.

A bin based recycling station that provides for the separation of materials which includes glass, tins, aluminium cans, plastics 1 & 2, paper and cardboard, has been established at Ngutunui School, with a fortnightly collection arrangement in place.

Council also supports a community based recycling centre set up as above, at Arohena Primary School.

Kerbside and Recycling Centre totals:

Tonnage of Recycling for Kerbside and Recycling Centres Collections					
Kerbside			**Recycling Centres**		
	2010	2011		2010	2011
Glass	147.2	254.2	Glass	324.7	158.5
Plastics 1 & 2	23. 9	29.2	Plastics 1 & 2	28.2	51.6
Aluminium & Steel Cans	0	0	Aluminium & Steel Cans	10.2	0
Paper & Cardboard	19.8	51.6	Paper & Cardboard	110.2	105.0
Total Kerbside	190.8	334.9	Total Recycling Centres	472.7	315.1

Table 5 : Tonnage for Kerbside and Recycling Centre Recycling

The recycling collected at the kerbside, as detailed in the table above, is processed by EnviroWaste Otorohanga. Cardboard is processed through CHH's paper mills; glass is freighted to Visy Glass in Auckland; plastic, tin and aluminium are currently delivered co-mingled to the Taupo Branch of EnviroWaste Services Limited.

Current management of the waste stream is listed in the table below:

Waste Stream	How They are Managed
Household waste	Kerbside refuse collection and recycling centres
Household diverted material	Kerbside recycling collection and recycling centres for drop-off of recyclables Separated glass is taken to Visy glass for processing Steel tins, plastic and aluminum cans is currently delivered comingled to the Taupo branch of ESL Paper and cardboard, are carted to Hamilton to make cardboard through CHH's paper Mills
Steel, car batteries, LPG cylinders	Collected at both Recycling Centres then on sold to scrap dealers
Greenwaste	Collected at both Recycling Centres then delivered to Waitomo District Council landfill for processing
Hazardous waste	No chemical hazardous waste is accepted at Recycling Centres within the district. Agrecovery collects unwanted farm chemicals.
Commercial wastes and diverted materials	Landfill disposal
Construction and Demolition waste	Unknown
Bio-solids	Buried at landfill or spread on land
E-waste	Goods received at Otorohanga Recycling Centre on a user-pay basis Local scrap metal dealer Awaiting confirmation of a regional facility
Tyres	Silage pits – farming fraternity Waitomo District Council landfill

Table 6 : Waste Stream Management

The following factors affect recycling collection and management:

- Higher cost for recycling collection in lower populated rural areas;
- Difficulties in obtaining data from private sector

3. Recovery

The WMA classifies recovery as the extraction of materials or energy from waste or diverted material for further use or processing; this includes making wastewater or diverted material into compost.

Greenwaste

Otorohanga District Council does not provide for a greenwaste kerbside collection and no private collection is available. Greenwaste may be deposited at both the Otorohanga and Kawhia Recycling Centres, for which a use-charge is levied, and is transferred to the Waitomo District Council Landfill. The greenwaste is stored, chipped, composted then sold off site.

The following graph is provided by Waitomo District Council.

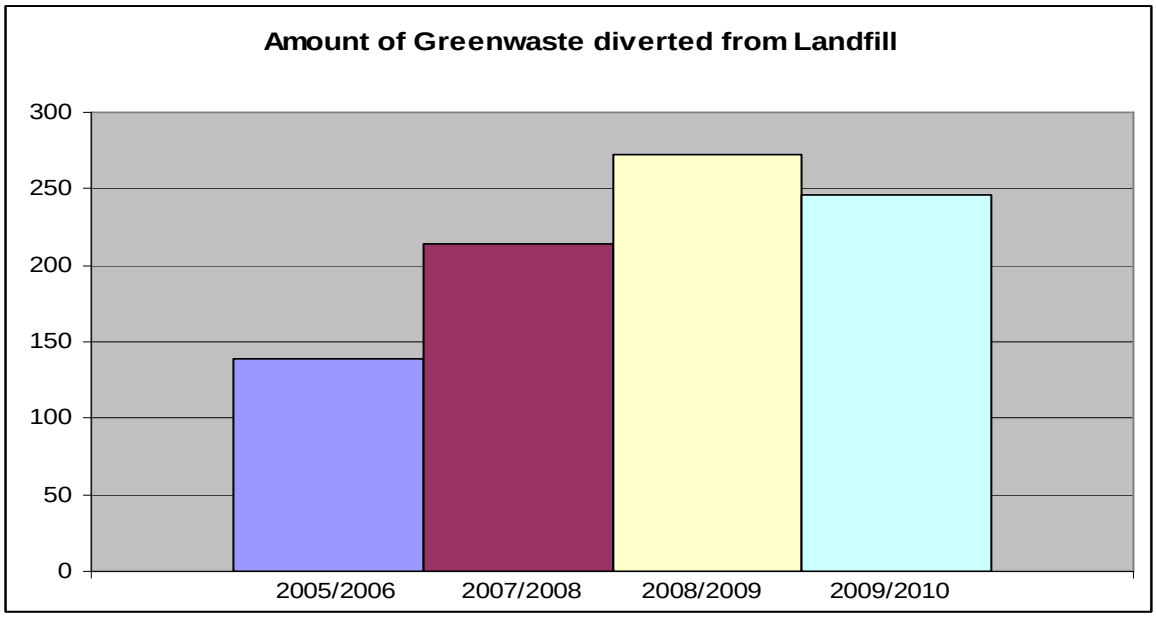

Fig 6 : Greenwaste diversion from the landfill remains consistent as shown above The graph represents tonnage per annum

Special Wastes

The Otorohanga and Kawhia Recycling Centres accept:

- Used Batteries;
- LPG Bottles;
- Scrap Metal;
- Appliances;
- Whiteware;
- Computers and monitors;
- Tyres.

