Changing behaviour

Economic instruments in the management of waste

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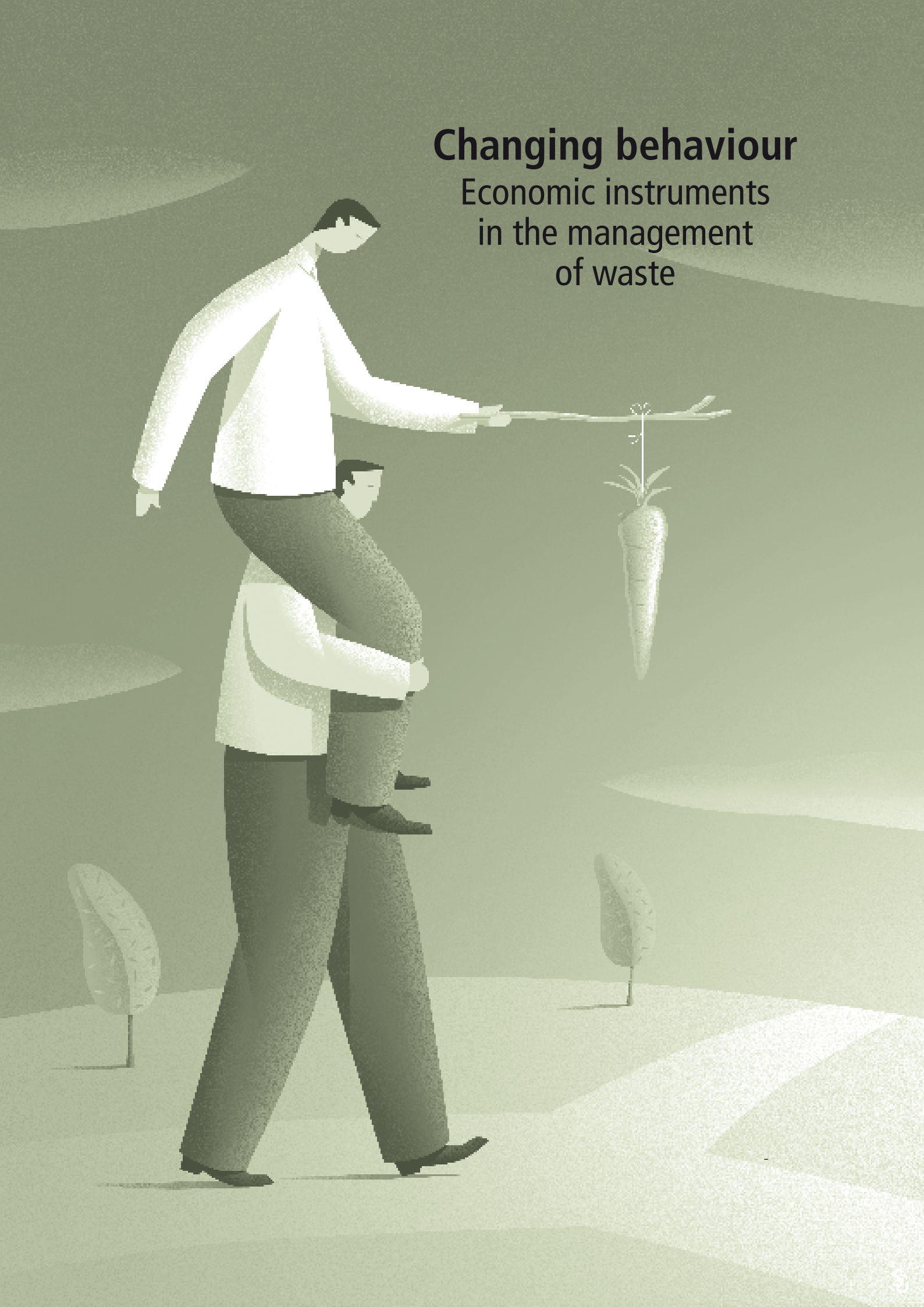

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Preface

Maintaining our desired quality of life often requires that we behave cooperatively. We need to do things for the benefit of our families, communities, and the wider society, not just for our businesses or ourselves. The mechanisms that stimulate cooperative behaviour are many and complex, but evidence is growing that external pressures are needed.

We already know that taxes and subsidies are two powerful tools that can change behaviour. Taxes on cigarettes aim to cut smoking. The proposed carbon tax was designed to cut greenhouse gas emissions. For environmental spending such as monitoring the effects of pollution, tax deductions are available. Councils can now dip into a government fund to investigate the cleanup of contaminated sites.

The growing science around changing behaviour shows that we frequently need a push to cooperate. A recent *Science* paper (Vol 312, p108-111, March 2006) reported on a study that compared behaviour where one group relied on cooperation only, while a second group could punish freeloaders. Most participants opted to join the cooperation only group. However, when they realised those with the power to punish were getting better results, many switched groups.

Such research brings us closer to a general theory of human cooperation, and it tends to confirm what those in waste management already know: that economic instruments are a powerful way of changing how people create and dispose of waste.

It has been shown worldwide that economic instruments in all their forms, including taxes, levies, charges, tradable permits, deposit schemes, subsidies, and credits, are effective policy tools for changing behaviour. That is what prompted this study. However, in New Zealand we seem to be somewhat fixated on voluntary measures. Yes, voluntary measures have their place, but we should not be too starry-eyed about what they can achieve.

I chose to explore how well New Zealand is using this type of tool by looking at how they are applied to waste management. The study has revealed barriers that prevent central and local governments using them. Some barriers are unintentional, and some are deliberate policy choices.

The unintentional barriers arise out of legal uncertainties. While local government has been given powers to use economic instruments to manage waste, central government has not provided the guidance on how to apply those powers. The waste industry has challenged in the High Court the powers of councils to impose waste levies under section 544 of the Local Government Act 1974. Their successful challenge highlighted the need to clarify the current legislation.

Of particular concern are the deliberate policy choices that have led to economic instruments being little used. The New Zealand Waste Strategy (NZWS) includes a series of key actions involving research into, and development of, economic instruments. But the Ministry for the Environment has failed to pursue these. The Strategy was cooperatively developed, so this failure undermines the whole process of democratic engagement with government. While the NZWS is not a binding document, it was, like many other national

strategies, developed in good faith by a wide cross-section of stakeholders. People rightly expected that the product of their collective effort would be implemented. They also expected that, where changes were needed, there would be transparent processes for engagement. This has not been the case.

Another obstacle to good waste management is the continued absence of reliable national, and often even regional, data on waste. The need to collect baseline data is a matter I have raised in a number of earlier reports, but it remains largely unresolved. It is sometimes said that we manage what we measure. Certainly we need to know what wastes we have, if we are to design tools to properly manage them.

Through the 'lens' of waste management the PCE team has identified a number of specific obstacles to using economic instruments. However, two other more generic features also require closer scrutiny.

The first is the government's apparent preference, reinforced by vocal sectors of society, for using voluntary measures to manage contentious resource management and environmental issues. Yet we use a more diverse policy mix, including economic instruments and regulation, to modify behaviour ranging from drinking and smoking to driving and dog control. The weight of evidence suggests that, where a significant shift in public behaviour is needed, voluntary measures are not enough.

The second feature that requires closer scrutiny is the role of the Ministry for the Environment. In particular, the responsibility of a government ministry to implement a strategy developed through an extensive partnership with wider society. The NZWS is a good example of inclusive governance. It built up trust in, and commitment to, our democratic processes. However, as this study reveals, key elements of the strategy on the research and development of economic instruments have not been implemented. Even worse, there has been no effective dialogue about why this happened. This finding does not inspire confidence that key actions will be implemented. Nor will stakeholders be confident that changes to the strategy will go through the same open process used to determine it in the first place. This loss of confidence may raise questions about government's commitment to the NZWS, and even to other strategies.

This report concludes with five recommendations to the Minister for the Environment. They aim to ensure that the potential for economic instruments to improve waste management is fully realised. I believe there is plenty of evidence that they are efficient and effective tools that should be part of our policy mix. Our local authorities already know this, as do some of our waste management business leaders. It is now time for renewed leadership from central government. I am confident that it will be forthcoming.

Dr J Morgan Williams
Parliamentary Commissioner for the Environment

Summary of key findings

Evidence shows that economic instruments can be effective in reducing waste. Using economic instruments to improve the management of waste is common in other OECD countries. Economic instruments (sometimes also referred to as market-based instruments or market instruments) include various types of taxes, levies, charges, tradable permits, deposit schemes, subsidies, credits and other incentives. When properly designed and implemented, economic instruments encourage waste reduction.

Economic instruments for managing waste have not been used to their full potential in New Zealand. Economic instruments have not been properly considered by central government as a way to change behaviours towards waste and provide incentives to minimise waste. Work on economic instruments was identified as a key action in the 2002 New Zealand Waste Strategy (NZWS), but no progress has been made by central government since then to analyse or consult on the use of economic instruments to achieve the targets set in the NZWS. At the local government level, user charges are the most common form of economic instrument applied to waste collection and disposal. Those few councils that have attempted to introduce any other form of economic instrument for waste management have been challenged on their legal right to do so.

Information on waste remains poor. Good waste data is essential for identifying waste problems and the appropriate measures to deal with them. Without reliable data the potential to design effective economic instruments is limited. Little progress has been made to improve the national coordination of waste data for the purpose of assessing suitable waste policy options, or for evaluating the effectiveness of policies already in place.

Legislative barriers to the use of economic instruments need to be addressed. The NZWS recognised that legislation dealing with waste was inadequate for meeting the targets and goals the Strategy set out. Uncertainty in the current legislation is acting as a barrier to the use of economic instruments by both central and local government to encourage more efficient management of resources and waste.

Central government needs to provide more guidance on the design and implementation of a wider range of economic instruments for minimising waste. While the Ministry for the Environment has produced guidance such as landfill full cost accounting, this has been aimed at ensuring the actual costs of waste disposal are met. Additional guidance is needed on incentives that will reduce waste at source and encourage greater responsibility for waste at all stages of a product's lifecycle.

Progress on meeting the key actions and targets set in the NZWS needs to be independently reviewed. Central and local government jointly agreed to the key actions and targets set out in the NZWS. Although the Strategy is a non-binding document, it sends a strong signal about moving towards zero waste and a sustainable New Zealand. The credibility of the NZWS will be adversely affected if either central or local government fail to meet agreed targets or carry out key actions. In the absence of any obligations or sanctions on central or local government to implement the NZWS, we suggest that an independent review group be established to oversee and report on its progress to the Minister for the Environment.

CHAPTER 1

Introduction and background

1.1 Introduction

This report is the result of an investigation into the use of economic instruments as a means to implement environmental policies, with a particular focus on their application to the management of waste. There are various types of 'tools' used to implement policy. The report takes a close look at economic instruments in particular – what they are, why they are used, how they work, how they are being used in the management of waste in New Zealand and elsewhere, and discusses some of their benefits and limitations.

The report analyses the evidence of the effectiveness of economic instruments as incentives to minimise waste and as a policy tool to influence change in behaviours towards resource use and waste generation. This is followed by a review of economic instruments used by local authorities in the management of waste, and an outline of developments in central government waste policy in recent years. The actual and potential barriers to the use of economic instruments are then explored in detail.

The report concludes with a number of recommendations to overcome barriers and encourage policy makers to use the full range of policy tools including, where appropriate, economic instruments. The aim is to explore and highlight the opportunities for economic instruments to contribute to the reduction and better management of waste, consistent with environmental sustainability.[1] It also aims to encourage both central and local government, in their waste policy analysis, to consider the merits of using economic instruments as a positive influence on behaviour towards waste and to improve outcomes for the environment.

This report is not an audit or review of the New Zealand Waste Strategy (NZWS). As we discuss, the NZWS is a major step forward in setting targets and encouraging actions to reduce waste. Our primary focus is instead on examining the role that economic instruments can play in the management of waste and, in particular, in meeting the targets of the NZWS.

The report makes the case for putting economic instruments 'back on the agenda' of policy measures needed to improve behaviour towards waste, and encourages a more sustainable approach to resource use for the overall benefit of the environment.

1.2 Background

The Parliamentary Commissioner for the Environment undertook this study to ascertain the extent to which economic instruments were used as an environmental policy implementation tool in New Zealand. Waste management was chosen as a particular policy area to provide focus for the study. The main reasons for choosing waste as a case study include the fact that:

- There are widespread and successful applications of economic instruments as an environmental management tool in other countries within the Organisation for Economic Co-operation and Development (OECD).
- Relative to other OECD countries, there is only limited use of economic instruments in the management of waste in New Zealand. We wanted to understand why this was the case, what barriers (if any) are in the way, and what opportunities exist to make better use of economic instruments to encourage waste minimisation behaviours.
- Waste management is widely acknowledged as a key challenge for local authorities.
- Waste management provides an ideal case study of the use of economic instruments to implement polluter-pays, user-pays, and sustainable development policies.

1.3 Consideration of economic instruments as a policy tool

Economic instruments have been widely used in other developed countries as a means of tackling the growing problem of waste generation linked to economic growth. Their use has also been recommended in both the Rio Declaration and Agenda 21 (see Appendix A).[2]

In his 2002 report, *Creating our future*, the Commissioner highlighted the increasing prevalence of economic instruments, particularly environmental taxes, in other countries in the OECD that encourage more sustainable consumption and production patterns.[3] The Commissioner subsequently identified the investigation of environmental economic instruments as a priority area in his 2003–2007 Strategic Plan.[4]

Initial research during the scoping of this project revealed that, in recent years, work on the use of economic instruments in the management of waste has not been a priority for the Ministry for the Environment (MfE), even though it was identified as one of the key actions in the NZWS.[5] The Ministry's efforts have, in recent years, largely been directed towards activities that encourage voluntary initiatives by industry,

such as the Packaging Accord. Other activities have included producing guidelines, such as the landfill full cost accounting guide, and promoting the introduction of a product stewardship policy.[6]

Our initial impression, therefore, was that the use of economic instruments to manage waste had not been analysed in detail, nor had its potential to provide incentives towards better waste behaviours and waste minimisation. We decided to ascertain if this was the case; if so, why; and what, if anything, should be done about it.

1.4 OECD review of New Zealand's environmental performance

An opportunity to reflect on New Zealand's achievements in the management of waste arose during the visit to New Zealand in June 2005 by a team of experts and staff from the OECD. The OECD team was here to take a close look at the country's environmental performance and evaluate progress made in relation to the recommendations of the OECD's last review of New Zealand's environmental performance in 1996.[7] One of the areas that the OECD team was interested in examining was waste management because it was an issue that came under considerable criticism in the 1996 review.

The earlier review was critical of:

- inconsistent policies among local authorities
- the lack of incentives
- the piecemeal approach to waste management
- inadequate legislation
- the range of treatment and disposal facilities
- the lack of reliable, comprehensive information on the magnitude and composition of waste streams.

Poor information on waste is an issue that the Commissioner has raised in a number of reports since 1998.[8] National data on waste streams are either unavailable or insufficient to provide the sort of information needed for sound policy decisions or to accurately determine whether waste reduction targets, such as those contained in the NZWS, are being achieved.

Another issue arises from the country's current healthy economic growth rate and the related growth in the consumption of resources and the production of waste. This relationship linking economic growth and waste production needs to be decoupled if such growth is to be sustainable. The use of economic incentives is one way of

encouraging better design, manufacture, and durability of products, less demand on resources, and recovery of valuable materials that otherwise end up wastefully buried in landfills. This is why it is important to take a close look at the potential benefits, in terms of environmental sustainability, to be gained from the application of economic instruments to the management of waste.

1.5 Purpose, scope and methodology

1.5.1 Purpose

The purpose of this report is to encourage policy makers to consider the merits of using economic instruments, along with other policy tools, to influence behaviours and help achieve waste reduction targets in an efficient and effective way. The aim is to highlight opportunities for economic instruments to be used in the management of waste and identify any barriers to their use that need to be addressed.

1.5.2 Scope

In this report, reference to *waste management* covers all aspects of managing waste from reducing or minimising its generation, through to recovery of resources, recycling of materials and the eventual disposal of any residues for which there are no alternative uses or treatment options.

Economic instruments include such measures as taxes, levies, charges, tradable permits, deposit schemes, subsidies, credits, and other incentives that seek to achieve environmental goals at the lowest cost and in the most efficient and effective way. Economic instruments are part of a range of environmental policy measures that include, for example, command and control regulation, voluntary measures, and moral suasion approaches (see Appendix B).

An early consideration in this project was whether to cover all types of waste disposal, including discharges to air and trade waste discharges to sewer, for example. However, we decided to limit the scope of our study to waste that is otherwise destined for disposal at landfill. This is the most common and visible method of disposing of waste, it affects the entire community, it is a critical component of environmental sustainability, and it is one of the key areas covered by the NZWS.[9]

1.5.3 What the report does not cover

As mentioned in the introduction, this report is not an audit or review of the NZWS, nor is it a critique of that Strategy, what it sets out to achieve, or what it does not address. However, reference is made to those parts of the Strategy that mention economic instruments.

The project team did not set out to compare the merits of economic instruments with other policy tools. Nor did we intend to evaluate the merits of one type of economic instrument over another. We acknowledge that it is unlikely that any single approach to implementing environmental policy will achieve significant changes on its own; rather a strategic combination of approaches suited to the issue(s) being addressed is more likely to succeed. Choosing the right combination and balance of policy tools is context specific, requiring analysis that is beyond the scope of this report. It is neither the intention of this report, nor a function of the Parliamentary Commissioner for the Environment, to carry out the detailed policy analysis necessary for designing effective economic instruments.

Throughout this report reference is made to other reports that have analysed in greater depth the merits and limitations of economic instruments. We have, therefore, referred to but not attempted to duplicate this work.

1.5.4 Methodology

Enquiries carried out to gather information for this report focused on issues such as:

- ways in which economic instruments are being used and in what form
- barriers to using economic instruments
- the limitations of economic instruments
- the effectiveness of economic instruments, either on their own or in combination with other measures, to achieve waste policy objectives.

This study involved a number of research strategies, including:

- interviewing individuals in central government, local government, and the private sector who are involved in waste management
- visiting waste handling facilities in New Zealand and Australia
- reviewing various waste strategies, policies and plans
- reviewing relevant legislation
- reviewing literature on economic instruments in waste management
- consulting with a reference group[10]
- commissioning a consultant's report outlining the implications of introducing economic instruments for managing waste.[11]

For the purpose of defining outcomes that economic instruments would be expected to contribute to, we focused on the waste reduction objectives and targets of the NZWS.

CHAPTER 2

Economic instruments: Their importance in the management of waste

This chapter describes the role and purpose of economic instruments in the management of waste. Our analysis focuses on economic instruments as a group of policy tools that create financial incentives to:

- minimise the creation of waste
- encourage more efficient use of resources
- avoid or remedy adverse environmental impacts of waste
- influence behavioural change among individuals and firms
- decouple waste generation from economic growth.[12]

First we explore what economic instruments are and why they are important as a policy implementation tool.

2.1 What are economic instruments?

Economic instruments (sometimes also referred to as market-based instruments or market instruments) include various types of taxes, levies, charges, tradable permits, deposit schemes, subsidies, credits and other incentives. Examples of some economic instruments and their characteristics are outlined in Appendix C.

Economic instruments are one set of a range of policy implementation tools. They are broadly defined as instruments that encourage behaviour through market signals rather than through prescriptive regulation or other directives. This categorises them as *market mechanisms.* In relation to waste management, they are intended to make those people or businesses responsible for causing environmental damage bear the cost of the impacts of that behaviour, and those who benefit from environmentally damaging behaviour pay according to the proportion of the benefits that they receive.[13]

Economic instruments can bring about change by altering market prices, setting a cap on quantities (for example, of waste to landfill), improving the way a market works, or creating a market where none currently exists. The economic justification for environmental economic instruments is that they 'internalise'[14] previously uncosted environmental effects into a market structure.[15]

Economic instruments have become an increasingly important feature of environmental policy internationally in recent years, as governments have sought innovative methods for integrating environmental costs into market prices and decisions.[16] They are being accompanied by other policy measures, such as regulations, to achieve environmental objectives. Stavins (2001) points out that:

> *…no single policy instrument – whether market-based or conventional – will be appropriate for all environmental problems. Which instrument is best in any given situation depends upon characteristics of the specific environmental problem, and the social, political, and economic context in which the instrument is to be implemented.*[17]

This highlights the point that although economic instruments have the potential to achieve environmental outcomes at reduced cost and greater flexibility,[18] they are not the panacea for all environmental problems. The costs of setting up a scheme based on an economic instrument should not outweigh the benefits.[19] On the other hand, economic instruments are useful where there is clear evidence of *market failure* and the design, delivery, and any incentives provided by economic instruments will be cost-effective compared to doing nothing or taking an alternative approach.[20]

The effect that economic instruments will have on waste depends on what they have been designed to do. Effects may include:

- raising awareness of the environmental, social, and economic costs of waste
- influencing behaviour towards producing less waste
- creating incentives to adopt waste minimising processes and technologies, such as redesigning products and packaging, recycling and resource recovery, thereby reducing the volume of waste that needs to be disposed of
- reducing the environmental impacts of waste (e.g. hazardous waste) by imposing appropriate treatment and disposal costs
- raising revenue to help fund waste minimisation initiatives.

