

Review of Targets in the New Zealand Waste Strategy

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Executive Summary

The New Zealand Waste Strategy was published in March 2002 as a long-term strategy to help reduce and better manage waste in New Zealand. The preparation of the strategy was a joint exercise involving central and local government.

Among other things, the strategy includes a number of national targets for priority waste management areas. It was expected that councils would take these into account and progressively develop and set their own targets through local waste management plans. A significant number of councils have already established local targets.

When these targets were established it was acknowledged in the strategy that the information available for setting and measuring targets was poor. The approach adopted was to set targets on the basis of existing knowledge and through a process that included external peer review by a panel of local authority waste management professionals. The strategy included a commitment to review the national targets in 2003.

The Ministry undertook the review with contributions from several local authority waste officers. A draft report was published on the Ministry's website early in November 2003 and submissions on this draft report were invited. Twenty-seven submissions were received and have been taken into account in completing the review.

The review draws the following conclusions.

- The targets in the New Zealand Waste Strategy provide a useful focus for action by central and local government and explicit objectives against which progress can be measured.
- Good progress is being made by councils in setting local and regional targets and in adopting policies aimed at meeting these targets. This process will continue as councils review waste management policies and plans to take account of the New Zealand Waste Strategy.
- While some targets should be readily achieved, others will be difficult and perhaps even impossible to achieve by local authorities. Some organic waste targets present particular problems for councils. The Ministry recognises the inherent difficulty of achieving some of the organic waste targets and has initiated a work programme with a focus on reducing the barriers to the beneficial use of these wastes.
- No change should be made to the targets in the strategy at this time. Although it is likely that some targets will not be achieved nationally, individual councils may find it quite feasible to achieve them. If changes were to be made to national targets it is currently unclear what alternative targets would be set. Additional experience and better information will assist future target setting.
- More information about targets should be provided by the Ministry to clarify the interpretation of the targets and to remove ambiguity about responsibility for action on specific targets.
- The limited control that councils exercise over some waste streams and the increasing role of the private sector in the provision of waste services present difficulties for councils in setting targets and measuring progress towards these targets. Good information about changes to waste streams is increasingly dependent on the private sector being willing to provide local authorities with information that may be considered commercially sensitive.

- The achievement of two targets (1.3 and 3.1) is dependent on positive actions by the private sector to develop waste minimisation and extended producer responsibility (EPR) programmes. Although some EPR schemes have been established by the private sector, their success is often limited by the lack of regulatory back-up that might otherwise ensure a greater degree of participation.
- An effective and cost-efficient monitoring and reporting system is essential for measuring progress in implementing the New Zealand Waste Strategy and achieving the targets. Work is being done to ensure a nationally consistent approach to the measurement of solid waste, and regional waste data pilot schemes are being undertaken in Waikato and the Bay of Plenty. The further development of an appropriate monitoring and reporting system will need the co-operation of local government and the Ministry for the Environment. This is discussed in section 5.
- A further review of progress against targets should be undertaken in 2006.

1 Background

1.1 Rationale for targets

Targets are typically employed to provide direction and a means for checking the progress of waste minimisation and management initiatives. Having clear and well-defined goals helps to promote and channel waste minimisation efforts into a defined and cohesive direction. This also promotes the visibility and status of waste prevention, which enhances the viability of waste prevention initiatives (Stutz, 1999).

This comment, from a contribution to the Organisation for Economic Co-operation and Development's (OECD) work on strategic waste prevention, is relevant to the role of targets in the New Zealand Waste Strategy. Targets are also useful for communicating the expectations and priorities for waste minimisation to the relevant stakeholders and can therefore facilitate cohesive and well-communicated policy.

1.2 The process followed for developing the targets in the New Zealand Waste Strategy

Targets are commonly adopted in the waste strategies of other jurisdictions. The Ministry anticipated that targets would be included in the New Zealand Waste Strategy, and responsibility for providing advice on targets was included in the Terms of Reference of the Waste Minimisation and Management Working Group, a multi-sector group established to advise the Ministry and Local Government New Zealand on the development of a national waste strategy.

The working group compiled an initial list of targets, debated these and submitted its recommendations to the Ministry for the Environment and Local Government New Zealand. This advice recognised that the limited information available at the time meant that some of the targets were somewhat speculative. The working group also suggested that certain policies should be a prerequisite for setting targets. These policies, promoted through the strategy, included:

- regional co-ordination for waste minimisation and management
- mandatory local authority waste minimisation and management plans
- full-cost pricing at all landfills and cleanfills
- a national environmental standard for landfills (including cleanfills)
- a nationwide education programme.

The targets were further debated and developed within the Ministry. Members of the working group were given a further opportunity for comment, and at the request of Local Government New Zealand an 'expert' group of local authority waste management professional officers were asked to review the draft targets.

1.3 The nature of the targets included in the strategy

The targets in the strategy cover a number of priority waste areas, namely:

- waste minimisation
- organic wastes
- special wastes
- construction and demolition wastes
- hazardous wastes
- contaminated sites
- organochlorines
- trade wastes
- waste disposal.

Some targets are directed at quantifiable reductions in particular waste streams. Other targets are directed at local authorities or other parties achieving some form of policy objective that will contribute to the minimisation or better management of wastes. A date is set for the achievement of each target. A full list of the targets is provided in Annex I, and each target is discussed in section 3 of this report.

1.4 Expectations about regional and local adoption of targets

The targets included in the strategy are national targets, but their achievement is significantly dependent on the actions of local authorities and other parties. The Ministry assumed that action would be taken by local authorities to set their own targets in ways that contribute to the national targets. The National Council of Local Government New Zealand advised local authorities to adopt the strategy as the basis for their programmes, policies and plans.

1.5 Review of the targets

The strategy indicated that the targets would be reviewed by the end of 2003. The Ministry for the Environment has undertaken this review, drawing on the experience of local government and other parties in setting targets and implementing policies in line with the strategy.

It is still early days in the implementation of the New Zealand Waste Strategy and progress towards many targets is still difficult to assess. The review does, however, identify some important issues that will help in the interpretation and implementation of the targets and allow future progress to be better measured. These issues are discussed in section 4.

The review process included the opportunity for public submissions on a draft of this report. Twenty-seven submissions were received, and these have been taken into account in the final report. A short summary of the submissions and a list of those who made them is included in Annex II of this report.

One significant change from the draft report has been to bring the time of the next review forward from 2008 to 2006. In part this anticipates that some formal changes to the targets will be needed by this time. In the meantime the Ministry will provide additional information through its website to assist councils in developing and implementing local and regional targets.

2 Local Authority Adoption of the Strategy and its Targets

To date about 75 percent of local authorities have considered and responded positively to the New Zealand Waste Strategy. Changes to council policies as a consequence of the strategy heavily depend on policies already in place and the status of councils' waste management plans. For territorial authorities, waste management plans prepared under Part XXXI of the Local Government Act are the principal instrument for establishing and reviewing waste management policies.

Since the completion of the New Zealand Waste Strategy several councils have prepared or reviewed waste management plans and taken steps to include policies and targets that reflect the strategy. The experience of these councils has been drawn on in the course of this review. The Ministry expects other councils to progressively review their waste management plans to take explicit account of the New Zealand Waste Strategy. This includes setting targets as proposed in the strategy.

The process of formally reflecting the New Zealand Waste Strategy in waste management planning documents may take another few years. In the interim some changes to the waste management policies of councils can be expected (and will be necessary to meet some national targets that fall soon), and will be reflected in other planning instruments such as annual plans and the long-term council community plans.

One welcome initiative, encouraged through the New Zealand Waste Strategy, has been the role played by regional councils in developing regional approaches to waste management planning. Waikato, Taranaki and Bay of Plenty regional councils have facilitated regional approaches to waste management planning directly involving the territorial authorities within their regions. The Ministry for the Environment is also assisting the West Coast Regional Council to develop a regional approach to waste management planning. These initiatives will, for instance, enable co-ordinated projects on waste data collection and public information. The ability to measure progress towards targets at a regional level will make it easier to measure progress nationally. In other parts of the country, such as Canterbury and Southland, groups of territorial authorities have also been collaborating in the development of joint policies.

While some general statements can be made about the adoption of the targets, based on discussions with local authorities and consideration of their waste management and annual planning documents, a formal survey of local authorities is required to provide a more definitive picture of the adoption of these targets. The idea of a biennial survey, forming part of a broader system for monitoring and evaluating the implementation of the strategy, is discussed in section 5. Given the limited analysis undertaken so far, it is possible that local authorities have adopted targets in line with the strategy but have not rewritten their waste management plans to reflect this and have not referred specifically to this aspect of waste management in their plans and reports.

Local authorities are also still coming to grips with the Local Government Act 2002. Although the waste management planning requirements in Part XXXI of the Local Government Act 1976 remain unrepealed, the new Act also has implications for waste management. Section 286 of the 2002 Local Government Act requires every territorial authority that does not have a waste management plan under part XXXI to adopt one by 30 June 2005. The 2002 Act also provides for the creation of long-term council community plans, and for assessments of water (including waste water) and sanitary services. Summaries of waste management plans and the assessments of water and sanitary services are to be incorporated into the long-term council community plans. The first full and comprehensive long-term council community plans are required to commence from 1 July 2006. The Ministry expects that, before this date, many councils whose waste management plans precede the development of the New Zealand Waste Strategy will take the opportunity to review these plans. This will enable contemporary waste management plans to be reflected in the new long-term council community plans.