The Otorohanga District Recycling Centres do not accept any hazardous waste including household and agricultural chemicals.

Organic Waste

No kerbside collection is provided by Council for organic waste. Home composting is encouraged by Council. All food premises have their organic waste collected by pig farmers in the area. Coffee grounds are collected by locals for their gardens.

4. Treatment

The WMA classifies treatment as subjecting waste to any physical, biological, or chemical process to change its volume or character so that it may be disposed of with no or reduced adverse effect on the environment (not including dilution of waste).

Bio-solids from the Otorohanga Waste Water Treatment Plant have been stored onsite at the Waste Water Treatment Plant in Geobags since desluding in 2005. A Resource Consent was issued at the end of 2011 to spread this on the site. New bio-solids will be stored on-site for 5-6 years to allow for drying and maturing before final disposal is undertaken. A small quantity of screenings is taken to landfill.

5. Disposal

The WMA classifies disposal as the final (or more than short term) deposit of waste into or onto land set apart for that purpose, or the incineration of waste.

All waste collected in the kerbside refuse collection and from the Recycling Centres is disposed of at the Waitomo District Council landfill.

Farm plastics such as silage wrap are a major concern. These plastics are often disposed of by either burning or burying. Farmers and other agricultural groups have options available for the recycling of plastic other than burning, burying or dumping. There are two schemes available in New Zealand to recycle this material - they are Agrecovery and Plasback.

The two district Recycling Centres provide environmentally safe disposal facilities for rural residents and the urban communities to dispose of solid wastes not suitable for bagged refuse collection.

This portion of the waste stream – including disused furniture, building materials and domestic appliances – is conveyed to landfill without separation of recyclables or the opportunity for re-use.

The following constraints and limiting factors affect waste disposal:

- Lack of compliance by rural residents with recommended on-site disposal of agricultural products such as silage wrap and agricultural chemicals;
- Unavailability of compliant household and agricultural hazardous waste collection facilities;
- An increase in user-charges and the removal of refuse tips has contributed to an increase in fly-tipping, the burning of some wastes and the use of litter bins for domestic waste disposal. This is a national trend;
- The absence of a transfer station in Otorohanga has resulted in extensive use of skips and wheelie bins by residents for all waste which is too bulky for the refuse bag;
- The Contractor and landfill operators have not efficiently kept track of waste from specific regions and therefore a breakdown of waste is not available. This may be addressed through a Notice to Contractor for future reference;
- At -0.5% population growth in the District, Council envisages services and quantities to remain static.

6. Waste Minimisation Education Programmes

Council has initiated a number of education and behaviour change programmes to assist in raising awareness of waste minimisation in the wider public. These programmes are significant to the success of Council's waste minimisation objectives, and are listed below.

- Paper for Trees programme is currently active in seven primary schools and the high school in the district. This programme is a successful initiative, set up by the Environmental Education for Resource Sustainability Trust (EERST);

- Ngutunui School is the only school in the district that has become an Enviroschool. It recently received its Bronze Award. The Enviroschools programme is to be expanded into schools in the district who are planning to extend their waste minimisation programmes. The Enviroschools programme aims to equip young students with the competencies they need to be leaders in sustainability. Students develop skills, understanding, knowledge and confidence through planning, designing and creating a sustainable school. Through active participation in environmental projects students can make a difference as part of the community;

- During 2003 to 2005 Council employed an educator to work in almost all of the schools within the Otorohanga District to encourage the use of worm farms. Parallel to that Council also carried out extensive public education and made worm farms available to purchase at a reasonable cost;

- Pare Kore, a Marae based zero waste initiative run by Waikato Xtreme Waste, was embraced by Maketu Marae in Kawhia in 2011;

- E-Days have been facilitated at the Otorohanga Recycling Centre for the past three years, giving the community the opportunity to dispose of e-waste such as computers, mobile phones etc, responsibly and safely. This service was well utilised, but unfortunately will not continue due to re-allocation of funding.

Ngutunui School students with their trees they were rewarded through the Paper4trees Programme

7. Private Collectors

There are four private waste collectors who provide a waste collection service within the Otorohanga District (residual waste only). These companies target business and industrial customers where volumes of waste are unsuitable or too large for kerbside collection, rural customers who are unable to access Council's collection service, and customers who have opted not to use Council's kerbside service. The waste collected by these companies are disposed of at the Waitomo District Landfill, the Te Awamutu Transfer Station, the Hamilton Transfer Station and Hampton Downs.

8. Closed Landfills

Since 2000 Council has not operated any landfills, and the majority of residual solid waste collected in the District is transported to the Te Kuiti Landfill in the Waitomo District for disposal. The landfills formerly operated by Council in Otorohanga and Kawhia have now been closed, capped and are complying with all Resource Consent conditions for these sites and have recently obtained High Level Compliance. Details of the closed landfills are summarised below:

Otorohanga Landfill

The landfill is situated off Haerehuka Street/Bledisloe Avenue in Otorohanga. It is not known for sure when the site was established, but it dates to at least 1960 and possibly earlier. The site was officially closed in 1996. Reinstatement works commenced immediately after its closure, and the site is monitored and maintained in accordance with current resource consents.

Kawhia Landfill

The landfill is situated in Lake Road off State Highway 31, 2km north of Kawhia township. The landfill was officially closed on May 2001 and has been rehabilitated and the current Kawhia Recycling Centre was established on the site in 2001. The site is monitored and maintained in accordance with current resource consents.

The resource consents for each of the above closed landfill sites require a long period of aftercare including maintenance of the capping layers, monitoring of groundwater quality downstream from each site and contaminants discharged to air.

