

Landfill

Research Paper 96/103

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A landfill levy came into effect on 1 October 1996 as the UK's first ever environmental or 'green' tax. Landfill is by far the most common means of waste disposal in the UK, but the Government's recent sustainable waste management strategy *Making Waste Work* undertook to reduce the amount of waste being disposed of in this way. The Chancellor first announced plans for a landfill levy in his 1994 Budget speech, though legislation to introduce the tax was not brought forward until 1996, following a long consultation process. The tax is set at two rates: £7 per tonne for active wastes and £2 per tonne for inert wastes. This paper outlines the practice of landfilling waste, considers the justification for a tax and its likely effects, and mentions landfill practices abroad.

Patsy Hughes
Science & Environment Section

Antony Seely
Business & Transport Section

Graham Vidler
Social & General Statistics Section

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I Summary

The UK has a long tradition of landfilling its waste, and over 90% of household waste goes to landfill, with only 5% of household waste being recycled. For so-called 'controlled' wastes, the same figures are over 70% landfilled and 20% reused or recycled. Controls on landfill practice are tighter today than in the past but environmental problems can still arise, particularly in the generation of gas from landfill sites. In its sustainable development and waste management strategies the Government has undertaken to swing the balance away from landfill in favour of reuse, recycling and energy recovery from waste. The amount of waste going to incineration, with energy recovery, is set to rise for various reasons, and energy from landfill gas has also been included in the Non Fossil Fuel Obligations. The packaging waste stream should start to decline as a result of the EU Packaging Directive which will soon be implemented in the UK.

On 1 October 1996 a new tax on waste disposal in landfill sites came into effect, following a two year consultation process. The tax is levied per tonne of waste at two rates: £2 per tonne for specified inactive wastes (such as glass); £7 per tonne for active wastes which are capable of degrading (such as paper). Around 1,400 businesses will pay the tax, though landfill site operators can mitigate its effects by contributing to an environmental trust. The tax is expected to raise about £450 million per year, and the Government proposes to use these receipts to help fund a cut in the main rate of National Insurance Contributions for employers (from 10.2% to 10% from 6 April 1997).

The decision to impose a landfill tax and for this to be weight-based has been welcomed by environmental organisations, although some have called for the levy to be set at a far higher rate, and to cover all aspects of waste disposal, including incineration. Nevertheless, the general view is that the advantages of landfill over incineration are set to decline anyway and that while the levy will not have a significant effect on the amount of waste going to landfill in the short term, it may in the longer term. Similarly, although even a higher levy would probably do little to encourage recycling at present, again in the longer term this might change. A system of environmental trusts has been established to fund research into restoration of landfill sites, and clean-ups where liability is unclear. There have been fears that the levy may cause an increase in the illegal dumping of waste, or fly-tipping, and also that it may place burdens on local authority budgets; such issues are discussed in this paper.

The UK is not alone in introducing a landfill levy, nor in relying heavily on landfill as a disposal route. The EU's proposed Landfill Directive has just been rejected by the European Parliament, and the Commission is about to table new proposals. In general, other Member States favour tighter controls on landfill than the UK, and are seeking pretreatment of wastes going to landfill, and restrictions on co-disposal sites (where different types of waste are landfilled together). The UK's geology favours landfill to a greater extent than other countries, and we have long experience of operating co-disposal sites; the Government has undertaken to oppose any moves to require pretreatment for all wastes going to landfill.

II Landfill

A. Waste management strategy in the UK

1. The shifting scene

Landfill has long been the mainstay of British waste management practice and far outstrips any other disposal method. For example, in the UK 90% of household waste is sent to landfill, with only 5% of household waste being recycled and another 5% being incinerated. The Government's recent sustainable waste management strategy *Making Waste Work*¹ mentions that "landfill has served mankind for much longer than any alternative disposal option."

In the UK this is largely because our geology is more favourable towards landfill than that, for instance, of other European countries. Generally, a clay rather than fissured or permeable bedrock means that less money needs to be spent on engineering a landfill site, because there is less danger of water carrying pollutants downwards or of liquid pollutants escaping and seeping into water resources including valuable groundwaters or surface waters.² So landfill has been a cheap waste disposal option in the UK. Since waste disposal is carried out largely by the private sector, such factors have favoured the continued use of landfill in the UK. Yet in *Making Waste Work*³ the Government states that its primary waste management targets are to:⁴

- reduce the proportion of controlled waste going to landfill from 70% to 60% by 2005
- recover [includes incinerating] value from 40% of municipal waste by 2005
- set a target for the reduction of waste by the end of 1998.

This is because while over the years the engineering standards of landfill practice have increased markedly it can still be argued that the full environmental costs of landfilling waste are not reflected in the relatively cheap price of landfill as a disposal option. In the first of

¹ Department of the Environment (DoE)/Welsh Office, *Making waste work: a strategy for sustainable waste management in England and Wales*, Cm 3040 December 1995 p.62

² DoE, *UK National Environmental Health Action Plan*, Cm 3323 July 1996

³ Cm 3040 December 1995 pp 8-9

⁴ Secondary targets include easily accessible recycling facilities for 80% of households by the year 2000; local authorities have been set a target of recycling 25% of household waste by the year 2000.

its *This Common Inheritance* series of White Papers on the environment, the Government undertook to apply the 'precautionary principle' to environmental policy:⁵

"Where there are significant risks of damage to the environment, the Government will be prepared to take precautionary action to limit the use of potentially dangerous materials, or the spread of potentially dangerous pollutants, even where scientific knowledge is not conclusive, if the balance of likely costs and benefits justifies it."

The discrepancy between the environmental costs and the price of landfill becomes more marked when the principles of sustainable development are applied. Sustainable development entails conserving scarce resources, and minimising damage to the environment⁶. Void space for landfill is a finite resource, and while technical standards of landfill sites have improved, there is still always the possibility of environmental damage occurring (see page 11 onwards). The Government Panel on Sustainable Development in its second report⁷ continued to advocate a move towards the use of taxes on resources including energy rather than labour and income, and welcomed the (then proposed) landfill tax. In its 1994 sustainable development strategy produced in the wake of the Rio Earth Summit the Government highlighted the unsustainability of current waste management practices:⁸

"Large quantities of waste arise as an undesirable by-product of modern production, packaging and consumption, with threats to soil, air and water quality if the waste is not properly managed. The aim must be to minimise the amount of waste produced and to make best use of the waste which is produced. In this way, loss of valuable raw materials and the land which is required for disposal can both be minimised.

...There is a hierarchy of waste management options:

- REDUCTION
- REUSE
- RECOVERY (INCLUDING RECYCLING AND ENERGY RECOVERY)
- DISPOSAL WITHOUT ENERGY RECOVERY BY INCINERATION OR LANDFILL

Current waste management practice is tilted too far towards the last option. However, truly sustainable choices are complex..."

⁵ DoE, *This Common Inheritance - Britain's environmental strategy*, Cm 1200 September 1990 p.11
⁶ see *Sustainable development: Agenda 21 and Earth Summit II*, Library Research Paper 96/87, 16 August 1996
⁷ DoE, *British Government Panel on Sustainable Development Second Report*, January 1996
⁸ Cm 2426 January 1994 p.14

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In 1993 the Royal Commission on Environmental Pollution (RCEP) published its seventeenth report - *Incineration of Waste*⁹ - which called for an increase in incineration, noting that the "emissions from a well operated incineration plant complying with the new HMIP¹⁰ standards are most unlikely to cause any health effects." The RCEP lamented the UK's reliance on landfill, particularly because of its contributions to greenhouse gas emissions. Energy from waste has now been included in the Non-Fossil Fuel Obligations (see page 15) but bands include both incineration and the use of landfill gas so it is difficult to tell how this will affect the balance between the two practices.

Finally, it is worth noting that the packaging waste stream should start to decline as a result of EC Directive 94/62/EC on packaging and packaging waste, which should have been implemented in Member States by 30 June 1996. By 30 June 2001, 50-65% by weight of packaging waste will have to be *recovered* (recovery includes incineration for energy) and 25-45% will have to be *recycled*, with at least 15% by weight of each packaging material being recycled. In the UK, a comprehensive consultation with industry has resulted in the decision to apply a shared legal obligation to all large businesses (which manufacture, fill, sell or supply packaging, and which use over 50 tonnes of packaging a year) no matter where they lie in the packaging chain. *The Producer Responsibility Obligations (Packaging Waste) Regulations: A Consultation Paper*¹¹ was open for consultation until 9 September; the environmental agencies will police the scheme, and final implementing Regulations should be laid in November 1996.

2. The UK waste management regime

The UK's waste management system operates under Part II of the *Environmental Protection Act 1990* (EPA) as amended by the *Environment Act 1995*. The EPA had strengthened and largely superseded the waste management licensing system which had been operating under the *Control of Pollution Act 1974* (CoPA) and introduced the concept of 'duty of care' of waste, prohibiting its unauthorised or harmful deposit, treatment or disposal.

Anyone in control of waste must prevent the escape of the waste from their control, and must pass the waste on only to an authorised person. In addition, anyone wishing to operate disposal, storage or treatment facilities for controlled waste, whether or not destined for recycling or disposal, requires a waste disposal or management licence from a waste disposal or regulation authority, although exempted activities exist. Breaching any conditions attached to such a licence is an offence. Under the EPA, the waste regulation authorities (WRAs) were generally the local authorities, who were thereby able to ensure that waste disposal

⁹ Cm 2181 May 1993

¹⁰ Her Majesty's Inspectorate of Pollution, now part of the Environment Agency

¹¹ Department of the Environment 1996 dep/3 3683

companies disposed of waste properly. The waste disposal companies were either private firms to whom work was contracted out (particularly in the industrial and commercial waste fields) or were local authority waste disposal companies set up at arms length.