In our later analysis of economic instruments (Section 2.3) we deliberately focus on those instruments that encourage change in behaviour and thereby minimise the impacts of waste on the environment. The revenue-raising characteristics of some economic instruments are mentioned only in relation to the potential environmental benefits to be gained from that revenue. We do not comment on how any such revenue should be used or distributed. This is a matter for policy makers[21] to determine in consultation with interested parties.

2.2 Types of economic instruments used for managing waste

Economic instruments used in the management of waste are described as either price-based or quantity-based.[22, 23] Price-based instruments assign a price to environmental impacts within existing markets (or may create new markets) through the imposition of charges, taxes, or subsidies. Quantity-based instruments create a market in the rights to engage in an activity by restricting the total level of activity and allocating those rights.

2.2.1 Price-based economic instruments

Price-based economic instruments such as charges, taxes, and subsidies may have an incentive effect and/or raise revenue. The incentive effect depends on the cost and price changes brought about by the charge, which encourages waste generators to continually find ways to minimise waste and thus reduce payment. When the purpose is solely to raise revenue, the charges are usually too low to have a significant incentive effect (that is, to encourage behavioural change). The revenues collected may be used to cover the social and environmental costs of waste, or to fund activities ranging from public awareness campaigns to research into clean technologies.

Examples of price-based economic instruments include:

- up-front charges or advance disposal fees
- deposit-refund schemes
- user charges
- environmental taxes
- subsidies and tax concessions.

These are discussed in more detail in the following sections.

Up-front charges or advance disposal fees

Up-front charges or advance disposal fees are charges added to a product at the point of sale. Such charges are meant to cover the cost of collection, treatment, resource recovery, recycling, reuse or disposal of that product, depending on its nature and the options available to deal with it (see box on next page).

For example, the Motor Trade Association operates a voluntary scheme known as 'Tyre Track' to deal with waste tyres.[24] In order to fund the 'responsible disposal' of old tyres, costs are passed on to consumers as part of the purchase price of new tyres.

Other voluntary 'take-back' programmes have been developed for other products such as waste oil, electronic waste, and paint,[25] but these do not so far include an up-front product charge. These programmes are more correctly described as 'product

stewardship' or 'extended producer responsibility' (EPR) schemes. EPR has been described as a cost-sharing principle.[26] In other words, the costs and responsibilities for waste are shared between the producer and the user of the goods. The distribution of these costs needs consideration so that costs do not fall unfairly on particular groups.

Switzerland's Recycling Guarantee Programme

The rapid development of information and communication technologies has created an increased volume of electrical and electronic waste. Switzerland's approach to addressing this type of waste and discourage its disposal in landfills highlights the use of advance disposal fees to encourage recycling.

The Swiss Association of Information, Communication and Organisation Technology (SWICO)[27] runs a 'recycling guarantee' programme. Participation in the programme was initially voluntary, but was mandated by a national ordinance in July 1998.[28] The *Ordinance on the return, the taking back and the disposal of electrical and electronic appliances* (ORDEE) provides the regulatory framework, which facilitates the establishment of efficient return and recycling schemes.

The ORDEE requires that:

- owners of electrical and electronic appliances are obliged to return worn-out appliances to the manufacturer, importer, or dealer, or to a specialised disposal firm
- manufacturers, importers and dealers of electrical and electronic appliances are obliged to take back the worn-out appliances from the owner (not other dealers)
- worn-out appliances must be recycled or disposed of in an environmentally sound way, using the most up-to-date technical means.[29]

A broad range of products is covered by ORDEE, ranging from household appliances and consumer electronics to information and communications equipment.[30] A charge is included in the purchase price of products. For example, a television carries a recycling charge of 20 francs, while for a digital camera it is just 2 francs.

Deposit-refund schemes

Deposit-refund schemes also involve a charge levied at the point of sale, similar to advance disposal fees. They are most commonly applied to food and beverage containers that can be recycled. The key difference from advance disposal fees is that the point of sale charge is refunded, in full or in part, when the product or container is returned for recycling. The primary purpose of such schemes is to encourage recycling rather than just to cover the cost of disposal.

A deposit-refund scheme that has been operating successfully in South Australia for over 30 years has a recovery rate for recyclable containers of around 80 percent (see box opposite).

Container Deposit Legislation in South Australia

Container Deposit Legislation (CDL) was introduced by the South Australian Government in 1975 and is overseen by the South Australian Environmental Protection Agency.[31] This legislation imposes a mandatory deposit on a range of beverage containers (5c or 10c), which is included in the retail price. The deposit is refunded to consumers when they return the containers to a collection point.

CDL was originally introduced in order to tackle a growing litter problem that was due, in part, to the increasing use of non-refillable beverage containers. Since its inception, however, CDL has evolved to become an important strategy for waste minimisation in South Australia. CDL provides an incentive to recycle or reuse containers, meaning that material is diverted from landfill. It conserves resources, and reduces pollution and energy consumption.[32]

CDL has been highly effective in not only reducing beverage container litter (items covered by CDL make up less than 4 percent of litter in South Australia), but also achieving high recovery rates for recycling (around 80 percent). The table below lists return rates (based on industry estimates) for CDL containers over a number of years.

Beverage container return rates[33]

	Return rate (%)						
Beverage container	**1993**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Aluminium cans	89	80	84	85	88	86	87
Glass bottles (soft drink, beer)	90	84	84	75	81	82	88
Plastic (soft drink)	62	74	74	72	72	72	72

CDL enjoys strong public support, and has many social and economic benefits, for Adelaide in particular, with more than 600 people employed directly as a result of CDL.

CDL is not without controversy though, with a number of other Australian States (e.g. NSW and ACT) debating its value for introduction in their areas. CDL programmes have never been introduced into areas that already have a well-established recycling programme, so the impact of CDL on kerbside recycling schemes is unclear. Some argue that CDL would undermine established recycling programmes, taking beverage containers and the associated revenue away from kerbside recycling. Others see that CDL could improve the viability of kerbside recycling programmes by reducing the cost of highly subsidised schemes (paid for by local councils and their ratepayers). The deposit value of containers that remain in the kerbside recycling scheme would also provide local authorities with an additional revenue source.[34]

User charges

These are charges paid by those who use waste disposal services, consistent with the user-pays principle. Charging that reflects a truer cost of those services can provide incentives to reduce waste.

User charges come in many forms, some direct and others indirect. Indirect charges include those imposed by councils through general rates on property. They are indirect in the sense that all property owners pay irrespective of the quantity of waste they produce. Direct charges include refuse collection charges per bag or bin, or by weight or volume; landfill charges for the disposal of waste; and landfill levies (see box opposite). Further information on local authorities' charges is outlined in Chapter 3.

Environmental taxes

Similar to user charges, environmental taxes are intended to partially or wholly internalise the costs of environmental impacts and elicit behaviour change. Environmental taxes act as an incentive to find ways of minimising waste and its environmental impacts, and so reduce an individual's or firm's tax liability.

In the countries where environmental taxes are adopted, the intention is generally to:

- ensure that users pay for the environmental costs they impose on society
- fund environmental protection measures or capacity building measures
- introduce incentives for more environmentally benign behaviour
- provide revenue to allow for the reduction of other less efficient taxes.

At the national level in New Zealand, environmental taxes are not used for managing waste.[35] An example of their application elsewhere is the UK landfill tax introduced in 1996 to help reduce the amount of waste to landfill and provide funding for research into more sustainable ways of managing waste (see box on page 20).[36] Another example is Denmark's differentiated waste tax system, which makes it most expensive to landfill waste, cheaper to incinerate it, and tax-exempt to recycle it.[37]

Subsidies and tax concessions

Both subsidies and tax concessions are instruments designed to provide an incentive to modify behaviour. A subsidy is a payment by government to those who undertake certain activities the government wishes to promote, while a tax concession reduces the amount of tax owed to the government by those undertaking such activities. Funding for the cleanup of contaminated sites is an example of a subsidy scheme. The Government's Contaminated Sites Remediation Fund has been established to assist regional councils with the investigation and cleanup of contaminated sites that pose a significant risk to human health and the environment.[38] In August 2004 the Government announced the availability of tax deductions for environmental expenditure such as preventing, remedying, or mitigating the discharge of contaminants, monitoring the effects of pollution, and testing options for dealing with environmental issues.[39]

Weight-based charging in Denmark[40]

Waste disposal was traditionally paid for in Denmark using a set fee per house. During the 1990s, however, 18 municipalities adopted a unit-pricing approach to charging for waste disposal. This shift was an attempt to reduce the amount of waste being disposed of in landfills or by incineration and increase recycling, by motivating households to separate their waste.[41]

Household waste is weighed automatically on the collection trucks. The data is transferred to a fee payment system that generates an account for each household.[42] Households typically pay a fixed fee that covers the expense of collecting and recycling glass and paper/cardboard, as well as the operating costs of recycling stations, handling hazardous waste, and so on. This fixed fee also provides an allowance of 'free kilograms' of waste (e.g. 5 kg every 14 days). Households are then charged for every kilogram of waste over this allowance that they dispose of. Charges may vary for different types of waste.

Several municipalities that have introduced this weight-based system have also introduced differential charging to encourage separation of wastes and reward those households that recycle. For example, in some municipalities, the charge for organic waste collection is lower than the charge for general 'mixed waste'.

The table below illustrates the impact of the weight-based system of charging. The generation of mixed household waste in municipalities with weight-based charging is less than half that of areas that have a flat charge per household. There is also significantly higher recovery of paper and cardboard and organic wastes in areas that have the weight-based charging system. The European Environment Agency could not find any indication of large-scale illegal disposal of wastes.[43]

Waste generation in pay-per-kg municipalities and reference municipalities.[44]

Type of waste	Average household waste in weight-based municipalities (kg/year)	Average household waste in reference municipalities (kg/year)
Mixed household waste	325	729
Paper & cardboard for recycling	105	67
Glass for recycling	38	36
Organic waste for recycling	124	44
Total	**592**	**876**

This system of weight-based charging for waste management is well supported by local communities, with most citizens believing that this system of paying for waste disposal is fairest to them.

There is an increased administrative cost to weight-based charging, in comparison to a flat fee per household. However, the clear reduction in mixed waste being landfilled or incinerated and the increased recovery of recyclables demonstrates the results attainable through the correct pricing of waste collection. It reduces waste, encourages recycling and saves people money. As Sinner and Salmon state in their 2003 report – it is 'a true win-win' situation.[45]

The UK landfill tax

The UK landfill tax was introduced through the Finance Act 1996 as the country's first 'green tax'. This was the first attempt by the UK Government to transfer taxation away from labour and profits (i.e. taxing 'goods') to pollution and resource use (i.e. taxing 'bads'). By increasing the cost of landfill disposal (which is otherwise a low-cost waste disposal option) relative to waste minimisation, resource recovery, and recycling, the latter options would become more financially viable. The overall aim of the tax was to encourage waste producers to increase the proportion of waste managed by methods towards the top of the hierarchy[46] of waste management options.[47] It provided an incentive for waste producers to seek more sustainable methods of managing their waste.

The tax is currently charged at two rates: £2 per tonne for all inert waste and £15 per tonne for all other active waste (substances that either decay or contaminate land, including household waste). There are exemptions for wastes such as dredgings, and waste from mining, quarrying, and reclamation of contaminated land under certain circumstances.

At the same time as the landfill tax was introduced, a credit scheme (the Landfill Tax Credit Scheme) was developed to fund environmental protection projects from revenue raised by the tax.

One of the possible consequences of introducing the landfill tax has been the increased risk of 'fly-tipping' (illegal dumping), but information on the actual incidence of this is unreliable. Other concerns include the fact that landfill disposal is still a relatively cheap option and that the rate of tax is insufficient to encourage significant change in waste generators' behaviour.[48] Since 1997–1998, the amount of waste going into landfill has fallen from about 96 million tonnes to just under 77 million tonnes in 2003–2004. In 2003–2004, landfill tax brought in £0.6 billion in revenue, almost double the amount received in 1998–1999.[49]

Although some weaknesses have been identified such as in the collection of the tax and in the operation of the credit scheme, overall the tax has acted as a catalyst for change. There is growing awareness of sustainable waste management, and the credit scheme has funded numerous worthy projects.[50]

2.2.2 Quantity-based economic instruments

Quantity-based economic instruments work by limiting the quantity of waste to landfill and allowing trading to take place among landfill operators. Unlike price-based economic instruments, which give some price certainty but often uncertainty of outcome, quantity-based instruments provide certainty of outcome but uncertainty of price.[51]

Tradable permits

Tradable permits or allowances are an economic instrument aimed at reducing the amount of municipal waste going to landfill. This type of instrument is sometimes referred to as 'cap and trade'. It works by allocating the maximum amount of waste that can be disposed of at each landfill in order to meet certain targets for reducing the overall amount of waste to landfill (the 'cap'). Landfill operators can then either use or save up their allowances from year to year (subject to restrictions), or trade them with other operators if they are able to successfully divert waste away from their landfill. A landfill operator who does not hold enough allowances to deal with the waste that needs to be disposed of can either increase the rate of waste diversion from that site or purchase additional allowances from other operators. A scheme along these lines, known as the Landfill Allowance Trading Scheme was introduced in Britain in April 2005 (see box below).[52]

Landfill Allowance Trading Scheme[53]

The Landfill Allowance Trading Scheme is an example of innovative waste policy that has been introduced in Britain in order to meet the targets set by the European Union (EU) Landfill Directive. Targets have been set to reduce the amount of biodegradable municipal waste that is sent to landfill.[54] The Waste and Emissions Trading Act 2003 provides the legal framework for the landfill allowance trading scheme to operate. It also places a duty on waste disposal authorities to reduce the amount of biodegradable municipal waste (BMW) that is disposed of in landfills.

Waste disposal authorities are able to landfill BMW up to the level of allowances held in each scheme year (1 April to 31 March). Waste disposal authorities have the flexibility to choose whether to trade allowances with other disposal authorities, save them for future use, or use some of their future allowance in advance, subject to certain restrictions. This flexible approach as to how targets are met allows waste disposal authorities to find the most cost-effective method of meeting those targets. For example, waste disposal authorities that face comparatively low additional costs to divert waste from landfill have the incentive to divert as much waste as possible from landfill and sell their surplus allowances to those that face higher costs of diversion.

The Department of Environment, Food and Rural Affairs has developed an electronic register of landfill allowances to record all allowances allocated to each authority and to facilitate borrowing, banking and trading. Waste disposal authorities may incur penalties if they breach their targets, or fail to provide monitoring information.

The Landfill Allowance Trading Scheme allows waste disposal authorities to retain control over waste disposal planning, and facilitates the meeting of targets in the most cost effective way. The gradual reduction in targets provides waste disposal authorities time to adapt and find low cost means of reducing and diverting waste from landfills.

2.3 Why economic instruments are important to consider

A more detailed analysis of the use of economic instruments in waste management is covered in a report that the PCE commissioned for this project.[55] This section summarises the key features of economic instruments and matters to consider when they are used to implement policies on waste.

As outlined in Section 2.1, economic instruments generally complement rather than substitute for other policy mechanisms. They almost always require legislation to set them up, as well as institutional and funding arrangements to implement and monitor them.

Economic instruments applied to the management of waste offer a number of benefits:

- they provide direct or indirect monetary incentives to avoid or reduce waste.
- they may provide the impetus and flexibility that industry needs to research and develop technologies that minimise waste.
- under certain circumstances, economic instruments may deliver outcomes faster and at a lower cost than more prescriptive measures.[56]
- they introduce efficiency gains by forcing those who generate waste to pay the full costs, including environmental costs, of dealing with the waste they produce.
- by encouraging more efficient use of resources and effective management of waste, economic instruments contribute to environmental sustainability, while also being conducive to economic growth. This makes them a promising tool for advancing sustainable development.[57]
- they help to fund alternatives to waste disposal, such as recycling and resource recovery, providing individuals and firms with practical and cost effective choices.
- where there is a financial advantage for those who reduce their waste, as well as an overall benefit for the environment, economic instruments create a win-win solution that cannot necessarily be achieved by other policy tools.

Issues to consider when choosing to use economic instruments include the following:

- calculating and applying efficient waste taxes, or charging rates to encourage behaviour change, can be complex.
- there may be practical difficulties in identifying and valuing environmental damage costs, especially of long-term impacts and liabilities such as those associated with land contaminated by hazardous waste disposal.

- even where landfill sites have undergone full cost accounting, the total cost may still be low compared to alternative means of dealing with the waste, resulting in price inelasticity[58] and little incentive to respond to price signals.
- payment of a waste levy may be construed as purchasing a 'right to pollute'.
- some stakeholders may perceive a tax or charge as simply a revenue-raising device, particularly if the revenue is not used for some specified environmental benefit (i.e. hypothecated).[59]
- the level of charges should be sufficient to act as an incentive to modify behaviour without creating undue hardships for low income households or increasing the risk of illegal dumping of waste.
- the distributional effects of economic instruments need to be considered. They should not create social inequities by disadvantaging some groups within society while favouring others.[60]
- economic instruments cannot be assumed to automatically result in least-cost solutions. There are costs associated with implementing economic instruments, which need to be weighed against the benefits to be gained.[61]
- in some situations regulation may be more appropriate and more effective than economic instruments (e.g. the management of risks from hazardous waste).
- economic instruments should generally be applied as close to the point of environmental damage (market failure) as possible. When instruments are applied more broadly, the link between behavioural change and environmental benefits sought may be more tenuous, thereby reducing the effectiveness and efficiency of the instrument.[62]

Obstacles to using economic instruments in the management of waste include the following:

- institutions may have limited administrative and technical capacities. Some studies contend that government agencies have little experience or expertise in designing economic instruments.[63] In addition, the skill base of firms may be structured around technological compliance within regulatory settings, rather than those skills needed to capitalise on the flexibility offered by economic instruments.[64] Upskilling of staff may be required in both the public and private sectors in order to provide them with the capabilities to design, implement, and take advantage of the flexibility offered by economic instruments.[65]
- resistance to changing the status quo can arise from misconceptions that implementing economic instruments will bring little environmental gain and weaken regulatory controls. Such misconceptions highlight the importance of complementary approaches, such as providing information, and consulting to communicate how economic instruments operate and what benefits are to be gained from implementing them.

Economic incentives for motivating sustainable development

The New Zealand Business Council for Sustainable Development (NZBCSD) published a report on the role that economic incentives play in motivating sustainable development.[66] In summing up its case supporting the use of economic incentives, the NZBCSD points out:

> *The great promise of incentive-based approaches is that they can help to reconcile conflicting objectives, by making it easier to achieve all of them. This is because, while incentive-based policies are firm about the desired outcomes, they are flexible about how to get there.*
>
> *They give affected businesses and individuals real choices about how to respond to community goals. By doing so, they can pre-empt conflict, stimulate innovation and creativity, and lower the total cost of meeting the community's goals.*
>
> *Properly implemented and applied, economic incentives achieve environmental objectives effectively and at lower cost than other approaches. Sometimes they can make solutions possible at reasonable cost when no other realistic solution is available.*
>
> *While economic incentives have mostly been targeted at achieving environmental objectives in an economically efficient manner, they can also be designed to enhance social objectives. Because they facilitate least-cost solutions, economic incentives are a key component of any business-friendly route to sustainable development. They present a great opportunity for a country that needs both to improve its rate of economic growth, and achieve broader community goals at the same time.*[67]

2.3.1 Motivating factors

Among the things to consider when analysing options for implementing waste policies is what attitudes towards waste motivate people's actions. Appealing to environmental altruism alone will limit the acceptance of waste policies to those who are already motivated to reduce waste.[68] In the business sector, for example, successful motivations would include cutting costs, increasing revenues, improving efficiency and quality, or expanding market share.[69]

Our analysis leads us to conclude that, in general, businesses and individuals will respond positively to the right incentives, especially incentives that make it easier for them to reduce waste. Economic instruments, properly designed, can fulfil this objective, potentially at a lower cost than regulatory methods, and faster and more surely than voluntary programmes alone. On the one hand, imposing regulations tends to standardise actions and stifle innovation. On the other, voluntary

The European Union policy on end-of-life vehicles

A study of the European Union (EU) policy on end-of-life vehicles,[70] which incorporates the producer responsibility principle (PRP), examined the role that economic instruments play in implementing such a policy.[71] Although the report did not analyse whether economic instruments were superior to command and control or other instruments, it outlined some advantages of using economic instruments to implement the EU policy on end-of-life vehicles.