9. Resource Consents

Resource Consents are held for each of the closed landfills and a cleanfill site, authorising the following activities:

Location	Consent Number	Activity Authorised	Sampling Frequency	Consent Start Date	Expiry Date	Map Reference	Current Compliance Status
Otorohanga	960747	To discharge up to 20,000m^3 of leachate per year on to or into land in circumstances that may result in contaminants entering ground water	Groundwater annually; Site inspections twice every year	9-Mar-99	31-Dec-33	NZMS 260 S16:033 336	High Level Compliance
	960748	To discharge contaminants to air	Nil	9-Mar-99	31-Dec-33	NZMS 260 S16:033 336	High Level Compliance
Kawhia	961502	To discharge up to 1,963m^3 of leachate per year on to or into land in circumstances that may result in contaminants entering ground water	Groundwater annually; Site inspections twice every year	24-Feb-99	31-Dec-13	NZMS 260 R15 707	High Level Compliance
	961504	To discharge contaminants to air	Nil	24-Feb-99	31-Dec-13	NZMS 260 R15 707 495	High Level Compliance
	970004	To discharge up to 3,350m^3 of leachate per year on to or into land in circumstances that may result in contaminants entering ground water	Groundwater annually	24-Feb-99	31-Dec-13	NZMS 260 R15 705 494	High Level Compliance
Rural	124254	Deposit cleanfill/spoil from roadslip events in association with ongoing maintenance of Raglan Road	Nil	03-Feb-12	30-Jun-22	NZMS 260 R15 761 554	New Consent

Table 7 : Resource Consents – Closed Landfills and Cleanfill Site

FUTURE DEMAND

1. Demographic Change

Assessing future demand within the Otorohanga District is essential to future planning and service delivery. Demand for waste management services is normally measured in terms of volumes of material for collection, reduction, diversion and disposal. Services that provide for these demands, along with programmes and facilities to increase awareness and encourage waste minimisation, are typical areas of Council involvement in responding to and providing for this demand.

There is a direct relationship between population and waste volumes. As an approximate guide, each person produces in the order of 1 tonne per year of waste, of which a proportion is recovered through recycling programmes or similar before the net volume of residual waste finds its way to the landfill.

Analysis of future requirements uses a combination of population projections, urban growth development plans, urban structure plans and waste composition data. Population increases and changes in land-use will often cause an increase in future demand on existing waste services, resulting in increased demand for refuse collection facilities, recycling, and transfer station/landfill upgrades and development.

The following information is primarily sourced from the 2006 Census as provided by Statistics New Zealand. It is the best available information at the time of writing. Council considers that this information is adequate as a basis for this assessment.

The Otorohanga District's overall general trend is a small population decline of -0.5% in both the rural and urban areas of the District.

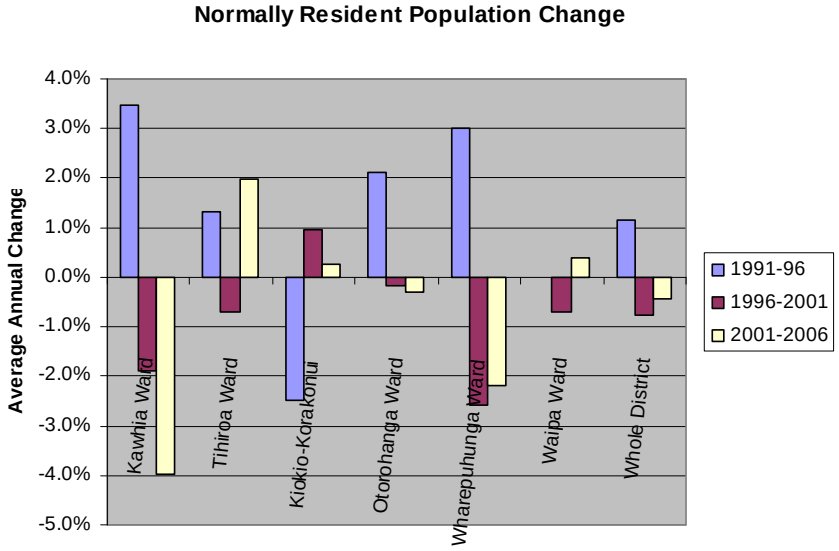

Fig 7 : Normally Resident Population Change

The District had a normally resident population[1] of 9075 at the 2006 census, having registered a slow decline of population (at a rate of approximately -0.5% per annum) over the previous 10 years. The accompanying figure does however show that the recent population change has not been uniform over the District, with nearly half of the overall decrease having occurred in Kawhia, and with Otorohanga and most of the rural wards retaining population or even showing modest growth.

Census Usually Resident Population Count for Area Units in the Otorohanga District, 1996, 2001 and 2006

Area Unit	1996 Census Usually Resident Population Count	2001 Census Usually Resident Population Count	2006 Census Usually Resident Population Count	Change 1996 to 2001	Change 2001 to 2006	Change 1996 to 2006
Otorohanga 531200	2,652	2,631	2,589	-21	-42	-63
Kawhia/Aotea 531100	645	510	387	-262	-120	-258
Te Kawa 531303	468	390	420	-78	+30	-48
Otorohanga Rural West 531301	1,623	1,662	1,683	+39	+21	+60
Otorohanga Rural East 531304	4,275	4,089	3,996	-186	-93	-279
Total	**9,663**	**9,279**	**9,075**	**-384**	**-204**	**-588**

Table 8 : 2006 Census of Population and Dwellings

The following table compares projected population growth with neighbouring District Councils.

With the exception of Waipa, all TLAs in the following sample show an annual average population decline for the medium and low growth projection scenarios. Waipa shows positive population growth under all scenarios

[1] There are two measures used during the Census, normally resident population (where someone usually lives) and Census Night population (where someone was on the night of the Census). This may include people on holiday or visiting friends, so the normally resident population is used to more accurately reflect the District population.