The *Environment Act 1995* transferred waste regulation powers to the newly created environment agencies¹² which are intended to provide a 'one stop shop' approach to environmental protection and regulation and incorporate the former National Rivers Authority (NRA) and HMIP, plus the waste regulation powers of local authorities. This should provide a national integrated approach to pollution control. For example, consider a landfill site operating in England. The NRA, which used to grant consents to discharge pollution into water courses, would have set licence conditions to prevent water carrying away contaminants from the landfill site. As well as this, the local authority, acting as the waste regulation authority, would have issued a waste management licence for the site to be operated. The waste regulation authority could also impose licence conditions to prevent landfill sites from causing serious problems. Under the 1995 Act the environment agencies will issue environmental licences which will cover all environmental aspects of running a landfill site.

Of course the duty of care concept means that the illegal dumping of waste, or fly-tipping, is an offence, and if any waste is deposited on land in contravention of the duty of care provisions, the environment agencies may take steps necessary to remove or reduce the effect of the waste, if this is necessary to prevent pollution or damage to health. In addition, the *Control of Pollution (Amendment) Act 1989* and Regulations made under it allow the regulatory authorities (now the environment agencies) to stop and investigate a vehicle carrying waste, if they have reasonable grounds to believe that it has been used for the illegal disposal of waste.

3. Wastes arising and disposal routes

'Controlled waste' (the term arises because the waste is in effect 'controlled' by the provisions of the 1990 EPA and duty of care) includes household, industrial and commercial waste, sewage sludge and dredged spoils. The main exemptions from the definition of controlled waste are agricultural, mine and quarry wastes, and most radioactive waste¹³.

Controlled waste also includes 'special waste', which is the most dangerous controlled waste and thus subject to extra controls. These now include the need for prior notification to the

¹² The Environment Agency in England and Wales and the Scottish Environmental Protection Agency. See *The Environment Bill (HL) (Bill 85 1994/95)*, Library Research Paper 95/50, 12 April 1995

¹³ *Controlled Waste Regulations SI 1992/588*

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Environmental Agency of all consignments, which are then registered on a national database. The mixing of different categories of special waste, and of special and non-special wastes is prohibited. 'Special waste' is defined by Regulations which implemented EC Directive 91/689 on hazardous waste, and household waste is exempted from being special waste¹⁴.

Data on the amount of wastes produced and their management are scarce in the UK, as in much of the rest of Europe. The sole regular source of waste data for England and Wales is the annual survey of former waste disposal authorities undertaken by the Chartered Institute of Public Finance and Accountancy (CIPFA). In recent years, however, the response rates from authorities have been so low that its figures cannot be used to produce national estimates¹⁵.

The Department of the Environment has published details of its proposals for improving the quality of waste management data in future years¹⁶, but for the moment is reliant on data estimated from a number of surveys undertaken in 1990 and in the latter part of the 1980s. These surveys suggest that over 400 million tonnes of waste are produced in the UK each year, of which around 250 million tonnes is controlled waste.

Table 1 (overleaf) summarises the DoE's estimates of wastes arising and their disposal routes. These figures suggest that, in 1990, some 125 million tonnes of controlled waste went to landfill in the UK. Around 90% of household waste and 72% of all controlled waste goes to landfill. Only 5% of household waste and 20% of all controlled waste is recycled or re-used.

Evidence from Scotland, where reliable surveys of local authority waste management are carried out annually, suggests that the predominance of landfilling has not declined significantly since 1990. In 1990, Scottish local authorities disposed of around 9.7 million tonnes of controlled waste to landfill, which represented 95% of total controlled waste retained for disposal. In 1992, they landfilled some 12.2 million tonnes, around 90% of the total.¹⁷

Somewhat more reliable figures are available on the generation and disposal of special wastes, principally because the regulation of such waste has required waste regulation authorities (now the environment agencies), to monitor its movement. In 1993/94, special waste arisings

¹⁴ *Special Waste Regulations* SI 1996/972

¹⁵ For example, only 57% of authorities responded in 1994-95: CIPFA *Waste Disposal Statistics 1994-95 Actuals* p.2

¹⁶ DoE, *Environment information strategy review - report of the review of waste management information 1995*

¹⁷ Scottish Office, *Statistical Bulletin Environment Series ENV/1995/2 Waste Collection, Disposal and Regulation Statistics 1992*

in the UK totalled slightly over 2 million tonnes. Of the 1.9 million tonnes retained for disposal by WRAs in England and Wales, slightly less than half, 0.9 million tonnes, went to co-disposal (see page 17) landfill sites. A further 0.6 million tonnes were physically or chemically treated, processes which can take waste outside of the definition of special waste. Some of this treated waste will also have been sent to landfill¹⁸.

Table 1 Management of UK Controlled Waste(a)

Type of waste	Total wastes arising	Management method			
		Landfill	Incineration	Recycled/re-used	Other
Household					
million tonnes	20	18	1	1	0
% of total	100%	90%	5%	5%	0%
Commercial					
million tonnes	15	13	1	1	0
% of total	100%	85%	8%	8%	0%
Construction & demolition					
million tonnes	70	44	0	21	5
% of total	100%	63%	0%	30%	7%
Other industrial					
million tonnes	70	51	1	13	4
% of total	100%	73%	1%	18%	6%
All controlled wastes(a)					
million tonnes	175	126	3	36	9
% of total	100%	72%	2%	20%	5%

a) Excludes sewage sludge and dredged spoils
 Figures may not sum to totals due to rounding.
 Source: Cm 3040 Figures 1.1, 1.2

B. Landfill sites

In *Making Waste Work*¹⁹ the Government listed the advantages of landfill. It is inexpensive; suitable for a wide range of wastes; there is a large capacity remaining in some areas; landfill gas is a clean source of fuel for heat and power generation; restored land provides valuable space for wildlife and leisure activities; and well designed landfills can be unobtrusive. However, it noted that all landfills need careful management to ensure that their potential for

¹⁸ DoE, *Digest of Environmental Statistics (18) 1996* Table 7.4(b)

¹⁹ Cm 3040 December 1995 p.62

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pollution is minimised, and pointed out the potential disadvantages of landfill:

- versatility and convenience of landfill make it less attractive for waste producers to be innovative in the way in which they deal with their wastes
- however well engineered, there is a finite risk of contamination from operational landfill sites;
- landfill gas can pose significant risks including release of methane, an important greenhouse gas, into the atmosphere;
- after landfilling, the land may retain some contamination and so be unsuitable for some uses;
- noise, odour and unsightliness, and vehicle movements, may cause nuisance, in common with all waste disposal and recovery activities, and;
- energy recovery from landfill is less efficient than some other disposal options such as incineration.

1. Landfill gas

According to 1991 DoE guidance:²⁰

"An increasing number of incidents and growing public concern have focused attention on the fate of the end-products of waste degradation in landfill sites and their effects on the environment. One major area of concern is the evolution of landfill gas which, when inadequately controlled, has led to explosions, fires, dangerous gas concentrations in and around houses, odour nuisance and vegetation dieback."

Landfill gas arises through the breakdown of biodegradable wastes inside a landfill. Biodegradable wastes include paper, wood and animal and vegetable matter, and as microbes break these materials down, usually in conditions of little oxygen, they produce a mixture of gases comprising mostly carbon dioxide (around 35%) and methane (around 65%). The gas given off, or evolved, through microbial activity may mix with other gases in the landfill, perhaps giving rise to odours. It also comes out of the site moist and warm²¹ so it needs to be treated before it can be burnt, for instance, and it is more likely to act as a corrosive. It

²⁰ DoE, *Landfill Gas 2nd edition*, Waste management paper No.27 1991 p.13

²¹ DoE/Welsh Office, *Renewable Energy: Planning Policy Guidance Note 22: Annex on using landfill gas*, October 1994

can travel through and away from the site along pathways such as sewers, cavities or natural fissures if these exist, or it may dissolve into leachates (liquids that have seeped through a landfill extracting substances from the wastes *en route*) or groundwater and be transported in that way. If not properly managed, landfill gas can give rise to flammability, toxicity and asphyxiation hazards, and bare patches, brown foliage and dieback in vegetation.

It may take from 3 months to a year before methane is evolved in significant amounts from a site, and the process may continue for well over 15 years²², or even for 'many decades' after filling with wastes has finished²³.

Methane (CH₄) is one of gases which has contributed most to the enhanced greenhouse effect which may be leading to global warming²⁴. The amounts of methane in the atmosphere have been increasing since the start of the 19th century and current levels are the highest ever observed, including records from ice cores which go back 160,000 years. While the rate of increase in the 1980s was lower than that of the 1970s, atmospheric methane is still increasing. It is estimated that, globally, 20-40% of current methane emissions come from natural sources (including the digestive systems of animals, rotting vegetation, anaerobic bogs and so on), 20% from fossil fuel related sources (such as the burning of coal and leakage from gas mains), and 40-60% from other man-made sources, including landfill²⁵.

In the UK landfill is the single greatest source of methane, with around 46% of the UK's total emissions probably coming from landfill in 1994. The next largest contributions came from cattle at 21%; other sources (such as deep-mined coal, gas leakage and sheep) contributed under 10% each²⁶. In its report on the *Incineration of Waste* the Royal Commission on Environmental Pollution noted:²⁷

"Nearly all of [the UK's municipal waste] goes to landfill where it produces both carbon dioxide and methane and contributes substantially to the greenhouse effect. Methane has a particularly strong effect ... by incinerating municipal waste rather than landfilling it a significant and worthwhile contribution could be made to reducing emissions of greenhouse gases."

