15.1 Introduction

Currently Auckland generates approximately 650,000 tonnes of solid waste each year, most of which is disposed of at landfills throughout the Region.

In order that sustainable management of the Region's resources is achieved and that actual or potential adverse environmental effects from waste disposal are avoided or mitigated, both the quantity and toxicity of waste being generated and requiring disposal need to be reduced. New Zealand is somewhat behind many overseas countries in adopting general waste minimisation principles and in ensuring the environmentally acceptable management of residual wastes.

The RM Act states that regional councils have the responsibility to achieve the integrated management (that is, a complete or holistic approach) of natural and physical resources of their respective regions. With regard to waste management, they are responsible for the control of any discharges of contaminants to land, air or water. TAs are similarly empowered to achieve integrated management of their respective districts' natural and physical resources.

Other current statutory provisions under the Local Government Act 1974 (LG Act) give the ARC the ability to provide refuse facilities in the event that private industry or TAs are unable to do so. The LG Act also gives regional councils the responsibility for ensuring that there are adequate facilities available for the disposal of hazardous waste. This chapter states those broad issues associated with the management of waste, and the disposal of solid waste in the Auckland Region. It is necessary for this chapter to be read in conjunction with other chapters of the RPS including Chapter 3 – Matters of Significance to Iwi, Chapter 7 – Coastal Environment, and Chapter 8 – Water Quality.

15.2 Issues

15.2.1 Large quantities of waste are generated in the Auckland Region

The large quantities of solid waste generated in the Auckland Region represent a high level of resource consumption and wastage. This must be addressed by the Regional community which must endeavour to make more efficient use of natural and physical resources while avoiding, remedying or mitigating any adverse effects on the environment.

The solution lies with waste management principles such as waste minimisation and cleaner production, which are expressed in central government policy. They are summarised in the waste management hierarchy as follows:

- reducing the quantity and/or toxicity of the waste generated;
- reusing as much of the waste stream as possible;

  recycling wherever possible;
- recovering resources from waste (e.g., waste to energy);
- residual waste disposal in an environmentally acceptable manner.

Some of the steps in the hierarchy have already been implemented (e.g., recycling) within the Region. However, other steps, such as waste reduction, require further discussion and development.

15.2.2 Adverse environmental effects arise from the disposal of waste

The location and operation of waste disposal sites is an issue of local and regional significance because of the environmental impacts of such sites. These impacts include odour; discharges of contaminants to air, water or land; noise and traffic. This issue has become further complicated since the establishment and operation of waste disposal facilities can now be undertaken by both TAs and private industry.

Closed landfills can also have adverse effects on the environment, and these are addressed in Chapter 8 – Water Quality, and Chapter 17 – Contaminated Sites.

Previous studies have suggested that some 60,000 tonnes of hazardous waste are generated in the Auckland Region each year, yet approximately 25% of this quantity is unaccounted for in terms of disposal. It is likely that much of this unaccounted hazardous waste and other unwanted or redundant chemicals are being disposed of in a manner contrary to the RM Act.

15.3 Objectives

1. *To minimise the quantity of waste being generated and disposed of within the Auckland Region in order to promote the sustainable use of natural and physical resources.*

2. *To avoid, remedy, or mitigate actual or potential adverse environmental effects arising from waste management activities.*

15.4 Policies, Methods and Reasons

15.4.1 Policies

The following policies and methods give effect to Objective 15.3-1.

