

# ZERO WASTE STRATEGY

## INTRODUCTION

This document sets out the strategy Nelson City Council will follow to reduce its waste stream as much as practicable. It was developed by the Zero Waste working party and will be put forward to the Council for approval.

### Aim

The initial aim of this strategy is to divert all reusable and recyclable waste to markets and end users and to dispose of none of these materials to landfill by 2005. The ultimate goal is zero waste to landfill by 2015. However, Nelson City Council recognises that this is extremely ambitious and will require a huge shift in attitudes. This change in attitude will require leadership from local government, central government and industry.

Due to the ambitious nature of the strategy, it will be reviewed in 2010 with potential to extend it. The Council's Zero Waste policy notes that significant waste reduction would also be a worthy achievement.

Nelson intends to work with Tasman District Council and Marlborough District Council as much as is practical to ensure a consistent regional approach to waste management and waste minimisation.

### The Problem of Waste

Up until 40 years ago, "waste" was not a significant problem in New Zealand. Frugal use of resources was necessary since goods were difficult to manufacture and transport. Since then, goods have become more readily available and affordable. Disposable products have replaced durable goods. This trend has produced an enormous volume of discarded materials for disposal.

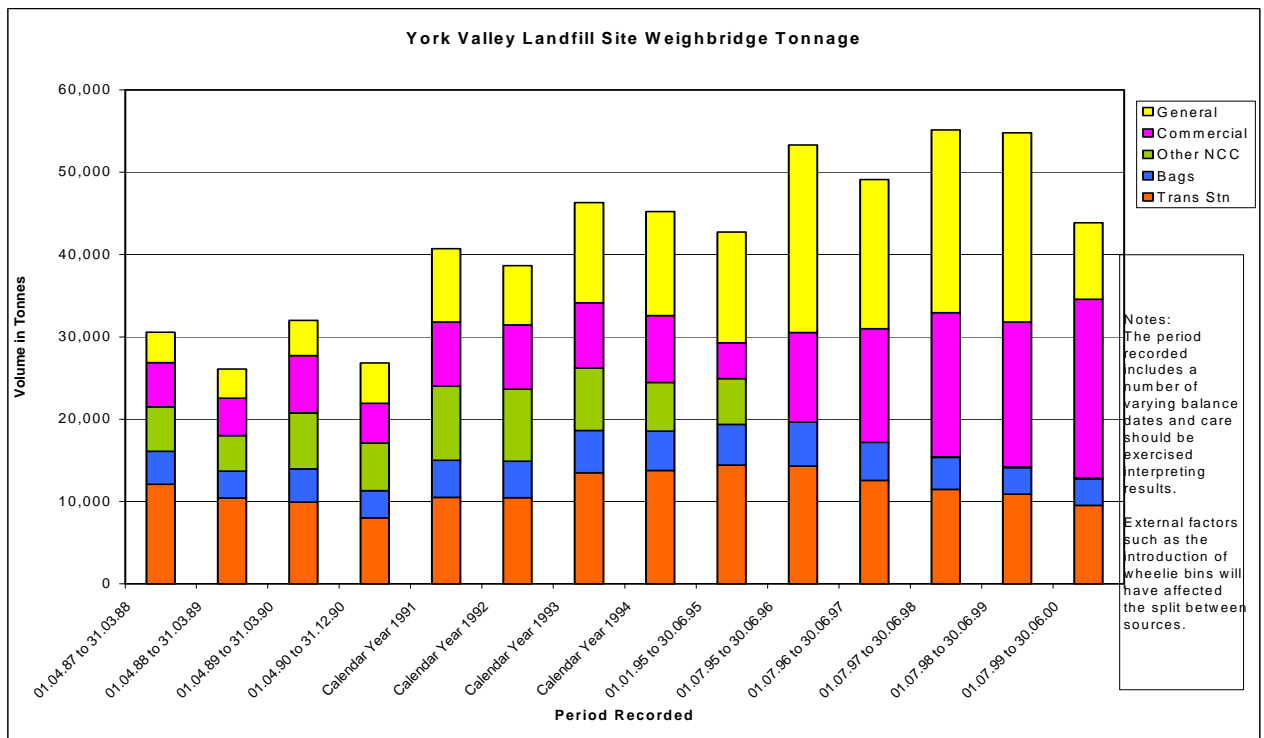
Over the past two decades, the amount of waste New Zealanders produce has been increasing rapidly. Between 1982 and 1995 the quantity of waste sent to landfills rose by about 30%. If this trend continues, by 2010 New Zealand will be facing a further 30% rise in the volume of waste disposed to landfill. Not only will this mean more sites will have to be found for new landfills, it will also mean our environment will be placed under an ever increasing burden to absorb the wastes we produce.