The advantages of using instruments such as free take-back or up-front disposal fees to reduce or eliminate the cost of delivery will increase the delivery rate to vehicle dismantlers, thus avoiding illegal dumping of end-of-life vehicles. Using economic instruments to cover all or part of the additional costs of environmentally safe dismantling and treatment of vehicles will encourage non-polluting and efficient dismantling activities. Economic instruments that encourage recycling (such as recycling subsidies or disposal charges) promote the recovery and reuse of resources, and reduce the amount of waste going to landfill.

Possible negative side effects of economic instruments highlighted in this study include the risk of illegal dumping due to high disposal charges. Tax on virgin materials and recycling subsidies can give rise to subsidised markets for recycled materials, distortions in primary material markets, and/or an oversupply of recycled materials.

The study concluded that policies based on PRP should consider economic instruments in conjunction with 'enforceable' voluntary agreements.[72] The dynamic efficiency[73] of economic instruments in dealing with issues such as end-of-life vehicles depends both on where (along the production-to-waste chain) and how (in terms of net cost allocation) the specific incentive is introduced.

measures allow non-participant 'free-riders' to benefit from the actions of motivated participants.

A study by De Young, which examined motives for environmentally responsible behaviour, found that there is a complex range of influencing factors and that:

> *…the vast majority of attention has been given to only two motivations: providing material incentives and disincentives sufficient to make the behavior worth attending to, and focusing on the altruistic reasons for engaging in the behavior.* [74]

Some of the drawbacks of relying on incentives are that they are difficult to design and implement, they need constant review to ensure they remain effective, and their reliability in all circumstances is uncertain. Altruism also has its drawbacks, one of which is the lack of procedural guidelines that would be useful for measuring its effect.

Voluntary glass levy

ACI Glass Packaging (part of the Owens Illinois Group) is New Zealand's principal recycler of glass.[75] ACI recycles green, amber and clear glass.

In 2004, ACI announced its intention to reduce the price paid for glass cullet from $92/tonne for all colours to $75/tonne for green and amber glass and $10/tonne for clear glass.[76] There were concerns that the decrease in prices paid for cullet would reduce the viability of glass collection and recycling.[77] The glass sector, a signatory to the New Zealand Packaging Accord 2004, developed a voluntary agreement to pay a levy on imported clear glass, to cover the difference between the cost of collecting glass for recycling and the price paid for it by ACI.[78] The levy was intended to apply for six months, from May to October 2005, and during this period work on finding alternative markets for cullet would be carried out. Part of the funding from the levy was to be used for this research work.[79]

By November 2005 the temporary levy had raised $1.5 million. These funds were used to pay recyclers $65 per tonne for clear glass sent to ACI.

However, a study carried out in Otago showed that the levy had no benefit for the community in that region.[80]

The study points out that, despite popular theories about single determinants of behaviour, there are more likely to be multiple motivations impinging on environmentally responsible behaviour. Important factors include the durability and reliability of the behaviour change: the extent to which the change is long term and self-maintaining without repeated intervention. Monetary incentives can initiate environmentally responsible behaviour but sometimes fail to produce durable behaviour change, resulting in behaviour returning to baseline levels when reinforcement stops.

The study concluded that:

- no single motive is optimal for promoting environmentally responsible behaviour
- no motive has universal appeal, or works under all conditions or in all situations
- no motive is likely to meet both short-term and long-term goals
- there is great diversity in the motives that people find acceptable and empowering
- it is prudent to explore those techniques that are durable and can be applied to a wider range of environmental problems.

Another report, prepared for Environment Waikato, examines ways to promote positive environmental behaviours.[81] It discusses a number of issues relating to

"We need to reduce our piles of waste."

In an article written for the New Zealand Herald, Rob Fenwick, chairman of the New Zealand Business Council for Sustainable Development, a director of Living Earth Ltd, and a member of the former Waste Minimisation and Management Working Group, commented on the need to address the growing waste problem in New Zealand.

…in many cases the economic levers are being pulled in the wrong direction to produce the community responses which lead to significant change. …In point of fact, volumes of waste to landfills have increased since the introduction of the [New Zealand Waste Strategy]. Strategies and voluntary targets clearly aren't enough, particularly when the cost of disposal is relatively cheap and the cost of recovering resources by recycling, reuse, composting and so on is comparatively expensive. Many who were involved in the development of the national strategy argued the need for a national waste levy, an environmental charge that helps recover the true cost to the economy and the environment of chucking stuff away. …Provided levy funds are ring-fenced or hypothecated for investment in recycling and resource recovery, it will be a positive economic instrument to reduce the nation's embarrassing waste mountain.[82]

specific types of intervention, including monetary incentives, to encourage waste minimisation. The report recognises monetary incentives as one means of successfully fostering waste minimisation behaviours. However, a cautionary note in the Waikato study is the potential for some price controlling strategies to impose a disproportionate hardship on poorer households, creating a social equity issue. For example, a small fee per rubbish bag may have a significant economic impact on low income households, but be insufficient incentive for higher income households to significantly change their waste behaviours. Conversely, studies have shown that lower income households produce less waste, so actual effects may be minimal.[83]

The report points out that the effectiveness of a monetary incentive policy depends on a number of factors, including:

- public awareness of the policy
- the local authority's ability to enforce the policy
- the extent to which individuals' habituation[84] or defiant reactions undermine the policy.

Monetary incentive policies are likely to be most effective when they are combined with complementary services that provide an alternative to waste disposal (e.g. convenient access to pre-paid rubbish bags or stickers combined with kerbside recycling services).

2.4 Key points

Waste management provides a useful case study for examining the role of economic instruments as a policy implementation tool. It helps to illustrate the circumstances under which economic instruments are an effective and efficient means of achieving environmental goals and objectives.

Economic instruments have a number of significant advantages. Properly designed and implemented, they can help to correct market failure, influence waste behaviour, and ensure that those who generate and dispose of waste meet the actual costs of their actions. However, they are unlikely to provide the complete solution. No single environmental policy tool, whether market-based or otherwise, will succeed in all circumstances. Nevertheless it is important for policy makers to consider the use of economic instruments as part of a range of policy tools. All available tools may be needed to help achieve the desired level of waste reduction.

CHAPTER 3

A review of economic instruments used by territorial authorities for waste management

The management of waste is primarily, but not exclusively, a statutory function of territorial authorities. They develop waste management plans and determine their own range and levels of charges for waste collection, disposal, and recycling – the 'end of pipe' functions that are their responsibility.

Price-based economic instruments in the form of user charges, as discussed in Section 2.2.1, are the most common type of economic instruments used by territorial authorities for managing waste. These include a variety of direct and indirect charges relating to the collection and disposal of waste, as well as recycling services. As discussed later in Section 5.3.1, territorial authorities' ability to apply charges or levies is confined to those activities and services specified in the Local Government Act 1974 (LGA 1974) and Local Government Act 2002 (LGA 2002).

Territorial authorities are able to set user charges, such as kerbside collection and landfill charges, through bylaws, for the public use of council owned or operated waste management facilities, under section 542 of the LGA 1974. Under section 150 of the LGA 2002, territorial authorities are limited in setting charges to those that provide reasonable cost recovery for matters for which the charge is set.

As will be discussed in Section 3.3, a number of councils have sought to implement waste levies. These levies are applied under section 544 of the LGA 1974, which enables the territorial authority to recover the costs of the implementation of their waste management plan using economic incentives and disincentives. Again, territorial authorities are limited to recovering the costs of implementing the waste management plan.

3.1 Kerbside collection systems

A user charge ranging from $1 to $2 per bag or bin is the most common method of funding kerbside waste collection services. In some cases, weight or volume restrictions also apply. Some councils use a combination of direct charging (user-pays), indirect charging (targeted rate, rates-funded, or levies), and differential pricing to cover the cost of waste collection, disposal, and recycling. Examples follow:

- Wellington City Council charges $1.85 per bag, and the city's kerbside collection of recyclable materials is funded by a landfill levy.

- Auckland City Council funds its waste services through a targeted rate of $129 per household per year which funds the provision of wheelie bins for waste collection. In recent years the Auckland City Council reduced the size of its wheelie bins from 240 to 120 litres.
- Mackenzie District Council introduced a differential pricing system in order to encourage sorting of waste by households, to reduce the amount of waste to landfill. Approved rubbish bags for kerbside collection cost $1 for a black bag for mixed rubbish, 50c for a green bag for compostable materials, and 25c for a clear bag for clean, sorted recyclables.[85]

3.2 Landfill disposal charges

Landfill disposal charges vary quite significantly throughout the country. This is to be expected given the differences in land prices and other factors affecting the cost of landfilling waste.[86] Figure 1 shows that the price per tonne of waste disposed of in landfills ranges from $21 (Taumarunui) to $196 (Kawerau).[87] Additional landfill levies may be imposed on particular types of waste to discourage disposal of materials that can be recycled, to deal with hazardous waste that requires special attention, or to help fund particular waste minimisation initiatives.

Landfill charges are not necessarily effective as a means of changing waste behaviours. A previous PCE report noted that, in the early 1990s, many councils charged solely on the basis of landfill operating costs, which underestimated the real costs of landfill disposal, including the long-term management of the site.[88] With the introduction of landfill full cost accounting,[89] and the NZWS targets for full cost recovery,[90] local authorities have been encouraged to develop waste disposal pricing policies that, as far as possible, reflect the full cost of disposal. This enables councils to raise revenue to recover such costs. Despite this, the cost of disposing of waste to landfill remains relatively low, and so it provides little incentive to divert waste from landfill or to minimise waste at source.

3.3 Waste licensing and levies

In two parts of New Zealand – Christchurch City and the three Councils in North West Auckland (Waitakere City, North Shore City and Rodney District) – councils have implemented bylaws that either imposed a waste levy or enabled the councils to impose a waste levy under section 544 of the LGA 1974.

The Auckland Councils' bylaws and one of the Christchurch City Council bylaws were the subject of a legal challenge in the High Court in February 2006 (see Sections 3.3.2 and 3.3.3).[91] The High Court quashed the parts of the bylaws that imposed waste levies, after finding that the waste levies, in the form implemented or proposed by the Councils, were not authorised by the LGA 1974 or the LGA 2002.

Figure 1: Examples of landfill charges per tonne (March 2006)

3.3.1 Christchurch City Council's Cleanfill Licensing Bylaw 2004

The first economic instrument to be applied under section 544 of the LGA 1974 was the Christchurch City Council Cleanfill Licensing levy. The levy was applied under the Cleanfill Licensing Bylaw, which came into force on 1 March 2004. One of the purposes of the Cleanfill Licensing Bylaw was to better manage cleanfill sites in Christchurch.[92] Cleanfill is defined in the Bylaw as "material that does not undergo any physical, chemical or biological transformations that will cause adverse environmental effects or health effects once placed on or in a disposal area".

With the opening of the landfill at Kate Valley (which takes all of Christchurch City's waste to be disposed of at landfill) and an increase in waste disposal charges, the Council was concerned that people would attempt to dispose of non-cleanfill material at cleanfill sites.[93] The Council also viewed construction and demolition waste as able to be recovered for re-use or recycling or for other beneficial purposes.[94]

The bylaw provides that any land used for the disposal of cleanfill requires a licence, and that disposal of cleanfill be carried out in accordance with the licence conditions. A fee of $50 for the licence is payable by the cleanfill operator. The bylaw provides for a maximum fine of $20,000 and/or suspension of the licence for breach of the bylaw.

The bylaw imposes differentiated waste minimisation levies in respect of materials disposed at the cleanfill. The levy for construction and demolition materials disposed of is $9 plus GST per cubic metre. There is currently no levy on natural hardfill or cover material. Volume is measured by the truckload, and if there is a mix of levied and non-levied material the higher levy fee applies.

The expected annual income from the levy is $1 million, which is invested in the Council's waste minimisation fund.[95] There have been several effects of the Cleanfill Licensing Bylaw. A number of poorly performing cleanfill sites have closed, and there has been increased recycling of materials at cleanfill sites.[96] It is estimated that after one year of operation, there has been a 10 percent reduction in material going to cleanfill.[97]

3.3.2 Christchurch City Council's Licensed Waste Handling Facilities Bylaw 2005

The Licensed Waste Handling Facilities Bylaw came into effect on 1 June 2005. As with the Cleanfill Bylaw, this bylaw was prompted by the opening of the Kate Valley landfill. The Council sought to minimise the amount of waste that was going to landfill.[98] To do this, the Council passed a bylaw licensing waste handling facilities to ensure that all Christchurch City waste that is to be disposed of at landfill is sorted to agreed standards before disposal. Under the bylaw the Council can impose handling requirements on the waste to ensure that only waste that cannot otherwise be diverted will go to landfill.

The bylaw also imposed a waste minimisation levy on every tonne of waste transported from the licensee's waste handling facility to landfill. Christchurch City Council's general waste disposal charge of $125 per tonne included a $10 levy, of which $8 funded waste minimisation initiatives and $2 went toward the work of Terranova.[99] The levy did not apply to materials that were extracted from the waste stream and then recycled or reused.

As noted above, this levy was quashed by the High Court and is no longer applied.

3.3.3 Rodney District Council, North Shore City Council and Waitakere City Council waste bylaw

The three Councils in North West Auckland decided to pursue a cooperative approach to waste policy work, including regulatory functions and waste management plans.[100] As part of this process, the Councils identified a lack of reliable data on the waste stream in their areas, which made it difficult to monitor whether they were meeting their waste minimisation targets.[101]

All three Councils contract out most elements of waste management in their districts, that is, collection, transportation, and disposal services.[102] The landfill sites in the region are all privately operated and the operators are reluctant to pass on information to the Councils on details of the quantities of waste being disposed of at each site, for commercial reasons (see also Section 5.5).

The Councils also identified that they needed further funding to implement their waste minimisation strategies.[103] As a result the three Councils decided to consider implementing a bylaw to:

> *…provide both for a licensing regime to regulate waste collection and disposal and collect associated data, and potentially a waste levy to fund waste minimisation activities on the basis of targeted behaviour change.*[104]

Councils in the Auckland area had faced challenges in the past from members of the waste industry, to the licensing of refuse collectors and the introduction of waste levies, on the basis that they breached the Commerce Act and the LGA 1974.[105] In order to prevent a Commerce Act challenge from the waste industry for the proposed licensing and levies, North Shore City Council, Waitakere City Council, and Rodney District Council proposed a remit at the Local Government New Zealand (LGNZ) conference in 2004 that:

> *…Local Government New Zealand…request a ruling from the Commerce Commission that exempts local levies and associated legislation from restrictive trade violations. Including amendment to section 544 of the Local Government Act…*[106]

The proposed amendment to the LGA 1974 would specifically enable territorial authorities to impose waste levies based on refuse types, or on licensed operators of waste facilities and refuse collectors.

Our understanding is that a ruling from the Commerce Commission has not been obtained. In 2005, LGNZ put forward a request for an amendment to section 544 of the LGA 1974 to the Minister of Local Government. This amendment is being considered by the Department of Internal Affairs for inclusion into a Local Government omnibus bill, which was intended to be introduced at the end of 2005.[107]

The three Councils proceeded with the waste bylaw and it came into effect on 1 August 2005. The bylaw requires businesses and individuals involved in waste collection, transportation, and disposal to obtain a licence. As part of the licence conditions, licensees must provide waste data to the Council. The licence also provided that the Council could impose a waste levy on the licensee. The levy was to be based on the amount of waste collected, removed or transported for disposal. The purpose of the waste levy was twofold: to generate funds for waste minimisation and to encourage waste behaviour change.[108] Prior to the High Court case the Councils were unable to set a waste levy as they had inadequate waste data, therefore the form of the levy and the costs were to be determined at a later date.[109]

As noted above, the High Court quashed the part of the bylaws enabling the imposition of waste levies.

3.4 Key points

Territorial authorities' role in managing waste and their ability to recover the costs of providing waste management facilities is provided for in the LGA 1974, the LGA 2002, and the Local Government (Rating) Act 2002. Currently, territorial authorities make use of economic instruments in the form of user charges on waste collection and disposal. A limited number of councils have sought to introduce or apply waste levies, but these have been quashed in a recent High Court decision on the basis that they were not authorised by the LGA 1974 or the LGA 2002.

As both user charges and waste levies apply to waste disposal or recycling, the scope for such economic instruments on their own to influence waste behaviour and minimise waste is limited. They will have little influence on those who generate waste in the first place but who do not face the charges for waste services (such as the packaging industry).

CHAPTER 4

Developments in central government waste policy since 2000

4.1 Introduction

Central government's role in the management of waste includes developing nationwide guidelines and policies such as the New Zealand Waste Strategy (NZWS). Central government also has responsibility for dealing with issues that have international significance, such as the Basel Convention on the Transboundary Movement of Hazardous Wastes.

This section summarises some of the key developments in New Zealand's waste policy, with particular regard to efforts to analyse economic instruments as a policy tool since 2000. It indicates the shifts that have occurred in policy priorities leading up to and since the development of the NZWS.

4.2 The New Zealand Waste Strategy

In May 2000 central and local government agreed to work together to consider ways to minimise waste and improve its management.[110] A Working Group on Waste Minimisation and Management was established to advise on the content of a waste strategy. Initial advice was provided in December 2000, and wide public consultation on that advice was undertaken in 2001.[111] The Working Group provided final advice in August 2001 and this advice was incorporated into the development of the NZWS.[112]

The NZWS was published in March 2002. It is a non-binding policy document, which sets out a range of objectives and targets but has no legal status (that is, there is no legal sanction for failure to meet the objectives and targets). Developed jointly by LGNZ and MfE, it represents a combined central and local government waste management policy, the goals of which:

> *…are consistent with the Government's sustainable development objectives and it is explicitly linked to the National Energy Efficiency and Conservation Strategy and to the Government's climate change policies.*[113]

The focus of the NZWS is to minimise waste and improve waste management. It states that:

> *Reducing our waste and managing it better is vital to New Zealand's long-term environmental, social and economic well-being. It is a cornerstone of government's commitment to sustainable development, while local government plays a crucial part in planning for and achieving the reduction.*[114]

The NZWS has three core goals:

- *lowering the social costs and risks of waste;*
- *reducing the damage to the environment from waste generation and disposal; and*
- *increasing economic benefit by more efficient use of materials*.[115]

4.2.1 National targets

The NZWS sets national targets for each of three priority areas – waste minimisation, hazardous waste, and waste disposal. At the time that the NZWS was developed, data on waste was poor, and this is still the case (see Section 5.5). The NZWS stated that MfE's Environmental Reporting Programme would address this problem and produce waste indicators.[116] The NZWS states:

> *In the meantime, strategy targets have been set according to available information and should be considered goal statements rather than mandatory requirements. They will be reviewed in 2003 with the expectation of confirming national targets for key waste streams.*[117]

The first review of the NZWS targets by MfE in 2003 concluded that there should be no change made to the targets in the Strategy at that time, although the Ministry acknowledged that some targets were unlikely to be achieved nationally.[118]

4.2.2 Policies

The implementation of the NZWS is based around five core policies:

- a sound legislative basis for waste minimisation and management
- efficient pricing
- high environmental standards
- adequate and accessible information
- efficient use of materials.[119]

It also states that central and local government will use a range of supporting policies and methods in its implementation. These include:

- financial encouragement of innovation
- government leadership programmes
- economic instruments (other than pricing), such as levies
- extended producer responsibility
- voluntary agreements with industry.[120]

4.2.3 Programmes

The NZWS sets out four programmes to enable central and local government to put the policies into practice. These programmes then set out key actions with timeframes for their achievement:

> *Each programme is essential to the strategy's medium and long-term targets. No single programme will, on its own, achieve a significant reduction in waste.*[121]

The four programmes are:

- institutions and legislation
- waste reduction and materials efficiency
- information and communication
- performance standards and guidelines.

4.3 The New Zealand Waste Strategy and economic instruments

Central government has an important role in developing national level policy. Central government can also introduce economic instruments, such as environmental taxes and product charges that are more cost-effective and more efficiently applied at the national rather than local government level.[122]

The consideration of economic instruments to manage waste is clearly envisaged in the NZWS. It states that "Waste levy options and other economic incentives will be considered during strategy implementation".[123]

One of the three objectives of the waste reduction and materials efficiency programme is to "…develop and implement economic incentives to change wasteful behaviour".[124]

In detailing the key actions to be carried out under this programme, the NZWS states that work on economic instruments was to be undertaken by MfE and the Ministry of Economic Development, with the scope and terms of reference for work on economic instruments to be carried out in 2003, and work undertaken on economic instruments in 2003/2004.[125] The NZWS also points out that waste levy options at national and local levels and on specific wastes would be carried out in 2003, with a report to government being produced in 2003.[126]

While we have not set out to do a detailed audit of the NZWS, our attention was drawn to the above undertakings because they referred specifically to work on economic instruments. One of the main objectives of our enquiries, therefore, was to ascertain what progress had been made to complete the work on economic instruments signalled in the NZWS.