1. ***The total quantity of commercial and industrial solid waste requiring disposal per dollar of GDP shall be reduced by 10% by 1998 from a base level in 1993/94 of 405,000 tonnes.***
2. ***The total quantity of domestic solid waste requiring disposal per capita shall be reduced by 10% by 1998 from a base level in 1993/94 of 245,000 tonnes.***
3. ***The principles of cleaner production and the waste management hierarchy including:***
   - ***(i) reduction of waste material being generated;***
   - ***(ii) reuse of waste material;***
   - ***(iii) recycling of waste material;***
   - ***(iv) recovery of waste material (e.g., waste to energy);***
   - ***(v) residual waste disposal in an environmentally acceptable and cost-effective manner;***
     - ***shall be promoted for application throughout the Region.***
4. ***Integrated waste management strategies shall be promoted to local authorities and industry throughout the Region.***

15.4.2 Methods

1. ***The ARC, in conjunction with TAs, will develop and maintain a Regional monitoring programme which will address:***
   - ***(i) The development of a Regional database on the types and quantities of domestic, commercial and industrial waste being generated and disposed of in the Auckland Region.***
   - ***(ii) The exchange of information between local authorities, on the types and quantities of domestic, commercial and industrial waste being generated and disposed of in territories across the Auckland Region.***
   - ***(iii) The implementation of the Waste Analysis Protocol (WAP), as released by the MfE, across the Region.***
2. ***TAs will develop and implement appropriate policies which will incorporate waste minimisation and cleaner production strategies and methods, such as domestic waste surveys, according to the WAP, that will enable local and Regional waste reduction targets to be measured and achieved.***
3. ***The ARC will develop and implement a Regional education strategy which will promote the following:***
   - ***(i) The adoption of integrated waste management practices through the waste management hierarchy by the general public.***
   - ***(ii) The implementation of the principles of cleaner production in specified industries.***
4. ***TAs will implement education programmes for the promotion of waste minimisation and cleaner production within their district.***
5. ***The ARC will promote or undertake research and evaluation into waste management technologies, in order to develop and expand a research, information and advisory service to the Regional community and TAs.***
6. ***The ARC will support and promote forums for liaison between the ARC, TAs, other regional councils, and where appropriate other interested parties such as industry, community groups and Tangata Whenua to address:***
   - ***(i) Significant district, regional and inter-Regional waste management issues.***
   - ***(ii) The development of integrated waste management strategies by local authorities and industry.***
   - ***(iii) The integrated regulation and monitoring of solid and non-solid wastes produced and disposed of within the Auckland Region.***

7. ***The ARC will advocate the formulation of national policies, a regulatory framework, and a National Policy Statement, where appropriate, in order to promote and encourage consistency in waste management practices and regulation across New Zealand.***
8. ***The ARC will advocate the use of economic instruments where appropriate.***
9. ***The ARC will set an example by adopting and implementing waste minimisation and cleaner production initiatives for its own operations.***

15.4.3 Reasons

The objective of reducing the quantity of Auckland's solid waste is linked to the RM Act's key purpose of the sustainable use of natural and physical resources. Auckland's growing industrial base is leading to increased consumption of natural and physical resources and, correspondingly, to higher quantities of waste materials requiring appropriate disposal.

The waste reduction target of 10% is an achievable and realistic goal. It represents a significant step to establishing long-term waste reduction (65,000 tonnes/annum based on 1993/94 figures).

The generation of waste is influenced by a range of variables. For example, economic growth will normally result in corresponding increases in commercial/industrial waste generation, while a larger population will generate more domestic waste. As a result, the 10% commercial industrial target is linked to GDP which is an indicator of economic activity, while the domestic waste reduction target is linked to the size of the waste generating population.

To achieve the 10% commercial/industrial waste reduction target by 1998, significant waste reduction efforts must be made by industry. This will require considerable long-term commitment and planning on behalf of industry and local government.

The achievement of a 10% domestic waste reduction will require ongoing education and promotion of waste management issues in the Regional community.

The intent of the waste reduction targets is to effect a reduction in the amount of all wastes requiring disposal rather than encouraging the conversion of solid to liquid or airborne wastes.

Methods to achieve waste reduction include cleaner production initiatives and the promotion of the integrated waste management hierarchy, which address and attempt to minimise the generation of all forms of waste. Practical difficulties exist in measuring liquid and airborne wastes, while a nationally consistent methodology for measuring solid wastes is presently in place. Therefore, efforts for measuring the waste stream are concentrated in the solid waste area.

Monitoring of the waste stream will be undertaken to provide regular updates on progress towards the 10% reduction targets.