The following graph shows an overall increase in waste to York Valley Landfill since it opened 12 years ago. Note that there is some variation in the period measured. This year's landfill figures show a decrease in tonnages. There are three principal reasons for this:

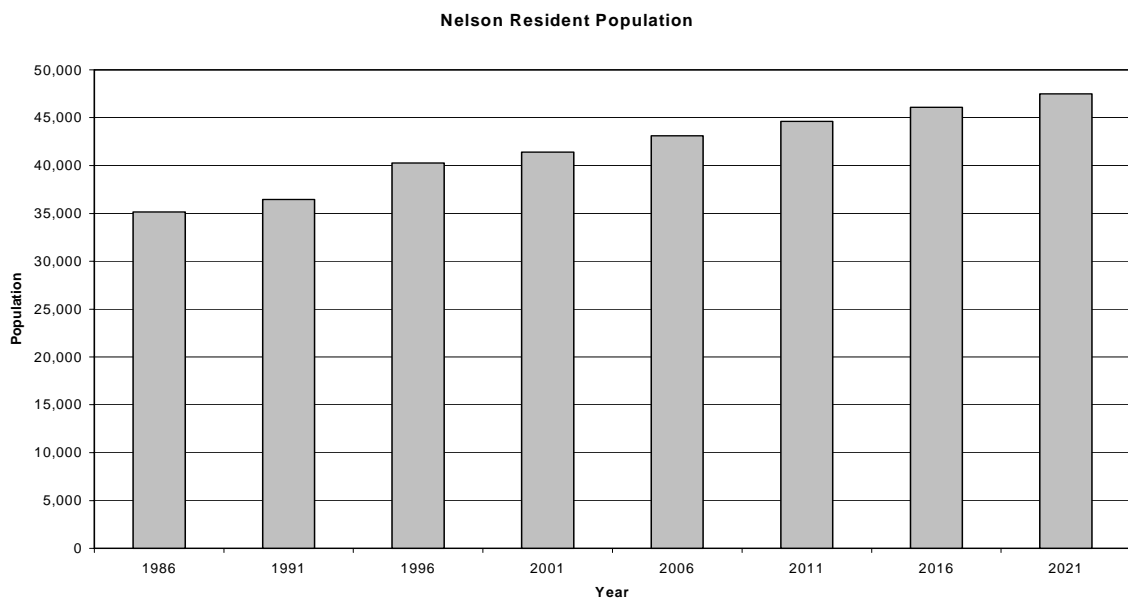
- weighted topsoil is not counted in this year's figures, whereas it is included in the figures of every other year. This is a difficulty, as the amount of topsoil or fill used each year varies, and is not a set percentage of the refuse weight. For example, last year 4,220 tonnes of fill were used, but the previous year (July 98 to June 99) 10,000 tonnes were added. The 1993 figures include 34,000 tonnes of fill.

- some green waste has been going to the Composting Centre (estimated at 500 tonnes)
- disposal charges were previously cheaper at Nelson than Tasman District Council's landfill, resulting in about 20% of Tasman's waste being taken to the Nelson landfill. Nelson's charges remain slightly cheaper than Tasman's.

Note the figures for the six month period of January to June 1995 have been hypothetically doubled to reflect the trend of an increase in waste tonnages.



As indicated below, Nelson's population has been steadily increasing, and this is expected to continue. This will impact on Nelson's waste stream.