²² DoE, *Landfill Gas 2nd edition*, 1991

²³ Her Majesty's Inspectorate of Pollution, *Landfill gas: a report on the findings of surveys carried out by [HMIP] to assess the scale of the problem and provide recommendations for further action*, DEP 6963 April 1991

²⁴ see *Global warming: environmental and economic effects*, Library Research Paper 95/85, 7 July 1995 and *Global warming: policy responses*, Library Research Paper 95/86, 14 July 1995

²⁵ IPCC, *Climate Change 1995 The Science of Climate Change. Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change*, 1996 p.87

²⁶ DoE, *Digest of Environmental Statistics*, No.18 June 1996 Table 1.3

²⁷ Cm 2181, May 1993

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The estimates for the contribution of landfill to methane emissions are uncertain because it is difficult to know how much waste has been landfilled in the past and precisely how much is being landfilled now (see page 37). The rate of methane production will also depend on the composition, density and input rate of the landfilled waste, the moisture, temperature and acidity/alkalinity of the site, and the site's physical characteristics, which will affect the ease with which the gas can escape.

Of course the amount of methane evolved from a site will also depend on the control measures in place or the amount being harnessed. A particular problem in the past has been old sites, often closed local authority landfills, which had been neither designed nor operated with gas control in mind. In 1987 HMIP wrote to all waste disposal authorities drawing to their attention the need to ensure that all landfill licences contained appropriate conditions for landfill gas management, and a 1991 report from HMIP estimated that just over 1,000 sites (both active and closed, and private and local authority run) might need gas controls installed²⁸. Following the 1990 EPA, the DoE issued guidance stating that all sites should be considered as having the potential to generate landfill gas, and that:²⁹

"No [landfill] licence should be issued until the [waste regulation authority] is satisfied with the gas monitoring, and where necessary, gas control arrangements, as detailed in the working plan."

Monitoring measures comprise boreholes sunk around the perimeter of the site which can be used to check the performance of the gas extraction system and to ensure that gas is not migrating sideways and out; they will end in a small cap or box above ground, and can be checked using either installed or portable dataloggers³⁰. Control measures may involve the use of barriers with vent trenches or pipes used in conjunction with an active pumping system when passive venting is inadequate. When a gas is not combustible it can be directly vented to the atmosphere, or else support fuel can be added to burn it in a flarestack; this reduces associated odour problems³¹. Gas flaring also reduces the amount of methane emitted to the atmosphere, by converting it to carbon dioxide, a less powerful greenhouse gas³².

Rather than simply venting or flaring off landfill gas, it can be harnessed for energy. One step up the waste hierarchy from disposal is recovery, and energy recovery from waste projects are provided specifically for in the Non Fossil Fuel Obligations (NFFO). NFFO Orders require electricity companies to buy electricity at a premium rate from designated producers who are not using fossil fuels; while they were originally aimed at nuclear power

²⁸ HMIP, *Landfill gas*, DEP 6963 April 1991

²⁹ DoE, *Landfill Gas 2nd edition*, 1991 p.10

³⁰ Environment Agency, *Landfill restoration and post closure management:consultation draft*, Waste management paper 26E, August 1996 p.233

³¹ *ibid*

³² DoE *Climate Change; The UK Programme Cm 2427* January 1994 p.40

they now cover renewables. The Government's view is that³³:

"The utilisation of the energy potential of waste materials is also an important part of the Government's recycling initiative and will assist in reducing greenhouse gas emissions. Future waste disposal strategies are likely to lead to increased incineration and energy recovery from municipal, industrial and other waste."

The first three NFFO orders included several landfill gas projects (Table 2):

Table 2 Energy recovery from landfill gas

Order	Year	landfill gas		total		
		projects	MW	projects	MW	
England and Wales						
1st	1990	24	about 40	75	102	
2nd	1991	28	48	122	457	
3rd	1994	42	82	141	627	
Scotland						
1st	1990	2	2	30	76	
Target	2000	...	300	...	1,500	

MW=megawatts

Source: Royal Commission on Environmental Pollution, *Nineteenth Report - Sustainable Use of Soil*, Cm 3165 February 1996 Box 7C

NFFO-3 runs until 2014. The 900 project bids for funding in the fourth round of the NFFO³⁴, which should run for 15-20 years from early 1997, include 177 landfill gas

³³ DTI press release P/94/782, *Wardle makes third renewable energy order*, 20 December 1994

³⁴ DTI Press Release P/96/180 7 March 1996 *Renewed interest in renewables*

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projects and 284 waste fired projects, of which 89 are combined heat and power schemes and 195 waste by fluidised bed combustion schemes. Prospective new landfill gas generating stations have to be from licensed sites where tipping was being carried out prior to 22 July 1993³⁵.

Friends of the Earth have said that "only in a tiny fraction of possible cases is [landfill] gas collected and used for fuel,"³⁶ although this statement was based on the results of a 1989 survey. In the UK in 1994 around 163,000 tonnes of methane from landfills was being used to generate electricity³⁷ and this was well over twice the amount harnessed in 1990³⁸. Nevertheless, an estimated 1,790,000 tonnes of methane in total was emitted from landfills in 1994³⁹. The government has set a target of 300MW of electricity being generated from landfill gas by the year 2000, which is one fifth of its overall target from renewable sources, and would mean using 520,000 tonnes of methane each year⁴⁰.

Generally, electricity generation plants are situated at the landfill site, and the generation equipment, such as large spark ignition engines or gas turbines, are integrated with the gas extraction plant. Alternatively the gas can be pumped to a nearby end user, to provide heat in industrial processes such as firing and drying in brick and cement manufacturers, or raising steam for the drying and bleaching of textiles or paper, heating commercial greenhouses or food processing. Flarestacks are still needed to regulate the gas at a site whether or not energy is extracted, and the gas may need a range of pre-treatments, particularly de-watering, before it can be used as a fuel⁴¹.

However, Friends of the Earth make the point that being able to make use of some landfill gas is not a justification for continuing the practice of extensive landfill and their views reflect the waste hierarchy:⁴²

"Landfilling waste is associated with a wide range of environmental problems. Using landfill gas to generate energy only recovers a small fraction of the energy that is lost when the waste is landfilled- far greater energy savings are made if the waste is not produced in the first place or if it is reused or recycled. Therefore the use of landfill gas as an energy source should not be seen as a justification for the continuing landfilling of the vast majority of our waste."

³⁵ DTI Press Release P/95/769 *Richard Page sets up next renewable electricity round (NFFO)* 2.11.95

³⁶ FoE Briefing Sheet *Landfill gas and climate change*, May 1992

³⁷ Royal Commission on Environmental Pollution, *Nineteenth Report - Sustainable Use of Soil*, Cm 3165 February 1996 p.113

³⁸ *ibid*

³⁹ DoE *Digest of Environmental Statistics* No. 18, 1996 Table 1.3

⁴⁰ Royal Commission on Environmental Pollution *Nineteenth Report Sustainable Use of Soil* Cm 3165, February 1996 p.113

⁴¹ DoE/Welsh Office, *Renewable Energy: Planning Policy Guidance Note 22: Annex on using landfill gas*, October 1994

⁴² FoE Briefing Sheet, *Landfill gas and climate change*, May 1992

2. Co-disposal sites and inert material

While landfill gas arises through biological degradation of waste, leachates form through both biological and purely chemical reactions. Landfilled waste releases inorganic and organic materials, and also as reactions take place the products may become dissolved into solution. With regard to co-disposal sites and sites accepting special waste, the DoE note that⁴³:

"Although most landfills are chemical reactors, the reactions are particularly significant at a special waste or co-disposal landfill"

When the waste regulation authority/environment agency licence a landfill site, the DoE suggests⁴⁴ that it may be useful to classify the site in two ways: firstly according to the types of waste it will accept, and secondly by the extent to which it is designed to contain pollutants; this will help decide how complex and difficult the proposed site will be to operate.

A suggested scheme is, according to waste accepted;

Sites which accept inert waste only

Sites which accept industrial waste that does not consist of and does not include special waste

Sites which accept other non-inert controlled waste that does not consist of and does not include special waste; a combination of a special waste and some other controlled waste if they can be disposed of together

Sites which accept special waste only

And according to the principles of operation and containment;

Sites which include containment sites which are designed to allow no significant release of leachate, or migration of landfill gas

Sites that need few such measures, because the waste types/environmental setting pose no significant threat to the environment

While many sites were licensed under CoPA 1974 to accept 'inert' wastes, the definition used at that time was not adequate, because it included materials that in fact degraded very slowly,

⁴³ DoE, *Licensing of waste management facilities 3rd edition*, Waste management paper No.4 1994 p.43
⁴⁴ *ibid* p.41

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such as wood from demolition sites. The practice of setting arbitrary limits to allow some small contamination of non-inert waste such as 5 or 10% for paper and cardboard was also considered ineffective and unenforceable by 1994; only genuinely inert waste should be permitted at sites licensed for inert waste. The DoE recommended that licence conditions specify acceptable wastes such as soil, sand, clay, stone, concrete, bricks, slate, glass and ceramics⁴⁵.

In stark contrast to the complex reactions that may take place in a co-disposal site or a site accepting special wastes, "landfill sites taking truly inert material will not produce significant concentrations of pollutants. No important chemical or biological processes will take place in the site."⁴⁶ It is unlikely that landfill gas or leachates will ever be generated in a truly inert site which has never taken non-inert wastes, so the costs of running the site, of post-closure remediation and possible costs to the environment will be far lower.