4.3.1 Progress towards completion of the key actions in relation to the use of economic instruments

In September 2005 the Commissioner put a number of written questions to MfE to ascertain what analysis, if any, it had undertaken on the use of economic instruments in the management of waste (see Appendix D). In relation to the consideration of national level economic instruments to deal with waste, the Ministry advised us that:

> *Prior to the preparation of the New Zealand Waste Strategy, the Ministry gave some preliminary consideration to the use of economic instruments to achieve waste minimisation objectives.*[127]

This referred to a report on a landfill levy that MfE had commissioned in 2000 from the New Zealand Institute of Economic Research (NZIER).[128]

The Ministry then undertook its own analysis of a waste levy in 2002 and prepared a draft discussion paper:

> *…a number of reports were commissioned to examine the range of local and national economic instruments utilised offshore to manage waste. Such instruments were considered and discussed in the draft discussion paper "A Waste Levy for New Zealand? A discussion document exploring the issues (December 2002)". The primary focus of that document was a national waste levy.*[129]

This draft discussion paper and the earlier report of the NZIER were not released for public comment, nor do they appear on MfE's website. The Ministry's response to us went on to say:

> *The Ministry has not taken a view for or against the application of waste levies of any sort, at the local or national level. As noted above, our*

> *work programme on waste levies was terminated in 2002. We have not researched possible levy options in any further detail since that time.*[130]

In 2002 MfE commissioned another report looking at the legislation used for a variety of waste management policy tools adopted by a number of other countries.[131] This document is available on the Ministry's website.[132] In that same year the Ministry prepared a report reviewing policy tools for waste minimisation and management in New Zealand.[133] This too is available on the Ministry's website.[134]

In response to a question about guidance that MfE had provided to local government on the use of economic instruments to manage waste, the Ministry stated:

> *MfE works alongside local government to assist the sector in the management and minimisation of waste volumes and their disposal. In line with the NZWS, central government has always promoted full cost-accounting for landfills (a form of economic instrument) in its dealings with local government, and has provided numerous guidelines, technical standards and tools to this end.*[135]

MfE published its full cost accounting guide for landfills in March 2002.[136] This was published to provide guidance to territorial authorities on developing waste disposal pricing that reflects the full cost of disposal.

The above responses clearly show that since December 2002 MfE had given little or no further active consideration to, or facilitated discussion on, the merits or otherwise of the use of economic instruments for managing waste. Only a waste levy was considered, and even that work was terminated, removing any opportunity for stakeholders to comment on the idea.

The Ministry stated in their response to us:

> *There was little justification, beyond revenue-raising, for a new non-specific tax, especially as "recycling" of the revenue generated back into waste minimisation activities (hypothecation) was rejected by Treasury.*

We understand that Treasury's concern related to their views on tied taxes (see Appendix E). Treasury's preference is not to link revenue raised directly to spending initiatives, but instead judge the amount spent on any initiative based on its value for money and consideration alongside other programmes. The merits of a levy for encouraging behaviour change was not explicitly addressed in Treasury's comments except to say that "levies that are used to fund specific initiatives (where behaviour change is not required) are generally more feasible where the contributor has direct say or influence over how those funds are used".[137] There was no further analysis of a waste levy or any other type of economic instrument as a behaviour-changing exercise rather than a revenue-raising one.

The 2001 Tax Review

MfE's decision to halt any further work on a national waste levy was also influenced by the findings of the 2001 Tax Review.[138] This review briefly addressed the topic of eco-taxation at a broad level (see box). The Tax Review Committee concluded that with the exception of a national carbon tax, it did not consider that any other ecological taxes were appropriate at a national level.[139] The review did, however, state that:

> *Where…environmental concerns are highly localised, as they currently appear to be in New Zealand, measures such as carefully designed eco-charges applied at the local level represent potentially sound policy.*[140]

Eco-taxation

A review of New Zealand's tax system in 2001 devoted a chapter to 'eco-taxation'.[141] The report established an arbitrary distinction between eco-taxes, defined as "taxes levied through the national tax system", and eco-charges which it described as "local authority usage fees, such as those levied on water supply and waste disposal".[142] The review outlined three conditions that favour the use of eco-taxes at a national level to reduce adverse environmental impacts to their optimal level:

- *the external impact of the adverse activity or use (however each unit is measured) should be uniformly distributed and the impact of each unit should be the same;*
- *the adverse activity or use must be measurable to be able to apply the tax; and*
- *the marginal net damage of the activity must also be measurable to be able to set the level of the tax.*[143]

Apart from the case of carbon taxation,[144] and on the basis of the submissions it received, the review was unable to identify cases where new eco-taxes at the national level met the above criteria and could be considered an effective means of addressing environmental concerns facing New Zealand.

In our view, producers of excess packaging and importers of end-of-life products should, through national taxation, bear the environmental costs they impose. Used tyres are one example of end-of-life products imported into New Zealand and which soon become a problem waste (i.e. waste that cannot be recycled or poses disposal problems). End-of-life products such as imported used tyres are cheap but offer only short-term benefits to the consumer. They soon create long-term environmental costs. In the absence of a product tax on such goods, local authorities carry the costs of providing disposal services for such 'soon-to-be' waste.

We believe that a product tax that acts as a disincentive to create waste would be more appropriately and efficiently levied at the national rather than local level. Such a tax is levied on the input (i.e. product charges)[145] rather than the output (i.e. waste charges). In this case:

- the external impact is uniformly distributed and the impact of each unit is the same (widespread distribution of products requiring disposal)
- the adverse impact is measurable (e.g. by volume or weight of products requiring disposal)
- the marginal net damage is also measurable (e.g. unit cost of disposal of products that cannot be recycled), enabling the level of tax to be set.

Excess packaging and imported end-of-life products are examples of activities and uses the impacts of which are less efficiently and effectively managed by eco-charges at the local authority level.

The Tax Review Committee's conclusions in relation to eco-taxation have been the subject of criticism.[146] Scrimgeour and Piddington point out that:

> *…the consideration of environmental taxation by the Tax Review Committee is unsatisfactory. Further analysis is required which considers the performance of environmental taxation against other instruments used to achieve government goals.*[147]

The paper by Scrimgeour and Piddington questions a number of the assumptions that the tax review took in relation to environmental taxation. For example they note that the tax review sets a high standard for the application of any environment tax, and that this requirement is not always met in relation to regulations or other policy tools.[148] The paper sets out information relating to environmental taxation that the authors consider should form the basis for further research into the application of environmental taxation.[149]

A shift in focus

Since MfE discontinued further work on a waste levy in 2002, it appears to have taken a narrower perspective on waste policy, favouring the promotion of voluntary programmes and product stewardship (also known as extended producer responsibility). In its response to our questions MfE stated:

> *It should be noted that in terms of managing 'special wastes' (such as used oil, tyres and other end-of-life wastes which are difficult to dispose of) the Ministry has pursued alternative policy tools to improve management. For example, in partnership with industry, we have supported a range of very effective voluntary programmes to deliver improvements in the handling and management of special wastes, and have also worked to develop a national product stewardship policy…*

While it is helpful to have such voluntary programmes in place, there is no clear evidence showing how effective they are in reducing waste. Neither has there been any further consideration given to enhancing or accelerating the effectiveness of voluntary measures, as well as their appeal to a wider range of industry, by the simultaneous introduction of economic incentives to minimise waste. For example, the right incentives could motivate manufacturers to incorporate design features and materials into their products so that waste is avoided or hazards reduced, or ensure that the materials are able to be recovered, reused, recycled, and so on.

In its report to the OECD in 2005 MfE advised that the Government's work programme to reduce waste generation and maximise reuse, recycling, and recovery of waste was reprioritised following the publication of the NZWS.[150] The Ministry states that:

> *One consequence of this was to redirect the Ministry's work programmes away from its earlier focus on the possible application of a waste tax towards the development of a wider suite of tools to reduce waste generation and enhance recovery and reuse.*[151]

In our view, excluding the consideration of economic instruments during the development of waste policy does not constitute a shift to using a "wider suite of tools". On the contrary, the Ministry's redirection of its work programmes appears to have narrowed the range of tools that could contribute to better environmental outcomes.

4.4 Action following the High Court decision on local waste levies

As outlined in Section 3.3, the High Court held that the waste minimisation levy applied by Christchurch City Council and the waste levies proposed by the three Auckland Councils were not authorised under the LGA 1974 and LGA 2002.[152] It has subsequently come to our attention that MfE has undertaken to explore the possibility of a national waste levy instead.

In late 2005, just before this PCE report was completed, the Ministry commissioned a report entitled *Issues associated with a levy on solid waste – a review of positions and possibilities*.[153] This report is not government policy, but is the product of a round of consultation with some key stakeholders on the issue of a waste levy and how it should be applied.

At the time of publication, we understand that MfE is in the process of analysing the options for a national waste levy.

4.5 Key points

While some initial work on economic instruments was carried out in the period 2000–2002, the key actions set out in the NZWS in relation to economic instruments remains incomplete. The focus of MfE's limited analysis so far has been solely on a national waste levy, rather than a range of economic instruments, including those that provide incentives for efficient resource use and waste minimisation at source. It appears that MfE's decision in 2002 to discontinue work on a waste levy has resulted not in the development of a wider suite of tools, but rather in the use of a narrower range, with no apparent consideration of economic instruments at all since 2002.

However, councils' and industry's concerns about local waste levies have prompted some further work on a national waste levy by MfE. The outcome of this work remains to be seen.

CHAPTER 5

Barriers to the use of economic instruments to manage waste in New Zealand

5.1 Introduction

The purpose of this chapter is to discuss some of the significant actual or potential barriers to the use of economic instruments to manage waste that currently exist in New Zealand. These barriers include central government policy, legislative barriers, and information barriers due to the lack of adequate data on waste streams.

5.2 Central government policy

Central government policy on the use of economic instruments for waste management is currently unclear. The Ministry for the Environment has advised us that it:

> *…remains ready to explore all low-cost, high-return options to reduce the generation of waste and minimise waste to landfill, including best practice guidance, voluntary programmes, central-local government partnerships and economic instruments.*[154]

In its report to the OECD in 2005 the Ministry stated:

> *While economic incentives are potentially an important element in changing wasteful behaviour, central government policy over the past decade recognises that other tools and work programmes can also contribute significantly to this objective.*[155]

MfE informed us that neither economic instruments nor regulation will be introduced by the Ministry to manage waste unless industry wants these policy tools to be used.[156]

This approach is a clear departure from previous views MfE held on the types of policy tools required to address the waste problem and implement the NZWS. As outlined in Chapter 4, up until the end of 2002 the Ministry was clearly considering a broad range of policy tools to implement the NZWS, including the use of economic instruments.[157] In determining which policy tools were to be applied, the Ministry

stated that the programmes in the NZWS were designed to consider the range of policy tools available and the programme elements were designed to:

- *…provide for a combination of both immediate action and long-term solutions;*
- *work with government, business and communities to establish long-term solutions and alternatives to waste generation;*
- *ensure that instrument design is a transparent process and that the community is engaged in the process.*[158]

The selection of policy tools has not been a transparent process: neither the NZIER technical report (on a landfill levy)[159] nor the waste levy discussion document[160] were released for stakeholder comment, as outlined in Section 4.3.1. Furthermore, the decision to stop working on a waste levy was not publicly announced.

The NZWS, which is the outcome of a public consultation process, recognised that a variety of policy tools would be necessary to tackle the waste problem. It set out key actions to enable these policy tools to be used. It appears that MfE has chosen instead to rely on a limited number of policy tools to implement the Strategy.

The reasons for discontinuing any further analysis of economic instruments remain unclear. In response to a question from the Commissioner about which, if any, key actions (in the NZWS) have been abandoned or postponed, and why, the Ministry responded:

> *…the Ministry has not abandoned or postponed any NZWS targets. In recognition of the division of ownership and tasks within the Strategy across the breadth of actors in the waste arena, we accept that some targets may not be met on time, or in full. This also reflects that the world has moved on since 2002, and that improvement in waste management in New Zealand is achieved through a raft of different actions and programmes.*

While the NZWS clearly envisaged the use of economic instruments to manage waste, and set out key actions to enable this to occur, MfE appears to have decided not to complete these key actions. The only economic instrument that was considered in any depth was a national waste levy, but even that was not pursued. The Ministry prefers to use voluntary agreements with industry, partnerships, and best-practice guidance in preference to any other type of policy tool (or combination of tools) such as regulation, economic instruments, or both. There are risks attached to this approach including poor compliance or non-compliance with voluntary agreements, and 'free-riders'.

5.3 Legislative barriers

5.3.1 Overview of legislative barriers

This section provides an overview of the current legislative barriers to the use of economic instruments to manage waste by either central government or local government. More details of the legislative barriers are in Appendix F.

There are four statutes which potentially enable either central government or local government to use economic instruments to manage waste:

- the Hazardous Substances and New Organisms Act 1996 (HSNO)
- the Local Government Act 1974
- the Local Government Act 2002
- the Local Government (Rating) Act 2002.

Responsibility for waste management and waste minimisation is largely devolved to territorial authorities. There is no specific power for central government to use economic instruments to manage waste generally. Central government is able to use economic instruments to manage waste 'hazardous substances' and waste 'substances' under HSNO.

Territorial authorities can use economic instruments to manage waste under the LGA 1974 and LGA 2002, but only in a limited way. The economic instruments that territorial authorities can use apply only to waste disposal or diversion – they cannot be used directly to prevent the waste being created in the first place. They apply only within the district's boundaries, which can create perverse incentives for the management of waste e.g. encouraging 'waste flight' to another district.

Waste flight may occur where neighbouring territorial authorities have different economic instruments, with one having higher charges than another (see Figure 1 in Section 3.2), and people or businesses choose to dispose of waste in the district with the lower charges. One of the problems with waste flight is that the waste produced in one district is disposed of in another, and the district where the waste is created loses the benefit of the economic instrument (both the behaviour change and the revenue of the economic instrument). The other district has to deal with the costs of disposing of waste generated elsewhere. Where the district with the lower waste charges has landfills with lower environmental standards, this may lead to greater adverse environmental effects from the disposal of the waste.

In practice, the difference in waste charges would need to be significant for waste flight over large distances to occur.

Regional councils can only create economic instruments to manage waste in the form of rates, using their powers under the Local Government (Rating) Act to manage hazardous waste and discharges of waste to air or water. Regional councils are mainly involved in managing the effects of waste hazardous substances when they are discharged to the environment, and this derives from their functions under the Resource Management Act 1991 (RMA).[161]

The main problem with the current legislation is that it does not enable the development of economic instruments to prevent waste being created and to promote efficient resource use. There is no provision for economic instruments, such as a product tax or container deposit scheme, to be applied at an early stage in the product life cycle. The types of economic instruments that are able to be applied at an early stage in the product's life cycle are most efficiently and effectively applied on a national basis, that is, by central government. There are some voluntary schemes that have been established by industry to deal with certain aspects of waste (for example, the Packaging Accord [see Appendix B] and the voluntary levy on ozone-depleting substances [see box]), but there are no broad-based, comprehensive schemes.

Voluntary ozone-depleting substances levy

New Zealand is a party to the Montreal Protocol on substances that deplete the ozone layer. New Zealand's obligations under the Protocol are given effect to in the Ozone Layer Protection Act 1996. This Act places restrictions on the importation, use, and manufacture of a range of ozone-depleting substances or goods made from those substances.[162]

In 1993 a trust called Recovery was formed by the New Zealand Institute of Refrigeration, Heating and Air Conditioning Engineers to "arrange for a fund to cover the costs incurred in the collection and storage and disposal in an environmentally acceptable way of CFCs and HCFCs and mixes containing them which have been used in the refrigeration and airconditioning industries."[163]

The trust is funded by a levy on bulk imports of ozone-depleting refrigerants, paid on every kilogramme when purchased from wholesalers in New Zealand. The levy funds are then used by Recovery to pay for the collection and destruction of unwanted refrigerants.[164]

The phase-out period for the importation of ozone-depleting substances concludes in 2015, and the levy will therefore cease to be payable after that date. Recovery estimates that about 80 percent of ozone-depleting substances imported into New Zealand are sold through wholesalers who apply the levy.[165]

Economic instruments can be more effective where they are supported by legislation. Mandatory economic instruments can deal with issues such as 'free-riders', enforcement and sanctions for non-compliance. As discussed in Appendix C, industry will tend to establish targets that meet their interests, which are not necessarily the same as those of society as a whole.

Local government's powers to use economic instruments to manage waste derive from the LGA 1974, the LGA 2002, and the Local Government (Rating) Act 2002. Any economic instruments used by local authorities to manage waste must be permitted by that legislation.[166] There is also a constitutional principle that statutory authorisation is required to impose any tax or charge.[167] Therefore, if a territorial authority or regional council is seeking to use an economic instrument that may be treated in law as a tax, it must be authorised by statute.[168] Whether any particular economic instrument is treated in law as a tax will depend on the way it is designed. The courts have held that "A tax is 'a compulsory exaction of money by a public authority for public purposes, enforceable by law and is not payment for services rendered'."[169]

Legislative barriers to the use of economic instruments for waste management are discussed further in Appendix F.

5.3.2 The New Zealand Waste Strategy and current waste legislation

The NZWS acknowledges that, unlike a number of other OECD countries, New Zealand does not have comprehensive waste minimisation and management legislation.[170] It further states:

> *Analysis of the waste minimisation and management provisions in these countries indicates that legislation is required to support programmes and targets.*[171]

The Strategy states that the current New Zealand waste legislation (that is, the LGA, RMA, HSNO, Health Act, and Building Act) "…can only be a partial basis for achieving the strategy's goals."[172]

One of the key actions to be carried out under the institutions and legislation programme of the NZWS was a review of the current New Zealand legislative framework controlling waste. The Strategy provided that this review was to be carried out by the Ministry for the Environment with local government and other government agencies in 2002, with a report to be presented in January 2003.

The review of institutional and legislative provisions has not been undertaken. The Ministry advised us:

> *A review of the institutional provisions across central government was not pursued, however, given a preference to focus on developing or amending*

> *legislation as and when the need arises. Legislation continues to evolve in this way.*[173]

However, in advice given to the OECD team during its visit in 2005 to assess New Zealand's environmental performance, MfE stated:

> *During the development of the New Zealand Waste Strategy, there were some requests by interested parties for legislative changes to help minimise and better manage waste. Inclusion of a specific objective in the strategy relating to institutional and legislative arrangements was intended to provide an opportunity to critically assess whether the policy direction articulated in the strategy was well supported by the existing legislative and institutional framework.*
>
> *After the development of the New Zealand Waste Strategy, officials undertook a comprehensive analysis of the existing legislative base. The exercise identified some 'gaps' in the legislation relating to the management of contaminated sites, hazardous wastes and waste minimisation… All of the issues identified in the 'gaps' analysis have either already been addressed since that time, or are under active consideration.*[174]

We consider that the current legislation is a barrier to the implementation of economic instruments especially at a national level, and therefore a review of the legislative provisions is required. The recent High Court challenge to some councils' waste bylaws highlights the uncertainty at the territorial authority level. A legislative review was clearly envisaged by the NZWS, and there is no evidence that such a comprehensive review has been undertaken.[175] As is discussed in Chapter 4, the achievement of the targets in the NZWS is predicated upon the completion of the key actions. It is unclear how these targets will be met if key actions are not completed.

5.3.3 Do economic instruments have to be supported by legislation?

It appears that MfE considers that economic instruments do not need to be supported or imposed by legislation:

> *…the Ministry does not believe there is an automatic linkage between legislation and the introduction of economic instruments. The present voluntary levy on glass is one example of an existing economic instrument developed in the absence of compliance or legislative drivers.*[176]

While economic instruments may be voluntarily agreed to by industry, as has occurred with the voluntary glass levy, it is unclear how durable this approach is likely to be in the long term. Economic instruments applied without the support of legislation

could only be imposed on those parties who agreed to it. So if, for example, large waste producers refused to agree, a segment of the market would be left with higher costs than others and thus be less competitive. Imposing economic instruments by legislation avoids the 'free-riders' situation and provides greater certainty and effectiveness, as well as generally providing effective mechanisms for enforcement.

5.4 Limitations on territorial authorities' ability to develop and implement economic instruments

Territorial authorities are responsible for a wide range of matters, particularly under the RMA and the Local Government Acts 1974 and 2002, and continuing devolution of functions from central government is adding to this burden. Territorial authorities in New Zealand vary in size and rating base. This variation directly affects the capability of some territorial authorities to adequately carry out their functions.