3 Comment on Each Target

3.1 Introduction

This section considers the targets provided in the New Zealand Waste Strategy. The approach followed is to state the target, then comment on progress made towards the target and on some of the issues arising from experience in implementing the target. As mentioned earlier, it is still early days in the implementation of the strategy and the comments made below are therefore based on limited experience.

3.2 Targets for waste minimisation

Waste minimisation targets address the general introduction of policies by local government rather than specific waste streams. The targets provide for a lead-in period for the introduction of policies.

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| Target 1.1 |
| Local authorities will report their progress on waste minimisation and management for their annual report in 2001/02 and quantitatively on an annual basis from then onwards. |
| Progress towards the implementation of the target |
| This target recognises the importance of local authorities providing for and reporting on the local implementation of the New Zealand Waste Strategy in their annual reports. The target assumed a start on this reporting in the annual reports for 2001/02 with the inclusion of qualitative information, and councils subsequently including quantitative information. However, a delay in releasing the strategy until March 2002 left councils with little time to consider the implications of this target for their 2001/02 annual reports. Most councils, however, included some reference to waste management in their annual reports but did not explicitly comment on the local implementation of the strategy. |
| Issues arising from the implementation of the target, including barriers to implementation |
| The Ministry acknowledges that the approach to reporting will vary from council to council. Councils require suitable systems of measurement if they are to report quantitatively. Many have systems in place, and the revised <i>Solid Waste Analysis Protocol</i> (Ministry for the Environment, 2002c) provides a standard system for measuring solid waste. |

Targets 1.2 and 1.7

By December 2005, all regional councils will ensure that new or renewed industrial resource consents include a recognised waste minimisation and management programme and will report on the percentage of all consents under their jurisdiction that have such a clause.

By December 2010, all regional councils will ensure that at least 25 percent of all existing industrial resource consent holders have in place a recognised waste minimisation and management programme.

Progress towards the implementation of the target

Progress towards these targets has been limited and is constrained because including such a requirement in resource consents is considered to be *ultra vires* in relation to the Resource Management Act. Waikato Regional Council has included a similar target that avoids this constraint in its regional waste plan. This matter is discussed further below.

Issues arising from the implementation of the targets, including barriers to implementation

The general intent of these targets is clear: programmes that minimise waste and manage it effectively can avoid or mitigate environmental effects and could apply to all councils rather than just regional councils. There is, however, a question as to whether such programmes can be required where the waste minimisation and management programme is not directly linked to the mitigation of the discharge being consented. The Resource Management Act 1991 (under which resource consents are granted) is concerned with the effects of contaminants on the environment. This point was discussed in the July 2002 issue of the journal of the Resource Management Law Association (Brodnax and Milne, 2002). The article argues that, provided the industrial facility is economically efficient, and has adequately avoided, remedied or mitigated any environmental effects from its discharge, any opportunities to minimise or better manage wastes are not legally relevant.

Councils need to ensure that any action they undertake to implement these targets is not *ultra vires*. Environment Waikato, in its draft regional waste strategy, has adopted a regional target that implements the intent of the targets above but without directly linking waste minimisation programmes to resource consents. Environment Waikato's target is "By December 2010, 25 percent of companies in the region will have waste minimisation and management programmes in place". This avoids the *ultra vires* problem, but relies on voluntary suasion and is therefore less likely to be achievable.

Greater Wellington has also set a target based on a voluntary programme. Environment Bay of Plenty (EBoP) has expressed the view (backed up by legal opinion) that a resource consent can reference waste minimisation but only for the substance that is the subject of the consent or for the material used to dilute the substance, where such loading may have a significant effect on the environment. EBoP is proposing to include a method in its Proposed Water and Land Plan that would implement this position.

Target 1.3

By December 2005, at least 10 major businesses will be participating alongside central and local government in developing and promoting waste minimisation programmes within their sector.

Progress towards the implementation of the target

Several private sector initiatives suggest that this target will be met before 2005. These initiatives include those taken by the New Zealand Business Council for Sustainable Development, Plastics New Zealand and the New Zealand packaging industry. The 'pathfinding' organisations participating in the development of sustainable development strategies initiated at the Redesigning Resources Conference held in June 2000 also include waste minimisation programmes. Extended producer responsibility (EPR) programmes, such as the used oil recovery programme and the take-back programmes for mobile phones sponsored by Telecom and Vodafone, are other business initiatives that will reduce waste.

Issues arising from the implementation of the target, including barriers to implementation

There is considerable opportunity for businesses to voluntarily develop and adopt waste minimisation programmes, and there is often a good business case for this action. There are, however, limits to voluntary approaches. EPR programmes relying on a voluntary approach may encourage some companies to 'free ride' (take advantage of the programme but not pay their share of the costs). Some companies may not participate in programmes because avoiding doing so gives them a commercial advantage. However, those not participating can undermine the programme as a whole because the 'playing field' is not level for all players. These issues have been dealt with in some jurisdictions abroad through legislative back-stopping that allows programmes to be regulated if voluntary approaches fail. The Ministry for the Environment is currently working through these issues in considering appropriate policy for the management of used oil and used tyres. The Ministry will be responsible for the achievement of this target

Target 1.4

Ninety-five percent of the population will have access to community recycling facilities by December 2005.

Progress towards the implementation of the target

Information gathered by the Ministry in 2003 indicates that about 90 percent of the population already has ready access to recycling facilities. The Ministry expects that the target of 95 percent can be met by December 2005.

Issues arising from the implementation of the target, including barriers to implementation

Some councils have expressed concern that it is unclear what having "access to recycling facilities" means in practice. The intent is that most people should have "reasonably accessible" access to recycling. The Ministry for the Environment will provide information clarifying the practical intent of this target.

Major centres containing the majority of New Zealand's population can readily provide communities with access to recycling facilities. Providing facilities for dispersed rural populations is more difficult and more costly. The economics of recycling is also affected by the higher transport costs associated with services in rural areas remote from markets for recycled materials. These factors will place some limits on access to and use of facilities for recycling but should not prevent the 95 percent target being achieved by 2005. The completion of the operative long-term council community plans by 1 July 2006 provides an opportunity for councils to report on the achievement of this and other targets.

Target 1.5

By December 2005, territorial local authorities will ensure that building regulations incorporate reference to space allocation for recycling facilities in multi-unit residential and commercial buildings.

Progress towards the implementation of the target

A small number of territorial local authorities now stipulate this in their district plan, but we recognise that this is an inefficient way to deliver the target. Discussions have been held with the Ministry of Economic Development and the Building Industry Authority on the changes required to the Building Act and the Building Regulations in order for this target to be delivered.

Issues arising from the implementation of the target, including barriers to implementation

The work involved in changing each territorial local authority's district plan has led to the proposed national approach.

Target 1.6

By December 2005, all councils will ensure that procedures for waste minimisation have been addressed for all facilities and assets they manage and will have set target reductions based on public health, environmental and economic factors.

Progress towards the implementation of the target

A small number of councils may have already addressed this target, but most contacted say that they have not. This is probably a timing issue for the production of asset management plans as much as an issue of difficulties in addressing the target itself. Progress has also been constrained by a lack of understanding in relation to the roles of those tasked with managing assets in local government and those tasked with managing waste.

Issues arising from the implementation of the target, including barriers to implementation

Most local authorities only address their asset management plans periodically, and some will not have addressed all of these between the launch date of the strategy and 2005. The Ministry recognises that the timetables councils have for the review of asset management plans will mean that some plans will be reviewed after the target date.

Some local authorities utilise their asset management plans to provide for fiscal prudence rather than to manage the asset in an operational sense. The asset is often operated under contract; some of these contracts are long term, and explicitly minimising waste is seen as a low priority for consideration of a contract variation.

3.3 Targets for organic wastes

Organic wastes constitute a large portion of the waste stream (Figure 1) and make a significant contribution to the environmental effects associated with waste disposal. The term 'organic waste' covers many types of waste. The common definition, based on that used in the *Solid Waste Analysis Protocol* (Ministry for the Environment, 2002c), includes garden waste, kitchen scraps and commercial organic wastes such as paunch grass and food-processing waste. Other wastes that may biodegrade in a landfill include paper/cardboard and untreated wood. Figure 2 illustrates the composition of organic waste in New Zealand.

The main environmental effects arising from the landfill disposal of organic waste are the creation of leachate and methane. The latter is a powerful greenhouse gas, and the reduction of methane from landfills through reducing organic wastes is part of New Zealand's greenhouse gas policy. Flaring methane or using it for electricity generation will also reduce the impact of this greenhouse gas.