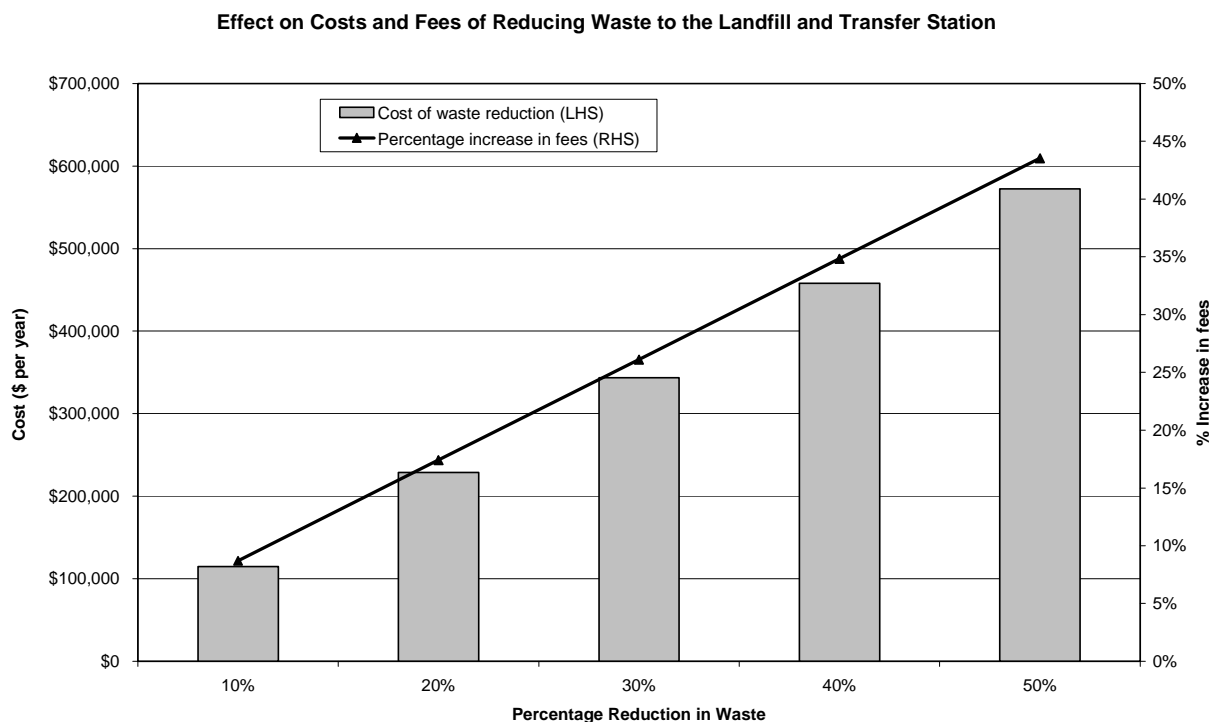
### **The Potential of Waste**

More efficient and environmentally sensible ways of handling waste such as reduction, reuse, recycling and composting have economic, social and environmental benefits. Implementation of a Zero Waste strategy has the potential to encourage the following outcomes:

- a) more effective use of resources, with return of resources to the community by re-using, recycling and composting them;
- b) business partnerships and new jobs that provide a good 'step up' for the unemployed;
- c) individuals taking responsibility for their waste leading to more sustainable use of resources;
- d) community appreciation of the environment that sustains it and efforts to limit land, water and air pollution; and
- e) a positive profile for the Council and Nelson, as 95% of residents surveyed in January 2000 wanted the Council to enable them to reduce, reuse and recycle waste, and many visitors expect recycling facilities to be available in Nelson.

### **The Effect of Waste Reduction on York Valley Landfill**

If Nelson's annual tonnages remained static, the landfill would last for 35 years. Reducing the volumes of waste disposed of to the landfill will extend its life, provided resource consent can be gained to continue the operation of the landfill. With no waste being created there will be no need to develop the next gully as a landfill site.



Paradoxically, because new landfills require large volumes of waste to generate revenue to pay for themselves, this can have the effect of encouraging waste disposal.

Reducing anticipated tonnages to landfill will incur increasing costs as there will be less tonnage generated from disposers to cover the fixed costs of running the transfer station and the landfill. If tonnages reduce, either the charge per tonne will have to increase or the shortfall will have to be covered by rates. However, the anticipated population increase means considerable waste reduction per person will need to occur before there will be significant impacts on the costs of operating the landfill.

### **Policy commitments**

Implementing the Zero Waste Strategy will enable the Council to meet the Zero Waste policy it committed to on 23 September 1999. It will also help the Council to meet the waste reduction commitments required of it under the Local Government Act and Resource Management Act, as well as Nelson's Waste Management Plan, Annual Plan, Regional Policy Statement, and Proposed Resource Management Plan.

### **Budget to implement the Zero Waste Strategy**

For the year ending June 2001 the NCC waste education budget is \$10,000; and Zero Waste New Zealand will provide \$25,000; and

Council staff time allocation:

Environmental Policy (approximately 6 hours per week): \$10,920 per year.

Asset Management (approximately 2 hours per week): \$6500 per year.