As outlined in Chapter 2, economic instruments can be relatively complex policy tools to design and implement. Not all territorial authorities will have the resources available to undertake the analysis necessary, and given the uncertainty of the LGA 1974 provisions, external advice may also be required. For some smaller and less well-resourced territorial authorities, the level and cost of policy and legal advice may be prohibitive. Designing and implementing an economic instrument such as a waste levy may be a major challenge, and hence a low priority.

Apart from the common use of instruments such as user charges for kerbside collection and landfill disposal, only one territorial authority – Christchurch City Council – has introduced waste levies under section 544 of the LGA 1974 (see Section 3.3). North Shore City Council, Rodney District Council, and Waitakere City Council were intending to introduce a waste levy in 2006. However, the Auckland waste levies and one of the Christchurch waste levies were quashed by the High Court. The High Court decision is likely to deter other councils from seeking to apply economic instruments in the form of waste levies.

There is currently no detailed advice available for territorial authorities as to how to develop and apply economic instruments to manage waste. Apart from the guidance on landfill full cost accounting, there has been no advice from central government or LGNZ on the design and implementation of economic instruments for managing waste. Nor has there been any detailed advice available on the scope of territorial authorities' powers under the LGA 1974 to impose economic instruments.

As territorial authorities are likely to have similar issues in relation to the design and application of economic instruments to manage waste, it would seem appropriate to provide some generic advice for them on the technical and legal issues involved.

5.5 Information barriers

To successfully design and implement economic instruments, good waste data is required. In New Zealand the availability of national waste data is inadequate.[177] In 1997, MfE's National Waste Data Report highlighted the poor data, but no attempt has been made to update such a report.[178] Adequate national waste data is also required in order to evaluate whether the waste management policies pursued by central and local government have been successful, and to determine whether the targets set in the NZWS have been achieved.

The NZWS stated:

> *Good national information about waste is not readily available. Local information varies in quality – some districts and regions have sound, regularly updated information, but others have little idea of the size or composition of their waste streams. The information we do have is mainly about how much waste we dispose of, rather than how much we generate.*[179]

The NZWS set out key actions to improve waste data, which included:

- MfE, local government, and industry undertaking an update of the National Waste Data Report in 2002
- MfE determining gaps in information requirements and methods of filling those gaps in 2002/2003
- MfE and local government together developing indicators for waste generation in 2003/2004.

MfE has pursued a number of initiatives since 1992, with the aim of improving the collection and aggregation of waste data. The Ministry states that:

> *While these reports and underlying policies have resulted in improvements in data collection and/or provided a snapshot of waste disposal, or composition in time, they have not succeeded in producing an integrated and ongoing system for generating and collecting waste data.*[180]

The Ministry undertook a waste data pilot project in 2003 with local authorities in the Waikato and Bay of Plenty regions. The project's aim was to improve the sharing of waste disposal and diversion data.[181] There is no mention of this work having been extended to improve data collection at the national level.

Some territorial authorities in New Zealand have very good waste stream data, while others do not. It depends partly on the extent to which the territorial authority has contracted out its waste management functions. Some territorial authorities have contracted out collection of household and commercial waste and recycling. In some

districts landfills and cleanfills are also operated by the private sector. Where these services are provided by the private sector, operators may regard the waste data they collect as commercially confidential, and thus be reluctant or refuse to provide it to territorial authorities. Part of this problem may also be the way the collection contracts between the territorial authorities and waste collection companies have been drafted. We understand that MfE is currently in the process of developing advice on best practice for contracts, for use by local government.[182]

As an example, up until July 2005 the Christchurch City Council owned the landfills and transfer stations in the city and so had good records of the amount of waste going to landfill and to recycling. However, cleanfills were operated by the private sector and before the Cleanfills Licensing Bylaw, Christchurch City Council had no data on materials going to cleanfills (see Section 3.3.1).[183] This new bylaw requires cleanfill operators to provide the Council with data on materials received.

Under the Waste Handling Facilities Bylaw all waste must now go through a licensed Waste Handling Facility before disposal, and waste data must be provided to the Council. Thus the Christchurch City Council will retain good waste stream data, even though the Kate Valley landfill is operated by a private joint venture company.

In Auckland, some councils have contracted out the operation of waste collection services to the private sector, and most landfills are also operated by the private sector. Waitakere City Council, North Shore City Council, and Rodney District Council are examples of this. Before the introduction of the Waste Bylaw in 2005 the Councils had poor waste stream data, as they were unable to obtain such data from the waste collectors or from the landfill operators.[184] Under the Waste Bylaw the Councils are able to license the waste collectors, who then have to provide the Councils with data on the waste they collect and where they dispose of it.

In 1992 MfE developed the Waste Analysis Protocol. This was updated in 2002, and is now the Solid Waste Analysis Protocol (SWAP). Data from SWAP surveys carried out under the Protocol provides information on the composition of waste disposed to landfill.[185] The Ministry is also carrying out a SWAP Baseline programme. This programme involves the collection of SWAP survey data from four landfills around New Zealand. The aim is to establish generic waste composition data for New Zealand and to provide a basis for designing and interpreting SWAP surveys. A number of other councils also undertake periodic SWAP surveys (either due to consent conditions or to obtain information for waste management planning).[186]

Thus a potential barrier for some councils on the use of economic instruments is the quality of the waste stream data that they collect. Without good information it is very difficult to design economic instruments that are effective in influencing waste behaviour.

5.6 Key points

The current preferred waste management policy tools that are being used by MfE include voluntary agreements with industry, best practice guidance, and partnerships. We were advised by a senior MfE official that neither economic instruments nor regulation will be introduced by the Ministry to manage waste unless industry wants these policy tools to be used.

Current legislation allows only a limited range of economic instruments to be created for managing waste. To date, a limited range of economic instruments have been created by territorial authorities under the Local Government Act and Local Government (Rating) Act. Waste levies applied by four territorial authorities were quashed by the High Court on the grounds that they were not authorised by the LGA 1974 or the LGA 2002.

Potentially, economic instruments could be applied by central government to manage waste hazardous substances under HSNO, but this has not been explored.

Section 544(2) of the LGA 1974 is not prescriptive as to what types of economic instruments may be imposed. As a result of this and the High Court decision there is a high degree of uncertainty as to what types of economic instruments can be applied under the LGA, and how. This is likely to deter some councils from choosing to use economic instruments.

One of the NZWS key actions was a review of the legislative provisions controlling waste. It appears that only part of this review has been carried out by MfE.

Data on waste is still inadequate. This needs to be urgently addressed if robust waste policy is to be developed, implemented, and later evaluated.

CHAPTER 6

Conclusions and recommendations

6.1 Getting economic instruments back on the waste policy agenda at central government level

6.1.1 Conclusion

The Ministry for the Environment has not given proper consideration to the use of economic instruments for the management of waste. While some preliminary analysis was carried out in the period 2000 to 2002, the focus was mainly on a national waste levy. A report written for the Ministry by NZIER in 2000 has not been made publicly available, and a later draft discussion paper produced in 2002 was not released for public comment. The Ministry advised us that their work programme on waste levies was terminated in 2002, and no research on possible levy options has been undertaken since then.[187]

The 2002 NZWS clearly envisaged the use of economic instruments as part of a range of policy tools for waste management. We acknowledge that no single type of policy tool will be sufficient to deal with all waste management issues, nor will any single policy tool be sufficient to deal with any particular aspect of the waste problem. As the NZWS recognises, a mix of policy tools, including economic instruments, is required to address New Zealand's waste problem.

The NZWS set out some key actions in relation to the use of economic instruments. There is no evidence that any progress has been made on these key actions. We note that the achievement of the targets set in the NZWS is predicated on the completion of the key actions. It is unclear how these targets can be met if key actions are not completed.

Waste management is a significant responsibility of local government, particularly in relation to the provision of collection, recycling, and disposal services. But there are aspects of waste management, particularly policies that discourage the generation of waste in the first place, which are more efficiently addressed by central government. Central government also has a responsibility to ensure that local government has the policy and legislative tools available to it, to meet their waste management functions.

6.1.2 Recommendations

That the Minister for the Environment directs the Ministry for the Environment to:

(a) **complete the key actions relating to economic instruments as set out in the New Zealand Waste Strategy**

(b) **release all Ministry for the Environment's analyses of economic instruments for waste management for public discussion**

(c) **examine ways in which economic instruments can be used to complement other approaches adopted to achieve waste minimisation.**

6.2 Improving the data on waste

6.2.1 Conclusion

New Zealand currently does not have good, reliable waste data. Such data is essential both for designing effective policy tools and evaluating the success of any instruments used. The inadequacy of waste data has been known since at least 1997 when the first National Waste Data Report and the first New Zealand State of the Environment Report highlighted the deficiencies.

Some efforts have been made to ascertain the composition of the waste stream through the SWAP surveys (see Section 5.5), but more needs to be done to standardise and coordinate information on waste composition and quantities. This will help to reveal trends in waste quantities and composition over time, contribute to the development and targeting of waste policies at the appropriate stages in products' life cycles, and assist in evaluating the effectiveness of waste policies.

6.2.2 Recommendation

That the Minister for the Environment directs the Ministry for the Environment to:

(a) **establish and maintain, with the cooperation of local government, a national waste database to monitor and report on trends in waste quantities and composition, for the purpose of policy development and evaluation.**

6.3 Removing legislative barriers

6.3.1 Conclusion

The NZWS identified that legislation was inadequate for meeting the targets and goals for waste. The Strategy set out key actions in relation to reviewing the adequacy of the legislation. There is uncertainty as to whether the Ministry for the Environment has conducted a comprehensive review of the adequacy of current legislation. It appears that the Ministry for the Environment has instead carried out a 'gaps analysis' to identify where existing legislation could be strengthened. We consider that this is insufficient, and that a comprehensive review of legislation is needed to ensure support for the NZWS. Uncertainty in the current legislation is likely to act as a barrier to greater use of economic instruments by local authorities. This is particularly true in light of the recent legal proceedings taken by sections of the waste industry against councils that have implemented waste levies.

6.3.2 Recommendations

That the Minister for the Environment directs the Ministry for the Environment to:

(a) carry out, in conjunction with the Department of Internal Affairs and Local Government New Zealand, a comprehensive review of the legislation to achieve the objectives of the New Zealand Waste Strategy

(b) address any legislative barriers to the use of economic instruments in the management of waste.

6.4 Central government support for local government in the use of economic instruments

6.4.1 Conclusion

Economic instruments are complex instruments to design and implement. There are issues that need to be addressed at the design and implementation stages. Many territorial authorities are small and have limited capability to develop successful economic instruments. The Local Government Act provisions relating to the use of economic instruments for waste management are uncertain, and so councils may be reluctant to adopt economic instruments if they think they may face costly legal challenges.

In developing economic instruments for their districts, many territorial authorities will have to address the same issues – such as creating a bylaw that enables the use of economic instruments, and the bylaw making process. Central government needs to provide guidance to councils on such issues.

6.4.2 Recommendation

That the Minister for the Environment directs the Ministry for the Environment to:

(a) provide guidance to local authorities on the development and use of economic instruments to manage waste.

6.5 Regular review and reporting on key actions in the NZWS

6.5.1 Conclusion

The NZWS is the result of a comprehensive consideration of the waste problem in New Zealand. It identifies a number of waste management objectives and targets, as well as key actions to enable those objectives and targets to be achieved.

The NZWS is a non-binding strategy involving the Ministry for the Environment and local government. If either party chooses to abandon, or fails to meet, a target or key action, there is no sanction for either party. Nor is there any requirement for either party to report on the Strategy's progress and achievements. While the targets were reviewed by the Ministry for the Environment in 2003/2004, and the intention is to review the targets again in 2006, a regular assessment of the performance of the key actions also needs to be independently carried out and the results published. If key actions are not going to be carried out within the time frame set out in the NZWS, or they have been abandoned or changed, then this too needs to be made public.

We consider that, since both central and local government have responsibilities for meeting targets in the Strategy, an independent review group should be established to monitor and report on progress with the NZWS. This group could be similar to the Waste Minimisation and Management Group which advised on the establishment of the NZWS in the first place.

6.5.2 Recommendation

That the Minister for the Environment:

(a) establishes an independent review group, similar to the Waste Minimisation and Management Group which advised on the establishment of the New Zealand Waste Strategy. This review group should be given the responsibility of overseeing the monitoring and reporting on progress by central and local government in meeting the objectives and targets of the New Zealand Waste Strategy. Where necessary, the review group should also make recommendations to the Minister on any changes that need to be made to the Strategy, its targets, or how it is implemented.

Glossary and acronyms

Charges or fees	Revenue collected and usually earmarked for a particular use, or used for specific service provision. Payments for which a good or service is rendered in return.
Cleanfill	Material that does not undergo any physical, chemical or biological transformations that will cause adverse environmental effects once placed on or in a disposal area.
End-of-life products	Used products that are close to the end of their useful life, such as second hand tyres.
ERMA	Environmental Risk Management Authority.
Externalities	These occur when one person's actions affect another person's wellbeing and the relevant costs and benefits are not reflected in market prices.[188]
Free-rider problem	"The problem, arising in many situations, that no individual is willing to contribute towards the cost of something when he hopes that someone else will bear the cost instead."[189]
Full cost pricing	Ensuring that environmental costs (e.g. costs of disposing of a product when it is discarded, or diverting it from landfill) are incorporated into the price of a product.
Glass cullet	Container glass, such as empty bottles, jars, and other glass vessels, returned for recycling.
HSNO	Hazardous Substances and New Organisms Act 1996.
Hypothecate	To earmark particular sources of finance to particular uses.
Levy	A generic term covering taxes, charges or fees.
LGA 1974	Local Government Act 1974.
LGA 2002	Local Government Act 2002.
LGNZ	Local Government New Zealand.
Marginal cost	The increase in total costs resulting from an increase in output of one unit.[190]
Market failure	"An outcome deriving from the self-interested behaviour of individuals in the context of free trade, in which economic efficiency does not result."[191]
MfE	Ministry for the Environment
NZBCSD	New Zealand Business Council for Sustainable Development

NZIER	New Zealand Institute of Economic Research
NZWS	New Zealand Waste Strategy
OECD	Organisation for Economic Cooperation and Development
PCE	Parliamentary Commissioner for the Environment
Polluter-pays	A pricing principle where the agent directly responsible for pollution bears the cost of resulting environmental damage.[192]
Price elasticity	The rate at which demand for a good or service responds to a price change. A good or service is considered to be highly elastic if a slight change in price leads to a sharp change in the quantity demanded or supplied. On the other hand, an inelastic good or service is one in which changes in price lead to only modest changes in the quantity demanded or supplied, if any at all. These goods tend to be things that are more of a necessity to the consumer.
RMA	Resource Management Act 1991
Subsidy	Financial assistance to achieve an environmental objective or to 'kick-start' an initiative.
SWAP	Solid Waste Analysis Protocol
Taxes	Revenue collected and transferred to a general budget. Payments on the basis of, for example, the level of pollution, for which no direct return in terms of goods or services is given.
Total economic value	Total economic value is the sum of use values and non-use values. Use value refers to the contribution that an environmental asset makes to current production or consumption through direct use. Non-use value refers to what people are willing to pay for not using an environmental asset to avoid the risk of losing it.
Waste	As defined in the NZWS: "any material, solid, liquid or gas, that is unwanted and/or unvalued and discarded or discharged by its owner".[193]

Endnotes

1 For discussion on environmental sustainability see PCE, 2002: 29-39.

2 Further commitments were made in the 2002 Johannesburg Plan of Implementation. See www.johannesburgsummit.org/html/documents/summit_docs/2309_planfinal.htm [Accessed 23 May 2006].

3 PCE, 2002.

4 PCE, 2003.

5 MfE, 2002a.

6 MfE, 2005a.

7 OECD, 1996.

8 For example, PCE, 1998; PCE, 2002; PCE, 2004.

9 MfE, 2002a.

10 The PCE established a reference group of external advisers from whom comments were sought during the scoping of the project and when the draft report was completed.

11 Denne, 2005a. This report is available on the PCE's website (www.pce.govt.nz).

12 This refers to the link between economic growth and the production of waste. As the economy grows so too does the amount of waste that needs to be disposed of. There is also a similar link between economic growth and the consumption of energy. Every country faces the major challenge of 'decoupling' this link so that growth in the economy does not create corresponding waste and energy impacts.

13 Industry Commission, 1997; Australian Bureau of Agriculture and Resource Economics, 2001.

14 In this context, to internalise means to fully account for the costs of the effects of an activity on the environment (e.g. pollution) and the benefits that the activity gains from the environment (e.g. use of natural resources). To be internalised, such costs imposed and benefits gained need to be reflected in market prices. Costs and benefits that are not accounted for in this way (i.e. internalised) are referred to as 'externalities' (see Glossary at the end of this report).

15 European Brands Association, 1997.

16 Bailey, 2002; European Environmental Agency, 2005; European Environmental Agency, 2006.

17 Stavins, 2001: 46.

18 Whitten *et al*., 2003.

19 HM Treasury, 2002.

20 Coggan and Whitten, 2005.

21 In the context of this report, 'policy makers' refers to officials and elected representatives in central government and territorial authorities.

22 BDA Group and McLennan Magasanik Associates, 2003.

23 Another type of instrument, described by Whitten *et al.* (2003) but not discussed in this report, are those that create 'market friction'. These can make existing private markets work better, for example, by forcing disclosure of information through ecolabelling. For further discussion on critical success factors for markets (for ecosystem services) and how market mechanisms should be assessed see Morten (2006).

24 For more information see www.tyretrack.co.nz [Accessed 23 May 2006].

25 For example see www.resene.co.nz/paintwise.htm [Accessed 23 May 2006].

26 BDA Group and Econsearch, 2004.

27 SWICO is a nonprofit company organised by industry, with over 400 member companies. See www.swico.ch/en/default.asp for more details [Accessed 23 May 2006].

28 Swiss Agency for the Environment, Forests and Landscape, 1998.

29 Swiss Agency for the Environment, Forests and Landscape, 2000.

30 Fishbein, 2002.

31 For more information on the South Australian Container Deposit Legislation see www.zerowaste.sa.gov.au/pdf/fact_sheets/container.pdf and www.epa.sa.gov.au/cdl.html [Both accessed November 2005].

32 Boomerang Alliance, 2005.

33 Sourced from www.environment.sa.gov.au/reporting/human/waste/recycled.html#beverage [Accessed November 2005].

34 White, 2002.

35 New Zealand's tax revenues raised by 'environmentally related levies', as reported to the OECD, are listed as excise taxes on petroleum fuels, motor vehicle licence fees, and road user charges. The tax system in New Zealand is relatively straightforward compared to other countries that rely on a wide range of sources of tax revenue.

36 EU legislation requires member countries to ensure that less than a third of their wastes are sent for disposal in landfill sites by 2020.

37 Danish Environmental Protection Agency, 1999.

38 For more information see www.mfe.govt.nz/issues/hazardous/contaminated/remediation-fund.html [Accessed 23 May 2006].

39 For more information see www.beehive.govt.nz/ViewDocument.aspx?DocumentID=20518 [Accessed 23 May 2006].

40 Information for this case study was sourced from European Environmental Agency (2002) and Sinner and Salmon (2003).

41 European Environment Agency, 2002.

42 An electronic plate on the rubbish bins identifies the correct household to charge.

43 European Environment Agency, 2002.

44 This table in the report was sourced from Miljøstyrelsen, 2000. *Fordele og ulemper ved gebyrdifferentierede indsamlingssystemer for husholdningsaffald.* Miljøprojekt No 576 and was reproduced on p36 of European Environmental Agency, 2002.

45 Sinner and Salmon, 2003: 18.

46 The waste management hierarchy, otherwise known as the '5Rs', is a way of prioritising measures to deal with waste in the following order: reduce, reuse, recycle, recover, and finally residual disposal.

47 Park, 2000.

48 *ibid.*, 2000.

49 See www.uktradeinfo.com/index.cfm?task=factlandfill [Accessed 23 May 2006].

50 Morris and Read, 2001.

51 Denne, 2005b.

52 For more information see www.defra.gov.uk/environment/waste/localauth/lats/intro.htm [Accessed 23 May 2006].

53 The information for this case study has been sourced from www.defra.gov.uk/environment/waste/localauth/lats/index.htm [Accessed 23 May 2006].

54 These targets are set under Article 5(2) of the Landfill Directive [1999/31/EC] and require that the UK:

- reduce the amount of BMW going to landfill to 75% of that produced in 1995 by 2006
- reduce the amount of BMW going to landfill to 50% of that produced in 1995 by 2009
- reduce the amount of BMW going to landfill to 35% of that produced in 1995 by 2016.

The Directive allows member states that landfilled over 80% of their municipal waste in 1995 to postpone the targets by up to four years. The British Government is using this four year deferment, meaning the target dates for the UK are 2010, 2013 and 2020.

