

13. Waste Management and Hazardous Substances

13.1 Introduction

"Waste" can be seen as resources which no longer have an economic value to the person or industry which used them.

The disposal of waste — solid, liquid and gaseous, hazardous and non-hazardous — can have an adverse effect on the environment in a number of ways, most notably by causing pollution. The deposition of all wastes, but particularly human waste in the form of sewage, is a major concern for the tangata whenua.

In the past, waste management has tended to focus on "refuse disposal". Current attitudes, internationally and at a national level, are changing this focus to one of "waste management" — managing waste as a resource rather than as a problem to be disposed of. One person's waste may be another person's raw materials. This type of approach can allow waste materials to make a significant contribution to a more sustainable and efficient use of finite resources. Good waste management therefore does not just avoid adverse environmental effects, it also has positive environmental effects.

The basis of good waste management is summarised in the **waste management hierarchy** which involves:

- Reducing the amount of waste generated;
- Reusing waste resources;
- Recycling;
- Recovering resources from waste (e.g., energy); and
- Disposing of residual waste safely.

Some of the steps in the waste management hierarchy, such as recycling, have a relatively high level of public understanding and acceptance. Others, such as waste minimisation and cleaner

production (both part of reducing the amount of waste generated), are only just beginning to be discussed and implemented. However, it is clear that if we are to begin to deal with the effects of waste management in our Region we have to start by reducing the amount of waste generated and managing the waste that is generated in accordance with the principles of the waste management hierarchy. It is on these principles that the Waste Management and Hazardous Substances Section of the Regional Policy Statement is structured.

13.2 Issues

Issue 1

There is a lack of clarity about **responsibilities for waste management and hazardous substances**, and about liability for damage caused by waste. The management of waste and hazardous substances is dealt with at central, regional and territorial levels of government and several statutes, including the Resource Management Act 1991, Local Government Act 1974 and Health Act 1956, apply. Areas where responsibilities are particularly unclear include:

- Liability for contaminated sites;
- Control of the use of land for preventing or mitigating adverse effects from the use of hazardous substances;
- Incentives for reusing materials from the waste stream; and
- Dealing with intractable hazardous wastes.

Issue 2

There is a **lack of reliable, comprehensive information** on the quantities and components of the waste stream in the Wellington Region. This makes it difficult to direct initiatives towards problem waste sources, to determine the most efficient and effective means of managing the waste stream, and to justify requirements or incentives for waste reduction.

Issue 3

The Wellington Region, like the rest of New Zealand, generates **large quantities of waste**.¹⁸ The amount of waste we generate is clearly unsustainable as it uses up large quantities of resources and causes ongoing problems with disposal. In general, the costs

Waste Policy
1.

Waste Policy
1
and Method
3.

Waste
Objective 1.
See also
Built
Environment
Issue 10.

¹⁸ Ministry for the Environment, 1992, *Waste Analysis Protocol*, Ministry for the Environment, Wellington.

of waste disposal are not borne by the generators of the wastes, so there is no incentive for reducing the amount of waste generated.

Issue 4	There is a high level of public awareness and demand for recycling facilities. Some parts of the Region have kerbside recycling, others are serviced by bins and some have no access to recycling facilities. However, there are currently no markets for many recyclable materials. People and organisations are prepared to sort some of their waste resources in preparation for recycling, but not always to "close the recycling loop" by purchasing recycled products.	Waste Objective 2.
Issue 5	Waste materials tend to be viewed as a problem rather than as a resource. For example, sewage contains valuable nutrients and can be used as an energy resource. Metals such as copper and lead can be lost in landfills. Re-use of waste resources and recovery of materials from waste is a response to both the current excessive levels of resource use and the loss of potentially valuable resources through waste disposal.	Waste Objective 2.
Issue 6	The discharge of treated and untreated sewage into water, including the discharge of sewage into the sea in Wellington and the Hutt Valley, and into rivers in the Wairarapa, is of general concern and of particular concern to Maori.	Waste Objective 3. See also Fresh Water Issue 1 and Coastal Environment Issue 4.
Issue 7	There is concern about the level and effects of illegal discharges to air, water and land, including illegal dumping. Monitoring and enforcement of illegal discharges is hampered by lack of resources for enforcement.	Waste Objective 3.
Issue 8	Inadequate waste management practices, both in the past and at present, are causing pollution and adverse environmental effects . For example, leachate from landfills discharges into waterways causing pollution. Poorly managed landfills can provide a food source for gulls, contributing to the incidence of bird strike at airports. Inadequate disposal of hazardous wastes results in contamination of soil, water and food chains. Of particular concern is the duration of pollution problems resulting from current waste management practices. Old landfill sites will continue to discharge leachate and methane gas up to 30 years	Waste Objective 3. See also Soil Issue 11 and Air Issue 7.

after they are no longer used as landfills. Cottles Tip at Horokiwi is an example of an old site causing environmental problems.