At special waste or co-disposal sites, extra measures are needed. For instance, the location of any special waste deposit should be notified to the Environment Agency, and on-site laboratory facilities may be needed for the analysis of waste accepted.

The acceptance of unauthorised waste at a landfill is an offence. For example, a waste producer, carrier and landfill operator were recently fined £8000 plus costs following a prosecution brought by the Environment Agency after a consignment of special waste was brought to a site and deposited, although it was later found to contain wastes not permitted by the site licence. The case was brought under CoPA 1974 and the EPA 1990 and came to light when a drum containing hydrochloric acid burst open during tipping; hydrofluoric acid was also included in the consignment. An Environment Agency spokesman stressed that similar cases involving breaches of the duty of care and legislation designed to protect the environment would be prosecuted by the Agency, and commented that 'It is vital that only waste permitted by the site licence is accepted by landfill operators'.^{47,48}

Similarly, the Environment Agency has successfully prosecuted a Cambridgeshire landfill operator who held a landfill licence for chalk, soil and subsoil but had accepted concrete, asphalt, wood and green plastic piping. The operator was fined £10,000 plus costs⁴⁹.

In one of the series of Industry Profiles sponsored by its Contaminated Land and Liabilities Division, the DoE describes briefly the poor landfill practices which existed before regulation

⁴⁵ *ibid*

⁴⁶ DoE *Landfill Completion* Waste management paper No.26A, 1993 p.4

⁴⁷ *Croner Waste Management Briefing* No. 47, 1 August 1996 p.4

⁴⁸ "Dicing with death at the landfill face", *ENDS Report* 258, July 1996 pp 21-23

⁴⁹ "Landfill operator fined" *Croner Environment Briefing* No.53, 19 June 1996 p.1

and the increased awareness of the potential hazards of landfill⁵⁰:

"Landfill sites were originally small informal and uncontrolled tips used by local authorities or industry for the disposal of waste to land ... Prior to the 1970s the majority had little or no engineering control of wastes beyond that provided by the local topography and geology."

In 1994 a company called UK Waste, which had been auditing 158 landfill sites with a view to acquiring these, released the results of its survey which showed, it said, poor engineering standards at many sites. While UK Waste reportedly has a policy of operating only containment sites with at least a single containment liner, plus leachate and gas management and monitoring systems, it found that of all sites surveyed (68 of which were closed and 90 operational) 54% had no leachate collection systems and half had no gas control systems. Of the operational sites, 22% were on *in situ* clay, 17% had a single liner and 12% composite liners; the rest, around half, had no liners but were so called 'dilute and disperse' sites. UK Waste alleged that this meant its costs for landfilling were in the mid-teens per tonne while other operators could undercut them at £5-10 per tonne. The company criticised the practice of allowing old landfill sites to continue operating 'indefinitely until they were full', and also called on the DoE to make it clear that co-disposal should not be carried out in anything but engineered containment sites.⁵¹

3. Completion and restoration

A landfill licence cannot be surrendered unless the Environment Agency accepts this surrender; the Agency must inspect the land and be satisfied that the site is unlikely to cause pollution of the environment or harm to human health (and thereby meets the so-called 'completion condition' under the 1990 EPA). It can then issue a 'completion certificate'.

To check whether a site meets the 'completion condition' the quantity and quality of leachate present, the flow and concentration of gas, the future potential for leachate and gas to be formed, any physical instability and the presence of particular problem wastes all need to be considered. Each site needs a case by case assessment.

Restoration is the process through which a landfill site is returned to a condition suitable for after-use. Draft Waste Management Paper (WMP) 26E on *Landfill restoration and post closure management*⁵² has just been issued and the consultation period ends on 18 November

⁵⁰ DoE, *Waste recycling, treatment and disposal sites landfills and other waste treatment or disposal sites*, 1996

⁵¹ "UK Waste hits out at landfill standards", *ENDS Report*, December 1994 pp 10-11

⁵² Environment Agency, August 1996

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1996⁵³. The Environment Agency emphasises the need for a holistic approach to landfill, to integrate the process "from initial concept to final capping, restoration and aftercare."

Several after-use options exist and include agriculture, woodland, amenity or nature conservation, or 'hard end' uses (such as a car park). In the past agricultural uses (particularly as pasture) have been the most common after-use for landfill sites, but this could be attributed to the importance attached to agricultural production and concerns about the feasibility of other uses; for example, planting trees on a capped site has in the past been discouraged, but this advice is now being reviewed.

Problems in the past have often resulted from a lack or loss of suitable restoration materials in the form of suitable topsoils, the availability of which are critical in the choice of afteruse (although on-site soil substitutes such as dredgings, sediment, spoils or waste limestone may be used as subsoils to reduce the amount of soil that needs to be imported to a site). The type of waste which a site has accepted is another important influence in the choice of afteruse; a site that has taken largely inert wastes will be suitable for a range of afteruses including hard development. Conversely a site containing biodegradable wastes, particularly a deep site, will probably not be suitable for a hard end use because it will experience problems of unstable and contaminated ground and of landfill gas generation.

The pollution control systems needed on a closed landfill may include a capping layer, leachate and landfill gas systems, and monitoring points for settlement, groundwater quality, leachate and gas. While many old landfills are not capped, and inert sites may not need a capping system, where one is used it may be constructed of clay, a synthetic material, a purpose-designed geotextile or a combination of these. Detailed advice is given by the Environment Agency in draft WMP 26E as to the design of capping and gas and leachate systems.

4. Planning and other controls

As well as the usual planning system which operates through the *Town and Country Planning Act 1990* in England and Wales and through the *Town and Country Planning (Scotland) Act 1972* as amended, landfills are subject to extra controls. The Government's planning policy guidance notes, particularly PPG 23⁵⁴, give advice on how the planning system relates to landfill sites, and the Environment Agency's draft Waste Management Paper 26E⁵⁵ gives a

⁵³ HC Deb 16.10.96 c.1059W

⁵⁴ DoE, *Planning and Pollution Control*, July 1994

⁵⁵ *Landfill restoration and post closure management*, August 1996

useful summary of the planning framework.

The *Planning and Compensation Act 1991* allows local authorities to impose five year 'aftercare periods' to follow the completion of any restoration conditions at any site where refuse or waste has been deposited. Under the 1990 EPA landfill licences may also have conditions attached relating to aftercare (ie, to the period after landfill operations have finished). In addition, the waste regulation authority often requires a restoration plan to be submitted with the application for a waste management licence. Applicants must show that they have arranged funding for long term obligations, such as monitoring water and landfill gas⁵⁶.

The Environment Agency is thought to be currently reviewing its policy regarding the provision of financial guarantees for landfill sites. There has been speculation that it favours the use of escrow accounts (an independent fund into which the operator pays a fixed sum per tonne of waste landfilled). The money is not tax deductible until spent and is not under the operator's control. The Environmental Services Association, the trade association which represents much of the waste disposal industry, has commented that 'Locking away millions of pounds at low interest won't help anyone' and favours companies being able to simply make provision in their accounts. Several companies have called on the Agency not to make escrow accounts a normal condition of a landfill licence, and to reduce the sums involved⁵⁷.

Directive 85/337/EEC on Environmental Impact Assessment⁵⁸ requires Member States to ensure that projects likely to have a significant effect on the environment by virtue of their nature, size or location are subject to environmental assessment (EA). The assessment can then be used by the planning authority when deciding whether to grant planning permission. EA is required for projects listed in two Annexes to the Directive, roughly equivalent to the Schedules of the UK implementing regulations. Landfill sites for special waste will always require EA and other landfill sites probably will if they have a capacity of over 75,000 tonnes a year⁵⁹. (The Directive is presently being tightened.) Sites accepting inert waste only are unlikely to need EA⁶⁰. The developer has to submit a plan along with the planning application describing the site's nature and size, to let the local planning authority decide whether the development is likely to require full EA.

⁵⁶ Environment Agency, *Landfill restoration and post closure management: consultation draft*, Waste Management Paper 26E August 1996 p.19

⁵⁷ "Landfill operators battle to limit burden of financial guarantees", *ENDS Report* 260, September 1996 p.13
⁵⁸ implemented in England and Wales primarily through the *Town and Country Planning (Assessment of Environmental Effects) Regulations* SI 1199/1988 and in Scotland by the *Environmental Assessment (Scotland) Regulations* SI 1988/1221, both as amended

⁵⁹ DoE Circular 15/88 (Welsh Office 23/88), *Environmental Assessment*, 12 July 1988

⁶⁰ Environment Agency, *Landfill restoration and post closure management: consultation draft*, August 1996

III Landfill tax

A. First proposals for a tax on waste

The idea that new taxes can be used to tackle environmental problems was given serious consideration in the White Paper *This Common Inheritance* - a review of all aspects of UK environmental policy published in 1990. "Taxes can be the most effective means of tackling environmental problems, and so merit serious examination", it was suggested, though this statement was qualified by the observation that, "their use raises wider economic, social and industrial consequences which need to be weighed in the balance."⁶¹ Nonetheless, the White Paper made a strong case that governments could not rely solely on regulation in any effective environmental strategy:⁶²

1.25 If Governments want to stop something happening, or make something happen in a different way, they have broadly two choices: they can by law lay down rules and regulations on standards to be met or equipment to be installed; or they can use the market to influence the behaviour of producers and their customers. Whichever course they choose, the objective is to make those who cause environmental damage face the costs of control in full, without subsidy. That is called the "polluter pays" principle which the Government, in common with many other Governments, adopts. If we impose higher standards centrally, this puts extra costs on producers and on their customers in turn; if we use price signals, for example by imposing charges or taxes on certain activities, extra costs again fall on the manufacturers, and then on their customers. This "polluter pays" principle is an important means of influencing potential polluters.