Figure 1: Composition of New Zealand Waste 2003

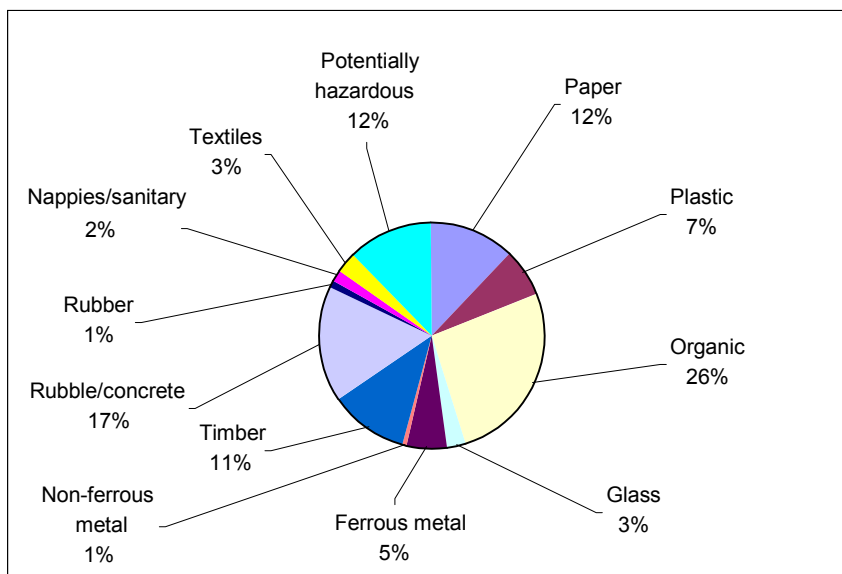
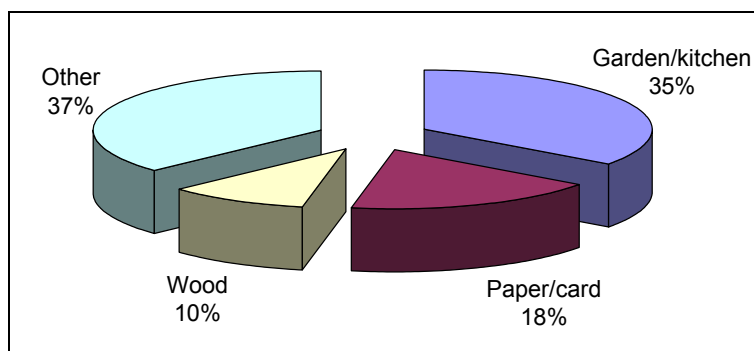


Figure 2: Composition of organic waste in New Zealand



Target 2.1

By December 2003, all territorial local authorities will have instituted a measurement programme to identify existing organic waste quantities, and set local targets for diversion from disposal.

Progress towards the implementation of the target

The revision of the *Solid Waste Analysis Protocol* (SWAP) provides a nationally consistent means of measuring the composition of solid waste, including the different organic waste streams. This information combined with total waste quantity data provides organic waste quantities. Some local authorities have SWAP survey programmes in place, and these, in conjunction with data from the Ministry's SWAP Baseline Programme, provide a useful estimate of waste composition for most areas in New Zealand. This information is available on the Ministry's website.

Pilot work by Environment Waikato and the Bay of Plenty Regional Council to develop a waste data network shows promise for regional systems for measuring key indicators. This pilot project focuses on a collaborative approach to data collection and reporting involving local authorities, recycling operators and the waste management industry. Environment Waikato has established a regional target consistent with this national target.

Several local authorities that have recently completed waste management plans have set local targets for the diversion and disposal of organic wastes.

Issues arising from the implementation of the target, including barriers to implementation

The establishment of effective measurement programmes will take time, and some councils may rely on the pilot work still under way. Setting and measuring local targets require information from commercial as well as municipal sources, and the commercial sensitivity of information can be a barrier to companies sharing this information with councils.

One council has indicated that it will not set diversion targets because of the lack of commercial incentive to compost or mulch organic waste.

Target 2.2

By December 2005, 60 percent of garden wastes will be diverted from landfill and beneficially used, and by December 2010, the diversion of garden wastes from landfill to beneficial use will have exceeded 95 percent.

Progress towards the implementation of the target

Many councils provide the opportunity at their landfills or transfer stations for the diversion of garden wastes for composting or mulching. However, green waste going to landfills still provides a significant fraction of total waste (up to 25 percent in some areas). Home owners who have the capacity to compost or mulch green waste can also use garden wastes beneficially. Considerable encouragement has been given to householder use of garden wastes through public information (including the national Reduce Your Rubbish campaign). Measurement of green waste diverted through home composting is problematic at best.

Two councils that have set garden waste diversion targets since the publication of the New Zealand Waste Strategy (Queenstown and Rodney) consider that between 50 percent and 60 percent of this waste stream can be diverted by the end of 2005 providing a range of policies are put in place. Councils with 'best practice' composting or mulching systems in place are currently diverting around 50 percent of green waste away from landfill disposal.

Issues arising from the implementation of the target, including barriers to implementation

High levels of garden waste diversion are dependent on a range of complementary policies and conditions, including:

- disposal charges providing an incentive for the diversion of garden wastes
- sufficient markets/uses for the products generated from garden wastes, with these markets prepared to assign an appropriate value to the processed waste material
- garden waste collection systems that can be readily used by householders
- garden waste collection systems that avoid mixing inorganic wastes with garden wastes
- public information and education.

This target will not be achieved without appropriate policies in place and without the presence of beneficial end uses for the products generated from garden wastes. The Ministry for the Environment's Organic Waste Project will help to address these issues. However, the term 'beneficial use' is not explained fully in the strategy. It covers a range of uses, including composting, mulching and anaerobic digestion. A fuller definition will be put on the Ministry's website.

Where electricity is currently being generated from the burning of landfill gas there can be resistance to divert organic waste because this is assumed to detrimentally affect electricity generation. A submission on the draft report challenged this view and argued that diverting organic waste for (dedicated) anaerobic digestion can more efficiently produce gas for electricity production and complement existing plant.

Contamination of compost is a significant issue, both in New Zealand and internationally. The key current concern affecting the diversion of green waste is the residual herbicide (Clopyralid) remaining in lawn clippings through the composting process. The Ministry is working with the composting industry in New Zealand and the Environmental Risk Management Authority to identify and implement appropriate controls on the sale and use of Clopyralid.

Target 2.3

By December 2007, a clear quantitative understanding of other organic waste streams (such as kitchen wastes) will have been achieved through the measurement programme established by December 2003.

Progress towards the implementation of the target

This target relates directly to Target 2.1, which covers the establishment of measurement programmes identifying organic waste quantities and setting local targets for diversion and disposal. Achieving the target requires work to quantify the different elements of organic wastes.

Issues arising from the implementation of the target, including barriers to implementation

The issues are similar to those discussed in Target 2.1.

Target 2.4

By December 2007, more than 95 percent of sewage sludge currently disposed of to landfill will be composted, beneficially used or appropriately treated to minimise the production of methane and leachate.

Progress towards the implementation of the target

Sewage sludge can be stabilised (at which point it is commonly called biosolids) and then composted or spread directly on to land. Volumes of sewage sludge will increase as a consequence of the progressive upgrading of wastewater treatment. Currently, sewage sludge from the Wellington wastewater treatment plant is composted, and sludge from New Plymouth is dried and turned into fertiliser. Kapiti Coast is developing a similar process to that used at New Plymouth, as is Hutt City Council, but in the Hutt and in other areas the product is currently landfilled. Mangere, by far the largest biosolids producer, is currently investigating options for the use of its material. The Ministry recognises the inherent difficulty in achieving the target date and has initiated a project focusing on the management of organic wastes.

Issues arising from the implementation of the target, including barriers to implementation

There are several barriers to increasing the beneficial use of biosolids, including:

- the presence of contaminants (eg, heavy metals), which may restrict the use of biosolids as soil conditioner/fertiliser
- objections by Maori, on cultural grounds, to the use of a product based on human waste being added to soil used for growing food
- possible market resistance based on the risk of consumer rejection of products that arise from soils enhanced with biosolids
- the low economic value of biosolids, which means that land filling may be the more cost-effective option for disposal.
- the costs of biosolids treatment
- responsibility for any contamination resulting from applying biosolids (legally) to land.

Guidelines for the safe use of biosolids have been produced by the New Zealand Water Environment Research Foundation to help address these barriers. Implementing these guidelines relies on the approach and contaminant threshold concentrations being adopted by regional councils throughout New Zealand. There is a possibility that regional councils will not apply the guidelines as intended, and in particular will adopt the more restrictive risk-based contaminant concentrations immediately rather than in 2012, as proposed in the guidelines. This is because some councils consider that the thresholds may permit an unacceptable level of contamination of the environment.

The Ministry's Sustainable Industries Group is working with biosolids producers and processors to identify and address roadblocks to beneficial use.

The target also allows for appropriate treatment to reduce the generation of methane and leachate. The wastewater sector has yet to take up this second option to any great extent, and it may be worth pursuing options such as anaerobic digestion combined with sludge drying for some situations.

The target also leaves open questions about the options for beneficial use (other than composting), and what comprises appropriate treatment. These questions will be addressed through additional information on the Ministry's website.

Target 2.5

By December 2010, the diversion of commercial organic wastes from landfill to beneficial use will have exceeded 95 percent.