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| Issue 9 | Many existing landfills in the Region (e.g., Kapiti Coast) have limited life spans and very few of the Region's landfills are suitable for the disposal of hazardous wastes. Potential sites for new landfills are limited. | Waste Objective 3. |
| Issue 10 | The fate of unused agrichemicals (including pesticides and herbicides) is a concern, particularly in the Wairarapa. | Waste Objective 4. |
| Issue 11 | Hazardous substances management is an issue in the Wellington Region because of the presence of a major port in Wellington Harbour, the concentrated industrial area in the Hutt Valley and the Region's earthquake risk. The management of hazardous substances is of concern because of the potential for accidents involving hazardous substances and their capacity to damage the environment during their transportation, use, handling and final disposal as hazardous wastes. | Waste Objective 4.
See also Coastal Environment Issue 6. |
| Issue 12 | Waste management is closely linked with energy management . Good waste management can have positive effects on energy management, for example, through generating energy from landfill gas or conserving energy by reusing waste resources. There is therefore a need to give greater consideration to the energy implications of waste management. | Waste Policy 3.
See also Energy Issue 4. |

13.3 Objectives

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| Objective 1 | <i>The quantity of waste generated is reduced.</i> | Waste Policies 2, 4 and 5. |
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- The Wellington Region has one of the highest levels of waste generation per person in the world. Our highest priority, therefore, should be to reduce the amount of waste generated. The reduction of waste at source is an effective way of addressing waste management problems because it reduces the amount of material entering the waste stream. Reducing the amount of waste generated also has immediate benefits in terms of economic efficiency. This objective applies to all types of wastes, including solid wastes, liquid wastes and hazardous wastes and is consistent with the priority given to waste reduction in national waste management policy.

Waste

Objective 2

The quantity of residual wastes for disposal is minimised through reuse, recycling and resource recovery.

Policies 2, 4, 5 and 6.

Many materials which have reached the end of their useful life in one form may still have similar or other uses in a different form. Reusing materials for the same or similar purposes, recycling and recovering materials from the waste stream (e.g., compost or energy) are ways of making use of resources which would otherwise be disposed of as waste. This reduces the amount of residual waste material which needs to be disposed of (and therefore reduces the problems associated with waste disposal) and provides opportunities for sustainable production based on reused materials rather than on raw resources.

Objective 3

Adverse effects on the environment and human health from the inappropriate disposal of residual liquid and solid wastes are avoided or, where this is not possible, remedied or mitigated.

Waste Policies 7-10. See also Soil Policy 6.

Even if all possible steps are taken to minimise the amount of waste left for disposal, there will still be some materials which cannot be reused, recycled or recovered from the waste stream. The objective for residual waste is to dispose of it in a manner which avoids the adverse effects on human health and the environment which have characterised past waste management practices. Not all adverse effects from waste disposal can be avoided immediately, particularly effects that result from poor waste management practices in the past. They can, however, be remedied or mitigated and planning to avoid adverse environmental effects **now** will save future generations from the problems of dealing with our wastes and contaminants.

Objective 4

The potential for any accidental or unanticipated effects to arise as a result of the use, storage, transportation and disposal of hazardous substances is minimised and any adverse effects that do occur are remedied or mitigated.

Waste Policies 11-14.

There are two matters which distinguish waste hazardous substances from other kinds of wastes. First, hazardous substances, by their nature, have the potential to cause significant adverse environmental effects. Secondly, hazardous substances can cause adverse environmental effects throughout their life cycle, from when they are first manufactured or imported into the country until they are finally treated or disposed of as hazardous wastes. The management of hazardous wastes is therefore closely associated with the management of hazardous substances during their useful lives.

Objective 4 emphasises the need to avoid the adverse effects of hazardous substances throughout their life cycles, including the need to minimise the risk of the occurrence of accidental discharges of hazardous substances during their use, storage, transportation or disposal. Waste Objectives 1-3 also apply to the management of hazardous wastes.

13.4 Policies

The Waste Policies are listed in five closely linked groups:

- Policies for achieving an integrated approach to waste management;
- Policies for minimising the amount of waste which needs to be disposed of;
- Policies for avoiding the adverse environmental effects of waste disposal;
- Policies which deal with the management of hazardous substances; and
- Policies to address the adverse environmental effects of past waste management problems.

Policies for Integrated Waste Management

Policy 1	<i>To develop an integrated waste management framework in the Region, including integration across environmental media and jurisdictional boundaries, and between levels of government.</i>	Waste Methods 1-4.
Policy 2	<i>To adopt and implement the waste management hierarchy of:</i> <i>(1) Reducing the amount of waste generated;</i> <i>(2) Reusing waste resources;</i> <i>(3) Recycling waste resources;</i> <i>(4) Recovering resources (including energy) from waste; and</i> <i>(5) Disposing of residual waste in an environmentally safe way.</i>	Waste Methods 1, 3 and 5-8.