Table 9 : Projected Population of Territorial Authority Areas
2006–2031 (2006-base)

Territorial authority area[1]	Series[2]	Population at 30 June						Population Change 2006 - 2031	
		2006[3]	2011	2016	2021	2026	2031	Number	Average annual[4] (percent)
Waipa	High		46,700	49,400	51,900	54,300	56,400	12,700	1.0
	Medium	43,700	45,800	47,600	49,200	50,500	51,700	8,000	0.7
	Low		44,900	45,800	46,400	46,900	47,000	3,300	0.3
Otorohanga	High		9,500	9,600	9,600	9,700	9,700	300	0.1
	Medium	9,300	9,200	9,100	8,900	8,700	8,400	-1,000	-0.4
	Low		9,000	8,600	8,200	7,700	7,100	-2,200	-1.1
South Waikato	High		23,300	23,100	22,800	22,300	21,700	-1,600	-0.3
	Medium	23,200	22,700	21,900	20,900	19,800	18,400	-4,800	-0.9
	Low		22,000	20,600	19,000	17,300	15,300	-8,000	-1.7
Waitomo	High		9,800	9,900	10,000	10,000	9,900	300	0.1
	Medium	9,700	9,600	9,400	9,200	9,000	8,600	-1,000	-0.5
	Low		9,300	8,900	8,500	7,900	7,400	-2,300	-1.1
Ruapehu	High		13,900	13,900	13,700	13,400	13,100	-1,000	-0.3
	Medium	14,000	13,500	13,100	12,600	11,900	11,100	-2,900	-0.9
	Low		13,200	12,400	11,400	10,400	9,100	-4,900	-1.7

(1) Boundaries as at 30 June 2006.
(2) Three alternative projection series have been produced using different combinations of fertility, mortality and migration assumptions for each area.
(3) These projections have as a base the estimated resident population of each area at 30 June 2006.
(4) Calculated as a constant rate of population change over the period.

Notes: All derived figures have been calculated using data of greater precision than published. Owing to rounding, individual figures may not sum to give the stated totals. Statistics NZ considers the medium series to be the most appropriate for assessing future population changes.

2. Economic Growth

Waste generation is linked to changes in population numbers and population spending. Higher levels of economic growth will lead to higher production and consumption of goods which in turn creates higher quantities of waste.

Compared with its neighbours, the population projections for Otorohanga District Council are on a par with Waitomo District in terms of the overall quantum of population change from 2006 – 2031.

The current pastoral based economy will remain the main commercial activity in the district, with growth very dependent on economic conditions and export opportunities. Farming units are tending towards larger sizes – due to aggregation of neighbouring

properties. This may lead to an increase in domestic rural waste which will have potential for further diversion practices compared to on-site disposal.

3. Demand for Increased Services

Factors influencing demand for waste management services include legislative requirements, population changes, waste volumes and resource recovery. Community education and behaviour changes may also reduce the generation of waste while national product stewardship schemes may increase diversion of materials from landfill.

4. Community Feedback

Council conducts a triennial Levels of Service Satisfaction Survey, sent to all the districts ratepayers.

In the 2008 survey the main concerns raised by residents were:

- Convert to plastic recycling bins instead of plastic bags;
- Extend operating hours at Recycling Centre;
- Provide inorganic rubbish collection 6-monthly;
- Extend the amount of recyclables at kerbside.

The first two of these have been actioned. It is not financially feasible to carry out the last two items.

In the 2011 survey Council had a 20% return rate. The results are very good with less than 15% in every activity saying they believe some improvement is needed.

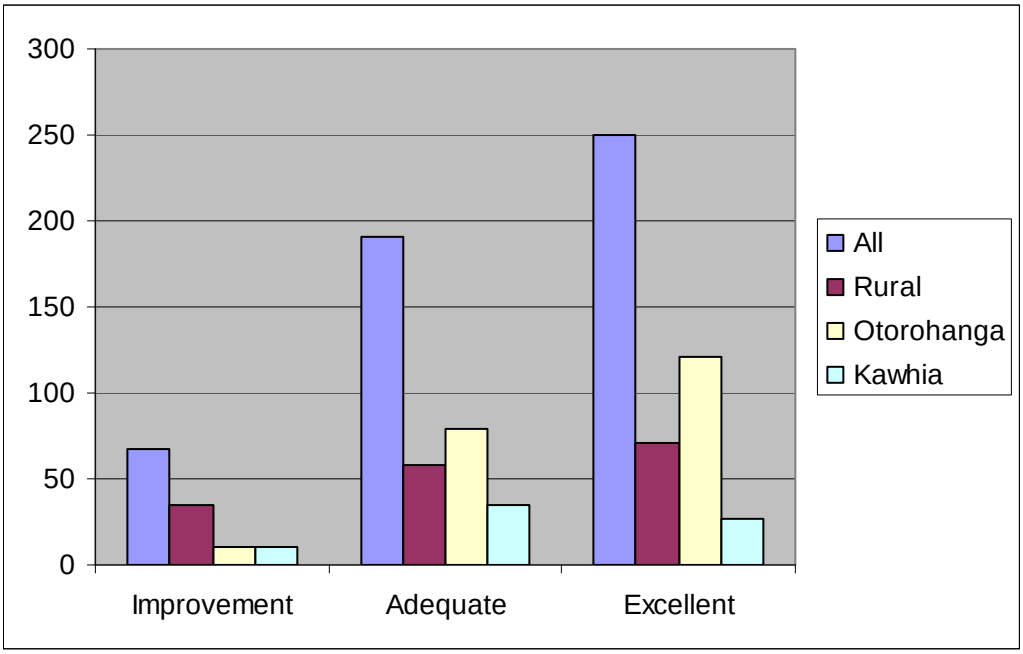

Figure 8 : Levels of Service Survey – Refuse & Recycling 2011

A large number of comments were received on refuse and recycling. At Otorohanga, 35 comments said the recycle centre and refuse collection were very good. Their were 60 other comments which covered a variety of concerns, with the most common being that the street litter bins are not emptied often enough, the cost of the refuse bags are too dear or should be free to all households, there should be inorganic collections once or twice a year, and the cost of dumping green waste is too high.