Progress towards the implementation of the target

Commercial organic wastes include food scraps from the retail and hospitality sectors, food-processing wastes and industrial-processing waste. In some cases these wastes are being diverted, generally for use as soil amendment with or without composting. Examples include soil incorporation of paunch waste from meat-processing plants and composting of waste treatment sludges from food-processing plants. Since a significant portion of this diversion occurs outside the normal waste management industry there is very little quantitative data on diversion rates.

The Ministry recognises the difficulty in achieving this target.

Issues arising from the implementation of the target, including barriers to implementation

The issues for diversion of commercial organic waste are similar to those for garden waste; ie, potential beneficial use, disposal charges and education of waste producers.

In general, commercial organic wastes are more putrescible than garden wastes (they have a higher nitrogen content and higher odour potential during degradation). This means that processing needs to be more closely controlled to minimise odours. The nature of many of these wastes also means that there is potential for using them as feedstock for biogas generation (anaerobic digestion) prior to processing as a soil amendment/fertiliser.

The basis for assessing the 95 percent level of beneficial use needs to be clarified.

3.4 Target for special wastes

The term ‘special wastes’ is used in the New Zealand Waste Strategy to describe categories of wastes that present particular problems and that need specific policies for their management. These include used oil, used tyres, old electronic goods, farm plastics and end-of-life motor vehicles. The sound management of these waste streams will usually require the relevant industry to take some responsibility for the goods beyond the point of sale, and to develop or co-operate in schemes that help reduce and better manage the waste involved. The term ‘extended producer responsibility’ (EPR) is commonly used to describe these schemes.

Target 3.1

By December 2005, businesses in at least eight different sectors will have introduced extended producer responsibility pilot programmes for the collection and reuse, recycling or appropriate treatment and disposal of at least eight categories of special wastes.

Progress towards the implementation of the target

EPR schemes covering used oil, used mobile phones, used whiteware and used electronic equipment have already been initiated by industry. The Ministry is currently working towards the enhancement of the used oil recovery programme and towards an EPR policy for used tyres.

Issues arising from the implementation of the target, including barriers to implementation

The establishment of EPR schemes involves costs, which some importers and distributors may be reluctant to meet and pass on to consumers. Such schemes also may require the co-operation of several parties, and some parties may be unwilling to co-operate. Some may want to ‘free ride’ on a scheme but not meet their share of costs. Co-operation can be perceived as collusion and may raise anti-competition arguments. There is no legislative back-stop to EPR schemes that would create a level ‘playing field’ and reduce the risk of such free riders. The Ministry is doing further work on policies that would provide encouragement and support for EPR schemes.

3.5 Targets for construction and demolition wastes

Construction and demolition (C&D) wastes make up a significant proportion of the solid waste stream. The proportion is uncertain because much of the C&D material goes to cleanfills and is not measured. A lot of C&D wastes can be used or recycled, but the incentives to do so are low.

Target 4.1

By December 2005, all territorial local authorities will have instituted a measurement programme to identify existing construction and demolition waste quantities and set local targets for diversion from landfills.

Progress towards the implementation of the target

The revision of the *Solid Waste Analysis Protocol* provides a nationally consistent means of measuring the composition of solid waste disposed to landfill, including waste from C&D activities. This information, combined with total waste quantity data, provides a partial picture of C&D waste disposal. In many areas C&D waste is also disposed of at dedicated C&D landfills and/or cleanfills, as appropriate, and there are no co-ordinated systems for measuring the quantity of waste being disposed of at these sites.

Pilot work by Environment Waikato and the Bay of Plenty Regional Council to develop a waste data network shows promise for regional systems for measuring key indicators.

The Ministry, through the Sustainable Management Fund, is funding a project to consider C&D waste, including measurement/monitoring and developing and documenting best practice in C&D waste diversion. Some local authorities are including diversion requirements in permits for C&D activities.

Issues arising from the implementation of the target, including barriers to implementation

No significant barriers have been identified for the achievement of this target. See the commentary on Target 9.3 (Cleanfills) for a discussion of issues around the regulation and operation of cleanfills in New Zealand.

Target 4.2

By December 2008, there will have been a reduction of construction and demolition waste to landfills of 50 percent of December 2005 levels measured by weight.

Progress towards the implementation of the target

Progress can only be assessed once the 2005 baseline has been determined.

Issues arising from the implementation of the target, including barriers to implementation

The key issues affecting the diversion of C&D waste include:

- disposal charges, both at landfills and dedicated C&D waste sites
- markets for the diverted material (eg, recycled aggregate, waste wood, gib board, plastics)
- site logistics (the practicality of sorting waste materials on-site)
- building design, selection of materials and the deconstruction process.

It is expected that the Sustainable Management Fund C&D waste project will assist in better defining the issues preventing C&D waste reduction and in designing and implementing effective solutions to any barriers identified.

Interpretation of this target by individual councils should take account of their ability to establish baselines and monitor diversion of materials prior to December 2005.

3.6 Targets for hazardous wastes

Minimising and properly managing hazardous wastes can significantly reduce risks to human health and the environment. For several years the Ministry has been working towards a national policy for hazardous wastes with the expectation that the elements of this policy would all be in place by 2005. The targets in the New Zealand Waste Strategy reflect and complement this work.

Target 5.1

By December 2005, an integrated and comprehensive national hazardous waste management policy will be in place that covers reduction, transport, treatment and disposal of hazardous wastes to effectively manage risks to people and the environment.

Progress towards the implementation of the target

Elements of an integrated and comprehensive policy are already in place. These include a national definition of hazardous wastes, an online waste list, guidelines on identification and record keeping, and guidelines on waste acceptance criteria.

Other elements of the policy will be developed before the end of 2005.

Measuring progress towards the target

The elements needed for an integrated and comprehensive hazardous wastes policy are well understood. Progress is monitored internally and also by the Parliamentary Commissioner for the Environment.

Target 5.2

By December 2004, hazardous wastes will be appropriately treated before disposal at licensed facilities, and current recovery and recycling rates will be established for a list of priority hazardous wastes.

Progress towards the implementation of the target

Guidelines on landfill waste acceptance criteria have been developed, and will form the basis for assessing appropriate treatment. The hazardous waste policy mentioned in the previous target will include further guidance on appropriate treatment and licensing requirements. There has been some work done by regional councils on determining recovery and recycling rates for hazardous wastes (Environment Bay of Plenty and Environment Waikato hazardous waste survey).

Issues arising from the implementation of the target, including barriers to implementation

The collection of reliable data on recovery and recycling rates is difficult, and there is no standard method for data collection. Defining 'priority' hazardous wastes will depend on regional differences.

The regional council work determining recovery and recycling rates for hazardous wastes has shown that voluntary surveys tend to produce 'flawed and unreliable data', suggesting that a more mandatory approach may be needed to track priority hazardous wastes.

The lack of an appropriate tradewaste by-law recording information on hazardous wastes going to sewer is considered by Environment Waikato to be a key gap in the information framework.

Councils wish to know which hazardous wastes are 'priority' hazardous wastes.

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| <p>Target 5.3</p> <p>Recovery and recycling rates for priority hazardous waste will increase 20 percent by December 2012.</p> |
| <p>Progress towards the implementation of the target</p> <p>Systems are not yet in place to allow progress towards this target to be measured. When current recovery and recycling rates have been established, and record-keeping and tracking systems have been adopted by hazardous waste management enterprises, there will be a better information base with which to measure progress. The baseline for measuring progress towards this target needs to be established by the Ministry.</p> <p>The national collection of waste agrichemicals currently being organised by the Ministry for the Environment in collaboration with regional councils will provide, where practicable, for the recovery and recycling of waste chemicals that are collected. The amount processed largely depends on whether the waste chemicals are reliably labelled, and will only be a small fraction of the total hazardous waste stream.</p> |
| <p>Issues arising from the implementation of the target, including barriers to implementation</p> <p>The need for better systems for hazardous waste measurement has been discussed above.</p> <p>The relatively small scale of hazardous waste generation in New Zealand means that establishing viable recycling and recovery operations is more difficult than in more industrialised countries (eg, Australia). There is international trade in recyclable and recoverable materials, and this affects the commercial viability of domestic facilities. There are currently no financial incentives for enterprises to establish facilities in New Zealand, other than market pressures.</p> <p>The base value for measuring the 20 percent increase is not clear.</p> |

3.7 Targets for contaminated sites

The Ministry is undertaking an intensive programme of work focusing on establishing the policy and legal framework for the assessment, management and remediation of contaminated land. This work, which will provide local government with tools and financial assistance to address the problems of contaminated land, includes:

- a suite of technical guidelines to provide certainty for site owners (eg, industry) about how to identify, investigate and report on contaminated land
- the allocation of funds in partnership with local government to achieve the remediation of identified high-priority contaminated sites
- the clarification of policy on liability for contaminated land.