55 Denne, 2005a. This report is available on the PCE's website (www.pce.govt.nz).

56 BDA Group and McLennan Magasanik Associates Pty Ltd, 2003.

57 Sharp, 2002; Sinner and Salmon, 2003.

58 This occurs when an increase in the costs of a service, such as landfill disposal, does not result in a corresponding reduction in demand for that service.

59 On this point, the New Zealand Treasury is opposed to tying revenue to expenditure (see Appendix E). In Treasury's view 'tied taxes' reduce the government's ability to move resources from low priority to high priority areas.

60 Department of the Environment and Heritage, 1997; OECD, 1994.

61 Walls, 2003.

62 BDA Group and McLennan Magasanik Associates, 2003; Whitten, *et al*., 2003.

63 See, for example, Hockenstein, Stavins & Whitehead (1997).

64 Whitten, *et al*., 2003.

65 Industry Commission, 1997.

66 NZBCSD, 2003.

67 NZBCSD, 2003: 17.
68 See www.ncc.org.uk/responsibleconsumption/16ways.pdf [Accessed 23 May 2006].
69 Rondinelli and Berry, 2000.
70 European Parliament and Council of the European Union, 2000.
71 Mazzanti and Zoboli, 2005.
72 'Enforceable voluntary agreements' refers to voluntary agreements that are backed by legislation designed, for example, to discourage 'free-riders'.
73 This refers to the analysis of efficiency of economic instruments over time, in contrast to static efficiency, which is a snapshot of efficiency at a particular moment in time.
74 De Young, 2000: 509.
75 See www.ronz.org.nz/pdf/Glass_Fact_Sheet_15_April.pdf [Accessed December 2005].
76 Denne, 2005a. See also www.zerowaste.co.nz/default,691.sm [Accessed 10 April 2006].
77 Packaging Council of New Zealand, 2005b.
78 New Zealand Herald, 26 May 2005. *Industry to pay levy to fund glass recycling*.
79 Packaging Council of New Zealand, 2005a.
80 Snow and Dickinson, 2005.
81 Cameron, 2002.
82 New Zealand Herald, 9 January 2006.
83 See Miranda *et al.*, 1996.
84 This refers to the situation where individuals adapt to increased costs, and the incentive effect diminishes.
85 www.mackenzie.govt.nz/fees/fees.php?waste [Accessed January 2006].
86 MfE, 2004a.
87 These prices are indicative only. They will vary from year to year as landfill sites close or new ones open, and costs increase.
88 PCE, 1993.
89 MfE, 2004a.
90 See Targets 1 and 2 on page 26 of MfE, 2002a.
91 *Carter Holt Harvey Ltd v North Shore City Council*, 31/3/2006, Asher J, HC Auckland, CIV 2005-404-4412.
92 O'Rourke, 2004.
93 *ibid.*, 2004.
94 *ibid.*, 2004.
95 *ibid.*, 2004.
96 *ibid.*, 2004.
97 Zefanja Potgieter, Christchurch City Council, pers. comm., 13 April 2005.
98 O'Rourke, 2004.
99 Terranova is a not-for-profit organisation that identifies opportunities to utilise materials recovered from the waste stream. For more information see www.terranova.org.nz.
100 Hill Young Cooper Ltd and Capital Strategy Ltd, 2004.
101 *ibid.*, 2004.
102 *ibid.*, 2004.
103 *ibid.*, 2004.
104 Hill Young Cooper Ltd and Capital Strategy Ltd, 2004: 3.
105 Appendix to LGNZ remit, Hill Young Cooper Ltd and Capital Strategy Ltd, 2004: 42.
106 Hill Young Cooper Ltd and Capital Strategy, 2004: 5.
107 Susan Edwards, Manager Environment and Regulatory, Local Government New Zealand, pers. comm., 21 July 2005.
108 Hill Young Cooper Ltd, 2005.
109 *ibid.*, 2005.
110 MfE, 2002a.
111 MfE, 2000.

112 MfE, 2002a.
113 MfE, 2005b: 9.
114 MfE, 2002a: 6.
115 MfE, 2002a: 3.
116 MfE, 2002a: 23.
117 *ibid.*, 2002a: 23.
118 MfE 2004b.
119 MfE, 2002a: 3.
120 MfE, 2002a: 29.
121 *ibid.*, 2002a: 29.
122 The introduction of the plastic bag environmental levy in Ireland is one example of this. See www.oasis.gov.ie/public_utilities/waste_management/plastic_bag_environmental_levy.html [Accessed 23 May 2006].
123 MfE, 2002a: 35.
124 MfE, 2002a: 34.
125 MfE, 2002a.
126 *ibid.*, 2002a.
127 MfE responses to questions from the Commissioner in a letter dated 28 September 2005 from the Ministry's Chief Executive, Barry Carbon.
128 NZIER, 2000.
129 MfE responses to questions from the Commissioner in a letter dated 28 September 2005 from the Ministry's Chief Executive, Barry Carbon.
130 *ibid.*, 2005.
131 Goldberg, 2002.
132 See www.mfe.govt.nz/publications/waste/legislative-basis-policy-instruments-sep02.html [Accessed 7 June 2006].
133 MfE, 2002c.
134 See www.mfe.govt.nz/publications/waste/policy-instruments-sep02.html [Accessed 7 June 2006].
135 MfE responses to questions from the Commissioner in a letter dated 28 September 2005 from the Ministry's Chief Executive, Barry Carbon.
136 MfE, 2004a
137 Email from Treasury to MfE on 20 November 2002.
138 McLeod *et al.*, 2001.
139 *ibid.*, 2001.
140 McLeod *et al.*, 2001: 47.
141 McLeod *et al*., 2001.
142 McLeod *et al*., 2001: 45.
143 McLeod *et al*., 2001.
144 A carbon tax, which was to be introduced in New Zealand in 2007, was abandoned by the Government in December 2005. See www.beehive.govt.nz/ViewDocument.aspx?DocumentID=24671 [Accessed 7 June 2006].
145 A number of countries, such as Ireland, have successfully introduced a product tax on plastic shopping bags to reduce their environmental impact.
146 Scrimgeour and Piddington, 2002.
147 Scrimgeour and Piddington, 2002: 1.
148 Scrimgeour and Piddington, 2002.
149 *ibid.*, 2002.
150 MfE, 2005b.
151 MfE, 2005b: 18.
152 *Carter Holt Harvey Ltd v North Shore City Council*, 31/3/2006, Asher J, HC Auckland, CIV 2005-404-4412.

153 Report available at www.mfe.govt.nz/publications/waste/levy-issues-mar06/index.html [Accessed 7 June 2006].

154 MfE responses to questions from the Commissioner in a letter dated 28 September 2005 from the Ministry's Chief Executive, Barry Carbon.

155 MfE, 2005b: 28.

156 Mr Bill Bayfield, General Manager Sustainable Industries Group, MfE, pers. comm., Meeting with PCE staff on 3 November 2005.

157 MfE, 2002c.

158 MfE, 2002c: 3.

159 NZIER, 2000.

160 MfE, 2002b.

161 Section 30(1)(d)(v) Resource Management Act 1991.

162 See Part 2 Ozone Layer Protection Act 1996.

163 Rod Tapp, Corporate Trustee, Recovery, pers. comm., 23 March 2006. (CFCs are chlorofluorocarbons and HCFCs are hydrochlorfluorocarbons.)

164 See www.opc.co.nz/index.shtml [Accessed 7 June 2006].

165 Rod Tapp, Corporate Trustee, Recovery, pers. comm., 23 March 2006.

166 For further discussion of this point see Bullen *et al.*, 2000: 47.

167 Section 22 Constitution Act 1986. For further discussion of this point see Joseph, 2001: pp 321-323 and 909-910.

168 See discussion in *Carter Holt Harvey Ltd v North Shore City Council*, 31/3/2006, Asher J, HC Auckland, CIV 2005-404-4412 at para 20.

169 *Haliburton v Broadcasting Commission* [1999] NZAR 233 at 238 quoting Thankerton LJ in *Lower Mainland Dairy Products Sales Adjustment Committee v Crystal Dairy Ltd* [1933] AC 1168 at 175. For more discussion on the difference in law between a tax and a charge see Joseph, 2001: 909. See also *Carter Holt Harvey Ltd v North Shore City Council*, at paras 15-18.

170 MfE, 2002a.

171 MfE, 2002a: 27.

172 *ibid.*, 2002a: 27.

173 MfE responses to questions from the Commissioner in a letter dated 28 September 2005 from the Ministry's Chief Executive, Barry Carbon.

174 MfE, 2005b: 14.

175 It appears that some work has been done in the area of hazardous wastes by the Ministry, see www.mfe.govt.nz/issues/waste/hazardous/policy-framework/index.html [Accessed 7 June 2006]. This work is a 'gaps analysis' rather than a review of the hazardous waste legislation.

176 MfE responses to questions from the Commissioner in a letter dated 28 September 2005 from the Ministry's Chief Executive, Barry Carbon.

177 MfE, 2002a.

178 MfE, 1997.

179 MfE, 2002a: 37.

180 www.mfe.govt.nz/issues/waste/waste-data/index.html [Accessed 7 June 2006].

181 MfE, 2004b.

182 Jo Knight, pers. comm., 8 March 2006.

183 Zefanja Potgieter, Christchurch City Council, pers. comm., 17 August 2005.

184 Hill Young Cooper, 2004.

185 MfE, 2005b.

186 MfE, 2004b.

187 Except for a recent report commissioned by the Ministry for the Environment. See www.mfe.govt.nz/publications/waste/levy-issues-mar06/index.html [Accessed 7 June 2006].

188 Industry Commission, 1997.

189 Bannock *et al.*, 2003.

190 Industry Commission, 1997.

191 Bannock *et al.*, 2003.

192 Industry Commission, 1997.
193 MfE, 2002a: 7.
194 See www.mfe.govt.nz/laws/meas [Accessed February 2006].
195 Agenda 21, para 8.31.
196 Agenda 21, para 8.32.
197 Agenda 21, para 8.33.
198 Parliamentary Office of Science and Technology, 2004; Total Environment Centre, 2004.
199 Australian Bureau of Agriculture and Resource Economics, 2001.
200 Industry Commission, 1997.
201 *ibid.*, 1997; Australian Bureau of Agriculture and Resource Economics, 2001.
202 Cameron, 2003.
203 Australian Bureau of Agriculture and Resource Economics, 2001.
204 *ibid.*, 2001.
205 OECD, 2003.
206 Industry Commission, 1997; Australian Bureau of Agriculture and Resource Economics, 2001.
207 OECD, 2003.
208 MfE, 2002a.
209 OECD, 2003: 11.
210 Denne, 2005a: 33.
211 Palmer and Walls, 2002.
212 Palmer and Walls, 2002: 7.
213 Palmer and Walls, 2002: 8.
214 Packaging Council of New Zealand, 2005b.
215 Industry Commission, 1997.
216 Treasury officials, pers. comm., 7 March 2006.
217 An environmental user charge is defined in section 2 of HSNO as "an amount of money payable per unit mass of substance". A transferable permit scheme is also defined in section 2 as "any scheme established in accordance with section 87 of this Act".
218 'Hazardous substance' is defined in section 2 of HSNO.
219 'Substance' is defined in section 2 of HSNO.
220 Donald Hannah, ERMA, pers. comm., 10 August 2005.
221 Hazardous Substances and New Organisms (Approvals and Enforcement) Amendment Bill.
222 Donald Hannah, ERMA, pers. comm., 10 August 2005. See also Denne, 2004.
223 Section 538 Local Government Act 1974.
224 Section 539 Local Government Act 1974.
225 Section 540 Local Government Act 1974.
226 Section 540 Local Government Act 1974.
227 *Carter Holt Harvey Ltd v North Shore City Council* 31/3/2006, Asher J, HC Auckland, CIV 2005-404-4412 at para 34.
228 See *Carter Holt Harvey Ltd v North Shore City Council* for further discussion on this issue.
229 *Carter Holt Harvey Ltd v North Shore City Council*, paras 35, 41 and 56.
230 Restrictive trade practices or anti-competitive practices are prohibited under Part II of the Commerce Act 1986. These are practices that lessen competition in the market.
231 Section 16 Local Government (Rating) Act 2002.
232 Section 16(3) Local Government (Rating) Act 2002.
233 Section 16(4) Local Government (Rating) Act 2002.
234 For further discussion of the possible use of a targeted differential rate by regional councils see Brodnax, R. and Berry, S. 2005. *Use of targeted rates as incentives for business to adopt environmentally sound practices*. Paper presented at WasteMINZ annual conference, November 2005.
235 Section 30(1)(d)(v) Resource Management Act 1991.
236 Darren Patterson, Environment Canterbury, pers. comm., August 2005.

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Appendix A: Agenda 21 and economic instruments

At the 1992 Earth Summit the New Zealand Government adopted the Rio Declaration and Agenda 21. Both the Rio Declaration and Agenda 21 contain non-legally binding principles that parties will take into account in considering actions that affect the environment.[194] Both the Rio Declaration and Agenda 21 recommend the use of economic instruments.

Principle 16 of the Rio Declaration states:

> *National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.*

Agenda 21 is a programme of action to be carried out by various actors such as governments, local authorities, and individuals to implement the principles of sustainable development contained in the Rio Declaration. There are a number of references within Agenda 21 to the use of economic instruments, particularly in Chapter 8: Integrating environment and development in decision-making, Part C: Making effective use of economic instruments and market and other incentives. The objectives state:

> *Recognizing that countries will develop their own priorities in accordance with their needs and national plans, policies and programmes, the challenge is to achieve significant progress in the years ahead in meeting three fundamental objectives:*
>
> *(a) To incorporate environmental costs in the decisions of producers and consumers, to reverse the tendency to treat the environment as a "free good" and to pass these costs on to other parts of society, other countries, or to future generations;*
>
> *(b) To move more fully towards integration of social and environmental costs into economic activities, so that prices will appropriately reflect the relative scarcity and total value of resources and contribute towards the prevention of environmental damage;*
>
> *(c) To include, wherever appropriate, the use of market principles in the framing of economic instruments and policies to pursue sustainable development.*[195]

The activities listed in Chapter 8 of Agenda 21 to achieve these objectives include the following:

- Governments should consider reorienting their policies in order to "establish effective combinations of economic, regulatory and voluntary approaches".[196]
- Governments should explore, in cooperation with business and industry, how to make effective use of economic instruments in areas such as waste.[197]

Chapter 21 of Agenda 21 deals with the environmentally sound management of solid wastes and sewage related issues. This chapter sets a number of objectives in relation to waste data and information (see para 21.11) and also recommends the consideration of economic instruments. In particular, para 21.24 states:

> *Incentives for waste reuse and recycling are numerous. Countries could consider the following options to encourage industry, institutions, commercial establishments and individuals to recycle wastes instead of disposing of them: …*
>
> *(c) Applying economic and regulatory instruments, including tax incentives, to support the principle that generators of wastes pay for their disposal;…*
>
> *(e) Implementing specific mechanisms such as deposit/refund systems as incentives for reuse and recycling.*

Appendix B: Command and control regulation, voluntary measures and moral suasion approaches to managing waste

Command and control regulation

'Command and control' regulation represents a prescriptive and comparatively inflexible approach to environmental management. A specific (environmental) standard is prescribed, which leaves the resource user or polluter the choice of complying with the standard (the **command**), or facing penalties for non-compliance. The technology to be used to achieve environmental goals can also be prescribed. Monitoring and enforcement is then used to ensure that the standards are met (the **control**).[198]

Such a prescriptive approach to environmental management requires a lot of detailed information. There are also high administration and compliance costs.

The straightforward nature of command and control regulations provides a high degree of certainty and means that governments can have a great deal of involvement in and control over the behaviour of resource users.[199] Because regulations are applied across the board, costs are imposed on all resource users or polluters regardless of whether or not they are directly responsible for the environmental damage.

Command and control regulation may discourage innovation. There is no incentive for polluters or resource users to strive to develop more effective and efficient technologies to reduce their effects on the environment. If they do so, they risk having even more stringent standards set. Neither can they lower their costs by doing better than the standards. Meeting minimum standards is all that is encouraged.[200]

While there have been some successes using a command and control regulatory approach, particularly with regard to improving water and air quality, it is unlikely that such an approach to environmental policy will facilitate the most cost effective attainment of environmental goals, particularly when used in isolation from other policy tools.[201]

Voluntary measures and moral suasion approaches

Voluntary measures, including moral suasion approaches, aim to raise awareness of environmental issues in order to change attitudes and priorities for both individuals and firms.[202] Education, information sharing, training, or using moral suasion such as social pressure, negotiation, or threat of regulatory action, are all means of achieving this. Such suasive measures can be used to encourage industries to develop and abide by voluntary agreements.[203]

Voluntary approaches have some advantages. Associated establishment and administrative costs are low. Polluters and resource users have flexibility in the choice of goals and how to meet them.[204]

However, the effectiveness of voluntary approaches strongly depends on the level of participation[205] and the motivation of the individuals involved in the programmes. This motivation can be difficult to sustain. Environmental outcomes from such measures are therefore uncertain in the long term.

Suasive and voluntary approaches do offer much potential to support the implementation and operation of economic instruments and regulatory approaches. Altering attitudes through the use of suasive measures increases the chances that any complementary policy tools being used to change behaviour will be accepted.[206]

While the use of voluntary approaches should be welcomed, there is a limit to what can be achieved when relying solely on them. The jury is out regarding the success of voluntary approaches. The OECD reports that some regard voluntary approaches as providing the opportunity to address environmental issues in a low cost, flexible way that is based on consensus building between various stakeholders. Others believe that voluntary approaches provide few environmental improvements beyond what would have occurred anyway through 'business as usual'.[207]

Effectiveness of voluntary approaches

While the use of voluntary agreements was envisaged in the NZWS, it was intended that such measures would be used as part of a mix of policy tools.[208] There are doubts about the effectiveness of voluntary agreements on their own to achieve improved environmental outcomes. While voluntary actions taken by the private sector have a number of advantages, a study by the OECD found that:

> *…even if the targets set for a voluntary approach have been met, it remains a question to what extent this is due to the approach in question.*[209]

On the basis of the case studies it examined, the OECD report concluded that only in a few cases did voluntary approaches contribute to environmental improvements significantly different from what would have happened in the normal course of business. Hence the OECD study found that the environmental effectiveness of voluntary approaches is questionable. The report also points out that care should be given to not constrain a later introduction of other, possibly more environmentally effective, policy tools.

In a report on economic instruments for waste management that the PCE commissioned for this project, Denne notes:

> *Fundamentally companies are profit maximisers. While there is evidence of industry taking steps to reduce its environmental burden, in broad*

terms, where this is not in response to some regulatory requirement, it can be expected to be:

- *in pursuit of longer run profit maximisation, e.g. part of a marketing strategy;*
- *because of a wider set of managerial objectives, e.g. personal beliefs of management which cannot be expected to be broadly shared, certainly not by publicly listed companies with responsibilities to shareholders; and/or*
- *a short measure to avoid government regulation i.e. just enough to stop government regulating.*

Voluntary measures will thus tend to be small in scale i.e. the level of burden that will be accepted voluntarily would be expected to be small. They will also tend to be applied inconsistently across industry – there will be free-riders that do not act and those that act to different degrees, e.g. reflecting different markets (and thus consumer interest in positive environmental image), different personal views and different expectations of government's likelihood of regulating. This means the cost burden is spread inefficiently.[210]

A study of the performance of voluntary programmes associated with product stewardship[211] examined whether such programmes had the potential to achieve environmental objectives. Among other things, the study found that:

Firm-level voluntary programs are not likely to achieve a socially desirable level of waste reduction and recycling for the same reasons that laissez-faire private markets don't achieve the socially desirable level of waste reduction and recycling: the firms bear the costs of their activities but don't capture all the benefits.

Industry-level initiatives face similar problems. A firm may choose not to participate and "free-ride" on the efforts of others. And for firms that do sign on, the absence of a penalty for non-compliance makes it easy to drop out.[212]

The evaluation goes on to say:

Voluntary programs can have positive effects, however. They can lead to some environmental improvements, relative to no regulation. In addition, firms may learn about the costs and feasibility of certain approaches to collecting and recycling end-of-life products. This can lower the costs of product stewardship programs and policies in the future.