Kawhia had 11 comments saying the service was good and 34 with similar comments to Otorohanga. There were however also comments about the unsuitable opening hours at the Kawhia Recycling Centre, and days to suit holidaymakers.

There were seven comments from rural responders saying the service was good. There were 45 other comments, the majority of which would like to see extended services in the rural area. More education is needed as some said they did not know when the facilities are open or that rural residents could use the facilities.

General comments related to the disposal of e-waste and other forms of plastic additional to the currently accepted types 1 & 2.

A Rubbish Removal and Recyclables Survey was conducted during early 2008 to obtain the views of the Otorohanga community residents on Council's current kerbside service. Results are detailed in Appendix C.

5. Trends

In recent times the population of the District has been relatively static, following a long period of slow decline, and it does not appear that volumes of solid waste are increasing. Given the current unfavourable economic climate it is considered unlikely that significant additional pressure will be placed on existing solid waste assets and services by growth during the next 10 years.

Despite increasing waste recovery volumes, at a national level the trend is for ever increasing volumes of waste being produced due to population increase and economic growth. While zero waste is a commendable ideology, the reality is that waste disposal facilities will continue to fulfil an essential role in the overall waste management hierarchy, in support of social, environmental and economic well being well into the future.

However, the current pattern of landfill ownership at a national and regional level now means larger but fewer landfills servicing regional and pan-regional catchments. This is due to the high costs of establishment and compliance, largely as a result of complex and protracted processes associated with the Resource Management Act 1991 and the pressures of dealing with methane production levies which is better dealt with by large landfills where economies of scale support flare off or power generation. The past practice of every district, if not town, having its own local landfill is no longer a viable option. High landfill ownership costs dictate the need for sufficient volumes of residual wastes to generate a viable income stream. In the case of the Waitomo District Landfill, it has been calculated that a tonnage of 12,000t per year is required to break-even.

The current average tonnage received is calculated to be between 7,000 - 9000 tonnes per year, a large part from out of district. At 12,000t, this would require at least 33% more tonnage than is currently landfilled, which is beyond the disposal volume available from the District's population or the immediate surrounding districts. A potential source of tonnage could be:

Source	**Annual Tonnage**
WDC (current including Waitomo Village)	2,000
Otorohanga DC (current est.)	2,000
Tokoroa (current est.)	4000
Ruapehu (possible future)	5,000
Total	**15,000 tonnes**

The waste sourced from Otorohanga and Tokoroa reflects current tonnage under a third party contractual agreement (exterior to Council). The agreement between Envirowaste and Otorohanga District Council covers an initial period of three years from 1 July 2011.

The landfill at Ruapehu District Council is currently consented through until 2020 but is subject to an environmental impact assessment. Should Ruapehu's Landfill cease to accept waste with the exception of cleanfill then it is expected discussions would be held with Waitomo to consider disposal of part of their waste.

6. Overall District Population Growth

With an apparent likelihood of continuing permanent population decrease in Kawhia/Aotea, and little to indicate likely sustained population growth elsewhere in the District, it appears appropriate to assume that the overall normally resident population of the District will continue to decrease slowly.

For this reason planning has continued to be based upon the 'medium growth' scenario for the District previously presented by the Ministry of Economic Development, which indicates a continuing decline of overall population at minus 0.5% per year to 2018[2].

The factors underlying this trend - and in particular the changes to Kawhia and Aotea - do however suggest that there will be a lower limit for population subject to the current mechanisms, perhaps around 8500 permanent residents. This figure would allow for loss of almost all of the permanent population in Kawhia/Aotea, plus some small reduction of population in Otorohanga.

In the longer term it is possible that technological change could further reduce populations in rural areas, but it currently seems unlikely that this will be a significant effect within the next 20 years.

7. Community Expectations

The following issues are expected to impact on the quantity and quality of the solid waste management services provided:

- Increasing public awareness of environmental issues and intolerance of pollution;
- Increased expectation for access to waste management services;
- Increased consultation required for adoption of or amendment to Council's Waste Management and Minimisation Plan.

8. Future Demand – Key Issues

The current demand for waste disposal services is met by the kerbside collection service, and the two recycling centres.

The overall projection for the Otorohanga District is that there is likely to be a reduction of residual waste produced due to declining population growth. At the same time there should be an increase in the proportion of recoverable material due to improved public awareness, with increased educational programmes, an increased number of recycling stations established in the rural communities provided by Council to facilitate this shift in behaviour, and changes to Council's method of costing and funding its waste management services to encourage higher priority waste minimisation choices.

There is a large percentage of the waste stream that can potentially be diverted from landfill, in particular organic waste and recyclables as shown in the residential bagged

[2] Note - Condition of Global Economy
In making this, and the other assumptions contained in this section, it is acknowledged that there are very substantial uncertainties related to the world economy, and that a wide variety of other projections could be made.

The approach that has been generally adopted is to extrapolate existing trends (including pre-recession data) unless there is considered to be clear evidence that such trends are now manifestly incorrect. It is felt that to adopt any other approach could move predictions into a realm of severe negativity which might be alarmist and which could substantially undermine the LTP, with little certainty that the indicated problems would actually eventuate. Such an approach is viewed as counter productive and therefore has not been pursued.

waste composition data, and also the agricultural sector which could be the focus of future waste minimisation initiatives and education programmes.