Waste reduction targets after 1998 will be developed in consultation with the TAs and other interested parties at that time.

The successful attainment of the proposed waste reduction targets is contingent on the co-operation of TAs, industry groups and the Regional community. If sufficient co-operation to make the proposed reductions is not achieved, the ARC will lobby central government for the imposition of appropriate legislative measures to enable waste reductions to be achieved. The ARC will also review the efficiency and effectiveness of the education strategy and cleaner production initiatives etc. which will be utilised to implement Methods 15.4.2-2,-3 and -4 if the proposed reduction targets are not achieved.

The role of environmental monitoring, data collation and research for regional councils is well defined by section 35 of the RM Act.

The frequency and range of monitoring programmes will depend on the level of information required to allow accurate evaluation of waste generation and disposal rates in Auckland. Relevant and up-to-date information in a readily accessible form is essential for progressive decision-making by local authorities.

The development of a database, rationalising Regional waste information, will mean that this data can be used to achieve a number of objectives. However, in terms of economy of scale and ensuring consistent processing of data from across the Region, the ARC is the most appropriately placed agency to undertake the establishment and management of such a database.

The analysis of waste volume data is a complex process since the quantity of waste being generated and requiring

disposal is dependent on several social and economic factors. Increased business activity will increase the amount of resources consumed within the Region and, correspondingly, the quantity of waste. A similar situation could arise as the Region's population expands. It is important, therefore, to examine the underlying trends in waste generation and disposal which may require examination of data over several years, rather than a single year.

TAs will have the responsibility to use the information gathered by the ARC in their decision-making process. The data will assist in the development of policies that need to be established, so that waste minimisation and cleaner production strategies are accepted by the community. Appropriate methods need to be implemented to enable local waste reduction targets to be achieved.

The ARC will promote these ideas through an education strategy and by an advisory and information service to the public. Key industries will be targeted with education campaigns containing specific and relevant examples of waste minimisation and cleaner production. TAs will also provide education programmes on these ideas at a more local level.

Individual companies attempt to maximise resource use efficiency and thereby reduce resource consumption and operating costs. The ARC and TAs can, through a waste audit process, assist businesses in identifying potential wastage of available resources and indicate which waste minimisation techniques can be implemented. Such cleaner production and waste minimisation initiatives will result in savings of monetary and other resources for the participating businesses, as has been experienced both overseas and in New Zealand.

As part of the ARC's research and advisory service to the public, a waste register and exchange system will be refined. It will allow those wastes produced by one industry to be provided to another industry as valuable raw or primary resources. The waste register and exchange system will provide a contact for respective businesses to alleviate their waste disposal problems. It will also assist others in resource acquisitions and contribute to reducing the overall amount of waste requiring disposal.

Regular meetings between the ARC and TAs' representatives working within the waste management field, will facilitate information sharing and assist in the development of a co-operative approach to waste management issues. Similarly, regular communication with other regional councils throughout New Zealand will assist in the clarification of issues, the dissemination of information and allow for a co-ordinated approach to and lobbying of central government so that necessary resources and support are available to the regions.

The ARC is committed to the public consultation process and therefore wishes to consult the wider community on issues of Regional significance. A wide range of Iwi, industry and local authority views on waste management issues can be canvassed through various forums.

15.4.4 Policy

The following policy gives effect to Objective 15.3-2.

All waste generators, transporters and disposers shall transport, store and dispose of all residual wastes, including controlled and hazardous waste, in a manner which avoids, remedies, or mitigates actual or potential adverse environmental effects.

See also Chapter 17 – Hazardous Substances.