1.26 In the past, governments in Britain and elsewhere have mostly used regulation to control pollution. "Fog everywhere", wrote Dickens about Victorian London. Eventually, the British Government used the law to impose regulations to clean up London's air. And there are large numbers of laws and regulations to protect the quality of our water and air and to control disposal of wastes on land. This regulatory approach has served Britain and other countries well, and it will remain an important part of future environmental controls. For example, our new system of integrated pollution control will regulate industrial processes of all types to ensure the best outcome for the environment as a whole.

1.27 Regulation, however, does have limitations. It can be expensive to monitor and difficult to up-date quickly in response to scientific and technical advance. It cannot always pitch controls at the level which strikes the most cost-effective balance between environmental benefits and compliance costs. Compliance costs can fall widely - on business, on Government, and on consumers - and are easy to underestimate in advance. And so long as it remains the responsibility of the

⁶¹ DoE, *This Common Inheritance - Britain's environmental strategy*, Cm 1200 September 1990 p.275
⁶² *op.cit.* pp 13-14

regulator, usually central Government, to lay down the ways in which pollution targets should be met, there will always be the danger that insufficiently flexible systems will be created and some better options overlooked. In short, regulation has always been required and is still required, but it has its shortcomings.

1.28 For these reasons the Government, along with other Governments throughout the world, has begun to look for ways to control pollution which avoid some of these problems by working with the grain of the market. The ideas include various forms of pollution charges, as well as taxes and other economic instruments, all designed to encourage consumers and producers to behave in ways which benefit the environment ...

1.29 These new approaches have been described loosely as the market-based approach to the environment, since they involve integrating economic and environmental concerns and applying market economics more broadly. In the Government's view, market mechanisms offer the prospect of a more efficient and flexible response to environmental issues, both old and new.

Indeed, the "polluter pays" principle - that the cost of preventing pollution or minimising environmental damage due to pollution should be borne by those responsible for the pollution - is one of the foundations of the EC's environmental policy.⁶³ Though the White Paper argued that those responsible for waste discharges should pay for the social cost of disposing of that waste, it did not propose a landfill levy, instead referring to recycling credits and to market forces pushing the costs of disposal generally.⁶⁴

The Government's policy is to harness market forces more effectively to encourage waste minimisation. The Environmental Protection Bill establishes a strict environmental regime for the disposal of waste, whether it is burned (incineration) or put in the ground (landfill). One effect of this will be to make waste disposal much more expensive. Increasing disposal costs will in turn provide a strong incentive for industry to cut down the volume of waste it produces and to make more use of cleaner technologies.

In 1993 the Royal Commission on Environmental Pollution published a report - *Incineration of Waste*⁶⁵ - which made the case that the methods of waste disposal posed a serious environmental problem, in part because the pricing of different methods did not accurately reflect their true costs. The report included an analysis by Aspinwall & Co of the relative costs of waste disposal by landfill and incineration. The Commission pointed out that both

⁶³ In fact the principle is included in the Treaty of Rome: *National Society for Clean Air Pollution Handbook 1996*, p.5

⁶⁴ *op.cit.* p.187

⁶⁵ Cm 2181 May 1993. The Commission's views on the competing claims of incineration and landfill were discussed above, in section I A of this paper.

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this report, and a second one on landfill costs produced by Coopers & Lybrand⁶⁶, excluded the environmental costs associated with incineration and landfill:⁶⁷

These environmental costs do not have to be met by the operators of a waste disposal facility, and in consequence are unlikely to be taken into account in their investment and operational decisions. In other words, the private costs to the operator are not likely to reflect fully the overall cost of waste disposal to the community. If disposal charges are as a result lower than the full economic costs of disposal (including the environmental costs), the quantities of waste sent for disposal may be larger, and the proportion recycled smaller, than would be the case if the charges reflected the full economic costs. Moreover the methods of disposal chosen may not correspond with the best practicable environmental option.

For its part, the Coopers & Lybrand report on a landfill levy⁶⁸ estimated that the costs of landfill could rise by between 37 and 135% by the year 2000 in some scenarios (eg, inner cities where land is expensive), approaching or exceeding the cost of incineration even without a levy. Even so, it went on to conclude that if a levy were to be introduced its primary effect would be an increase in the amount of waste being incinerated, especially in high landfill cost urban areas, where incineration was expected to become progressively more attractive than landfill.

The Royal Commission noted pretreatment of landfill waste by incineration could reduce the long term risks from pollution, the production of greenhouse gases, and the incidence of leaching from landfill sites (since incinerated waste in the form of slag and ash is biologically inactive by comparison with raw municipal waste), as well as cut the volume of waste deposited in landfill by up to 90%. However, those using landfill sites had to see incineration as financially desirable, something that the current pricing structure could not deliver. As a consequence, the Commission recommended that a levy be applied to all waste deposited in landfill sites:⁶⁹

We are convinced that a levy on waste disposal is justifiable in order to reflect the cost to the community of the environmental effects of waste disposal and the benefit from the reduced use of raw materials and energy made possible by recycling. We would expect the cost of a levy to be passed on in charges to waste disposal authorities, and in turn passed on by them to households through higher council tax payments and to firms through charges for the disposal of commercial waste. Both households and (more directly) firms would then have an incentive to produce less waste and recycle waste materials, so reducing levels of pollution.

⁶⁶ DoE, *Landfill costs and prices: correcting possible market distortions*, NS 8852 February 1993

⁶⁷ Cm 2181 May 1993 para 9.30

⁶⁸ DoE, *Landfill costs and prices: correcting possible market distortions*, NS 8852 February 1993

⁶⁹ Cm 2181 May 1993 para 9.34

One other reason for a levy, mentioned in the Coopers and Lybrand report, was that it could provide a clean up fund for managing later environmental difficulties which might arise. Environmental Trusts were first mentioned in a consultation paper - issued by Customs & Excise in March 1995:⁷⁰ non-profit making distributing bodies, in the private sector, making grants to restore closed landfill sites, and financing research into more sustainable waste management practices. Their introduction is discussed in detail in section IV C of this paper.

B. Government consultation on the tax

1. Basis of the tax

When he first proposed a new tax on landfill in his 1994 Budget speech, the Chancellor, Kenneth Clarke, argued that the tax would achieve the twin objectives of raising money and protecting the environment, without adding to the burdens of business:⁷¹

Taxes can play an important role in protecting the environment. One major problem is the disposal of waste. I would like to make an announcement today to help tackle the problem. My right hon. Friend the Secretary of State for the Environment and I will issue shortly a consultation paper setting out details of a new tax to be collected by Customs and Excise on waste disposed in landfill. We propose that a new landfill tax should come into effect in 1996. It should raise several hundred million pounds a year.

But I am determined not to impose additional costs on business overall. I shall therefore be looking at ways to offset the impact of the new tax by making further compensatory reductions in the level of employer national insurance contributions when the new tax is introduced. In brief, I want to raise tax on polluters to make further cuts in the tax on jobs.

The consultation paper issued in March 1995 proposed an ad valorem basis for the tax, with the aim of striking "the best balance between environmental justification and practical feasibility."⁷² An ad valorem tax was preferred to a specific duty charged by reference to weight or volume of waste disposed. It was argued that this provided "a straightforward proxy for the environmental impacts of landfill disposal", and that an ad valorem tax would have lower compliance costs and would be easier to police than other possible taxes.

⁷⁰ HM Customs & Excise, *Landfill Tax - a consultation paper*, March 1995 p.11. The paper was issued to gather views on the design of the tax, following the Chancellor's announcement the previous November.

⁷¹ HC Deb 29.11.94 c.1098

⁷² HM Customs & Excise, *Landfill Tax - a consultation paper*, March 1995 p.5

A number of respondents argued that the practical effects of an ad valorem tax might well conflict with the environmental objectives of the Government had in introducing it, in particular by encouraging those disposing of waste to use the cheapest sites, sites which most likely have lower environmental standards, and transporting their waste longer distances by road to reach these sites. In addition, it was thought an ad valorem charge would result in more illegal tipping of waste ("fly-tipping"; see below), and hit those local authorities in areas where land was relatively scarce for landfill sites. As a consequence in August the Chancellor announced that landfill tax would be weight-based, charged per tonne of waste, and that inert waste would be subject to a reduced rate of tax.⁷³ The announcement was generally welcomed, notably by the National Association of Waste Disposal Contractors.⁷⁴

2. Local authorities

An important characteristic of the tax is that it is to be charged on all those who use landfill - local authorities just as much as private companies. Indeed, in the consultation process that has followed the 1994 Budget announcement, the Government has consistently emphasised that for the tax to achieve its purpose, it would have to affect the behaviour of all those who use landfill sites. For example, in a long written answer in March 1996 the then Paymaster General, David Heathcoat-Amory noted the following:⁷⁵

"The underlying purpose of the tax is to make environmental costs [of waste disposal] explicit and ensure that those contemplating activities with environmental impacts take account of those costs. The tax will also provide an incentive for waste producers to look for new ways to reduce the amount of waste they produce."

In the March 1995 consultation paper, the impact of the new charge on local authorities was discussed.⁷⁶

Local authorities are responsible for the collection and disposal of household wastes, and the cost of tax in respect of such wastes would fall on them ... [the Government is to] look at ways to offset the impact of the new tax by making reductions in the level of employer national insurance contributions when the tax is introduced. This will also benefit local authorities.