Future demand for Council's refuse and recycling services is dependant on a number of factors, including:

- Population / Community Changes; currently little additional demand expected through such mechanisms

- Development of Council Services: the nature and extent of Council services will influence utilisation – for example improved / extended recycling centres are likely to encourage usage. The additional revenue made available from the landfill levy under the Waste Minimisation Act is likely to facilitate this.

- Changes in Markets for Recyclables: this may lead to changes in the scope and costs to the public of Council's recycling services, that will in turn influence demand;

- Central Government Policy: the new legislation focusing on waste minimisation will clearly affect refuse and recyclable material quantities;

- Pricing of Alternative Private Refuse / Recycling Services: competing private services for refuse disposal already exist in the District, and may offer lower prices than some Council services;

- Landfill Acceptance Criteria and Costs: changing landfill acceptance policies and costs must be reflected in Council services, with rising landfill costs potentially encouraging inappropriate waste disposal practices;

- Waste Minimisation Education: or other causes of attitudinal change.

The combined effect of these factors is very difficult to assess. In the short term it is expected that quantities of refuse passing through Council's solid waste services will slightly decrease, whilst quantities of recycled or re-used items will increase, but it is not considered possible to reliably predict the extent of these changes.

FUTURE PLANNING – WHERE DO WE WANT TO BE

1. Council's Role

The role for Otorohanga District Council in waste management is to develop and implement policies, provide relevant and effective services, develop and enforce standards through bylaws, and monitor the waste stream.
Providing services is influenced by three key Acts, namely Waste Minimisation Act 2008; Local Government Act 2002; and Health Act 1956. Section 42 of the Waste Minimisation Act states "A territorial authority must promote effective and efficient waste management and minimisation within its district." The Act does not dictate what territorial authorities role in waste management and minimisation should be, but rather it places an onus on the Council to inform its community as to how services will be delivered and what its role will be.

Over the past 10 years there have been significant changes in the way waste is collected, transported and disposed of. More emphasis has been placed on the recovery of materials for re-use or recycling. Emphasis has also been on public health issues and improved cost efficiency of collection systems.

Recycling Centres provide all-weather access for disposal and recycling and provide opportunities for new recovery and waste separation systems along with minimal environmental waste impacts.

2. Vision

Council's Vision for the 2009/10 to 2018/19 Long Term Plan is:

"To be the best small rural Council in New Zealand"

3. Community Outcomes

Council's vision is supported by the following community outcomes:

- Otorohanga district is a safe place to live;
- Ensure services and facilities meet the needs of the community;
- Provide for the unique history and culture of the district;
- Promote the local economy and opportunities for sustainable economic development;
- Manage the natural and physical environment in a sustainable manner;
- Foster an involved and engaged community;
- Protect the special character of our harbours and their catchments;
- Recognise the importance of the district's rural character.

Council's considers in its 2012/13 to 2021/22 Long Term Plan that the Solid Waste Group Activity contributes to the following overarching community outcomes:

Otorohanga District is a safe place to live.

Ensure services and facilities meet the needs of the community

Manage the natural and physical environment in a sustainable manner

Foster an involved and engaged community.

Protect the special character of our harbours and their catchments

4. Objectives and Targets

The objectives of the Waste Management and Minimisation Plan are:

(1) To promote the concept of waste minimisation, and to encourage individuals, households and businesses to take responsibility for their waste, and to provide leadership, information and support to all groups.

(2) To actively encourage community participation in all waste reduction activities.

(3) To target specific components of the waste stream in all sectors of the community and achieve optimum reduction, re-use and recycling of them.

(4) To understand our waste stream to enable measurement of changes and the effectiveness of reduction initiatives.

(5) To progressively extend the range of waste stream components targeted and facilitate their reduction, re-use or diversion to recycling.

(6) To ensure that the costs of waste disposal are progressively apportioned to those who generate the waste.

OPTIONS ASSESSMENT – HOW WILL WE GET THERE

1. Meeting the Future Demand

The WMA requires that a waste assessment includes forecasts of demand for certain waste services. The following identifies key demand forecasting assumptions, and how this can be expected to impact on future service provision. The forecasting of future demand can also help the Council to scope suitable options for managing the demand for some waste services.

Minimising the creation of wastes has many flow-on benefits in support of the social, economic and environmental well being of the District. There is a need to ensure the environmentally safe disposal of residual wastes that cannot be recycled.

The following summarises the points that have been considered to meet the future demand for waste management and minimisation within the District.

- Consolidation of the kerbside collection service introduced during the 2009/10 financial year. The refinement process will include the monitoring of refuse versus recycling volumes;
- Monitoring customer satisfaction to inform any changes to the service arrangement or service levels that may be required;
- Management and ongoing improvement of Recycling Centre facilities to ensure operational efficiency in support of waste minimisation targets;
- Address issues raised in community surveys and the consultation process;
- Continuation of the user charges system applied to the price of each bag. (Note: The cost of collecting the kerbside refuse bag is to be funded using a bag cost and a rate based system targeted to benefiting properties), while collection of recyclables is to be funded using a rate based system targeted to benefiting properties);
- Continuation of fees and charges at all waste Recycling Centres;
- Waste levy funds received are for waste minimisation initiatives that are identified and costings provided for in Council's WMMP.

2. How Performance will be Measured

The following table details Council's Key Solid Waste Level of Services Targets and Key Performance Indicators (KPI'S) as established in Council's Long Term Council Community Plan 2009 - 2019:

Service Characteristic	Performance Indicator	Target Level of Service	Performance Measurement Procedure
Refuse and recycling collection services are provided and recycling actively promoted.	Percentage of customers requesting substantial improvements of level of service from a three yearly customer satisfaction survey.	Responses requesting substantial improvements of level of service received from less than 5% of customers.	Triennial levels of service satisfaction survey - all customers – next survey 2014/15

	Council's solid waste management strategy remains relevant and up to date.	Council's Waste Management and Minimisation Plan is reviewed by 1 July 2012 and then at intervals of not more than 6 years thereafter.	Inspection of strategy documentation.
The closed landfills the Council is responsible for meet environmental compliance.	Extent of compliance with associated Resource Consent conditions for the closed landfills in Otorohanga and Kawhia.	Overall assessment of 'Full Compliance' on all relevant consents.	Results from most recent compliance inspection carried out by Waikato Regional Council.