Policy 3

To give consideration to energy management in the development of waste management policies and plans and the delivery of waste management services.

Waste Method 1.
See also Energy Method 2.

Policies 1-3 set the "big picture" for waste management in the Region. A strategic and integrated approach to waste management (**Policy 1**) is necessary because the environmental effects of waste occur throughout the environment on land, in water, in air, on ecosystems and on people's health. Many of these effects are long-term and cumulative.

A further reason for adopting a strategic and integrated approach is that waste is managed by many different agencies at district, regional and national levels, and efficiency and effectiveness can be improved by clarifying and co-ordinating responsibilities.

The waste management hierarchy (**Policy 2**) is the basis of an integrated approach to waste management. The waste management hierarchy places a priority on minimising waste, but also acknowledges that the most practical and effective means of dealing with waste in a specific case could be at any of the five levels of the hierarchy, depending on the environmental and economic characteristics prevalent at the time. Adoption of the waste management hierarchy is consistent with central government waste management policy.

Waste management is closely linked with all production sectors and, in particular, with energy management (**Policy 3**). Energy implications, such as the energy required to transport or recycle wastes, therefore need to be considered when making waste management decisions.

See also Energy Policies 1-3 and 6.

Policies for Minimising the Amount of Residual Waste for Disposal

Policy 4

To ensure that, as far as is practicable, the Region's waste generators meet the costs of the waste they produce.

Waste Methods 5-7.

Policy 5

As a matter of priority, to promote the concepts of clean production and waste minimisation and to support all sectors of the community in the implementation of these concepts.

Waste Methods 5-8.

Policy 6

To provide opportunities for the reuse of waste materials, recycling, and the recovery of resources from waste (including composting and the recovery of landfill gas).

Waste Methods 5-8.

Policies 4-6 reflect the first four levels of the waste management hierarchy which aim to reduce the amount of material which ultimately needs to be disposed of as waste. **Policy 5** places priority on reduction of waste at source through cleaner production and waste minimisation because this is often the most efficient overall means of reducing waste. It also has immediate efficiency gains for those reducing their waste output. Cleaner production includes the principle of reducing the quantity and toxicity of hazardous substances used in production processes. Central government waste policy places a priority on promoting cleaner production and transferring the costs of waste disposal to waste generators.

See also Air
Policy 6 and
Energy
Policy 2.

Policy 4 acts as an incentive to minimise waste by ensuring that waste generators meet the true costs of managing the wastes they generate, rather than passing these costs on to third parties, such as the environment, local communities and future generations. The words "as far as practicable" in this policy reflect the need to balance the "user pays" philosophy against the potential for this to create an incentive for increased illegal waste disposal.

Reuse of materials is the next step in the waste management hierarchy after reduction of waste generated (**Policy 6**). It has some advantages over recycling in that the energy costs of reuse are usually less than recycling because the resource remains essentially unchanged. Recycling has a higher public profile and is to be supported where it is the most practical option for reducing waste. However, consideration needs to be given to the markets available for recycled goods. Recovery of resources from waste (such as the recovery of compost from organic wastes) can help meet many objectives. For example, the recovery of landfill gas is an efficient use of a waste resource, it collects methane (a greenhouse gas), and improves landfill safety by preventing the migration of gas.

See also Air
Policy 9.

Reuse, recycling and resource recovery will not always be appropriate waste management options for all resources, in all parts of the Region, and at all times. A decision on which, if any, is most appropriate in a particular waste management situation will depend on the economic and environmental factors at the time.

Policies for Avoiding Adverse Environmental Effects from Waste Disposal

Policy 7 *To ensure that all residual wastes are safely disposed of in an appropriate facility* Waste Methods 9, 11 and 13.

Even if all practical steps are taken to reduce the amount of waste entering the waste stream, there will still be waste which needs to be disposed of. **Policy 7** covers all forms of waste (solid, liquid, gaseous and hazardous wastes). It ensures that waste reaches appropriate disposal sites, thereby avoiding the environmental effects of litter and illegal dumping. In this policy, "safely disposed of in an appropriate facility" means in a manner and at a facility (e.g., a landfill or outfall) which has the appropriate resource consents, is run by appropriately qualified operators and meets any other requirements of the Act and any relevant regional plans. For hazardous wastes, it includes disposal at a site which is recognised as being suitable for the particular type of waste.

See also Soil Policy 6.

Policy 8 *To avoid, remedy or mitigate all adverse effects of waste disposal sites, including those sites that are no longer used for waste disposal, and as a matter of priority to avoid the adverse effects of landfill leachate.* Waste Methods 9-12.

Policy 9 *To rationalise the siting of landfills within the Wellington Region.* Waste Method 9.