Technical Services (approximately 6 hours per month): \$2640 per year

### **Key activities throughout 2001/2002 year:**

Waste Audit	- Fortnightly auditing of waste streams
Landfill costs	- Investigation of costs for disposal and recycling options - Promotion of full user pays system for waste disposal through the Annual Plan process.
Recycling/Composting	- Amendment of charging system to encourage people with trailer loads of mixed waste to use the composting centre.
Council's operation	- Include waste minimisation objectives for each division in the 2001-2002 Annual Plan
Education	- Begin Business Care programme - Liaise with schools - Promote waste reduction to the community through Live Nelson - Hold a public forum to discuss the year's waste reduction progress, any changes to the strategy and further implementation measures

## 1. WASTE AUDIT

**Explanation:** From July 1999 to June 2000 43,870 tonnes of waste was disposed of to York Valley Landfill. 10,900 of those tonnes were processed through the Transfer Station, and the remainder went directly to the landfill via commercial rubbish collection systems or via large waste producers with their own pass to the landfill. Approximately 60 trucks visit the landfill each day.

Nelson had a population of 40,278 at the last census (1996). That equates to 1.09 tonnes generated per annum per person, which is an average of 20kg of waste per week, per person. However, a proportion of this waste would have been contributed from the Tasman district.

In order to make changes to waste generation, we need to know the amount and type of waste being produced by each sector of the community.

Currently we measure tonnages, but we do not break that down very thoroughly to its sources or its type. A survey chart to gain more detailed information is being tried by Tasman District Council. A modified, easy to use version will be adopted by Nelson City Council. More information about the component parts of the waste stream will allow better analysis of the total tonnages.

At this stage, it appears preferable for both Nelson and Tasman to implement ongoing data collection rather than doing a one-off detailed waste analysis survey of our waste streams over one week. The Technical Services division of Nelson City Council will be responsible for this monitoring.

**Actions:** Employ a person to make fortnightly audits of waste going directly to York Valley Landfill and the Transfer Station, supervised by Kevin Nilsen, with data entry and analysis carried out by Technical Services staff.

Gather baseline data on Nelson's other waste streams such as private dumping sites, and waste reused, recycled or composted through private and community operations.

Ensure Nelson City Council and Tasman District Council gather comparable data by establishing an easy to use table for collecting composition and source data at the transfer station and at York Valley Landfill.

Access and interpret contour surveys of York Valley Landfill already carried out for Nelson City Council which will allow comparisons of the tonnages received at the landfill with the amount of landfill space filled by those tonnages

**Targets:** To have quality data by December 2001 from which to compare future waste levels.

Ongoing gathering and reporting of waste quantities and composition.

**Measured:** Establishment of baseline data and collection of ongoing data by December 2001.

**Budget allocated:** 16 hours per fortnight @ \$25 per hour = \$10,400 per year to employ a reliable person to gather information (from Zero Waste Fund)  
1 hour per fortnight of Kevin Nilsen's time @ \$50 per hour to supervise collection and entry of data = \$1300.  
2 hours per fortnight @ \$30 per hour of data input by Technical Services employee = \$1560.

**Benefits:** By being able to accurately measure, monitor and record the Nelson waste stream we will be able to show any subsequent changes, increases/decreases, as a result of this strategy. We will also be able to better factor in economic gains of reducing, reusing and recycling. By doing this in conjunction with Tasman District Council we will have regional data, taking into account cross boundary use of landfills.

## 2. LANDFILL COSTS

**Explanation:** Space in the York Valley Landfill is extremely valuable to Nelson. Councils in other parts of the New Zealand, which have filled up their landfills, are struggling to find new sites that are acceptable to the nearby communities.

As the landfill expands, more capital expenditure is required for leachate control, for example. The finance charges on this expenditure will see fixed costs steadily increase with time. Operation of Nelson's landfill is mainly funded on a user pays basis. A 25% increase in disposal charges would have covered the costs of landfill and transfer station operation, but the Council limited this to an 18% increase in June 2000 with the ratepayer funding the \$26,000 shortfall through their rates.

One result of rates subsidy of landfill operations is that York Valley Landfill charges are even cheaper than Tasman District Council charges. This encourages some quantities of refuse (both household and commercial) from outside the Nelson area.

If fewer tonnes of waste were being disposed to landfill, and there was no reduction in the cost for providing the landfill service, the charge per tonne would have to be increased.

In addition, the National Waste Minimisation and Management Working Group has recently introduced the idea of a levy which would apply to all waste streams, to specifically fund waste prevention and minimisation initiatives in New Zealand.

In a user pays scenario, pricing will act as an incentive to reduce waste. For example, if landfill prices double, but a household manages to reduce their waste by half through reduction and recycling, they will pay no more for waste disposal than they do now. Only those people who do not reduce their waste will end up paying more.