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| <p>Target 6.1</p> <p>By December 2008, all sites on the Hazardous Activities and Industry List will have been identified and 50 percent will have been subject to a rapid screening system in accordance with the Ministry's guidelines.</p> |
| <p>Progress towards the implementation of the target</p> <p>The Ministry is currently preparing a series of guidelines to assist local government, consultants and industry to manage contaminated land. One of these guides is the <i>Risk Screening System</i>, which provides a method for assessing risks at sites contaminated with hazardous substances. This guide has been field-tested by councils and consultants. It will be published and available by the end of November 2003.</p> |
| <p>Issues arising from the implementation of the target, including barriers to implementation</p> <p>The Ministry proposes to hold workshops in mid-2004 to promote and explain the application of those guidelines published.</p> |

Target 6.2

By December 2010, all sites on the Hazardous Activities and Industry List will have been subject to a rapid screening system in accordance with Ministry guidelines, and a remediation programme will have been developed for those that qualify as high risk.

Progress towards the implementation of the target

See 6.1 above in relation to the Ministry's work on preparing the guideline on a risk screening system.

The Ministry has established a contaminated sites remediation fund. A portion of this fund is available to assist regional councils with the investigation of contaminated land and remediation of sites that pose a high risk to human health or the environment within their regions. The fund will help councils to compile a database recording the status of contaminated land within districts and regions.

Issues arising from the implementation of the target, including barriers to implementation

The purpose of a rapid screening system is to assist councils to identify sites posing a high risk to human health or the environment. This is particularly relevant when industrial or agricultural land with a history of chemicals use is being subdivided for residential or life-style block use. The major barrier to the use of the rapid screening system (and other contaminated land guidance) is that presently councils are not explicitly required to administer contaminated land information under the Resource Management Act. The assessment, management and remediation of contaminated land are the focus of a Ministry programme of work.

Target 6.3

By December 2015, all high-risk contaminated sites will have been managed or remediated. A timeframe will also have been developed to address the management or remediation of remaining sites.

Progress towards the implementation of the target

The purpose of this target is to highlight the importance of addressing the risks to human health or the environment from exposure to chemical residues on land by means of a prioritised programme of work that starts with the 'worst first'. Sites posing a lesser risk should be addressed progressively thereafter. Performance measures will be developed over the next few years.

Issues arising from the implementation of the target, including barriers to implementation

This is an ambitious and possibly unrealistic target given that the legal imperative to remediate contaminated land is presently non-existent, and that most affected properties are privately owned. This target should be re-assessed in 2008, when government policy on contaminated land, including liability, will be more advanced than at present.

3.8 Targets for organochlorines

The Stockholm Convention on persistent organic pollutants (POPs) requires governments to:

- ban outright the import, manufacture and use of chemicals that are persistent, toxic and can build up in the environment
- reduce or eliminate releases of POP chemicals unintentionally produced as by-products (eg, chlorinated dioxins and furans).

POP chemicals accumulate in living tissues and are a threat to human and animal health. Chemicals banned under the Stockholm Convention are: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex, hexachlorobenzene, toxaphene, and polychlorinated biphenyls (PCBs).

Target 7.1

By December 2010, New Zealand will have met international obligations under the Stockholm Convention to collect and destroy PCBs and organochlorine pesticide wastes.

Progress towards the implementation of the target

Under the Stockholm Convention, the Ministry for the Environment is responsible for preparing a national implementation plan (NIP). The NIP will set out targets for the collection and disposal of PCBs and stocks of waste POP pesticides. The NIP is to be reported to the Convention Secretariat within two years of New Zealand's ratification of the Convention; that is (probably) by December 2005. The proposed NIP will set more specific targets and address issues relating to measurement and monitoring.

The Ministry for the Environment is currently planning a national collection programme for organochlorine agri-pesticide wastes, which will be undertaken over the next two years in collaboration with regional councils. This will build on existing collection systems operated by many regional councils and on the success of the major regional council-operated collections that were undertaken during the mid-1990s.

Issues arising from the implementation of the target, including barriers to implementation

Transpower have until 2016 to complete their phase-out and disposal of PCBs in transformers, for which they have exempted use permits. The target will need to be reconsidered in the context of the proposed NIP, which will need to take account of the Transpower situation.

Target 7.2

By December 2020, the average body burdens of dioxins will have been reduced to 10 percent of present-day levels.

Progress towards the implementation of the target

Elements of a plan to minimise emissions and human exposure to dioxin will be set out as part of the requirement for New Zealand to prepare a national implementation plan (NIP) under the Stockholm (POPs) Convention.

Measures to reduce and/or eliminate dioxin emissions will include:

- air quality standards that prohibit specific activities, such as landfill fires and the burning of insulated copper wire
- prohibiting any new facility to incinerate hazardous wastes
- health investigation levels for dioxins, DDT, dieldrin, etc. in soils.

Issues arising from the implementation of the target, including barriers to implementation

Issues and barriers will be considered during the development of New Zealand's national implementation plan.

3.9 Targets for trade wastes

Target 8.1

By December 2005, all territorial local authorities will have implemented and will be monitoring trade waste by-laws based on the New Zealand Standard Model General By-laws, Part 23 – Trade Waste or its equivalent.

Progress towards the implementation of the target

No specific action has been taken to measure progress towards this target. The New Zealand Water and Waste Association (NZWWA) is working with local authorities on a replacement model trade waste by-law. While it is generally accepted that there are problems with the current model by-law, there is not yet agreement about the details of a new model by-law.

Issues arising from the implementation of the target, including barriers to implementation

The lack of agreement among local authorities over a replacement of the current model by-law is a barrier to achieving this target. The Ministry is working closely with NZWWA, and it is anticipated that this barrier will be removed before the end of 2005. There may then be some delay while legislative procedures of local government are enacted in some cases.

In some district councils trade wastes may not be a significant issue and there may not be a strong case for the preparation of a trade waste by-law.

Target 8.2

By December 2005, all territorial local authorities will ensure that all holders of new or renewed trade waste permits will have in place a recognised waste minimisation and management programme.

Progress towards the implementation of the target

This will require a change to local councils' by-laws. The Local Government Act 2002 requires a general review of all by-laws, which would provide the opportunity to include provisions for waste minimisation and management programmes. The review of the model trade waste by-law would also provide an opportunity to provide a legal back-up to achieving this target.

One submission advises that the Foundation for Research, Science and Technology programme, Ecological Footprint Plus, reviewing inputs and outputs, should be able to illustrate where the key areas are for improved performance by an industry. This information could then be used to design waste minimisation programmes.

Issues arising from the implementation of the target, including barriers to implementation

The lack of by-laws supporting the implementation of waste minimisation and management programmes is a current limitation. For small and medium enterprises (SMEs), it will be particularly important to find cost-effective ways of achieving the objectives of this target without unduly adding to compliance costs.

3.10 Targets for waste disposal

High environmental standards for waste disposal are a key part of the New Zealand Waste Strategy, as are policies that account for the true costs of disposal and that charge these costs directly to waste generators. The targets establish time lines for the introduction of these elements of the strategy.

Target 9.1

By December 2003, local authorities will have addressed their funding policy to ensure that full cost recovery can be achieved for all waste treatment and disposal processes.

Progress towards the implementation of the target

The implementation of this target requires councils to account for the full costs of their waste treatment and disposal facilities. The target is backed up by the accounting requirements of the Auditor General and the Local Government Act. Our understanding is that councils would have achieved this target by the end of 2003. This will be confirmed as the Ministry works collaboratively with local government to implement a monitoring and evaluation system.

The Ministry for the Environment has developed a guide that can assist councils to calculate the full costs of landfills. The cost of collection needs to be incorporated into this model to enable councils to comply with this target. The full cost of wastewater collection, taking into account the depreciation of the sewerage asset and the operational cost of treatment, is available through asset management planning processes and should be available in each council's long-term financial strategy.

Issues arising from the implementation of the target, including barriers to implementation

There are no known barriers to the implementation of this target.

Target 9.2

By December 2005, operators of all landfills, cleanfills and wastewater treatment plants will have calculated user charges based on the full costs of providing and operating the facilities and established a programme to phase these charges in over a timeframe acceptable to the local community.

Progress towards the implementation of the target

There is anecdotal evidence that many landfill operators are using the *Landfill Full Cost Accounting Guide for New Zealand* (Ministry for the Environment, 2002a) to achieve this target. However, no formal survey of uptake of the guideline or calculation of user charges has been undertaken. Based on this limited evidence it is estimated that most, if not all, landfill operators are on track to introduce user charges over a time frame acceptable to the local community. There are some significant remaining issues around charging at rural transfer stations and for domestic rubbish collections. There is also very little comprehensive information available on the charging situation for cleanfills in general. Most cleanfills are privately run and are therefore likely to be recovering the full costs of operation.

While the overall costs involved with wastewater are generally known, the marginal capital and operational costs attributed to an additional connection may not be clear. The costs of infrastructure provision and replacement for wastewater are addressed in some detail in the asset management programmes that have been championed by local government and Audit New Zealand following Local Government Amendment No. 3 Act. Operational costs tend to be based more closely on historical costs and are subject to challenge from time to time, and the costs associated with domestic flow compared to commercial and industrial flows (trade wastes) are similarly unclear.

Issues arising from the implementation of the target, including barriers to implementation

A major perceived barrier to full-cost charging for solid waste is the risk of illegal dumping. The true nature of this barrier is unclear as there is some evidence that increases in disposal charges have been introduced by some local authorities with little or no increase in illegal dumping.

The very high costs of providing waste services to remote areas may require some relaxation of the 'full cost' argument and polluter-pays principle to avoid fly-tipping and other unacceptable practices.