All in all, however, voluntary product stewardship initiatives, as they currently exist, fall short. At best, they are either short-run, stopgap measures that provide information for future policy choices or they are complements to more formal government policy instruments. If they are to do more, they need to overcome the problem that firms can easily opt out of the agreements at any time. Moreover, current voluntary programs do not provide incentives for consumers to do their part. For any product stewardship program to be cost-effective, it needs to provide incentives – either directly or indirectly – for consumers to return products for recycling. And for products where product design is a key determinant of the cost of recycling, it is essential that incentives are provided for design for environment (DfE). Thus, the crucial factor in any product stewardship program, regulatory or voluntary, is the nature and extent of the incentives it provides – incentives for consumers to recycle, for firms to design for the environment, and for firms to comply.[213]

The New Zealand Packaging Accord

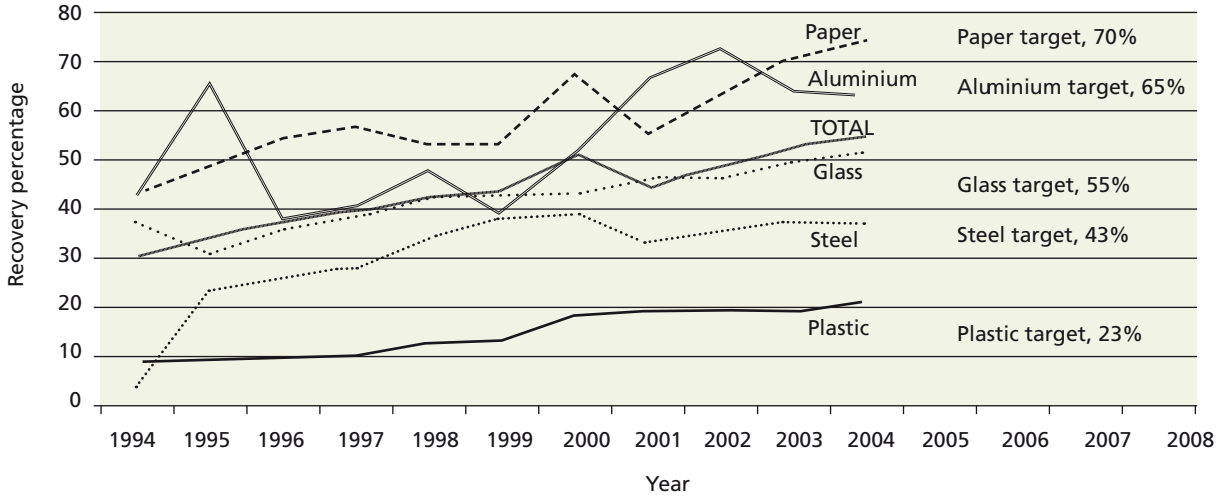
The Packaging Accord was signed in August 2004. The principal parties to the Packaging Accord are the Packaging Council of New Zealand and Central Government. Local Government New Zealand, and Recycling Operators of New Zealand are endorsing parties. The term of the Accord is five years.

The Accord sets recycling targets for the amount of recovered materials, to be met by 2008. These targets are: aluminium 65 percent, glass 55 percent, paper 70 percent, plastic 23 percent, and steel 43 percent. In October 2005, the Year One Progress Report for the Accord was released. The report, while noting that the first year was devoted to benchmarking and the establishment of sector action plans,[214] did include the following two graphs on packaging recovery and consumption.

As can be seen from Figure 1, in some cases recovery rates for some types of packaging have previously exceeded the target recovery rates. For example the 2008 target rate for aluminium is 65 percent, and the recovery rate was exceeded in 2002. This raises the issue of whether the target recovery rates have been set too low.

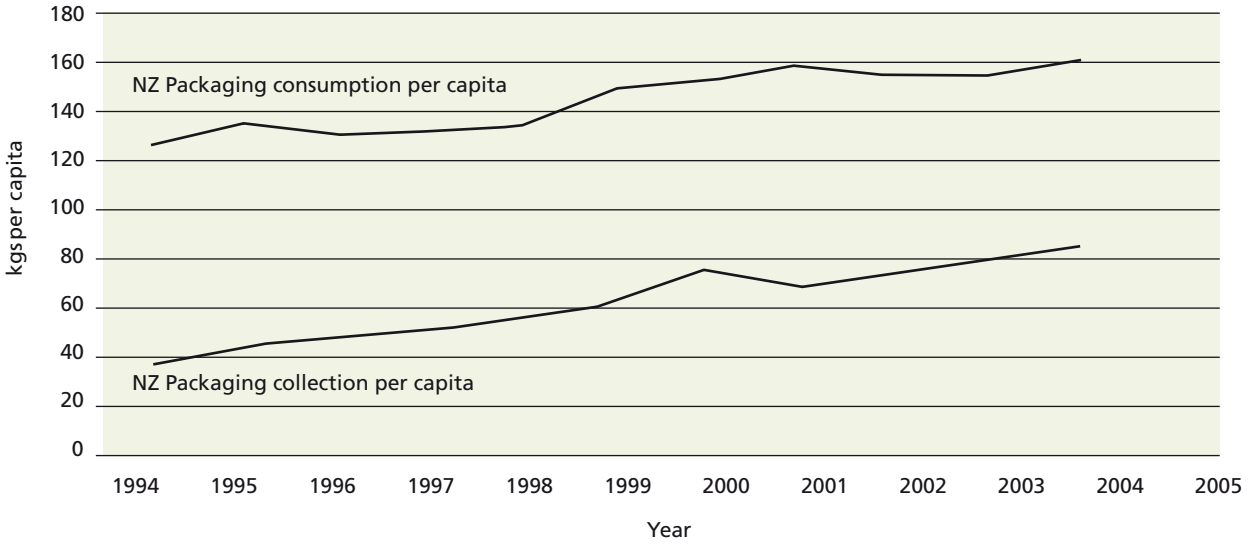
The key indicator of the success of the Packaging Accord will be whether there is a reduction in the amount of packaging going to landfill. At present, as can be seen from Figure 2, while overall packaging recovery is increasing, so is packaging consumption. Thus, although the recovery rate is increasing, the amount of packaging that is going to landfill has remained largely constant since 2002.

Figure 1 Packaging recovery trends and targets



Source: Packaging Council of New Zealand, 2005b: 5.

Figure 2 Packaging consumption and collection trends per capita



Source: Packaging Council of New Zealand, 2005b: 6.

Appendix C: Characteristics of some economic instruments[215]

Type and definition	Advantages	Difficulties/disadvantages	Relevance
Emissions and effluent charges or taxes: Charges based on the quantity and quality of pollutants discharged	Low transaction costs for firms or individuals	Setting the charge at the right level Monitoring requirements	Discharges from point sources
Product charges: Levies on products which are harmful to the environment when used or disposed of	Reduces the use of products that are harmful to the environment	Setting the charge at the right level Monitoring requirements	Where it is not feasible to monitor pollution from individual sources
Cleanup or restoration levies: A levy to raise funds for environmental cleanup	Levy funds are linked to environmental purposes	Determining the relevant group to levy	To fund cleanup costs caused by past (but not ongoing) activities
Subsidies: Payment by government to those undertaking environmentally friendly activities	Encourages action to overcome environmental problems	Externalities are not internalised by polluter May reward poor environmental performers May pay those who would undertake action even without a subsidy Setting a realistic level of security	Where other economic instruments do not work or are too expensive
Performance bonds: Financial security lodged with government against environmental damage	Minimises the risks and potential costs of polluters defaulting on liability Encourages restoration and cleanup where necessary	Setting a realistic level of security	Where it is necessary to minimise the risk that environmental damage will not be rectified
Legislated deposit refund systems: A refundable deposit which is paid on products which can cause pollution if discarded	Reduces the volume of waste and/or the release of toxic substances into the environment	Transaction costs may be high Significance of benefits (relative to changes in costs) not always clear	Most effective if applied to products which have an existing distribution system, e.g., household milk containers
Tradable permits: A transferable right to discharge a prescribed level of pollutants or use a certain amount of a resource	Allocation of resources to the highest value use Reduced information needs for regulators More certainty regarding pollution or resource use levels	Establishing an efficient market Setting overall level and initial allocation of permits Transaction costs	Where environmental impact is independent of pollution within a defined area
Environmental liability: Making polluters legally liable for environmental damage	Potential polluters are forced to either adopt environmentally friendly practices or pay potential damage (through higher premiums)	Choosing the level of increase in premiums, etc. that will cover liability and risk Enforcement of liability	Where environmental outcomes are linked to the availability of finance, insurance, etc.

Appendix D: Questions put to the Ministry for the Environment by the PCE in September 2005, and the responses to those questions

pce

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2004208

7 September 2005

Mr Barry Carbon
Chief Executive
Ministry for the Environment
P O Box 10362
WELLINGTON

Dear Barry

Economic instruments investigation

The purpose of this letter is to formally request your response to a number of questions that we have so far been unable to obtain answers to through less formal contact with your staff. We would also welcome any other information that you consider would assist our investigation.

Attached is some background information on our investigation and a list of questions to which I now seek your response within 15 working days. This is a request under section 19(1) of the Environment Act 1986. This section states:

> *The Commissioner may from time to time require any person who in the Commissioner's opinion is able to give any information relating to any matter which is being investigated or inquired into by the Commissioner to furnish to the Commissioner any such information and to produce any documents or papers or things which in the Commissioner's opinion relate to any such matter and which may be in the possession or under the control of that person.*

I must advise you that your responses to these questions may be published in my report when my inquiries are completed.

I regret having to take such a formal approach to seeking information from your team; the first time in my eight years as Commissioner. However I believe, on the basis of the initiative we jointly took this week, that it will be the last.

I look forward to receiving your reply on or before 28 September 2005.

Yours sincerely

Dr J Morgan Williams
Parliamentary Commissioner for the Environment

PCE Economic Instruments Investigation – background and questions for the Ministry for the Environment, 7 September 2005

1. Background

The Parliamentary Commissioner for the Environment is carrying out an investigation into the use of economic instruments as an environmental management tool. The aim is to determine the effectiveness of economic instruments using the management of waste as a case study. The investigation focuses on questions such as how economic instruments are being used (or if they are not, why not), what forms they take, and how successful they have been in achieving environmental objectives.

In the context of this project, economic instruments are part of a range of environmental policy tools that also include, for example, command and control regulation, voluntary programmes and moral suasion approaches. We recognise that no single policy tool on its own is likely to be successful in achieving all environmental policy goals. For this reason we do not set out to advocate the use of any one particular policy tool over another, but acknowledge that a mix of instruments may be necessary in many circumstances. We are taking a close look at economic instruments because they help to raise awareness of environmental costs, influence behaviour that protects or improves the environment, and generally encourage sustainable practices. Economic instruments include such things as taxes, levies, charges, tradable permits, deposit schemes, subsidies, credits, and other incentives that seek to achieve environmental goals at the lowest cost and in the most efficient way.

In his 2002 report, *Creating our Future*, the Commissioner highlighted the increasing prevalence of economic instruments, particularly environmental taxes, in other OECD countries' approaches to encourage more sustainable consumption and production patterns.[1] The Commissioner subsequently identified the investigation of environmental economic instruments as a priority area in his 2003-2007 strategic plan[2].

In order to provide some focus for this study we chose to target the management of waste as a case study. The main reasons for this can be summarised as follows:

- There are widespread and successful applications of economic instruments as a means of minimising and managing waste in other OECD countries.
- There appears to be only limited use of economic instruments in the management of waste in New Zealand and we want to understand why this is the case.
- Waste management provides an ideal case study of the use of economic instruments to implement polluter pays, user pays and sustainable development policies.

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[1] Parliamentary Commissioner for the Environment (PCE). (2002). *Creating Our Future: Sustainable Development for New Zealand*. PCE: Wellington.
[2] PCE. (2003). *Future Focus: Strategic Plan of the Parliamentary Commissioner for the Environment: 2003-07*. PCE: Wellington.

2. Questions

2.1 Economic instruments and the New Zealand Waste Strategy ("NZWS")

The NZWS was released in March 2002. One of the five core policies of the NZWS is waste reduction and materials efficiency. The NZWS states:

"Levies and other economic instruments can act as incentives to change behaviour, reduce resource use, and improve recovery and recycling rates when applied at national, regional or local levels.

...

Waste levy options and other economic instruments will be considered during strategy implementation." (page 35, NZWS)

One of the programme elements for the waste reduction and materials efficiency programme is the development and design of economic instruments to fund waste minimisation and change wasting behaviour. We wish to obtain information on the work that the Ministry undertook to carry out under this programme, specifically in relation to economic instruments:

1 **What work has been carried out by the Ministry on the development and design of economic instruments to fund waste minimisation and change wasting behaviour? In particular, what progress has the Ministry made with the following key actions outlined on page 36 of the NZWS:**

- **a) establish scope and terms of reference for future work on economic instruments to change wasteful behaviour;**
- **b) undertake work on economic instruments;**
- **c) consider waste levy options at national and local level and on specific wastes in consultation with stakeholders;**
- **d) initiate projects to demonstrate the value of economic instruments, such as a levy to facilitate recovery of used oil, and assess efficacy of this tool for other wastes;**
- **e) report to Government?**

Please provide us with all relevant reports and decisions relating to the above.

2 **What work has been carried out by the Ministry on the use of economic instruments as a component of the extended producer responsibility programme element on p 37 of the NZWS?**

Please provide us with all relevant reports and decisions relating to this programme element.

2.2 Economic Instruments under current legislation

From our review of current legislation it appears that economic instruments to manage waste can only be created at a national level for a very narrow category of waste. However, economic instruments to manage waste at a local level can be created by territorial authorities under the Local Government Act.

2.2.1 National level economic instruments

National level economic instruments to manage waste cannot be created under the Health Act, Building Act, Local Government Act or Resource Management Act. Economic instruments, in the form of environmental user charges, can be created at a national level under the Hazardous Substances and New Organisms Act (HSNO). No environmental user charges have been created to date. The provision in HSNO empowering the Environmental Risk Management Authority to report on environmental user charges (section 96) makes no reference to environmental user charges being used to manage or minimise the generation of hazardous waste. Under section 96 environmental user charges can only be applied to hazardous substances. Therefore there is uncertainty as to whether environmental user charges could be used directly to manage or minimise hazardous waste.

3 **What national level economic instruments to deal with waste has the Ministry examined? If none have been examined, why not? Please provide us with any relevant documents and decisions.**

4 **(i) What are the Ministry's views on the effectiveness of current statutory provisions for waste minimisation and management?**

(ii) What options exist under current legislation to create economic instruments to minimise or manage waste where it is more efficient and effective to do so at the national level rather than the local level?

5 **What are the Ministry's views on the potential use of environmental user charges under the HSNO Act to manage or minimise hazardous waste?**

2.2.2 Local level economic instruments

Local level economic instruments to manage waste can be created under section 544 of the Local Government Act by territorial authorities. No other legislation empowers territorial authorities or regional councils to use economic instruments to manage waste.

From our interviews with local authorities and others we understand that some members of the waste industry consider that the use of economic instruments under section 544 of the Local Government Act breaches the Commerce Act. We further understand that the Commerce Commission has not yet been asked to make a ruling on this issue.

Our inquiries so far have revealed that differences in local waste disposal charges are likely to encourage waste being transferred from one district to another (excluding those districts that have joint disposal arrangements) for disposal at landfills that have lower charges and lesser environmental controls. This can result in adverse environmental effects, waste generators' behaviour not changing, and fewer funds being collected and available for waste minimisation initiatives.

6 **What analysis has the Ministry done on the impact of the Commerce Act on the powers of territorial authorities to use economic instruments under section 544 of the Local Government Act? What has the Ministry concluded from any such analysis? Please provide us with any relevant reports or documents containing analysis of the impact of the Commerce Act on the powers of territorial authorities.**

7 **What guidance has the Ministry provided to local government on the use of economic instruments to manage waste. Please provide us with any relevant documents detailing any guidance.**

8 **Under what, if any, circumstances does the Ministry consider that economic instruments at the local authority level are inappropriate for dealing with waste.**

9 **What other options has the Ministry analysed with respect to economic incentives to reduce the generation of waste and to minimise waste to landfill (i.e. to meet the NZWS targets)? Please provide us with copies of any documents containing this analysis.**

2.3 Completion of key actions in the New Zealand Waste Strategy ("NZWS")

The NZWS is based on five core policies:

- sound legislation
- high environmental standards
- efficient pricing
- adequate and accessible information
- efficient use of materials.

The NZWS sets out key actions for putting the policies into effect under four work programmes:

- institutions and legislation
- waste reduction and materials efficiency
- information and communication
- performance standards and guidelines.

The NZWS states that "*each programme is essential to the strategy's medium and long-term targets. No single programme will, on its own, achieve a significant reduction in waste.*" (page 29, NZWS)

10 **What review of the key actions set out in the NZWS has the Ministry carried out, and what has been the outcome of any such review? If no review has been carried out, why not?**

11 **Which, if any, key actions have been abandoned or postponed, and why?**

12 **If any of the programmes or key actions of the NZWS have been changed what steps have been taken to revise the NZWS and to notify any changes?**

Please provide us with any relevant documents or decisions relating to the above.

2.4 Review of legislation and institutions to enable implementation of NZWS

One of the five core policies under the NZWS is sound waste minimisation and management legislation. The NZWS notes that the current legislation dealing with waste (Local Government Act, Health Act, Building Act, the Resource Management Act and the Hazardous Substances and New Organisms Act) could only be a partial basis for achieving the strategy's goals (page 27 NZWS). As a consequence one of the strategy's programmes is a review of institutional and legislative arrangements for minimising and managing waste, to ensure that there is a sound basis for implementing the strategy. Page 33 of the NZWS sets out the elements of this work programme and key actions.

13 **What work has been carried out by the Ministry to complete the key actions, listed beside the review of institutional and legislative provisions programme element on page 33 of the NZWS? Please provide us with any relevant reports.**

14 **(i) What are the Ministry's views on the current legislation dealing with waste?**

(ii) Does current legislation provide an adequate basis for achieving the NZWS goals? If not, what additional legislative support is required?

Please provide us with any relevant documents containing an analysis of the adequacy of the current legislation dealing with waste.

MfE Responses to Questions from the Commissioner

QUESTION 1:

What work has been carried out by the Ministry on the development and design of economic instruments to fund waste minimisation and change wasting behaviour? In particular, what progress has the Ministry made with the following key actions outlined on page 36 of the NZWS:

(a) establish scope and terms of reference for future work on economic instruments to change wasteful behaviour;
(b) undertake work on economic instruments
(c) consider waste levy options at national and local level and on specific wastes in consultation with stakeholders;
(d) initiate projects to demonstrate the value of economic instruments, such as a levy to facilitate recovery of used oil, and assess efficacy of this tool for other wastes;
(e) report to Government?

Please provide us with all relevant reports and decisions relating to this programme element.

MfE Comment:

As the PCE will be aware, the New Zealand Waste Strategy was launched in March 2002. The strategy's vision, "Towards zero waste and a sustainable New Zealand", is of a society that values its environment and resources, where people use all resources efficiently and at a sustainable rate, and where waste is no longer regarded as inevitable or someone else's problem. It was recognised that progress towards this vision would require changes in the way people currently behave, and that there were a range of policies and tools to encourage less wasteful behaviour.

Prior to the preparation of the New Zealand Waste Strategy, the Ministry gave some preliminary consideration to the use of economic instruments to achieve waste minimisation objectives.

In 2000, the Ministry commissioned a technical report from the New Zealand Institute of Economic Research entitled "A Landfill Levy: Economic principles and implications of implementing a landfill levy". This report evaluated options for funding waste minimisation in New Zealand, and also examined the issues surrounding any introduction of a waste levy (local or national) from an economic perspective. The report concluded that there was no major problem in the (then) level of direct government intervention in waste management. The report identified, however, a number of issues surrounding the costing and pricing of waste services as follows:

- the main factor inhibiting the achievement of an optimal level of waste minimisation is the costing and pricing of waste services
- the solution to this would not be generating extra funding for waste minimisation activities, but correcting this mis-pricing
- that while correction of mis-pricing could potentially be achieved by government intervention in the form of a levy, there could be some problems with such an approach (eg diversion of revenue raised from a levy to subsidise waste minimisation activities would change relative pricing between two services (e.g.

landfill vs recycling), but not correct the fundamental mis-pricing of waste to landfill).

- that if (then) current initiatives such as the revision of the Landfill full costing Guidelines identifies correct costing procedures, and local authorities reflected these in their pricing structures, the mis-pricing could be alleviated more directly. (Note: The most recent edition of the Landfill Full Cost Accounting Guide for New Zealand was published in March 2004)
- this would leave levy funding as primarily suited to short-term, interim measures, or to specific market failures in waste minimisation that are incapable of being covered by pricing measures.

In September 2002 the Ministry for the Environment published a technical report that examined the legislative foundations adopted by a number of different jurisdictions offshore in providing for waste policy instruments. The scope of this work included regulatory as well as economic instruments, and was aimed at helping the Ministry understand the legislative foundations needed for different types of policy instruments (see: http://www.mfe.govt.nz/publications/waste/legislative-basis-policy-instruments-sep02.pdf). This was a step in scoping work to begin consideration of economic instruments and their alternatives in achieving waste minimisation outcomes as identified in the NZWS.