With an increase in waste disposal charges, some money will need to be allocated for cleaning up of illegal dumping in street litter bins and elsewhere, and prosecution of offenders. Education about the effects of waste disposal units will also be necessary.

If York Valley Landfill is full in 35 years time, a resource consent application will need to be made for setting up a new landfill in one of the nearby designated valleys. In 35 years' time the Council may face even more rigorous conditions than those in the 1999 resource consent. It is difficult to estimate the cost for development of a new landfill due to this uncertainty.

If Nelson manages to reduce its waste volumes, and still has space in the current landfill in 35 years time, a resource consent will still be

required to continue the operation of the landfill but the costs of setting up a new one will be postponed.

Further detail about operation of the landfill is available in the Solid Waste Asset Management Plan (June 1999).

Currently Tasman District Council measures its waste in volumes and Nelson City Council measures by weight. Therefore, TDC packaging tends to end up in the NCC landfill because it's cheaper for the disposer, and heavy, more compacted items go to the Eves Valley Landfill, in Tasman.

**Action:** Compare the cost of waste diversion with current and anticipated costs for disposal to landfill. By looking at the reduction in variable cost of disposal versus the variable cost of recycling, establish comparable costs for landfill disposal and various recycling options. In this way, any decisions made about waste reduction can include considerations of the costs of the projects.

Look at the costs of waste disposal, and what the charges will be if substantial waste reduction occurs.

Establish the costs of different options for waste diversion, then through a survey and/or 'Live Nelson' seek community feedback on what options and costs would be acceptable, and whether user pays or services paid for by general rates were preferred, eg purchase of recycling bags or a rates funded kerbside collection scheme.

**Targets:** Implement full user pays landfill charges which reflect the cost of operating, managing and closing the landfill.

Community awareness of the costs of waste reduction and participation in decisions about waste reduction projects.

**Measured:** Reduction of ratepayer subsidy for waste disposal to landfill.

Public input into decisions about waste reduction in Nelson.

**Budget allocated:**

Staff time:  
2 hours per week (or grouped total of 104 hours work) by Asset Management Analyst and Asset Management Waste Engineer to work through costings = \$6500

**Benefits:** One of the reasons why reducing, reusing and recycling is often difficult to get started is because there is an expectation that it should pay for itself, whereas disposal to landfill never pays for itself. Either a user pays system or funding from rates is required. Recognition of the costs of all options is necessary for the public and the Council, so that decisions about waste expenditure can be made.

### 3. RECYCLING AND COMPOSTING

**Explanation:** Nelson is fortunate that individuals, community groups and a commercial business have taken the initiative in waste reduction by providing recycling, composting and education facilities for the community.

The Nelson Recycling Centre is operated by the Nelson Environment Centre. Currently, aluminium, metals, glass bottles and jars, oil and cardboard can be dropped off for recycling. The main focus of the Centre is the reuse shop. The Centre is located next to the transfer station.

A private composting centre beside the transfer station processes about 15,000 cubic metres of garden waste per year.

Waimarama Community Organic Gardens, in Brook Street, offers adult and children's education programmes on waste reduction and recycling.

Future developments of recycling and composting should aim to complement the current operators.

Since 1981 the Council has had a policy of subsidising home composting bins for Nelson residents.

Waste in a landfill produces methane as it decomposes due to the lack of oxygen in a landfill. In 1997 the Council developed a project to recover methane gas generated at the landfill. Methane is 100 times more destructive to ozone than carbon dioxide. For this reason Nelson's landfill gas is burned, which converts it to carbon dioxide and water. Currently there is insufficient volume produced for viable conversion of the gas to electricity. If less green waste goes into the landfill in future, it will take longer for the conversion of gas to electricity to be viable. While gas produced by green waste does have potential to generate electricity, reducing the amount of green waste reduces the amount of leachate and methane gas the landfill produces.

**Actions:** Make recycling and composting as easy as possible.

#### Recycling

Divert as much reuseable and recyclable material from the Nelson waste stream as possible by taking a 'basket' approach (ie. recycling both the most and least economic materials so that profits from one subsidises the other).

### Composting

Divert as much organic material from the Nelson waste stream as possible by encouraging home composting, support for the compost centre and shredding operations.

**Targets:** Expansion of the existing recycling activity carried out by the Nelson Recycling Centre by December 2001 by recycling paper and plastics as well as metals, reusables, oil and cardboard.

Once tonnages of green waste to landfill are known, reduce green waste to landfill by 10% after one year, and 30% after three years.

Once levels of home composting are known, increase that level by 10% after two years.