Where the territorial local authority runs landfills, there can be ratepayer resistance to increasing the direct costs of waste disposal. Where landfills are privately owner-operated, full costs will generally be recovered. In areas served by several landfills there are complex interactions between market share and profit per tonne of refuse disposed.

There are some significant challenges to be overcome in implementing full-cost charging for wastewater treatment and disposal. These include developing simple and consistent ways of measuring loading and flow, the political implications of 'user pays', and the adequacy of legislative provisions.

Target 9.3

By December 2005, all cleanfills will comply with cleanfill disposal guidelines.

Progress towards the implementation of the target

There has been significant uptake of the cleanfill guidelines by regional councils (enforcing authorities) throughout New Zealand.

Issues arising from the implementation of the target, including barriers to implementation

In many regions the operation of a cleanfill is covered by a permitted activity rule in the relevant regional plan. In this case there is no mechanism for the regional council to cover the costs of compliance monitoring (as there is through the resource consent process) unless formal enforcement proceedings are entered into. In this context regional councils are unlikely to be able to fund proactive or comprehensive compliance monitoring.

Since cleanfills are generally not covered by formal consent processes, identifying sites is difficult. In some areas, however, district and/or regional rules use a threshold approach, meaning that larger sites are identified and controlled.

Target 9.4

By December 2010, all substandard landfills will be upgraded or closed.

Progress towards the implementation of the target

The results of the 2002 Landfill Review and Audit indicate that significant progress is being made towards this target, with the number of landfills in New Zealand decreasing and a trend towards higher standards in siting, design and operation.

Issues arising from the implementation of the target, including barriers to implementation

The main barrier to meeting this target is the cost of closing or upgrading sites that have significant remaining capacity.

Target 9.5

By December 2020, all substandard wastewater treatment facilities will be upgraded, closed or replaced with systems that comply with all relevant regional and coastal plans, standards and guidelines.

Progress towards the implementation of the target

Some work has been carried out by the Ministry for the Environment to identify the barriers to implementing this target.

Issues arising from the implementation of the target, including barriers to implementation

An understanding or a definition of the term 'substandard' would help in the implementation of this target. The key words in the target are "comply with all relevant regional and coastal plans, standards and guidelines". This represents an opportunity for the wastewater sector to work in collaboration with regional councils and central government to develop guidance on the appropriate design and operation of wastewater systems (including reticulation).

4 Key Issues Arising from the Review

This section discusses some of the key issues arising from the review of targets. Specific comments on each target are made in section 3.

4.1 Adoption of regional and local targets

Councils are making good progress in developing waste minimisation and management policies and in setting waste targets. This process will continue for some time yet as councils revise existing waste management plans and put in place new policies and systems for monitoring the effectiveness of waste policies and the progress made towards targets. Most of the targets have achievement dates several years in the future, and it is difficult to draw firm conclusions now about the likely success or otherwise in meeting each target. It is already clear that there are targets in the New Zealand Waste Strategy that can be readily achieved by some councils, and some that may be difficult or impossible for other councils to achieve. There may be some targets that all councils will find easy or impossible to achieve. This situation was expected as each council faces a different situation and councils were encouraged to set targets appropriate to their own situation. The national targets were also designed to ‘stretch’ the performance of councils. Some submissions emphasise the importance of a life-cycle analysis and the Ministry expects councils to adopt a life-cycle approach to the establishment and pursuit of targets and not pursue policies that don’t have net environmental benefits.

4.2 Some targets will be difficult to achieve

As noted in 5.1 above, some of the national targets in the strategy will be difficult or even impossible to achieve locally. This applies particularly to some of the organic waste targets, including the beneficial use of sewage sludge that is currently put into landfills. The New Zealand Water and Waste Association has produced guidelines for the beneficial use of biosolids (sewage sludge), but two regional councils (Auckland and Waikato) oppose these as they currently stand and will not agree to the regional plan changes that would allow these guidelines to be followed. There is also a limited demand for the beneficial products (such as compost or mulch) from organic waste that will affect the economic incentives to convert organic wastes to usable products. The reduction of greenhouse gases from landfills and the diversion of high levels of organic wastes to uses that produce fewer greenhouse gas emissions are important elements of New Zealand climate change policy. The Ministry recognises the inherent difficulty in achieving some of the organic waste targets and has initiated a work programme with a focus on reducing the barriers to the beneficial use of these wastes.

4.3 Changes to national targets

As discussed above, it appears that there are targets in the strategy that should be readily achieved and others that may be difficult or even impossible to achieve. There are also some targets that are difficult to interpret consistently and problems for councils in accurately measuring progress towards targets. However, the Ministry considers that the case is not strong for changing any targets at this point. Changes would entail a formal revision of the strategy, which the Ministry considers would be premature. Better information should, however, be provided on interpreting targets where ambiguity is providing difficulties for councils. The Ministry will do this through its website. Better systems should also be put in place to measure and monitor key targets, and the Ministry will facilitate the exchange of best practice by councils through a facility to be established on the Ministry website. Formal changes to targets will be further considered at the time of the next review (proposed for 2006).

4.4 Responsibility for achieving the targets

Many of the targets explicitly identify a responsibility for territorial local authorities or regional councils. Several targets, however, do not identify any agency or level of government as having a responsibility for meeting these targets. The underlying assumption is that central government and, more explicitly, the Ministry for the Environment has the responsibility for action on these targets. The Ministry has been asked to make its responsibility clear to help clarify the balance of responsibility. This will be done through the commentary on specific targets, which is on the Ministry's website. This commentary will be updated in the first half of 2004.

4.5 Lack of clarity about the practical implications of some targets

Local authority commentators have pointed out that the practical implications of some targets are not clear, which makes interpretation by councils difficult and potentially inconsistent. One of the issues of concern to councils is that the baseline for measuring targets is not specified. Another is that terms such as 'sub-standard' and 'beneficial' do not have a clear meaning. The Ministry for the Environment has provided additional material on its website to assist councils with the interpretation of targets. As mentioned above, this information will be updated to respond to concerns from councils.

4.6 Legal impediments to two waste minimisation targets

Targets 1.2 and 1.7 ask councils to include conditions in a resource consent requiring industries to put in place a waste minimisation and management programme. While the adoption of such programmes by industry is fully consistent with the New Zealand Waste Strategy, a requirement to do this in a resource consent under the Resource Management Act is likely to be *ultra vires*. In its new regional waste policy, Environment Waikato has addressed this issue by including a target similar to the national target in the New Zealand Waste Strategy, but which relies on voluntary compliance, not conditions in a resource consent. The Ministry will encourage other councils to adopt this approach to Targets 1.2 and 1.7.

4.7 Diversion or pre-treatment of sewage sludge

The opposition to the New Zealand Water and Waste Association biosolids guidelines is focused on Aa grade biosolids. The issue relates to the proposed interim contaminant thresholds (to apply for 10 years). The Auckland Regional Council and Environment Waikato feel that these interim numbers cannot be justified on a risk basis and are proposing to implement the lower contaminant levels immediately. This is a significant issue because few if any biosolids produced in New Zealand are able to meet these criteria. The Aa biosolids would be approved for general use based on a permitted activity rule in regional plans and therefore are reliant on regional councils throughout New Zealand amending their plans accordingly.

4.8 Limited control over waste by local authorities

While territorial authorities have a statutory responsibility for the “efficient and effective” management of waste within their territories, councils exercise only limited control over the different sources of waste. Councils usually provide a collection service for households but may rely completely on the private sector to serve the solid waste disposal needs of industry. In many cases councils operate their own landfills and waste diversion facilities, but increasingly councils are relying on the private sector to provide landfills. If councils are to fully measure the waste flows within their territory and therefore assess the effectiveness of waste policies and progress towards waste targets, they will require access to information obtained by the private sector.

The activities of waste management companies involve commercially confidential information, and business may be unwilling to share this information with councils unless the commercial nature of such information can be protected.. The pilot waste data project provides an example of industry co-operation in the sharing of information and points to ways in which councils can acquire needed waste information on a voluntary basis. Should voluntary information sharing prove unsuccessful or insufficient, options could include some form of by-law or national requirement.

4.9 Incentives for private sector involvement in extended producer responsibility (EPR) schemes

Targets 1.3 and 3.1 are aimed at the business community. There is considerable opportunity for businesses to voluntarily develop and adopt waste minimisation programmes and there is often a good business case for this action. There are, however, limits to voluntary approaches. EPR programmes relying on a voluntary approach may encourage some companies to ‘free ride’ (take advantage of the programme but not pay their share of the costs). Some companies may not participate in programmes because it gives them a commercial advantage, and those not participating can undermine the programme as a whole because the ‘playing field’ is not level for all players. These issues have been dealt with in some jurisdictions through legislative back-stopping, allowing programmes to be regulated if voluntary approaches fail. The Ministry is currently working with the private sector on a number of EPR initiatives covering packed goods, used oil and used tyres. Local government is also leading an EPR initiative involving farm plastic collection. The success of these initiatives will be monitored to assess progress towards Targets 1.3 and 3.1, and as part of this work the Ministry will also consider the case for back-stopping legislation.