In the Wellington Region, solid wastes are normally disposed of in landfills. **Policies 8 and 9** deal with the adverse effects of landfills and other waste disposal sites and encompass mitigating the adverse effects of old waste disposal sites, managing existing sites well and planning for the future (including rehabilitating existing landfill sites once they are no longer used for waste disposal and siting new landfills if necessary). These policies have been adopted because although waste minimisation is the long-term priority in the Region, the environmental effects of landfills require urgent attention. Leachates are identified as a priority because at present leachates from most Wellington landfills are not effectively managed and often cause pollution through contamination of waterways.

Landfill siting decisions can influence the effects of the disposal of wastes. Rational landfill siting occurs when Region-wide community benefit considerations are reflected in decisions on landfill siting and when siting takes full account of the constraints imposed by the environment. Community benefit considerations include matters such as the waste disposal needs of the entire community of interest (which may extend beyond jurisdictional

See also Fresh Water Policy 6.

boundaries) and making the best use of the limited number of cost effective landfill sites in the Region.

Policies on high temperature incineration have not been included in the Regional Policy Statement, as incineration does not appear to be a practical option for disposal of solid wastes in the near future in the Region. It requires a large waste stream in order to remain economic and there are also environmental problems associated with the disposal of incinerator ash. However, the possibility of incineration becoming a waste disposal option in the future is not excluded.

Policy 10

To ensure, in all decisions on the treatment and disposal of sewage, that:

- (1) *Sewage is treated to a level which is appropriate to the means of disposal so that adverse effects on human health and the quality of ecosystems are avoided, remedied or mitigated, and in particular:*
 - (a) *For discharge into or onto land, adverse effects on the quality of groundwater and surface water are avoided, remedied or mitigated;*
 - (b) *For discharge into coastal water, the discharge, after reasonable mixing, does not render the receiving waters unsuitable for contact recreation or for any other purpose specified for that water in the Regional Coastal Plan;*
 - (c) *For discharge into freshwater, the discharge, after reasonable mixing, does not render the receiving waters unsuitable for any purpose specified for that water in any relevant plan;*
- (2) *The values and views of the relevant iwi are given due recognition; and*
- (3) *The values and views of the appropriate communities of interest are taken into account.*

Waste
Methods 9
and
11.

Policy 10 deals with the treatment and disposal of human wastes in the form of sewage. The policy distinguishes between sewage treatment (chemical, biological and physical processes which occur under controlled conditions) and sewage disposal (the release of treated sewage into the wider environment, for example,

discharge to water through an outfall, discharge onto land by spraying or discharge into waterways from a wetland treatment system). The focus of this approach is on the quality of sewage effluent and sewage solids after treatment and the effects of the treated effluent and solids on the receiving environment. The criteria listed in Part (1) of the Policy are consistent with the criteria adopted elsewhere in the Regional Policy Statement. The reference to contact recreation in clause (b) has been adopted to broadly reflect the existing coastal water quality in the Region and to ensure that there is no further degradation from that quality as a result of discharges of human effluent.

See also
Fresh Water
Policy 6 and
Coastal
Environment
Policy 5.

This approach has been adopted in preference to advocating a particular receiving environment (i.e., disposal on land), because discharge of sewage effluent onto land, while not impossible in the Wellington Region, is subject to considerable geographic (and therefore cost) limitations. Sewage treatment and disposal is the responsibility of territorial authorities and decisions on appropriate systems will be based on a number of factors, including the ability of particular options to meet the purposes of the Act. In these circumstances, and given the "effects based" approach of the Act, it is more appropriate to specify criteria for the receiving environment, than to specify a particular location for disposal.

However, the disposal of human wastes in water is culturally and spiritually offensive to tangata whenua, and many find this practice to be unacceptable regardless of the level of treatment. The disposal of human wastes on some areas of land may also be unacceptable to tangata whenua. Part (2) of the Policy ensures that these values are given due recognition in decision making processes, as required in s. 6(e) of the Act. Part (3) of the Policy recognises that sewage treatment and disposal is also an issue of major significance throughout the regional community and that community values, including willingness and ability to pay, need to be taken into account in decisions on sewage. Parts (2) and (3) of the policy indicate that there are many different values and considerations which must be worked through when making decisions on sewage treatment and disposal and that trade-offs are a necessary part of this process.

Policies for the Management of Hazardous Substances

Policy 11

To ensure that the storage, transportation and use of hazardous substances is safely carried out and, in particular, to encourage, where practicable, a reduction in the amount and toxicity of hazardous substances used in the Region.

Waste
Methods 15-
19.

Policy 12

To have a response capability for pollution incidents, including spills of hazardous substances on land and in the coastal marine area.

Waste Methods 15-17 and 19.

Policies 11 and 12 acknowledge two special characteristics of hazardous substances — their ability to cause adverse effects throughout their life cycle and the significance of their potential adverse effects. The policies focus on avoiding the adverse effects of hazardous substances at all stages of their life cycles. This encompasses forward planning to ensure that all contingencies, including hazardous spills, can be dealt with at minimal risk to the environment, human health and safety.

See also Coastal Environment Policy 6.