Encourage wheelie bin users not to put everything in their wheelie bins. (Wheelie bins tend to discourage waste reduction, but would be ideal for a separate green waste collection.)

Encourage people taking trailer loads of waste to the transfer station to separate out garden waste for the compost centre. The best way to encourage people with mixed loads to drop off the garden waste at the composting centre could be to offer dollar vouchers which reduce the fee when the remaining load is taken through to the Transfer Station.

**Measured:** Volumes of recyclables and garden materials diverted from the waste stream.

Responses to annual residents survey question about home composting.

Street survey of home composting.

Uptake of composting subsidy.

Volumes of waste stream from annual surveys.

Pricing which encourages use of the composting centre.

### **Budget**

#### **allocated:**

\$2,000 (from the Zero Waste fund) to trial voucher system at the composting centre

\$13,000 (from the Zero Waste fund) to work towards a long term contract with a recycling partnership which collects, sorts and markets an extensive range of recyclables

**Benefits:** Jobs sorting, recycling, reusing and composting waste may be paid for by the renewed value of the materials.

Waste reduction initiatives provide a positive focus for the community and a good profile for the Council.

More sustainable use of resources and reduced emissions of greenhouse gases.

#### 4. CHANGES TO COUNCIL'S OPERATION

**Explanation:** Changes to the Council's operation would help staff (more than 200 people) to change their behaviour, and show the community that the Council is committed to waste reduction.

**Actions:** Audit the Council's waste production.

Waste minimisation objectives for each division and actual waste reduction. This is to cover Council offices, libraries and physical works contracts.

When contracts come up for renewal, or new tenders are written, look for potential to alter them to contribute to Zero Waste Strategy targets and outcomes, and make reduction a condition of contract acceptance.

Council support for products incorporating reused and/or recycled materials, eg purchasing policy.

Actively publicise targets and results in 'Live Nelson' and other media.

**Target:** Measurement of waste produced, recognition of opportunities to reduce it, and actions taken. Once waste production has been measured, a 20% reduction in waste after two years.

**Measured:** Reductions in the volumes of waste from Council operations, as a result of changes to the Council's purchases and activities. This will be measured by establishing existing waste volumes by December 2001 and auditing again in December 2002.

**Benefit:** Council will be showing positive leadership, and seen to be leading by example.

## 5. WASTE EDUCATION

**Actions:** Promotion of the waste reduction, composting, reuse, and recycling options available in Nelson to schools, residents and businesses.

Hold an annual forum for discussion on waste reduction progress, and review of the strategy. From this forum, set up a smaller working party to implement recommendations. Include Tasman District Council, Commerce Nelson, significant residents groups, construction representatives and schools in this process.

Encourage thought on purchasing choices so waste is reduced at the demand stage rather than the 'end pipe/process' stage.

**Targets:** Once it is known how many schools have compost bins or worm farms, increase this number by five and host up to 12 tours of the compost centre, recycling centre and transfer station.

Once it is known what percentage of homes compost their green waste, increase this level by 10% over two years.

Work with the Business Care programme, commencing in 2001, leading to increased awareness of the waste produced by individual businesses

**Measured:**

- Number of compost bins in schools
- Number of tours to the compost centre, recycling centre and transfer station
- Responses to survey of residents regarding participation in composting and recycling
- Number of businesses contacted and encouraged to reduce waste through the Business Care programme.

**Allocated budget:** Waste education budget (\$10,000 annually) held by the Asset Management division.

**Benefits:**

- Schools provide access to a large part of the community.
- Businesses generate a large proportion of the waste stream and could make efficiency gains by reducing their lost resources.
- Residents are often keen to participate if facilities are provided.

## **OUTCOMES FOR 2006**

1. 50% overall waste reduction in volume to landfill by the end of 2006 (from 43,000 tonnes to 21,500 tonnes).
2. Increase in tonnes or volumes of materials being recycling and reused. (A definite figure will not be possible until we know the amount of material currently being recycled or reused.)
3. Five years of monitored progress towards Zero Waste.
4. 10% reduction in green waste by end of 2004, 30% reduction by end of 2006. (A definite figure will not be possible until we know the proportion of green waste going to the Nelson landfill.)
5. Expanded green waste facilities, possibly in conjunction with Tasman District Council. There is potential to combine composting of green waste with sewage sludge and biosolids.
6. 50% increase in home composting. (A definite figure will not be possible until we know the percentage of home composting currently occurring.)
7. 60% reduction in waste per capita (from 20kg per week per person to 8kg per week per person.)
8. Paper, plastic and glass out of the waste stream (amount of paper, plastic and glass being recycled.)
9. People being discerning about purchases (measured by attitude survey).
10. Changed commercial operators attitude – seeing rubbish as a resource (measured by attitude survey).
11. Nelson being seen, and viewing itself, as a committed Zero Waste Green City (promotions of Nelson including this factor.)
12. Major review of progress.