4.10 Measuring and monitoring targets

The New Zealand Waste Strategy recognises the importance of good information systems for managing waste and measuring and monitoring waste targets. It is also important for information systems to be cost-effective and closely linked to the decision-making needs of waste managers. Progress has been made towards better and nationally consistent information through the revision and adoption of the *Solid Waste Analysis Protocol* and the pilot waste data scheme being implemented by Environment Waikato and Bay of Plenty Regional Council. Further work is needed to put in place a cost-effective means of monitoring and evaluating the implementation of the strategy. This important issue is discussed further in section 5.

5 Proposed Monitoring and Evaluation System

5.1 Introduction

As noted in the previous section, no comprehensive monitoring and evaluation system has yet been put in place for assessing progress towards meeting the targets in the New Zealand Waste Strategy. Work has, however, been done on some activities that could form the foundations of a monitoring system. This section outlines a proposed monitoring system that will:

- consistently measure and report waste data
- collect data only where required for assessing progress toward meeting targets
- be as simple as possible.

The proposed monitoring and evaluation system will be based on several key information sources, including (information provider in brackets):

- the Solid Waste Analysis Protocol Baseline Programme (Ministry for the Environment and local authorities)
- waste disposal data (landfill operators)
- a biennial review of local authority reporting (Ministry for the Environment and local authorities).

A key to the implementation of the New Zealand Waste Strategy, and by implication the monitoring and evaluation of the strategy, is a collaborative approach involving the Ministry for the Environment, local government and industry. The remainder of this section outlines aspects of the proposed monitoring and evaluation system and identifies the agencies that would be responsible for providing information. An outline of the proposed reporting format is included in the annexes to this report.

5.2 SWAP Baseline Programme

The Ministry for the Environment has instituted a Solid Waste Analysis Protocol (SWAP) Baseline Programme to provide solid waste composition information at four indicator sites in New Zealand. The objective of the programme is to establish generic waste composition data for New Zealand and to provide a basis for designing and interpreting SWAP surveys throughout New Zealand. The data is available through the Ministry website (<http://www.mfe.govt.nz/issues/waste/waste-data/index.html>).

A number of local authorities and landfill operators around New Zealand are also undertaking periodic SWAP surveys, either as required by consent conditions (Auckland and Taranaki) and/or to obtain information for their waste management planning process (Gisborne, Westland, Marlborough and Christchurch).

SWAP results include a breakdown of waste composition into 12 primary categories¹ for all surveys, and in some cases selected secondary categories.² SWAP results are also often reported by source (commercial versus residential and/or various commercial activities).

5.3 Waste disposal data

With the progressive introduction of charging at landfills in New Zealand there are now records of waste quantities for most of the waste being disposed to landfill. While many small sites charge for and record waste quantities based on volume, all major landfills (where the majority of waste in New Zealand is disposed) charge for and record waste disposal on a tonnage basis. Where landfills are local authority controlled, this information is in the public domain and therefore available for reporting against New Zealand Waste Strategy targets.

Where landfills are privately owned, the information about specific clients may be considered commercially sensitive. Total disposal quantities are, however, likely to be reported to the consenting authority. Landfill operators should be able to estimate the source of waste (by territorial local authority area) without compromising commercially sensitive data. However, some operators may prefer to make this information available on a regional basis only to protect their commercial interests.

The Ministry has been working with local authorities in the Waikato and Bay of Plenty regions on a waste data pilot project. This project aims to identify and remove barriers to sharing both disposal and diversion data. Preliminary results from the project (including waste disposal, composting and estimates of recycling quantities) are available from the Ministry website (<http://www.mfe.govt.nz/issues/waste/waste-data/pilot.html>). In this model, waste data (including disposal and organics diversion) is collated and reported on a regional basis.

5.4 Ministry for the Environment survey

The Ministry for the Environment maintains a watching brief³ on issues and initiatives relating to waste management around New Zealand. There are several targets that can be monitored using this approach, with no further survey or measurement required. From this source we have information about kerbside recycling, adoption of the New Zealand Waste Strategy and adoption of local targets for organic and other waste streams.

¹ Paper, plastic, putrescible, glass, ferrous metal, non-ferrous metal, textile, rubber, nappies/sanitary, rubble/concrete, timber, potentially hazardous.

² For example, putrescible into garden/non-garden, plastics into resin codes.

³ In many cases it is also involved through funding (Sustainable Management Fund) or as a participant/stakeholder.

In some cases, however, for the Ministry to report progress toward national targets we will be dependent on information specifically collected by territorial local authorities or regional councils. Where local authorities are reporting as recommended in Annex II, this information should be readily available and easy to translate into the Ministry's reporting format by reviewing existing publications, such as territorial local authority and regional council annual reports, regional council compliance/monitoring reports, and regional council state of the environment reporting. Where information is not available through these reports, the Ministry proposes to survey local authorities every two years (with questions answered, where possible, through review of annual plans/reports).

5.5 Proposed cleanfill surveys

Data about the composition and quantity of waste disposed of at cleanfills is generally unavailable. The Ministry proposes to work with several local authority groups to undertake surveys of cleanfills to provide a basis for estimating cleanfill disposal. This material may be supplemented by information from local surveys and will be used to assist in assessing progress towards meeting the construction and demolition waste targets and waste disposal targets.

5.6 Local authority reporting

For many of the non-quantitative targets in the New Zealand Waste Strategy there is an implicit assumption that local authorities will report on implementation/progress at a local and/or regional level. In many cases commitment to the targets has been articulated in waste management plans, and aspects of implementation are to be reported through the annual planning and reporting process. While Target 1.1⁴ addresses the reporting issue, there needs to be guidance on the form of the reporting to enable comparisons between local authorities and to simplify national aggregation of progress reports. The Ministry will work with councils in providing this guidance.

Annex II includes suggested reporting formats for territorial local authorities and regional councils. Any reporting format adopted should clearly outline the source of the information presented and ensure that local and regional comparisons can be easily made.

5.7 Resource implications

There will be costs associated with collecting and reporting waste. We have estimated resource requirements (staff time and operational expenditure) for the Ministry for the Environment, territorial local authorities and regional councils below.

⁴ Local authorities will report their progress on waste minimisation and management generally for their annual report in 2001/02 and quantitatively on an annual basis from then onwards.

The Ministry for the Environment

The Ministry has committed resources to the SWAP Baseline Programme⁵ and waste data pilot project currently operating in the Waikato and Bay of Plenty. The proposed review of annual reports and follow-up survey will also be undertaken by the Ministry.

Territorial local authorities

Several territorial local authorities are partnering the Ministry on the SWAP Baseline Programme.⁶ Many other local authorities undertake periodic SWAP surveys for waste management planning and state of the environment reporting purposes. Where territorial local authorities provide waste management services they already have waste data, and we consider that few additional resources would be required to use this information to report, as proposed, against targets.

Several of the New Zealand Waste Strategy targets relate to the planning and regulatory functions of territorial local authorities. In this case reporting against targets involves providing brief comment on progress towards implementing initiatives, such as a district plan rule requiring provision for recycling in multi-unit buildings.

Regional councils

The regional councils involved with the Waikato / Bay of Plenty waste data pilot project are currently putting resources into gaining a picture of waste management in their respective regions through working collaboratively with territorial local authorities and the waste management industry. In addition to collating waste disposal and composting data, local authorities involved with the pilot project are jointly funding SWAP surveys. There will be some ongoing costs. The resource implications of the proposed monitoring and evaluation system will be discussed with councils as part of the further development of the system.

5.8 Other issues

There are a number of other issues that will need to be worked through with local authorities in putting in place a monitoring and evaluation system. Some of these are mentioned briefly below and discussed in more detail in Annex II.

⁵ SWAP baseline funding has been committed for eight surveys at each baseline site over a two-year period only.

⁶ SWAP baseline funding has been committed for eight surveys at each baseline site over a two-year period only.

Measuring qualitative targets

As noted elsewhere in this report, there is a need to clarify the basis for measuring progress towards some targets, especially the qualitative targets covering organic and construction and development wastes. There are different options for reporting against these wastes and the Ministry will provide advice on the use of these options.

Volume conversion

The Ministry is proposing that waste be consistently measured by weight. Some authorities still measure waste by volume, so there needs to be a formula for converting volume to weight measurements in a consistent way. Proposed conversions are detailed in Annex II.

Reporting progress

Standard reporting formats are desirable to maintain a consistent approach among councils. Suggested formats for reporting by territorial authorities and regional councils are provided in Annex II. These will be further developed in consultation with councils. A suggested format for reporting by the Ministry for the Environment is also provided as a point for discussion.

Annex I: National Targets for Priority Wastes

This annex lists all the targets given in the New Zealand Waste Strategy.