In **Policy 11**, "safely carried out" means in accordance with existing and new legislation, regulations, guidelines and codes of practice for particular hazardous substances, and in accordance with any relevant conditions on resource consents and provisions in any relevant regional plans. Reducing the amount and toxicity of hazardous substances used in the Region is consistent with implementing cleaner production practices. However, it is recognised that less hazardous substitutes may not always be immediately or economically available.

Policies to Address the Adverse Environmental Effects of Past Waste Management Problems

Policy 13

To minimise the risk of damage to the environment and human health from contaminated sites in the Region.

Waste Methods 20 and 21.

Policy 14

To minimise the risk of damage to the environment and human health from unused and unwanted agrichemicals in the Region.

Waste Methods 22 and 23.

Inadequate waste management practices of the past have left a legacy of environmental contamination. **Policies 13 and 14** deal with two of the problems which have arisen — contaminated sites (e.g., timber treatment sites, old gas works, underground storage tanks) and unwanted agrichemicals. A third problem, the depletion of the ozone layer through the release of CFCs and halons from waste products, such as refrigerators, is covered in the Air chapter.

See also Air Policy 9 and Methods 11 and 13.

These issues are receiving attention because of their potential to

cause significant adverse effects on human health and the environment, and because of their high profile regionally and nationally. For example, a recent publication estimated that there could be a total of 642 contaminated sites in the Wellington Region (excluding timber treatment sites), of which 141 could be high risk sites.¹⁹

¹⁹ Ministry for the Environment, 1992. *Potentially Contaminated Sites in New Zealand : A Broad Scale Assessment*, prepared by Worley Consultants for the Ministry for the Environment, Wellington.

The "risk minimisation" approach of **Policies 13 and 14** has been adopted in preference to specifying a particular strategy for remediation, because it defines the desired environmental outcome rather than a particular process.

This approach allows flexibility in achieving the desired result. For example, it may not be economically or environmentally practical to clean up all contaminated sites — in some cases the site may only be cleaned up to an extent which is compatible with a particular end use.

13.5 Methods

Methods for implementing the waste management policies are discussed in five groups which match the policy groups adopted above.

Methods for Integrated Waste Management

The Wellington Regional Council will:

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| Method 1 | <ul style="list-style-type: none">• <i>Prepare a Regional Framework for Waste Management.</i> | Waste Policies 1-3. |
| Method 2 | <ul style="list-style-type: none">• <i>Establish and service a regional waste liaison group made up of representatives of territorial authorities and other agencies with waste management responsibilities in the Region.</i> | Waste Policy 1. |
| Method 3 | <ul style="list-style-type: none">• <i>Promote and co-ordinate the adoption of the Waste Analysis Protocol to monitor and gather information on the waste</i> | Waste Policies 1 |

stream.

and 2.

The major method for achieving integrated waste management in the Region is the development of a Regional Framework for Waste Management (**Method 1**). The Regional Framework for Waste Management will consist of regional plans controlling the discharge of contaminants (including wastes and hazardous substances) and a set of objectives, policies and methods for waste minimisation. The regional plans or parts of regional plans to be included in the Waste Management Framework include a Regional Air Quality Management Plan (for discharges to air), regional fresh water plans (for discharges to water), the Regional Coastal Plan (for discharges in the coastal marine area) and a regional plan dealing with the discharge of contaminants to land. The waste minimisation objectives, policies and methods will either be included in a regional plan or will be a non-statutory element of the Regional Framework for Waste Management.

Together, these elements of the Regional Framework for Waste Management cover those issues which were previously being addressed by the Wellington Regional Council, in consultation with other groups, through the preparation of a Regional Waste Management Plan. The Framework approach has been adopted in preference to a Regional Waste Management Plan because it provides for a clear division between the various regional plans being prepared by the Regional Council, while maintaining an integrated approach to waste management in the Region.

The regional waste liaison group (**Method 2**) will ensure waste management issues, particularly those which cross district boundaries, are integrated across the Region. A liaison group is an efficient and effective way of maintaining communication throughout the Region.

Good information on the nature of the waste stream is essential for the integrated management of wastes (**Method 3**). The Waste Analysis Protocol has been developed by central government as a tool for gathering information on the waste stream. The Wellington Regional Council will promote and co-ordinate the regional adoption of the Waste Analysis Protocol by territorial authorities. The advantage of using the Waste Analysis Protocol is that it is a nationally integrated system that has already been developed.

Method 4

To achieve integrated management, other means which could be used to implement Waste Management and Hazardous Substances

Waste

Policies 1-3 include:

Policies 1-3.

- (1) *Liaison with central government over waste management issues which need to be dealt with at a national level; and*
- (2) *Iwi Waste Management Plans.*

Any group with an interest in waste management could adopt **Method 4(1)** to deal with issues such as national facilities for the storage or disposal of some hazardous wastes or national schemes for encouraging the reuse of waste materials.