Table 10 : Levels of Service Performance Targets 2009 - 2019

Because these targets were relatively new, performance history against them was limited.

The first target, for which a result was obtained from a survey in 2008, indicated that approximately 5.8% of customers desired significant increases in solid waste services, with a significantly higher proportion of rural residents seeking such improvements. This indicated desire for improvement will be addressed through progressive commissioning of additional rural recycling centres, and exploration of other options to extend urban and rural recycling services using funding from the new landfill levy (see Appendix B for a detailed analysis of this survey).

In the 2011 survey approximately 86% of responses showed the LoS as adequate or better.

A review of Council's performance measures has been undertaken for the 2012/13 to 2012/22 Long Term Plan. The following table details Council's Key Solid Waste Level of Services Targets and Key Performance Indicators (KPI'S) as established in Council's Long Term Plan for 2012/13 to 2021/22:

Service Characteristic	**Performance Indicator**	**Target Level of Service**	**Performance Measurement Procedure**
Refuse and recycling collection services are provided and recycling actively promoted	Increase in recycling volumes over previous year	1% increase	Monitor against previous years data
	Complaints received from people whose refuse/recycling was not collected during kerbside collection as recorded in the service request system	Less than 10 customers annually reporting that their refuse/recycling was not collected during normal weekly kerbside collection	Data extracted from Council's Service Request system annually
	Council's solid waste management strategy remains relevant and up to date	Council's Waste Management and Minimisation Plan is reviewed by 1 July 2012 and then at intervals of not more than 6 years thereafter	Inspection of strategy documentation

The closed landfills the Council is responsible for meet environmental compliance	Extent of compliance with associated Resource Consent conditions for the closed landfills in Otorohanga and Kawhia	Overall assessment of 'Full Compliance' on all relevant consents	Results from most recent compliance inspection carried out by Waikato Regional Council

Table 11 : Levels of Service Performance Targets 2012/13 to 2021/23

The Service Characteristic are the same, but the Performance Indicators, Level of Service and Performance Measurements have been amended. Except for the Closed Landfill Characteristic, these targets are new and performance history against them has not yet been carried out.

High Level Compliance reports have been received from Waikato Regional Council for the 2010/11 year for both the Otorohanga and Kawhia closed landfills.

The existing services are well utilised by urban residents with very few complaints being received. The provision of Recycling Centres in Otorohanga and Kawhia together with some assistance and promotion of rural recycle centres is also believed to have improved the utilisation of these services by rural residents.

The public now generally accepts the ‘user pays’ concept in respect of refuse. There are still occasional instances of illegal refuse dumping or accumulation of refuse on properties, but these problems are generally not persistent, and in some cases it is suspected that the refuse in question may have originated outside of the district, and the illegal dumping is therefore not due to Council’s refuse charging policies.

STATEMENT OF PROPOSAL

Council proposes that its WMMP be reviewed at no more than six years after the last review and to continue providing the following current waste services in the district:

- Kerbside refuse and recycling collection;
- Transfer station refuse and recycling collection;
- Street litter bin collections;
- Waste minimisation promotion and education;
- Ongoing monitoring of its closed landfills to ensure that resource consent conditions are met.

Council proposes to take an active role in the provision of services while maintaining the existing recycling centre sites and continue the collection and recycling services targeted primarily at both residential and commercial users.

Council proposes to provide educational information that will encourage the wider community to reduce, reuse, recycle and correctly dispose of waste. Council also proposes to engage community, Iwi and business groups to effectively and efficiently manage and minimise waste in the future. Special attention will be targeted at waste that poses a risk to the environment and/or human health.

The above proposals are intended to meet the forecast demands for services as well as support Council's goals and objectives for waste management and minimisation.

PROTECTION OF PUBLIC HEALTH

The above measures are designed to individually and collectively contribute to the objectives of reducing the volumes of residual wastes, maximising the availability of recycling and residual waste disposal facilities for both rural and urban residents, comply with our legislative requirements and align with the NZ Waste Strategy. They are considered to be not only the most equitable, but also the most cost efficient. The proposals outlined are considered sufficient to ensure that the public health and well-being of district residents is protected, and will contribute to the promotion of efficient and effective waste management and minimisation.

The Medical Officer of Health was consulted in making this assessment in accordance with Part 4 s51 clause 5(b) of the WMA.

HEALTH WAIKATO
CARING FOR YOU
Waikato District Health Board
POPULATION HEALTH

RECEIVED
13 JUN 2012
OTOROHANGA DISTRICT COUNCIL

12 June 2012

Robyn Hodges
Otorohanga District Council
P O Box 11
OTOROHANGA 3940

Dear Robyn

Waste Management & Minimisation Plan

In the opinion of the Waikato District Health Board, Health Protection Unit, the policies and practises set out in the plan will satisfy the public health expectations of Otorohanga District Council residents.

The plan will provide efficient and safe collection and disposal of solid waste in an effective and environmentally acceptable manner.

Yours faithfully

Chris Montgomery
Health Protection Officer

APPENDIX A – RUBBISH REMOVAL AND RECYCLABLES SURVEY 2008

The purpose of this Survey is to obtain the views of Otorohanga Ratepayers and Residents regarding the removal of rubbish and recyclables to help Council establish whether the facilities and services provided are meeting the needs of the people.