⁷³ HM Customs & Excise press notice, *Chancellor strengthens landfill tax*, 2 August 1995

⁷⁴ "Landfill tax to be based on weight", *Financial Times*, 3 August 1995

⁷⁵ HC Deb 12.3.96 cc 550-552W

⁷⁶ HM Customs & Excise *Landfill Tax - A Consultation Paper*, March 1995 p.4

In September 1995 HM Customs & Excise published a report on the responses it had received to the consultation paper. One issue raised by correspondents had been the impact of the new tax on local authorities.⁷⁷

6. Effect of the tax on local authorities

As indicated above, local authorities were particularly active in expressing their views and concerns, which included:

- fly-tipping - cost of policing and removal;
- cost of the tax and how it will be met, including the gap between the tax burden and benefit of employers' national insurance contributions (NICS) reductions, although there was a great deal of uncertainty about the net financial impact;
- whether local authorities will be able to pass on the cost of the tax to householders via the Council Tax; and
- the lack of incentive that the tax offers to those ultimately producing waste to change their behaviour, particularly householders.

The Government's response was included in Customs' report:⁷⁸

The Government recognises taxes will never be universally popular but welcomes the support received for the tax which it believes will help curb damage to the environment. This will be introduced as planned on 1 October 1996 ...

The concerns of local authorities are also understood by the Government. Local authorities are responsible for the collection and disposal of household waste, and it is recognised that the cost of the tax in respect of such waste that is landfilled will fall on them. The proposed reductions in employers' NICs will affect local authorities and, over the coming months, the Government will address the issue of the financial impact of the tax on local authorities in the context of the local government finance settlement.

When the tax was debated on the floor of the House in January 1996, David Heathcoat-Amory emphasised that some businesses and some local authorities would see an increase in their costs as a consequence of this new impost:⁷⁹

"There are bound to be winners and losers. Not all businesses or types of business will unequivocally be winners because they will incur landfill tax charges that are greater than any benefit that they receive in national insurance contributions. That is true for local authorities as a whole."

⁷⁷ HM Customs & Excise, *Landfill Tax - report on responses received to consultation paper*, September 1995 pp 4-5

⁷⁸ *op.cit.* p.6

⁷⁹ HC Deb 23.1.96 c.170

Some have argued that the "losers" from a landfill levy will include council taxpayers. The Scottish Local Government Information Unit, funded by Scottish local authorities and trade unions, has claimed the tax will probably not increase recycling rates in the near future, because the cost of setting up recycling operations to reduce the amounts of landfill tax paid will "require additional resources which local authorities, in the light of the last budget settlement, will be unable to meet."⁸⁰ Indeed, the 1993 Coopers & Lybrand study on a landfill levy estimated that in the short term a landfill tax of £10 per tonne would lead to a £5 per head increase in council tax in England and Wales, falling to £3 per head as local authorities found alternatives to landfill.⁸¹

3. Fly-tipping

The second issue that Customs found caused especial concern was the impact of the new tax on fly-tipping:⁸²

5. Effect on fly-tipping

Concern over fly-tipping was one of the most common themes in responses received. 273 respondents (38 per cent) believed that the tax could or would lead to an increase in fly-tipping. Of these, 187 were from local authorities (57 per cent of local authorities who replied). Thirteen site operators also believed that the tax might increase fly-tipping, as did a number of trade associations.

The following concerns/questions about the fly-tipping issue recurred within these replies:

- Fly-tipping will increase which will be detrimental to the environment and thus counter to one of the main objectives of the tax.
- Who will remove fly-tipped waste and who, if anyone, will pay the tax on it?
- Both local authorities and Customs will find it difficult to detect and enforce any penalties given their lack of resources.
- Greater policing and penalties must be introduced to deal with fly-tipping.

At the time, the Government conceded fly-tipping could be a problem, but that the existing regulatory regime would be sufficient deterrent against its growth:⁸³

Other countries which have a landfill tax in place appear not to have significant problems with fly-tipping, although the Government is naturally concerned to see that

⁸⁰ "A new rubbish tax", *Scottish Local Government* No. 86, October 1996

⁸¹ DoE, *Landfill costs and prices: correcting possible market distortions*, NS 8852 February 1993 p.vi

⁸² *Landfill Tax - report on responses ...*, September 1995 pp 4-5

⁸³ *ibid* p.6

waste disposal methods are adequately policed after the introduction of the tax. The main security against fly-tipping is the regulatory framework. Regulations implemented on 1 May 1994 introduced a new waste management licensing system. These controls, along with section 34 of the Environmental Protection Act 1990 and the associated duty of care for waste which came into force on 1 April 1992, are intended to address the problem of fly-tipping, amongst other matters. They should provide a strong regulatory framework to support the new tax. Further thought will be given to the policing of the landfill tax and of waste disposal methods over the coming months.

The Government reiterated its position on fly-tipping at the time of the November 1995 Budget.⁸⁴

The Government has also responded to concern expressed during the consultation exercise that fly-tipping may increase as a result of the tax. The current waste management licensing system and duty of care for waste provide a strong regulatory framework to support the tax. Fly-tipping is already a criminal offence and the Government therefore sees no need to make it a revenue offence in tax law. However, it will take further steps to combat fly-tipping when the tax is implemented. In particular, the Environment Agencies will be asked to give a high priority to the prevention of fly-tipping. The courts will be reminded about the environmental impact of fly-tipping and the financial gains which are made by perpetrators.

Further details of the Government's policy to deal with fly-tipping were given by the Secretary of State.⁸⁵

Sir David Steel: To ask the Secretary of State for the Environment if he will make a statement outlining the respective roles of his Department and the new Environment Agency in implementing the landfill tax, with special reference to what new steps will be taken to prevent illegal dumping and fly tipping in the countryside, and to relieve landowners on whose property such waste is deposited from liability to pay the tax when they transport it to designated landfill sites.

Mr. Gummer: My Department is responsible for the overall regulatory framework for waste management in England and Wales. Regulations implemented on 1 May 1994 introduced a new waste management licensing system. The associated duty of care for waste came into force on 1 April 1992. The penalties that can be imposed for offences relating to waste are already severe, and these controls provide a strong regulatory framework to support the introduction of the landfill tax. My Department will also write to the courts before the start of the tax on 1 October 1996, to draw their

⁸⁴ HM Customs & Excise press notice, *Budget 1995: Landfill tax ...*, 28 November 1995
⁸⁵ HC Deb 11.6.96 cc 114-115W

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attention to the financial gains that can be made by those who dispose of waste illegally.

The Environment Agency is the competent authority for the purposes of waste management licensing. The agency has the resources and the expertise to advise on the legal and sound management of waste, to investigate offences and to carry out enforcement action. The Government's guidance to the agency on its objectives and contribution to sustainable development, which will be laid before Parliament very shortly, will clarify its role in this area. Ministers will expect the agency to act upon its powers and to review procedures for preventing and handling cases of fly tipping. The Government have no plans to relieve the occupiers of land on which waste is deposited illegally from liability to pay landfill tax where they dispose of the waste to licensed landfill sites.

Most recently, when asked what steps would be taken to increase the penalties for fly-tipping following the introduction of the tax, the government pointed out that the penalties were already severe, and summarised the existing maximum penalties for waste related offences in a written answer. For the unlawful deposit or disposal of non-special or special waste, these are imprisonment for six months and/or a fine of £20,000 following prosecution in the Magistrates' court, or imprisonment for two years and/or an unlimited fine in the Crown court⁸⁶.

C. Introduction of the tax

In his 1995 Budget speech, the Chancellor confirmed that the new tax would come into operation on 1 October 1996.⁸⁷

Last year I proposed a new landfill tax, which is a charge on the disposal of waste in, for example, tips and old quarries. That will come into effect on 1 October 1996. It will be charged at a standard rate of £7 a tonne and a lower rate of £2 for inactive waste. That is a tax on waste in order to enable me to reduce the tax on jobs. The money raised by the landfill tax will allow for a matching cut in the main rate of employers' national insurance contributions by a further 0.2 per cent to 10 per cent from April 1997. That will cut the cost of employment by half a billion pounds and will make it cheaper for businesses to create new jobs.

Legislation to bring in the tax was included in the Finance Bill, introduced in January 1996.⁸⁸

⁸⁶ HC Deb 5.11.96 cc 459-60W

⁸⁷ HC Deb 28.11.95 cc 1063-1064

⁸⁸ It is now contained in sections 39-71 of the *Finance Act 1996*.

In setting the rates of tax at £7 and £2 per tonne, the Government was keen to emphasize the purpose of the tax was not to severely curtail landfill use as such, let alone stop it. Rather, the tax would help to align more closely the price charged for landfill, and the true costs of using it. This point was illustrated well in an exchange during the proceedings of the Finance Bill, between the then Paymaster General, David Heathcoat-Amory, and Dawn Primarolo MP.⁸⁹

I repeat the point that capturing those external costs, whether they be pollution or a form of nuisance to residents and others, is an important consideration. It will encourage the waste producers, whoever they may be, to look for ways to produce less waste and to reuse and recycle more waste if they cannot avoid producing it. We know that there is substantial scope for businesses and others to adopt better waste management practices. The tax will give them a precise incentive to continue to do so.

In other words, what we are proposing will reinforce the existing policy of sustainable waste management, which was set out in considerable detail in the White Paper published by my right hon. Friend the Secretary of State for the Environment last month. The concept in the White Paper was of a waste hierarchy, headed by waste minimisation. The most desirable aim must be not to produce so much waste. Lower down the hierarchy is reusing waste. Further down again comes the recovery of waste, which can include recycling, composting and energy recovery from incineration. The hon. Member for Sheffield, Hillsborough (Mrs. Jackson), who is no longer in her place, was under the misapprehension that the landfill tax would somehow act as a disincentive or inhibition on composting. In fact, the reverse is the case, as the hierarchy shows. If waste can be composted, it will avoid landfill tax. At the bottom of the waste hierarchy is disposal, which includes landfill.