Iwi in the Region may wish to use **Method 4 (2)** to ensure that their views on waste management are incorporated into the policies, plans and decisions of local authorities. The advantages for iwi are that the plan would be recognised under the Act and local authorities would be required to consider it in the development of any other plans. Such a plan would also enable iwi to be proactive rather than responsive in relation to the effects of waste management. Where iwi wish to produce such plans, local authorities may wish to provide support.

Methods for Minimising the Amount of Waste for Disposal

The Wellington Regional Council will:

Method 5

- *Prepare a statement of the objectives, policies and methods to contribute to the implementation of Waste Management and Hazardous Substances Policies 4-6 and consider including this statement in a regional plan for waste minimisation.*

Waste
Policies 4-6.

Method 6

- *Investigate the use of appropriate incentives for waste reduction.*

Waste
Policies 4-6.

Waste minimisation is an ongoing issue. A strategic policy and planning approach has therefore been adopted in **Method 5**. The advantages of including waste minimisation policies in a regional plan are that waste minimisation will be a factor to be included in the assessment of resource consents. However, there are also advantages in promulgating such policies in the form of regional guidelines for cleaner production and waste minimisation. The Regional Council, in consultation with other interested parties, will carry out further analysis to determine the most effective

approach.

Potential incentives for waste minimisation (**Method 6**) include:

- Positive incentives e.g., rewards, loans, rating relief and grants;
- Disincentives e.g., increased charges for use of landfills and other mechanisms to transfer the costs of waste disposal to waste generators; and
- Waste reduction targets (voluntary or mandatory).

At present there is very little information on which to base the level of the incentive. There is therefore a danger of creating unanticipated adverse environmental or economic effects. For example, an increase in tip charges, instead of leading to a reduction in waste generated, could lead to increased illegal tipping and increased monitoring and enforcement costs. The use of economic incentives is therefore only likely to be effective in conjunction with other methods. Similarly, the development of waste reduction targets requires good information on the waste system and effective consultation with any parties involved in achieving the targets.

Method 7

District Plans would be an appropriate means of implementing Waste Management and Hazardous Substances Policies 4-6.

Waste Policies 4-6.

Method 8

To achieve integrated management, other means which could be used to implement Waste Management and Hazardous Substances Policies 4-6 include:

Waste Policies 4-6.

- (1) Education and information dissemination on waste minimisation;*
- (2) Setting a good example by implementing measures which minimise the generation of waste; and*
- (3) Providing appropriate waste management services.*

Territorial authorities can address waste minimisation issues through the inclusion of appropriate policies and incentives in district plans (**Method 7**), or other policy, planning and operational documents, as appropriate.

Methods 8(1) and (2) are important means of supplementing a regulatory approach, because they address society's attitudes to waste, which is at the root of the large quantities of waste generated. These methods could be implemented or supported by a number of groups, including joint waste minimisation initiatives by local authorities, central government and industry. Examples of educational initiatives which could be adopted to implement **Method 8(1)** include:

- A research, information and advisory service on waste minimisation opportunities;
- Appropriate teaching modules in schools;
- Waste education positions in local authorities;
- Use of landfills and transfer stations as waste education centres; and
- A regional education strategy for the minimisation of waste.

Organisations wishing to set a good example in minimising waste (**Method 8(2)**) could consider implementing:

- Waste audits to assess their waste management practices and identify opportunities for waste reduction;
- Cleaner production demonstration projects;
- Waste reduction targets and objectives in corporate plans; or
- "Think tanks" of industry representatives to develop innovative methods of waste reduction.

The advantages of minimising waste accrue to the organisation which is setting a good example, as well as to the Region as a whole.

Examples of services which could be provided to implement **Method 8(3)** include:

- Domestic, industrial and commercial waste registers and exchanges to encourage reuse;

- Recycling facilities;
- Composting facilities; and
- Recovery of gas from landfills.

Waste management services are the responsibility of territorial authorities under the Local Government Act 1974 and decisions on appropriate services will be taken on a case by case basis, depending on environmental and economic considerations. The Regional Council could become involved in cases where a regional initiative, for reasons of economies of scale or to meet other regional objectives, is more likely to be efficient or effective.

Methods for Avoiding Adverse Effects of Waste Disposal

The Wellington Regional Council will:

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| Method 9 | <ul style="list-style-type: none"> • <i>Include objectives, policies and, where appropriate, rules and other methods in the regional plans dealing with the discharge of contaminants to land, water and air.</i> | Waste Policies 7-10. |
| Method 10 | <ul style="list-style-type: none"> • <i>Review, improve and extend landfill leachate monitoring for the Wellington Region.</i> | Waste Policy 8. |
| Method 11 | <ul style="list-style-type: none"> • <i>Liaise with the relevant iwi and give particular consideration to any relevant iwi management plans or statements of iwi views when developing policies and plans on waste disposal, and disposal of sewage in particular.</i> | Waste Policies 7, 8 and 10. |

The treatment and disposal of liquid and solid wastes is the responsibility of territorial authorities under the Local Government Act 1974 and Health Act 1956. The Regional Council's roles are limited to managing the effects of discharges of waste to the environment (e.g., issuing discharge permits for landfills or sewage outfalls) and integrating waste disposal issues across jurisdictional boundaries. The Wellington Regional Council will address these responsibilities through the regional plans (**Method 9**) and the landfill leachate monitoring programme (**Method 10**).