1. Which of Council's Refuse / Recycling Services do you use?
   126 Recycling services at the Recycling Centre
   72 Green-waste services at the Recycling Centre

2. Are you aware of the 24 hour 7 day recycling facility at the Otorohanga Recycling Centre?
   88 Yes **74** No

3. Which, if any, of the following do you think generally applies to Council's Refuse and Recycling services?
   111 Reliable ***38*** Affordable
   38 Professional ***66*** Environmentally friendly

4. Overall, how do you rate the refuse/recycling services provided by Council?
   34 Excellent ***49*** Good
   53 Adequate ***18*** Poor

5. Do you use refuse and recycling services other than those provided by Council?
   54 Yes **85** No

6. If yes, what services do you use?

Land fills		
	Te Kuiti	48
	Private	13
	Te Awamutu	2
Wheelie Bins		
	VanderBins	25
	SupaBins	17
Collection of inorganic items		
	Waitomo Rubbish Disposal	1
	ICT Recycling Hamilton	1
Organic matter composted/worm binned/ into garden/ lawn mower man takes		13

7. Are there any changes you would like to see made to the refuse and recycling services provided by Council? If yes, please describe below.

Separate plastic bins for recyclables	63
Greenwaste/Inorganic collection at least once yearly	50
Wheelie bins for kerbside collection	46
Cheaper Rubbish bags	27
Greenwaste should be free/cheaper	27
More types of plastic/recyclables taken	22
Rates to include bags	20
Better/longer operating hours	21
Better information on opening hours/ kerbside collection/ recyclables	16
Lower costs at recycling centre	11
Should have a medium & large bag option	10
Accept building materials	8
Bags need to be stronger/bigger/biodegradable	7
Should charge per day greenwaste disposal not per load	6
Rubbish Collection contract should be tendered more regularly	4
Reduce rates (user pays) if kerbside collection not used	4
Bags should be paper not plastic	4
No limit of bags for kerbside collection	2

APPENDIX B - REFERENCES

Ministry for the Environment: The New Zealand Waste Strategy, October 2010, Ministry for the Environment, Wellington

Sinclair Knight Merz (SKM): The Waikato Regional Waste Infrastructure Stocktake and Strategic Assessment. Report prepared for Waikato Regional Council. Technical Report

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Ministry for the Environment: The Solid Waste Analysis Protocol 2002, Ministry for the Environment, Wellington

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Otorohanga District Council: 1997-2008 Waste Management Strategy, Otorohanga District Council

Otorohanga District Council: Waste Management and Minimisation Plan 2010

Otorohanga District Council: Sanitary Services Asset Management Plan 2011

Otorohanga District Council: Long Term Plan 2012/13 to 2021/22

APPENDIX C - GLOSSARY

Accredited Product Stewardship	An accredited product stewardship product scheme is a scheme that has been assessed against criteria in the Waste Minimisation Act and has been acceredited by the Minister for the Environment under section 15 of the Act. Those running these schemes may apply to the Minister to have the scheme accredited.
Cleanfills	Waste disposal sites that accept on inert wastes tat will have no harmful effect on the environment. These include material such as soil, clay, rock, concrete and bricks.
Cleaner Production	An approach for business and industry to address all phases of the lifecycle of a product or process in order to avoid/or reduce the amount of waste including producing environmentally sound products with few costs and higher resource recovery efficiency.
Contaminated sites	Contaminated sites are land areas where hazardous substances are in concentrations above those occurring naturally and are at risk to human health or the environment.
Diverted Material	Diverted material means anything that is no longerrequired for its original purpose and, but for commercial or other waste minimization activities, would be disposed of or discarded.
e-waste	Term used to describe electronic waste eg computers, TVs
Hazardous waste	Waste that poses a present or future threat to the environment due to, for example, its explosive, flammable, reactive, toxic, corrosive or infectious nature.
Liquid waste	Liquid waste is waste generated in, or converted to, a liquid form for disposal. It includes point and non-point source discharges, stormwater and wastewater.
Green waste	Garden waste.
Fly-tipping	Illegal dumping of waste
Landfill	A waste disposal site used for the controlled deposit of solid wastes onto or into the land.
Landfill Gas	Gases such as methane and carbon dioxide (CO), which ar emitted from landfills as organic matter in the landfill rots.
Disposal	Final deposit of waste on land set apart for the purpose.
Resource Exchange	A service which provides contacts for the exchange of Network (RENEW) materials, enabling a waste material from one process to be used as a base resource for another.

Bio-solids	Bio-solids are a by-product of sewage collection and treatment processes, which are beneficially reused in a soil conditioner.
Recovery	Extraction of materials or energy from waste for future use or processing, and includes, but not limited to, making materials into compost.
Recycling	A general term for the reuse and reprocessing of waste materials into new ones, that is technically limited to the manufacture of new items from waste materials.
Reduction	Lessing waste generation.
Reuse	The use of waste items for a similar purpose usually afte cleaning or refurbishment.
Residual Waste	Solid waste remaining after reduction and diversion (recycling etc) measures have been applied.
Sewage sludge	Sewage sludge is a by-product of sewage collection and treatment process.
Product Stewardship	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 productions process through to, and including, disposal at the end of the product's life.
Waste	Any thing that is unwanted and/or unvalued and disposed of or discarded.
Recycling Centres	A refuse handling facility designed primarily to consolidate small loads of waste and recycling for transport to a distant disposal site.
Solid Waste	Solid waste is all waste 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 Waste	Waste that requires special measures in handling and disposal over and above that normally required for general community wastes.
Waste Generator	All those involved in the production, use, retail and purchase of wastes or products which become waste.
Waste Minimisation	The range of activities which will lower the amount and/or toxicity of waste (reduce, re-use, recycle, recovery).
Waste Analysis Protocol (WAP)	Waste survey methods designed by the Ministry for the Environment for the purpose of waste survey to obtain quantitative estimate of the quantity and composition of solid wastes arising from domestic and industrial premises.