The landfill tax will be an important means of moving waste up the hierarchy and away from landfill. The hon. Member for Bristol, South (Ms Primarolo) said, bafflingly, that the tax would send a signal that landfill was the most desirable means of disposal. That calls into question her understanding of the whole principle of the tax because the reverse is the case. By taxing landfill, we are providing an incentive to move to other, more environmentally benign means of dealing with waste.

Ms Primarolo: A study for the Department of the Environment undertaken by Coopers and Lybrand showed that with a levy on landfill even as high as £20 per tonne, recycling would still remain a relatively unattractive financial option and that the use of the tax alone would not be enough to develop alternatives. Therefore, essentially the Government are saying that landfill is all right or that options that are worse than landfill but cheaper are also all right.

Mr. Heathcoat-Amory: The hon. Lady is now arguing for a much higher

⁸⁹

HC Deb 23.1.96 c.167

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rate of tax, which can only double the anxiety expressed by some of my hon. Friends. If she is suggesting that the modest tax we are proposing will not boost recycling in the way that we wish, that is an argument for a higher charge. We do not accept that. Although the tax will not overnight create vast quantities of recycled waste, that might be a good thing. By flooding the market with recycled products we might kill the very process that we are trying to promote. We believe that the tax rates of £2 and £7 will at least nudge the market towards a greater use of recycled materials and therefore move waste generally up the hierarchy that I described earlier.

At separate stages in the Finance Bill's progress, it was suggested that it was unfair to penalise landfill sites that were well run, and that dealt just with entirely safe and innocuous materials. In reply, the then Paymaster General, David Heathcoat-Amory, made an important point:⁹⁰

By taxing landfill, we will encourage the development of alternative ways of dealing with waste. Indeed, it will lead to less waste in the first place. That justification for the tax is valid even if the landfill site is well engineered ...

The tax is designed not only to tax waste with the potential to pollute water or air, but to catch the external costs associated with the landfilling or rubble waste and all categories of inactive waste. Such activities are not without environmental impact. I am sure that some letters from my hon. Friends' constituents, who live near landfill sites, reflect the problems caused by noise, dust, smell, seagulls and lorry movements. Those represent an external cost of landfilling even inactive or inert waste. The tax is designed to capture those costs and to attribute them to the producer of the waste. The proposed lower rate of tax at £2 per tonne reflects the lower impact on the environment caused by that category of waste.

During the proceedings of the Finance Bill in spring 1996, a variety of industries argued that certain types of waste be exempted completely from the new tax, or covered by the lower £2 inert charge.⁹¹ As it turned out, three types of waste were specified as exempt from tax: dredgings from waterways, natural waste from mines and quarries and waste from the reclamation of historically contaminated land. In March details of the types of waste to be charged the lower £2 per tonne rate of tax were given:⁹²

Mr. Matthew Banks: To ask the Chancellor of the Exchequer what was the outcome of the Customs and Excise consultation exercise on the scope of the lower rate of landfill tax.

⁹⁰ HC Deb 23.1.96 c.187; Standing Committee E 8.2.96 c.160

⁹¹ "Arguments over the landfill tax get down to the nitty-gritty", *ENDS Report*, January 1996 pp 20-23

⁹² HC Deb 25.3.96 cc 439-440W

Mr. Heathcoat-Amory: Customs and Excise have now analyzed the replies which they received to the consultation exercise on the scope of the lower rate of landfill tax. On the basis of the information provided and representation made, we have concluded that the lower rate of landfill tax should apply to the wastes listed. Mixtures consisting only of listed wastes will qualify for the lower rate, as will water with suspended solids consisted only of listed wastes.

In order to be taxable at the lower rate, listed wastes — or mixtures of such wastes — must not contain or be contaminated with any material which is not listed. If they are, the standard rate of tax will apply. But a *de minimis* level will apply to enable wastes to qualify for the lower rate if they consist wholly of listed wastes, apart from a small quantity of material which is not listed, provided that the material does not lead to any potential for pollution. Where wastes appear on the lower rate list and are also covered by an exemption, the exemption will apply.

Naturally occurring rocks and soils, including:

clay, sand, gravel, sandstone, limestone, crushed stone, china clay, clean building or demolition stone such as sandstone, limestone or slate, topsoil, peat, coal, silt and dredgings.

Ceramic or cemented materials

Glass.

Ceramics, including bricks (see below for bricks with plaster), tiles, clay ware, pottery, china, bricks and mortar.

Concrete, including reinforced concrete, concrete blocks, breeze blocks and thermalite blocks.

Processed or prepared mineral materials, which have not been used or contaminated

Moulding sands and clays.

Clay absorbents, including Fuller's earth and bentonite and other mineral absorbents.

Man-made mineral fibres, including glass fibre.

Silica.

Mica.

Abrasives.

Furnace slags

Certain ash:

Bottom ash and fly ash from wood or coal combustion (including pulverised fuel ash from coal combustion).

Low activity inorganic compounds:

Titanium dioxide.

Calcium carbonate.

Magnesium carbonate.

Magnesium oxide.

Magnesium hydroxide.

Ferric oxide.

Ferric hydroxide.

Aluminium oxide.

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Gypsum and plaster

These will be subject to the lower rate only if disposed of in landfill sites licensed only to take inactive or inert waste.

Other wastes

There are, in addition to the above, a few wastes on which Custom and Excise are seeking further information before a conclusion is reached as to whether the lower rate is appropriate.

Mixtures consisting of these wastes, it was explained, would qualify for the lower rate. Mixtures that contained a small quantity of active waste - chargeable at the £7 rate - would still qualify for the lower rate provided the mixture posed no risk of pollution.

For its part, the Institute of Wastes Management was sceptical of the value in charging the tax at an inert rate and an active rate.⁹³

[During the 1970s and 80s...] Inert waste as a term was suitably ambiguous for operators and regulators to use when disposing of builders rubble, construction waste, spoil, soil and other extraneous materials. Most of these materials were in fact anything but inert and contributed to leachate, landfill gas and settlement on old and not so old landfill sites. The term became notorious, and quite rightly, went out of use as the potential environmental harm from such wastes became more widely understood.

Following details of the landfill tax announcement in November 1995, we now learn that the lower rate of landfill tax will be levied on 'inactive' wastes which 'do not physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution'. Such wastes include naturally occurring rocks and subsoils, uncontaminated materials, glass, ceramics and concrete.

Leaving aside the relative 'inactivity' of these materials, a number of questions are raised by this. When in practice are these wastes delivered to a disposal facility (landfill) uncontaminated? Will a saving of £5 per tonne be a sufficient financial incentive for waste producers to *ensure* that their wastes are inactive and therefore qualify for the lower rate tax? Will the regulatory system be able to identify satisfactorily that which is truly inactive and uncontaminated against the opposite? More to the point, will the driving force behind such an inspection system be a financial one (higher or lower tax) or an environmental (inactive or active waste) one?

During the Committee stage of the Finance Bill, the Labour Party suggested that a third tax rate of £15 could be levied on "special waste". The Government opposed this, on the grounds that this category had not been defined, that hazardous waste was subject to tight controls as

⁹³ "IWM Comment : Inert by any other name", *Wastes Management*, February 1996

it was, and that the tax should be simple and easy to understand. In the event, the proposal was rejected.⁹⁴

At the time of the November 1995 Budget, Customs issued a compliance cost assessment on the impact the new tax would have on business, focusing on those required to account for the tax to Customs (ie, those who run landfill sites). About 1,400 businesses will be required to register with Customs, operating about 2,700 sites overall. The industry is dominated by small firms; the largest five companies in this sector, who each have a turnover in excess of £100 million, represent about 20 per cent of the market. For larger operators, it was thought start up costs associated with the tax would be around £25,000 to £50,000; continuing compliance costs might be around £4,000 per year. Estimates received from small firms put the equivalent costs for this size of company at about £750 for initial costs. In relation to compliance costs, Customs felt many small firms overestimated how much they would need to set aside (in reply, firms gave figures between £200 and £2,500+ per quarter, with an average of £1,400). Firms were, it felt, giving large estimates for the costs of routine record keeping and form filling, aggregating landfill costs with costs associated with Customs generally, and exaggerating the frequency of Customs' visits.

All told, Customs felt annual compliance costs for small firms would be toward the lower end of the estimates range (ie, in the region of £800 per year). The assessment concluded that "given the extent to which the tax will fit in with existing practice", implementing waste management regulations and accounting for VAT to Customs, "the cost of complying with the tax should be very low." It went on to note that the two main policy alternatives to a tax - tighter regulation, or requiring the industry adopt alternative practices - "would be against the spirit of the Government's deregulation initiative and would be less economically efficient than using a market-based approach."⁹⁵

Consultation has marked the history of the new tax. Initially it was proposed that company directors should be jointly and severally liable for any landfill tax due from their company. In effect, directors would be personally liable for the tax. The use of this power - employed in the betting and gaming field - had been thought appropriate since landfill companies would have few assets in cases of insolvency, and - certainly in relation to inactive waste - the tax charge could represent a high percentage of the total value of any transaction.⁹⁶ With a much higher proportion of the tax at risk in such cases, the Government had thought making directors responsible would be a good solution, but following strong opposition, it withdrew this provision.⁹⁷ Moreover, in February, Customs emphasized that to begin with it would

⁹⁴ Standing Committee E 8.2.96 c.171

⁹⁵ *Compliance Cost Assessment - Landfill Tax CCA 6/95*, November 1995 p.9, p.11

⁹⁶ In Committee David Heathcoat-Amory gave the example of a site charging £1 per tonne for inactive waste, so that the £2 tax charge represented 200% of the original charge: Standing Committee E 8.2.96 c.191

⁹⁷ *ibid* c.192

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apply penalty rules for tax collection sympathetically.⁹⁸

The Department will take a sympathetic view of genuine errors made as a result of unfamiliarity with or misunderstanding of the tax provision during its first year. However, Customs reserve the right to assess the duty properly due, when considering whether to impose penalties and interest. Similar arrangements were made during the introduction of insurance premium tax and air passenger duty. This means operators will not be penalised for a first default in the first year, unless it was thought that deliberate evasion or manipulation was involved.