See also Soil Methods 20-23.

In particular, the regional plan for discharges to land will help to avoid the adverse effects of landfills by:

- (1) Requiring all existing and new landfills to obtain the

appropriate discharge consents;

- (2) Requiring site management plans for the operation and subsequent rehabilitation of all existing and new waste disposal sites;
- (3) Assisting in the co-ordination of the application process for the various resource consents required for landfills;
- (4) Incorporating the National Landfill Guidelines; and
- (5) Including criteria to identify and rationalise landfill sites in the Region.

Adverse effects from the treatment and disposal of sewage and other liquid wastes (e.g., septic tank discharges, trade wastes and hazardous wastes) will be managed in the regional plan for discharges to land, the regional fresh water plans and the Regional Coastal Plan.

Method 11 applies to the development of the Regional Framework for Waste Management and can also be implemented by territorial authorities in the preparation of policies and plans. This method acknowledges the particular concern of iwi regarding sewage in water and emphasises the need for tangata whenua views to be explicitly considered in decision making on sewage disposal. This is consistent with the purposes and principles of the Act.

Method 12

District plans would be an appropriate means of implementing Waste Management and Hazardous Substances Policy 8.

Waste Policy 8.

Method 13

To achieve integrated management, other means which could be used to implement Waste Management and Hazardous Substances Policy 7 include:

Waste Policy 7.

- (1) *Provision of information and education programmes on appropriate waste disposal to all waste generators, including the industrial, commercial, agricultural and domestic sectors;*
- (2) *Provision of facilities for the collection and disposal of wastes, including hazardous wastes; and*
- (3) *Use of the provisions and powers of other legislation,*

regulations and guidelines for the disposal of hazardous wastes.

Method 14

To achieve integrated management, other means which could be used to implement Waste Management and Hazardous Substances Policy 10 include research into alternative means of sewage treatment and disposal.

Waste Policy
10.

Territorial authorities can assist in avoiding the adverse environmental effects of waste disposal by including appropriate provisions in district plans (**Method 12**), bylaws or other plans, as appropriate. The advantages of adopting a planning approach are that it provides an opportunity for environmental protection requirements to be built in at an early stage of a waste disposal programme and it enables the long-term management of the effects of waste disposal.

Method 13 contains three important supplementary means for avoiding the adverse effects of waste disposal. In particular, education can be carried out by any number of interested groups, including local authorities.

Method 14 could also be carried out by a number of organisations in the Region and complements the operational responsibilities of territorial authorities and the more regulatory approach taken in regional plans to the discharge of sewage effluent.

Methods for the Management of Hazardous Substances

The Wellington Regional Council will:

Method 15

- *Establish and service a liaison group of local authorities and other agencies with responsibilities for hazardous substances in the Region.*

Waste
Policies 11
and
12.

Method 16

- *In consultation with territorial authorities, develop a regional inventory of hazardous substances, including facilities and activities which use hazardous substances.*

Waste
Policies 11
and
12.

Method 17

- *Include in the Regional Framework for Waste Management objectives, policies and, where appropriate, rules and other methods in regional plans dealing with the discharge of contaminants to land, water and air, to contribute to the implementation of Waste Management and Hazardous Substances Policies 11 and 12.*

Waste
Policies 11
and
12.

The legislation governing the management of hazardous substances is currently under review and responsibilities are changing. The liaison group (**Method 15**) will facilitate co-operation among the agencies responsible for managing hazardous substances and will enable responsibilities to be clarified during the transitional period. Lack of information on hazardous substances is currently hindering better management. Information systems (**Method 16**) could be developed at a regional level but they will need to be closely co-ordinated with national initiatives.

The advantage of adopting a planning approach to hazardous substances management (**Method 17**) is that it plans in advance to manage the risks posed by hazardous substances throughout their life cycles (including emergency responses), rather than adopting an ad hoc response as problems arise. At a regional level the Regional Framework for Waste Management is the major mechanism for implementing the Regional Council's responsibilities in this area. The various elements of the Framework will cover:

- (1) Site management plans, contingency plans and cleaner production programmes for facilities handling hazardous substances;
- (2) The co-ordination of a regional response strategy for hazardous spills; and
- (3) The development of a tracking system for highly hazardous substances in the Region.

Method 18

District plans would be an appropriate means of implementing Waste Management and Hazardous Substances Policy 11.

Waste Policy 11.

Method 19

To achieve integrated management, other means which could be used to implement Waste Management and Hazardous Substances Policies 11 and 12 include:

Waste Policies 11 and 12. See also Soil Methods 21 and 22.