## **OUTCOMES FOR 2011**

1. Ten years of monitored progress towards Zero Waste
2. Continued reduction in green waste to landfill.
3. Continued reduction in residential waste to landfill.
4. Reduction in business and commercial waste to landfill.
5. Major review of progress.

Note: once a more accurate picture of the waste stream has been gained, it will be more realistic to include actual figures for target reductions.

## APPENDIX 1 - AUDIT

### Getting to Know our Rubbish

The consensus of the Zero Waste working group was that continuous monitoring would be much more useful than a one week snapshot. A data collection system needs to be set up to record volumes or tonnages as applicable at the composting centre, recycling centre, transfer station and the landfill. Please see the Tasman District Council's survey sheet on the following page.

Note: Conversion factors between tonnages and volumes are provided in Recyclanomics.

Four councils of similar size to Nelson and Tasman have carried out audits. Waste composition was:

Organics	18 – 36%
Construction	16 - 38%
Paper	12 – 20%
Metal	4 – 14%
Glass	3 – 4%
Plastic	5 – 9%
Textiles	1 – 4%
Hazardous	1%

An average New Zealand household rubbish bag comprises approximately:

- 40% putrescibles/kitchen waste
- 40% packaging (of which 25% is glass, 12% cans, 19% plastics, 20% cardboard, and 24% is paper)
- 20% other, including non-packaging paper.

#### **Council commitment in the Nelson Regional Policy Statement:**

RPS method WM1.4.1: Council will liaise with Tasman District Council, industry, the commercial sector and other relevant organisations to analyse waste streams, and prepare and implement a solid waste management plan which will address clean production, waste reduction, reuse, recovery, recycling and disposal.

#### **Funding:**

Ministry for the Environment – Sustainable Management Fund  
Asset Management - Waste Management  
Zero Waste Trust

#### **Technical support:**

Waste Not Ltd. Manager: Duncan Wilson. Ph (09) 486-3635. Accredited Zero Waste Advisors, and recommended by Zero Waste.

## **APPENDIX 2 – LANDFILL CHARGES**

**Economics** is the key to changing attitudes to recycling. It needs to be no dearer or a cheaper option than the true cost of disposal to landfill, with possible additional benefits such as employment.

Factors that need to be taken into account when assessing the total cost of landfilling include:

- waste collection and administration
- transfer station operation
- gaining resource consent and setting up the landfill
- managing identification and separation of hazardous waste for alternative disposal
- ongoing monitoring
- gas collection
- leachate collection
- stormwater control
- contingency planning in case of contamination events
- after care rehabilitation
- long term monitoring of the site

These figures are available from the Council's Asset Management Analyst. A summary of expenditure is published in the Annual Plan each year, with the separate estimates book providing more detail of the figures.

The Asset Management Analyst has established different cost scenarios for the landfill relating to reduced volumes to landfill generating less income to cover fixed costs.

Kaitaia's Community Business and Environment Centre has shown that recycling and composting is a cheaper option for that region than disposing to landfill. A report has been produced, called Recyclanomics, which will be helpful when Nelson City Council works through the comparative costs of different waste options, as every region has different factors to consider such as existing landfill space, and length of resource consents.

### **Council commitment in the Nelson Regional Policy Statement:**

WM1.3.2 To ensure that all costs associated with the disposal of residual waste are borne by the waste generator.\*

\*In this policy, the waste generator refers to the person putting out the rubbish, rather than the manufacturer or retailer.

### **Technical support:**

Cliff Colquhoun – application of Far North experience to Nelson City Council  
Andrew Bingham – Asset Management Analyst

## **APPENDIX 3 – RECYCLING AND COMPOSTING**

Markets do exist for plastics and paper, which are currently not recycled in Nelson, although transport costs may be a problem and use of non-renewable fuels for transport goes against Zero Waste rationale.