15.4.5 Methods

1. ***The ARC will investigate the need for, and if necessary include, provisions within a regional plan, in consultation with relevant organisations which will address:***
   - ***(i) The regulation and integrated monitoring of waste disposal facilities and all companies engaged in waste management activities.***
   - ***(ii) The implementation of a Region-wide tracking system for specified hazardous waste.***
   - ***(iii) In conjunction with TAs, the implementation of procedures to avoid, remedy, or mitigate actual or potential adverse environmental effects arising from illegal disposal of waste and other inappropriate waste management activities.***

2. ***The ARC, in conjunction with TAs and in consultation with other relevant parties, will investigate and if necessary introduce Regional guidelines or statutory controls for the transportation of general, controlled*** *and hazardous waste.*

3. ***The ARC will compile, publish and maintain a Register of Authorised Facilities listing all businesses permitted to accept, treat and dispose of solid and non-solid general, controlled and hazardous waste.***

15.4.6 Reasons

If required, a regional plan will establish procedures for the integrated monitoring and regulation of the waste management industry. It is an important step in the avoidance, remediation, or mitigation of adverse environmental effects arising from the transport, treatment and disposal of wastes. Similarly, integrated waste management and, concurrently, integrated pollution control, will lead to better management of natural and physical resources, a key focus of the ARC under section 30 (1) (a) of the RM Act.

A Regionally consistent approach is required in monitoring waste management practices, so that technically and environmentally sound waste management facilities are constructed and operated. For example, guidelines on landfills have been released by the MfE and will be incorporated in the Region's guidelines on disposal options for all wastes.

In order for a comprehensive management system for hazardous substances or waste to be developed, an inter- and intra-regional tracking system may need to be implemented. This will enable the collation and analysis of data on the quantities and/or types of hazardous waste imported, exported or produced in the Auckland Region, as well as where these are eventually disposed of. The Regional system will be integrated into a nationwide tracking system, when the latter is implemented.

Public access to published information, such as the Register of Authorised Facilities, will assist them in identifying which options are available for disposing of their waste in a responsible manner.

Currently there are no standardised procedures for local authorities to monitor and enforce action on illegal waste disposal activities. It is proposed that the ARC and TAs will develop strategies on how illegal waste disposal activities are to be assessed and appropriate action will be determined accordingly.

15.4.7 Policy

This policy and these methods give effect to Objective 15.3-2.

The development and operation of appropriate waste management facilities and technologies for the Region's current and foreseeable disposal needs for general, controlled and hazardous wastes shall be co-ordinated and promoted so as to avoid the potential adverse environmental effects of a shortage of appropriate disposal facilities.

15.4.8 Methods

1. ***The ARC will, in conjunction with TAs and adjacent regional councils, encourage the establishment and operation of environmentally sound waste disposal technologies in the Auckland Region.***

2. ***The ARC, in conjunction with TAs, will provide for the collection of unwanted agricultural and household hazardous waste and other hazardous waste as identified from time to time, through individual collection programmes and/or permanent drop-off facilities.***

15.4.9 Reasons

The physical resources (including all structures, as defined by the RM Act) required for waste management are limited. Therefore the ARC has a role in ensuring, through the resource consent process, that existing sites are maintained in an efficient and sustainable manner.

While the ARC no longer has a direct service responsibility for the disposal of waste in Auckland (with the exception of hazardous waste) the council needs to fulfil a role in the strategic planning for future facilities and technologies. This may be in the form of education or promotional programmes, advocacy or other appropriate measures.

The inappropriate storage or illegal disposal of agricultural chemicals and household hazardous waste can lead to adverse environmental effects. To prevent this from occurring, the ARC and TAs will continue to provide for the collection of these waste materials from the Regional community. Concurrently the ARC will promote the principles of waste minimisation regarding hazardous waste, to reduce the long-term costs of hazardous waste storage and disposal.

15.5 Environmental Results Anticipated

(a) The efficient use of the Auckland Region's natural and physical resources, and the reuse of waste material with an overall reduction in the quantities of waste being generated and requiring eventual disposal.

(b) A reduction in the actual or potential adverse environmental effects arising from waste management activities, particularly waste disposal.

(c) An educated regional community, which is aware of the importance of waste minimisation, cleaner technology and of the necessity for appropriate end disposal of residual waste material.

15.6 Monitoring

See Method 15.4.2.