- (1) *Promoting and providing information on cleaner production practices; and*
- (2) *Using provisions and powers of other legislation, regulations and guidelines for the transportation, use and storage of hazardous substances.*

Territorial authorities can use planning mechanisms to control the use of land in relation to hazardous substances, as specified in **Method 18** (see also section 13.7).

Rules relating to hazardous substances can only be included in regional or district plans where they are consistent with the local authority's responsibilities under the Act, and where they can be justified in terms of environmental effects and costs and benefits in relation to alternatives.

Method 19 contains two supplementary mechanisms for the management of hazardous substances. Responsibility for these methods is shared between the local authorities and health authorities. Cleaner production is an effective way of reducing the adverse effects of activities which use hazardous substances. Other legislation dealing with hazardous substances, including the Transport, Dangerous Goods, Explosives, Pesticides and Toxic Substances Acts, sets out responsibilities for other agencies. These Acts are currently under review and will be replaced by the proposed hazardous substances and new organisms legislation. In the interim, there is a need to make co-ordinated use of the provisions of existing legislation and to promote adherence to existing guidelines, such as those prepared by the Department of Health for the safe management of various hazardous substances.

Methods to Address the Adverse Environmental Effects of Past Waste Management Problems

The Wellington Regional Council will:

- | | | |
|------------------|--|--|
| Method 20 | <ul style="list-style-type: none">• <i>In conjunction with territorial authorities, compile a register of all confirmed contaminated sites in the Region, including underground storage tanks.</i> | Waste Policy 13.
See also Soil Method 23. |
| Method 21 | <ul style="list-style-type: none">• <i>Adopt the ANZECC guidelines on contaminated sites to assist in the assessment of risk, prioritisation of sites, and development and implementation of a strategy for action for contaminated sites in the Region.</i> | Waste Policy 13. |
| Method 22 | <ul style="list-style-type: none">• <i>Co-ordinate the development of a data base of the unwanted agrichemicals in the Region.</i> | Waste Policy 14. |
| Method 23 | <ul style="list-style-type: none">• <i>Develop and implement a strategy for the redistribution, reuse, collection, treatment and disposal of unwanted</i> | Waste Policy 14. |

agricultural chemicals in the Region.

The methods for contaminated sites and unwanted agricultural chemicals focus first, on the collection of information, and secondly, on the development of a strategy for action based on assessment of risk and priorities. Once the level of risk and priority has been identified, economic and environmental criteria can be applied to decide the most appropriate course of action for a particular contaminated site or store of chemicals. These methods have been adopted because they are flexible and practical and build on the work which has already been done in Australia and New Zealand. Their successful implementation will require co-operation between the Wellington Regional Council, territorial authorities and industry.

13.6 Anticipated Environmental Results

- (1) Less waste is produced and there is a more sustainable rate of the use of natural resources including energy.
- (2) Pollution from the disposal of waste is avoided.
- (3) The quality of water, air and soil in the Region is improved.
- (4) Environmental damage from hazardous substances is avoided.

13.7 Responsibilities

The responsibilities for **developing objectives, policies and rules for the control of the use of land** for the prevention or mitigation of any adverse effects of the storage, use, disposal or transportation of hazardous substances are shown in table 12. In this table "land" has been divided into three types — the coastal marine area, the beds of lakes and rivers, and all other land.

The table shows that **the Regional Council has the primary responsibility** for the control of the use of land for the prevention or mitigation of any adverse effects from hazardous substances.

Table 12 : Responsibilities for the Control of the Use of

Land for the Prevention or Mitigation of Adverse Effects of Hazardous Substances

	Responsibility for Developing Objectives	Responsibility for Developing Policies	Responsibility for Developing Rules
Coastal Marine Area	WRC	WRC	WRC
Beds of Lakes and Rivers	WRC	WRC	WRC
Other Land	WRC* TA	WRC* TA	WRC TA*

Key

WRC = Wellington Regional Council

TA = Territorial authorities

* = Primary responsibility

For land other than land in the coastal marine area and the beds of lakes and rivers, the Regional Council will carry out this responsibility through this Regional Policy Statement and through the development of objectives and policies in regional plans. It will not write regional rules for this purpose, **unless** any relevant regional objective or policy is not able to be achieved through rules in district plans.

Territorial authorities therefore have primary responsibility for writing rules for the control of the use of land (other than in the coastal marine area or the beds of lakes and rivers) for the prevention of any adverse effects from hazardous substances, but these rules must not be inconsistent with either the Regional Policy Statement, or the relevant objectives and policies in a regional plan.

The responsibilities shown in table 12 apply **only** to the development of objectives, policies and rules for the control of the use of land for the prevention or mitigation of any adverse effects of the storage, use, disposal or transportation of hazardous substances, and do not affect any other responsibilities set out in s. 30 and 31 of the Act.