### **Principles:**

- Basket approach – pick up everything – high and low price commodities (so recycling costs can be balanced out).
- Investment is likely to be required for a baler. Balers range in price from \$10,000 to \$60,000. One option for meeting this cost is for the recycling operator to purchase it, with pay back coming through payments for the recycled materials.
- Recycling costs money, but can cost less than disposal to landfill. Ratepayers are currently subsidising the landfill to some degree, and may be willing to subsidise recycling. Likewise ratepayers may prefer both the landfill and recycling to be fully user pays. The options should be compared even-handedly.
- If the Recycling Centre is the main drop off point for recyclables and the range and quantity collected expands, someone will be needed at the collection site to direct materials to different collection points, including for hazardous waste. However, if kerbside recycling is reintroduced, there will be less need for residents to visit the Recycling Centre.

For this approach to work effectively, the ‘director’ would need to be present whenever the recycling centre/transfer station is open. This would require 2-3 experienced people working on a roster basis. The layout of the recycling centre and ticket office would also need alteration. It might be beneficial to consider combining the ticket office and ‘director’ duties.

- Seek partnerships between Council, community and business. Any opportunities should be open to expressions of interest or tendering and collaboration encouraged where this leads to better outcomes. Groups that need to be contacted include:
  - Mainland Recycling
  - Kahurangi Employment Trust
  - NelMac
  - Nelson Recycling Centre/ Nelson Environment Centre
  - Tasman District Council
  - Waste Management Limited
  - Nelson Composting Centre
  - Worms Ltd
  - and others.

### **Key areas:**

- Plastics
- Paper
- Cardboard
- Glass
- Organics
- Reusables

**Council commitment in the Nelson Regional Policy Statement:**

WM1.4.3 Council will establish and operate recycling, composting and other waste management facilities and encourage those undertaken by private individuals and organisations.

## **APPENDIX 4 - CHANGES TO COUNCIL'S OPERATION**

The waste reduction changes Council could make include:

- developing a supplier policy
- installing a composting system for kitchen waste, purchase of recyclable office equipment and recycled paper
- introducing organic waste processors at Nelson City Council's nine areas of community housing
- once a market and operator for recycling paper is established, collecting paper within Civic House for recycling
- benchmarking waste being produced by Council's operations so that progress can be measured
- including clauses in horticultural parks and grounds maintenance contracts to ensure green waste is not disposed to landfill.

The following three items have a cost implication, so purchase of alternative materials will be a political decision:

- introducing recycled components in maintenance and physical works projects
- specifying plastic aggregate pavers which recycle plastic
- investigating mastic footpaths rather than asphaltic cement, as this can be recycled.

It is important to establish a challenge for staff and to ensure staff and public celebrate success. Council should act as a leader for other businesses.

### **Council commitment in the Nelson Regional Policy Statement:**

WM1.4.6 Council will implement a waste reduction, reuse, recovery, and recycling programme within its own operations and will support recycling by using recovered, recycled and renewable products where practicable.

## APPENDIX 5 – WASTE EDUCATION

### Principles:

- Recycling is the best way to encourage waste minimisation. Concepts such as choosing items with reduced packaging will then be more readily accepted.
- Facilities to recycle need to exist **before** education can be effective.
- Community based education and promotion is likely to be more effective than messages directly from the Council.

### Methods:

#### Schools:

- Composting/Recycling/Transfer Station tours.
- Compost bins/worm farms in schools.
- Nelson-specific waste guide distributed to schools, and response to requests for information.

#### Community:

##### Stage 1:

- Community Gardens demonstrations.
  - Publicity in Live Nelson and other media, and invite public input into waste reduction strategies.
  - Publicise recycling scheme when it is available.
- Stage 2: On-site ‘director’ of waste stream at the Transfer Station. Note: It is important to get the right person – someone who can communicate well and can start spreading the zero waste message in a non confrontational manner while they direct materials and collect waste stream data. This role should be seen as helpful rather than a hold up for people disposing of waste. This job will only be developed once there are markets for more recyclables and the layout/charging of the transfer station allows for this to be effective. It could be tied in with the Transfer Station ticket office. At the same time education would be needed to encourage people to bring things to the transfer station in separated out bags (eg glass, plastic, cardboard) rather than mixed.

#### Business:

- Include a category for most pro-active environmental business as part of Commerce Nelson business awards, or develop Environmental Awards similar to Tasman District Council’s.
- Environmental bouquets awarded through Live Nelson.
- Businesses – certificates of recognition/trademark if achieving certain environmental standards.
- Waste audits.
- Community waste initiatives fund – for using recyclable materials for manufacture in Nelson.

### Council commitment in the Nelson Regional Policy Statement:

- WM1.4.7 Council will promote solid waste reduction by way of a public education programme which focuses on clean production, waste minimisation, reuse, recovery and recycling.