1. Waste minimisation

- 1.1 Local authorities will report their progress on waste minimisation and management for their annual report in 2000/02 and quantitatively on an annual basis from then onwards.
- 1.2 By December 2005, all regional councils will ensure that new or renewed industrial resource consents include a recognised waste minimisation and management programme and will report on the percentage of all consents under their jurisdiction that have such a clause.
- 1.3 By December 2005, at least 10 major businesses will be participating alongside central and local government in developing and promoting waste minimisation programmes within their sector.
- 1.4 Ninety-five percent of the population will have access to community recycling facilities by December 2005.
- 1.5 By December 2005, territorial local authorities will ensure that building regulations incorporate reference to space allocation for appropriate recycling facilities in multi-unit residential and commercial buildings.
- 1.6 By December 2005, all councils will ensure that procedures for waste minimisation have been addressed for all facilities and assets they manage and will have set target reductions based on public health, environmental and economic factors.
- 1.7 By December 2010, all regional councils will ensure that at least 25 percent of all existing industrial resource consent holders have in place a recognised waste minimisation and management programme.

2 Organic wastes

- 2.1 By December 2003, all territorial local authorities will have instituted a measurement programme to identify existing organic waste quantities, and set local targets for diversion from disposal.
- 2.2 By December 2005, 60 percent of garden wastes will be diverted from landfill and beneficially used, and by December 2010, the diversion of garden wastes from landfill to beneficial use will have exceeded 95 percent.
- 2.3 By December 2007, a clear quantitative understanding of other organic waste streams (such as kitchen wastes) will have been achieved through the measurement programme established by December 2003.
- 2.4 By December 2007, more than 95 percent of sewage sludge currently disposed of to landfill will be composted, beneficially used or appropriately treated to minimise the production of methane and leachate.

- 2.5 By December 2010, the diversion of commercial organic wastes from landfill to beneficial use will have exceeded 95 percent.

3 Special wastes

- 3.1 By December 2005, businesses in at least eight different sectors will have introduced extended producer responsibility pilot programmes for the collection and reuse, recycling or appropriate treatment and disposal of at least eight categories of special wastes.

4 Construction and demolition wastes

- 4.1 By December 2005, all territorial local authorities will have instituted a measurement programme to identify existing construction and demolition waste quantities and set local targets for diversion from landfills.
- 4.2 By December 2008, there will have been a reduction of construction and demolition waste to landfills of 50 percent of December 2005 levels measured by weight.

5 Hazardous wastes

- 5.1 By December 2005, an integrated and comprehensive national hazardous waste management policy will be in place that covers the reduction, transport, treatment and disposal of hazardous wastes to effectively manage risks to people and the environment.
- 5.2 By December 2004, hazardous wastes will be appropriately treated before disposal at licensed facilities, and current recovery and recycling rates will be established for a list of priority hazardous wastes.
- 5.3 Recovery and recycling rates for priority hazardous waste will increase 20 percent by December 2012.

6 Contaminated sites

- 6.1 By December 2008, all sites on the Hazardous Activities and Industry List will have been identified and 50 percent will have been subject to a rapid screening system in accordance with Ministry guidelines.
- 6.2 By December 2010, all sites on the Hazardous Activities and Industry List will have been subject to a rapid screening system in accordance with Ministry guidelines, and a remediation programme will have been developed for those that qualify as high risk.
- 6.3 By December 2015, all high risk contaminated sites will have been managed or remediated. A timeframe will also have been developed to address the management or remediation of remaining sites.

7 Organochlorines

- 7.1 By December 2010, New Zealand will have met international obligations under the Stockholm Convention to collect and destroy PCBs and organochlorine pesticide wastes.
- 7.2 By December 2020, the average body burdens of dioxins will have been reduced to 10 percent of present day levels.

8 Trade wastes

- 8.1 By December 2005, all territorial local authorities will have implemented and will be monitoring Model General Trade Waste By-laws based on the New Zealand Standard Model General Bylaws, Part 23 – Trade Waste or its equivalent.
- 8.2 By December 2005, all territorial local authorities will ensure that all holders of new or renewed trade waste permits will have in place a recognised waste minimisation and management programme.

9 Waste disposal

- 9.1 By December 2003, local authorities will have addressed their funding policy to ensure that full cost recovery can be achieved for all waste treatment and disposal processes.
- 9.2 By December 2005, operators of all landfills, cleanfills and wastewater treatment plants will have calculated user charges based on the full costs of providing and operating the facilities and established a programme to phase these charges in over a timeframe acceptable to the local community.
- 9.3 By December 2005, all cleanfills will comply with cleanfill disposal standards.
- 9.4 By December 2010, all substandard landfills will be upgraded or closed.
- 9.5 By December 2020, all substandard wastewater treatment facilities will be upgraded, closed or replaced with systems that comply with all relevant regional and coastal plans, standards and guidelines.

Annex II: Summary and List of Submissions

This annex provides a short summary of the 27 submissions commenting on the draft report. It also lists the names and affiliations of those who made submissions. This summary does not cover every point made in submissions but reflects some of the more important themes. Key issues raised in submissions have been addressed in the report.

Overview

The majority of submissions came from local authorities but some were also received from non-government organisations, private sector companies and individuals. A few of the submissions commented on each target but most concentrated on a few specific targets or key points. Most were broadly supportive of the approach taken in the report and the conclusions reached, but most also commented critically on one or more aspects of the targets.

Interpretation of the targets

A common theme in a lot of submissions was concern about the lack of clarity of the terms used and the way targets might be interpreted. Some submissions criticised the lack of information about the baseline for measuring targets. A few of these submissions also included constructive advice on how uncertainty and lack of clarity might be dealt with.

Responsibility for the targets

Several submissions pointed out that the targets are not always clear about who is responsible for the actions to achieve the target. Recommendations were made that the responsibility should be clearly established.

Statutory basis for targets

Some submissions pointed out that achieving the targets was not mandatory and suggested targets should be backed up with legislation. One expressed frustration at the lack of legislative powers to control the landfilling of electronic wastes and to back up the special waste target.

Information basis for the targets

The limited information base for the setting of targets was recognised in some submissions. Others pointed out that the establishment of targets did not appear to be based on a life-cycle analysis.

Achievement of targets

Several submissions from councils expressed the view that they would find it difficult to achieve some targets. Some of the organic targets were seen as particularly difficult, as were those covering contaminated sites.

Changes to targets

While several submissions accepted the proposal in the draft that no formal changes be made to targets at this time, a few argued that if there was a good reason for a target to change, this change should be made now. One submission pointed out that some targets due to be met by local authorities by December 2005 should be changed to July 2006, the date of the first fully operative long-term council community plans.

Change to the review date

The proposal in the draft report to leave the next review of targets until 2008 was challenged in some submissions as being too far away, especially if any formal changes to targets were going to be left until this date.

Total waste stream

Concerns were also raised that the targets do not account for the measurement of all waste streams in each area, and that focusing on one area, such as landfills, will promote movement into other waste streams. A common theme was the inability to gather data and/or control the private sector that may be in competition with council-run facilities. Councils that have attempted to measure the total waste stream reported that it is difficult, and a nationally recognised methodology was requested.

Monitoring and reporting

Comments on reporting were concerned with the potential variation between local authorities and the inability to compare 'apples with apples'. One submission suggested legislation was needed to provide a solution to this concern. There was support for the proposals in the draft report to develop a national monitoring and reporting system.

Collection of data from the private sector

Some local authorities commented in submissions about their limited ability to obtain data from the private sector. A proposal was made in one submission to require all waste operators to be registered and the waste tracked.

Access to markets

The implications of the targets on the rural community were raised, and whether it would be economically viable to transport waste to the nearest facility. The implications of Targets 9.1 and 9.2 regarding full cost recovery were also raised and how this would be applied to rural communities where costs would be high.

Adoption of Model Trade Waste by-laws

One submission argued that trade waste is not an issue for some councils and so there should be no requirement for all councils to adopt a model by-law. Two submissions said that an appropriate by-law could be designed that was not based (as proposed in the targets) on the model by-law.

List of Submissions

| | Submitter | Representing |
|----|--------------------|--------------------------------|
| 1 | Burbery, Jan | Auckland City Council |
| 2 | Bennett, W. Louise | Gisborne District Council |
| 3 | Bentham, David | Waste Planning |
| 4 | Buwalda, Hans | Fletcher Building |
| 5 | Coates, Glenn | Tauranga District Council |
| 6 | Davies, Helen | Environment Canterbury |
| 7 | Greater Wellington | Greater Wellington |
| 8 | Jackman, Claire | Manawatu District Council |
| 9 | Johnston, Gretchen | Environment Southland |
| 10 | Keller, Peter | Opus |
| 11 | Knight, Jo | Zero Waste NZ Trust |
| 12 | Lamb, Stephen | Environment Bay of Plenty |
| 13 | Leonard, Margaret | Christchurch Science Centre |
| 14 | Liefting, Alan | |
| 15 | Onderwater, R | |
| 16 | Robinson, Darrel | Dunedin District Council |
| 17 | Roke, Lindsey | Fisher & Paykel |
| 18 | Rowden, Ian D | MWHGlobal |
| 19 | Rynne, Michael L. | Holcim Cement |
| 20 | Slaven, Nichol | North Shore City Council |
| 21 | Snow, Warren | Envision |
| 22 | Sutton, John | Department of Internal Affairs |
| 23 | Swallow, Alan | Alan Swallow |
| 24 | Tait, Bob | Friends of the Earth |
| 25 | Thiele, Jurgen | Waste Solutions Ltd |
| 26 | Watercare Services | Watercare Services |
| 27 | Wilson, Carla | Enviro Waste Ltd |

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