In September 2002, the Ministry also undertook a general review of policy instruments for waste minimisation and management in New Zealand. This report included some discussion of economic instruments (see: http://www.mfe.govt.nz/publications/waste/policy-instruments-sep02.pdf). At the time, this report was seen as a preliminary examination of the more specific work the Ministry expected to undertake to implement the New Zealand Waste Strategy.

In the context of both of the reports listed above, it should be noted that the issues raised in the 2000 report in respect of economic instruments were still seen as 'live' and requiring further consideration.

One economic instrument in managing waste is the price paid for waste disposal. The Ministry for the Environment has produced a landfill full cost accounting guide (Landfill Full Cost Accounting Guide for New Zealand, March 2004).

A draft discussion paper "A Waste Levy for New Zealand? A discussion document exploring the issues" was commenced by officials in December 2002 to explore the idea of a national waste levy.

After concerted consideration, this work was terminated. There was little justification, beyond revenue-raising, for a new non-specific tax, especially as "recycling" of the revenue generated back into waste minimisation activities (hypothecation) was rejected by Treasury. Another telling input was Chapter 4 of Treasury's 2001 tax review (Tax Review 2001: Final report, October 2001), which examined the benefits and disadvantages of eco-taxation as a tool for achieving environmental outcomes.

Some use has been made throughout the country of local waste levies. Section 544 of the Local Government Act enables the setting of local levy through a waste by-law to fund waste minimisation activities. Examples of these types of levies exist in Canterbury on a regional and Christchurch city basis. Recently a joint by-law was enacted between North Shore and Waitakere City Councils and Rodney District. The recently enacted by-law contains provision for the establishment of a levy to fund waste management activities.

A voluntary levy is used at present to support the recovery of ozone depleting substances.

It should be noted that in terms of managing 'special wastes' (such as used oil, tyres and other end-of-life wastes which are difficult to dispose of) the Ministry has pursued alternative policy tools to improve management. For example, in partnership with industry, we have supported a range of very effective voluntary programmes to deliver improvements in the handling and management of special wastes, and have also worked to develop a national product stewardship policy, as noted below.

QUESTION 2:

What work has been carried out by the Ministry on the use of economic instruments as a component of the extended producer responsibility (EPR) programme element on page 37 of the NZWS?

Please provide us with all relevant reports and decisions relating to this programme element.

MfE Comment

The key actions of relevance in the NZWS include:

- Determining the issues and options for introducing EPR in NZ
- Identifying key products that could have priority for EPR
- Establishing pilot schemes
- Review experience and report back with a business case for a more substantial programme; Address whether EPR requires statutory backing.

The Ministry for the Environment has a substantial work programme supporting the development of specific product stewardship (or EPR) schemes. Product stewardship is a tool with the potential to improve how New Zealand producers, brand owners, importers and consumers manage their waste.

Several industry-led product stewardship schemes already exist in New Zealand, including the well-known 2004 New Zealand Packaging Accord aimed at reducing packaging waste which grew out of a Ministry initiative. The Ministry has also been instrumental in the development of "Tyre Track", which is directed at the better management of end-of-life tyres. In addition, the Ministry has partnered industry to develop the used oil recovery programme and support for schemes covering agricultural chemical containers, silage wrap and electronic waste. Industry-led take-back schemes for some paints and mobile phones are also in operation.

Such pilot schemes have illustrated a number of learnings about EPR-type schemes, and helped officials identify what types of products would be most suitable for similar schemes.

The Ministry for the Environment has spent some time reviewing existing voluntary approaches to product stewardship and considering the development of a more comprehensive product stewardship policy in New Zealand.

In July 2005, the Ministry for the Environment released a public discussion document (see http://www.mfe.govt.nz/publications/waste/product-stewardship-water-labelling-jul05/index.html) on the issues involved with product stewardship, and some of the options the government could consider in developing a national approach to the issue. The discussion document sets out a number of options for dealing with wastes that are particularly hard to manage or dispose of (e.g. televisions, other electrical products, vehicles and household chemicals).

While the discussion document sets out the Government's preferred option, the final shape of a product stewardship policy and its adoption by government will be determined after consultation. Submissions closed on 31 August, with decisions by government expected before the end of the year.

The success of voluntary schemes can be limited by the reluctance of some parties to participate, especially if they can gain some competitive advantage by not participating in the scheme and "free riding" on the benefits (such as a collection facility) of a scheme. Some countries have legislated for product stewardship.

QUESTION 3:

What national level economic instruments to deal with waste has the Ministry examined? If none have been examined, why not? Please provide us with all relevant reports and decisions.

MfE Comment

As indicated in our response to Question 1 above, a number of reports were commissioned to examine the range of local and national economic instruments utilised offshore to manage waste. Such instruments were considered and discussed in the draft discussion paper "A Waste Levy for New Zealand? A discussion document exploring the issues (December 2002)". The primary focus of that document was a national waste levy.

The Government's climate change programme to manage waste carbon dioxide and industrial process emissions relies heavily on economic instruments (e.g. the carbon tax, the Negotiated Greenhouse Agreements programme, and the Projects to Reduce Emissions programme) to achieve climate change policy outcomes. The carbon tax is applied at the national level.

QUESTION 4:

(i) What are the Ministry's views on the effectiveness of current statutory provisions for waste management and minimisation?

(ii) What options exist under current legislation to create economic instruments to minimise or manage waste where it is more efficient and effective to do so at the national level rather than at the local level?

MfE Comment

MfE believes the current statutory provisions are satisfactory in terms of managing and minimising waste. In our view, the legislative framework is open to the creation of economic instruments. We note that under Section 24 of the Resource Management Act one of the functions of the Minister for the Environment is the "consideration and investigation of the use of economic instruments". The recent national environmental standards on air quality developed under the RMA include provisions for the trading of discharge permits to enable air quality standards to be met.

The Ministry has not taken a view for or against the application of waste levies of any sort, at the local or national level. As noted above, our work programme on waste levies was terminated in 2002. We have not researched possible levy options in any further detail since that time.

It should be noted that the Ministry does not believe there is an automatic linkage between legislation and the introduction of economic instruments. The present voluntary levy on glass is one example of an existing economic instrument developed in the absence of compliance or legislative drivers.

QUESTION 5:

What are the Ministry's views on the potential use of environmental user charges under the HSNO Act to manage or minimise hazardous waste?

MfE Comment

Section 96 of HSNO would only apply to wastes that qualified as "waste hazardous substances". Officials have not entertained the notion of, and nor would there appear to be any benefit in, amending the HSNO legislation to allow wider application of user charges provisions to wastes which do not qualify as "waste hazardous substances".

Officials have not given consideration to including similar provisions in other legislation in order to apply environmental user charges on other wastes.

QUESTION 6:

What analysis has the Ministry done on the impact of the Commerce Act on the powers of territorial authorities to use economic instruments under section 544 of the Local Government Act? What has the Ministry concluded from any such analysis? Please provide us with any relevant reports or documents containing analysis of the impact of the Commerce Act on the powers of territorial authorities.

MfE Comment:

At this stage, the Ministry has not analysed the impact of the Commerce Act on the powers of territorial authorities to use economic instruments under section 544 of the Local Government Act. MfE is aware that the introduction of local by-laws and the introduction of local waste levies has in the past been accompanied by threats of referral to the Commerce Commission and/or legal scrutiny through the courts. However, to date, none of the local by-laws or levies have been tested in this way.

QUESTION 7:

What guidance has the Ministry provided to local government on the use of economic instruments to manage waste? Please provide us with any relevant reports or documents detailing any guidance.

MfE Comment

MfE works alongside local government to assist the sector in the management and minimisation of waste volumes and their disposal. In line with the NZWS, central government has always promoted full cost-accounting for landfills (a form of economic instrument) in its dealings with local government, and has provided numerous guidelines, technical standards and tools to this end.

The pre-eminent document in this context is the Ministry's Landfill Full Cost Accounting Guide for New Zealand (March 2004) which can be accessed at: http://www.mfe.govt.nz/publications/waste/landfill-full-cost-accounting-guide-mar04/index.html).

QUESTION 8:

Under what, if any, circumstances does the Ministry consider that economic instruments at the local authority level are inappropriate for dealing with waste?

MfE Comment
The Ministry has not taken a position on this issue.

QUESTION 9:

What other options has the Ministry analysed with respect to economic incentives to reduce the generation of waste and to minimise waste to landfill (i.e. to meet the NZWS targets?) Please provide us with copies of any documents containing this analysis.

MfE Comment:

The Ministry remains ready to explore all low-cost, high-return options to reduce the generation of waste and to minimise waste to landfill, including best practice guidance, voluntary programmes, central-local government partnerships and economic instruments. Given the devolved nature of waste management in this country, new initiatives could potentially be led by a range of actors, including local government and the private sector.

QUESTION 10:

What review of the key actions set out in the NZWS has the Ministry carried out, and what has been the outcome of any such review? If no review has been carried out, why not?

MfE Comment:

In 2004, the Ministry undertook a review of NZWS targets. The review indicated that some targets would not be met on time. Officials expect that a further review of NZWS targets will be undertaken before the end of 2006.

QUESTION 11:

Which, if any, key actions have been abandoned or postponed, and why?

MfE Comment:
The Ministry has not abandoned or postponed any NZWS targets. In recognition of the division of ownership and tasks within the Strategy across the breadth of actors in the waste arena, we accept that some targets may not be met on time, or in full. This also reflects that the world has moved on since 2002, and that improvement in waste management in New Zealand is achieved through a raft of different actions and programmes.

QUESTION 12:

If any of the programmes or key actions of the NZWS have been changed, what steps have been taken to revise the NZWS and to notify any changes.

MfE Comment:
The Ministry has no plan to revise the NZWS at this stage. If this were seen as a necessary step, we would undertake this activity jointly in consultation with local government and other relevant central government departments which are co-partners in the Strategy.

QUESTION 13:

What work has been carried out by the Ministry to complete the key actions listed beside the review of institutional and legislative provisions programme element on page 33 of the NZWS? Please provide us with any relevant reports.

MfE Comment:
The responsible agencies (MfE, local government and other central government departments) have made varying degrees of progress in implementing the listed key actions. The Ministry left unrepealed part XXXI of the Local Government Act 2002. A review of the institutional provisions across central government was not pursued, however, given a preference to focus on developing or amending legislation as and when the need arises. Legislation continues to evolve in this way.

Central government has made a number of waste-related amendments to legislation since 2002. Recent amendments to the RMA strengthen management of and clarify responsibilities relating to contaminated sites. Legislation has also been enacted to put in place a raft of climate change policies and programmes. In addition, a suite of 14 National Environmental Standards have been enacted under the RMA which strengthen waste management in New Zealand. A work programme is now underway to consider further National Environmental Standards or National Policy Statements to achieve environmental outcomes.

QUESTION 14:

What are the Ministry's views on the current legislation dealing with waste?
Does current legislation provide an adequate basis for achieving the NZWS goals? If not, what legislative support is required? Please provide us with any relevant documents containing an analysis of the adequacy of the current legislation dealing with waste.

MfE Comment:
As noted above, legislation evolves as the need arises. A number of legislative mechanisms (e.g. National Environmental Standards and amendments to legislation) have been utilised since the launch of the NZWS to strengthen the management and minimisation of waste in New Zealand. As noted in section 11 above, it may be that not all NZWS goals are achievable on time and in full. It is not a given that changes to current legislation will achieve NZWS goals any faster or to any greater degree.

Appendix E: Treasury's view on tied taxes[216]

The New Zealand Treasury opposes the use of tied taxes as they reduce the Government's ability to move resources from areas of low priority to areas of high priority.

These are the relevant points on tied taxes:

- If the expenditure were justified in the absence of a tax applied specifically for that purpose, the Government would fund it anyway.
- Tied taxes reduce the general flexibility of the tax structure, restricting government choice on the mix of taxes and the redistributive impact of the tax system. Such spending becomes off-limits to normal budget procedures despite the activity funded being no different from other government expenditure.
- Such taxes create a precedent for ad hoc funding sources for additional spending initiatives, undermining the general budget process.
- There are no grounds for believing that the desirable level of expenditure in future would correspond to future levels of tax revenue.
- If revenue from a tied tax exceeds expenditure, expenditure tends to rise.
- If expenditure exceeds tied revenue, general revenue tends to be called on as a supplement.
- Tied taxes reduce the general flexibility of the tax structure, restricting government choice on the mix of taxes and the redistributive impact of the tax system.
- Tied taxes tend to remain in force after the expenditure for which they were intended ceases.
- Tied taxes carry additional administration and compliance costs compared to general funding.

Appendix F: Legislative barriers to the use of economic instruments to manage waste

Hazardous Substances and New Organisms Act 1996

There are two types of economic instruments that can be created under HSNO: environmental user charges and a transferable permit system.[217] The economic instruments available under HSNO can only be used to indirectly manage a limited range of hazardous waste.

A transferable permit scheme would apply to the 'hazardous substance' rather than the waste hazardous substance.[218] It would limit the total amount of the hazardous substance in circulation, and thus lead indirectly to a reduction in the amount of waste hazardous substance created. Similarly, an environmental user charge would be applied to a 'substance', leading to a reduction in the use of the 'substance', and so indirectly leading to a reduction in the amount of the waste substance created.[219]

HSNO is silent as to how an environmental user charge would be applied and administered. Issues such as who would collect the charge, who would receive the revenue, and what the revenue would be applied to are not specified in the Act. Unlike the LGA, the revenue from an environmental user charge would potentially go into central government's consolidated fund, and there is no requirement that such revenue be spent on waste hazardous substance minimisation.

HSNO came into force in 1996. The key focus of the Environmental Risk Management Authority (ERMA) in relation to hazardous substances has been setting up the regulatory regime to manage hazardous substances. Most of the work has been focused on transferring hazardous substances from the transitional controls to the control regime under HSNO.[220] Problems with the workability of the current legislation led to the passing of the Hazardous Substances and New Organisms (Approvals and Enforcement) Amendment Act in December 2005, to enable this process to be simplified.[221] As a result of this, ERMA has only recently begun to consider whether and how economic instruments could be used to manage hazardous substances.[222]

Local Government Act 1974

The Local Government Act 1974 is the key statute providing for the regulation of waste in New Zealand. Part 31 of the LGA 1974 sets out the powers, functions and duties of territorial authorities in relation to waste management. Part 31 of the LGA 1974 requires every territorial authority to promote effective and efficient waste management within its district.[223] Every territorial authority is required to adopt a waste management plan, which must provide for the collection and reduction, reuse, recycling, recovery, treatment, or disposal of waste in the district.[224] Territorial authorities are able to undertake or contract out waste management activities such as

the collection of waste, recycling, operation of landfills etc.[225] Territorial authorities are required to allocate the costs incurred in implementing the waste management plan in accordance with section 544.[226] The High Court has held that:

> *Such costs are not just incurred in providing only a facility for public use. They could include all manner of costs that have nothing to do with facilities, but, rather, are connected to the practical implementation of council policies.*[227]

The LGA 1974 enables territorial authorities to use economic instruments to manage waste. Section 544(1) of the LGA 1974 requires territorial authorities to allocate the costs incurred in the implementation of the waste management plan in a way that the territorial authority considers will effectively and appropriately promote the objectives of the plan. Section 544(2) enables a territorial authority to allocate the implementation costs of the plan in a way that "establishes economic incentives and disincentives that promote any or all of the objectives of the plan".

Thus section 544(2) enables a territorial authority to use economic instruments to allocate the costs incurred in the implementation of the waste management plan for their district. However, the power to impose economic instruments is constrained. Economic instruments can only be used to allocate the costs incurred in the implementation of the waste management plan for the district.[228] The High Court has held that where a levy seeks to do more than recover costs, it is a tax and is therefore not authorised by the LGA 1974 or LGA 2002.[229] The economic instruments must also promote any or all of the objectives of the waste management plan. Section 544(2) is an enabling rather than a prescriptive provision. Thus the boundaries of section 544(2) are uncertain; for example, in relation to the kinds of economic instruments that can be applied under section 544(2). The allocation of costs through economic instruments is implemented through bylaws imposed under section 542 of the LGA 1974.

Economic instruments created under section 544 can only be applied by a territorial authority (not by central government or regional councils). This has the potential to lead to each district having different economic instruments and a wide range of charges. From a business perspective, different types of economic instruments are likely to lead to increased compliance costs for nationwide or regional companies disposing of waste.

As economic instruments under the LGA are created through bylaws, the bylaw must be valid and can be legally challenged if it is not. There is a possibility that bylaws imposing economic instruments may be challenged on the basis that either the economic instrument or the bylaw itself is invalid. Such a challenge could be brought by way of judicial review, or on the basis of invalidity under the Bylaws Act 1910.

Arguments have also been raised previously by the waste industry that economic instruments created under the LGA 1974 may breach the Commerce Act's restrictive trade practices provisions.[230] This argument has never been tested by the courts and it is uncertain whether such a challenge would be successful.

Section 544(2) of the LGA 1974 is not prescriptive as to what types of economic instruments may be imposed. As a result of this and the current High Court decision there is a degree of uncertainty as to what types of economic instruments can be applied under the LGA, and how. This uncertainty is likely to deter some territorial authorities from choosing to use economic instruments.

The economic instruments that may be applied by territorial authorities apply only at the 'end of pipe' – that is, the LGA 1974 does not enable territorial authorities to impose economic instruments directly on products (i.e. product taxes) that would reduce the amount of material ending up as waste. However, economic instruments, such as landfill charges, that are imposed by territorial authorities may indirectly lead to less waste being created.

Local Government (Rating) Act 2002

Under the Local Government (Rating) Act, local authorities can set general rates and targeted rates. A general rate does not act as an economic incentive, as the rate levied does not attempt to influence individuals' behaviour. For example, a component of a territorial authority's general rate on residential ratepayers may be for waste services provided by the territorial authority. The component is likely to be uniform across all householders in the district, regardless of how much or what type of waste the residential ratepayer produces. However, a targeted rate is a form of economic incentive. A local authority can levy a targeted rate for one or more goods or services that are provided by or on behalf of a local authority.[231] A targeted rate can be applied to all rateable land within a district or to only some types of rateable land.[232] A local authority can also levy the targeted rate either uniformly or differentially (that is either the same amount or different amounts for particular services).[233]

As territorial authorities have specific waste management powers in Part 31 of the LGA, including the power to use economic instruments, it is unlikely that they would choose to rely on a targeted differential rate as an economic instrument for waste management.

As regional councils have no waste management powers under Part 31 of the LGA, then using a differential targeted rate is one possible way they could use an economic instrument to manage waste.[234] Regional councils are mainly involved in managing the effects of waste hazardous substances when they are discharged to the environment, and this derives from their functions under the RMA.[235] While a regional council could potentially use a targeted differential rate for hazardous waste producers, it is likely to

be difficult to apply in practice. First it would require a council to identify all hazardous waste producers in its region, which may be difficult. Secondly, a rate can only be levied on the basis of council expenditure on the service. Thus if council expenditure on hazardous waste services was relatively low, the targeted rate may itself be too low to result in any behaviour change.[236] Thirdly, a targeted rate on hazardous waste may not necessarily lead to any reduction in the use of the hazardous substance in situations where there is no alternative, less hazardous substance available.

The Resource Management Act 1991

The RMA does not provide for waste management or waste minimisation, but it controls the effects of the disposal of waste to land, air or water. The RMA, through the New Zealand Coastal Policy Statement, national environmental standards, regional policy statements, plans, and resource consents, sets controls on the effects of the disposal of waste to land, air and water. There is uncertainty as to whether and what types of economic instruments could be applied to control the effects of the disposal of waste under the RMA.

About the Parliamentary Commissioner for the Environment

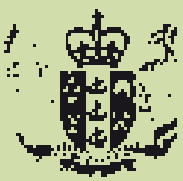
Te Kaitiaki Taiao a Te Whare Paremata

Independent scrutiny, advocacy and advice for a better environment

The Parliamentary Commissioner for the Environment (PCE) is an independent officer of Parliament with wide-ranging powers to investigate environmental concerns. The office was set up under the Environment Act 1986, and the Commissioner is appointed for a five-year term. In 2002, Commissioner Dr Morgan Williams was appointed to a second five-year term. The primary objective of the office is to contribute to maintaining and improving the quality of the environment in New Zealand.

The PCE has five key roles:

- **Environmental systems guardian** – checking on the ability of management regimes to ensure that the quality of the environment is maintained or improved
- **Environmental watchdog** – responding to the general public's enquiries and concerns, and encouraging preventative measures and remedial actions to protect the environment.
- **Information provider, facilitator and catalyst** – providing information about the environment to a wide range of groups and individuals
- **Environmental management auditor** – evaluating the performance of public agencies to ensure they are meeting their environmental responsibilities
- **Advisor to Parliamentary Select Committees** – responding to



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