In a pamphlet on environmental taxes published by the Institute for Public Policy Research, the authors praised the long consultation process that had shaped the final design of the tax.⁹⁹

The new landfill tax is a good model of how a tax ought to be introduced. It was announced in 1994, details were announced in 1995 and, following extensive consultation, it is being implemented in 1996. The consultation was genuine, and the design of the tax has been totally altered as a result (it will be based on weight rather than being *ad valorem* as the Government originally proposed). This is a new departure, not only for environmental policy, but for British tax policy generally. Again all political parties have supported it, as have all environmental groups. Even business has not complained too much, although there has been some lobbying on what should constitute inert waste and so be liable for a lower rate.

The Government's goals for the new tax were restated by the Environment Minister, James Clappison, in a press notice issued on the eve of its introduction:¹⁰⁰

The landfill tax represents a significant new policy. The shift from taxing employment to taxing resources has rightly been an aim of the EU but it is the UK that is setting the pace. It marks an important step in extending the use of economic instruments to achieve environmental objectives. The central purpose of the tax is to ensure that landfill costs reflect the full cost of the environmental impact of the activity. By doing this business and consumers are encouraged, in a cost effective and non-regulatory manner, to produce less waste, and to reuse or recover value from more waste.

Of course, the purpose of the tax as a revenue raising device should not be ignored. A written answer in April 1996 gave estimates for the amount of money the Government

⁹⁸ HM Customs & Excise press notice, *Landfill tax - Government meets industry concerns*, 13 February 1996
⁹⁹ Stephen Tindale & Gerald Holtham, *Green tax reform - pollution payments and labour tax cuts*, Institute for Public Policy Research, 1996 p.25

¹⁰⁰ HM Customs & Excise press notice, *Less waste - more jobs*, 30 September 1996

expects to collect:¹⁰¹

Mr. Sheerman: To ask the Chancellor of the Exchequer (1) what is the current estimate of the revenue to be expected from the landfill tax; (2) what is his estimate of the revenue available for environmental trusts from the landfill tax;

Mr. Heathcoat-Amory: The estimated net revenue yield from landfill tax is £450 million in a full year. However, because precise figures about the amount of waste sent to landfill are not available centrally, the revenue estimate for the tax is open to a greater than usual margin of error. The estimate assumes that credits of tax amounting to £50 million will be given to site operators in respect of voluntary contributions they make to environmental trusts, although, on the basis of the revenue projection for the tax and the maximum credit entitlement, as much as £100 million is potentially available for trusts in a full year.

Some critics of the tax have suggested that the absence of precise figures on the amount of waste going into landfill sites is telling, and that it is by no means certain that the new impost will achieve any of the goals the Government has set for it.¹⁰² This question is examined in more detail in the following section of this paper.

IV What effects will the tax have?

A. How much money will it raise?

The Government's position remains that the revenue from the tax will be around £450 million in a full year and around £110 million in the six months of its operation in 1996/97¹⁰³. There has never been any question, however, that these are extremely approximate figures. For two major reasons HM Customs & Excise will remain unsure of exactly how much will be collected until the tax has been fully operative for a length of time.

First, and of most significance, are the uncertainties concerning the amount of waste going to landfill. It was agreed in meetings between the Department of the Environment and HM Customs & Excise that revenue forecasts would, of necessity, be based on the Department of

¹⁰¹ HC Deb 30.4.96 cc 436-437W

¹⁰² See, for example, "First green tax is 'a shot in the dark'", *Independent on Sunday*, 29 September 1996

¹⁰³ HC Deb 31.10.96 c.775

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Environment's estimates of the amounts of waste landfilled in around 1990¹⁰⁴. These estimates, summarised in section II, suggest that around 125 million tonnes of wastes eligible for the tax are landfilled annually. In translating estimates of landfilled waste into estimates of tax revenue the Government have assumed that much of the 44 million tonnes of landfilled construction and demolition waste will be inactive and therefore charged at the lower rate of £2 per tonne, as will some of the 50 million tonnes of landfilled industrial waste. The vast majority of household and commercial wastes will be active and liable to the higher rate of £7 per tonne¹⁰⁵.

The basis of the revenue estimates is itself somewhat doubtful; the Department of the Environment accepts that¹⁰⁶:

"much of the needed information [on waste management] is not readily available at present, or is available with insufficient precision to enable reliable estimates ... to be made".

Indeed, until the Landfill Tax is fully operative, accurate data on the amounts of waste going to landfill will remain unavailable. Consequently, HM Customs & Excise describe their revenue forecasts as best estimates within a range of possibilities¹⁰⁷. This is true even in terms of the uncertainties surrounding estimates of landfilling in 1990. There is also the added complication of changes in the level of landfill in the subsequent six years.

There have been suggestions that the Government's estimates of the amount of waste going to landfill are outdated and may overstate the actual annual amount of landfilled waste by as much as 30 million tonnes¹⁰⁸. Some limited data in this area are available for waste (household and commercial) collected by waste disposal authorities. Figures for the 50 WDAs (around half of all WDAs) who reported their landfilling activities to CIPFA in both 1992/93 and 1994/95 show a collective fall of around 10% in the amounts sent to landfill, from around 15.7 million tonnes to just over 14 million tonnes¹⁰⁹. While these WDAs may not be representative of all WDAs, and certainly the figures are in contrast to those for Scotland (see page 10) which show an increase of 25% in the landfilling of all controlled waste over a two year period, the figures suggest the possibility of a declining tax base.

Second, there is the question of behavioural changes in response to the imposition of the tax.

¹⁰⁴ source: HM Customs & Excise, 7 November 1996

¹⁰⁵ HC Deb 19.12.95 cc 1100-1101W

¹⁰⁶ *Department of the Environment (DoE)/Welsh Office, Making waste work : a strategy for sustainable waste management in England and Wales*, Cm 3040 December 1995 p.17

¹⁰⁷ source: HM Customs & Excise, 7 November 1996

¹⁰⁸ "First Green Tax...", *Independent on Sunday*, 29 September 1996

¹⁰⁹ CIPFA, *Waste Disposal Statistics 1992-93, 1994-95 Actuals*

Because, again, of the uncertainties surrounding landfill data, HM Customs & Excise have not been able to incorporate an accurate estimate of the reduction in landfilling consequent on the introduction of the tax into their revenue estimates. In practice¹¹⁰:

"the price elasticity of demand for landfill [will] depend on the suitability and availability of alternative waste management practices. This will vary to some extent across the country and between different types of waste. It will also vary over time as the practices of waste producers and handlers change to reflect policies contained in the [Government's] waste strategy."

Too little is known about each of these factors for any reliable projection of behavioural changes to be made. Given, moreover, the unreliability of their basic revenue projection, HM Customs & Excise believe that the introduction of a further complicating variable would be fruitless. In any case, the views of a number of commentators¹¹¹ suggest that the behavioural effects of the tax are likely to be minimal in the short term at existing rates.

B. What effect will the tax have on local authorities?

The concerns raised by local authorities during the consultation on the tax (summarised in section III above) focused on the additional costs they will have to pay to landfill household waste. The tax will be levied on the operators of landfill sites who, in turn are expected to pass it on to their customers including local authorities. While local authorities will be able to recover the cost of landfilling commercial waste directly from their customers, the cost of landfilling domestic waste will have to be met from their own resources. The Government argue that they have made provision for additional local authority expenditure in 1996/97 through the local government financial settlement for this year¹¹² and that the cost in future years will be offset by the reduction in national insurance contributions¹¹³. Nevertheless, they accept that local authorities as a whole will spend more on the tax than they save through the reduction in contributions¹¹⁴.

Once again, estimates of the impact of the tax on local authorities are beset by the lack of knowledge on how much waste they landfill. As a whole the local authorities of England and Wales have budgeted for £74 million of expenditure on the tax in 1996/97, and in a full year are expected to spend around twice this amount, £143 million¹¹⁵. This is slightly higher than

¹¹⁰ HC Deb 19.12.95 cc 1100-1101W

¹¹¹ See, for example, the views of the Environmental Services Association and the Friends of the Earth, summarised at page 43

¹¹² HC Deb 29.2.96 cc 1099-1106

¹¹³ HC Deb 19.12.95 cc 100-101W

¹¹⁴ HC Deb 23.1.96 c.170

¹¹⁵ CIPFA, *Finance and General Statistics 1996-97*; "A waste of a tax?", *The Independent*, 9 October 1996

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the Government's estimate, based on the assumption that local authorities are continuing to landfill around 18 million tonnes annually, almost all of which is active waste liable for the £7 rate of tax, of £126 million for local authorities across the UK¹¹⁶. The Association of Metropolitan Authorities suggest a figure of around £154 million¹¹⁷.

The cost to individual local authorities will depend upon their existing use of landfill and the availability of alternative management methods. The non-metropolitan authorities who, because of the availability of land, have tended to make greater use of landfill than their metropolitan counterparts are likely to face particularly large bills. If authorities continue to landfill to 1994/95 levels, the average cost for a non-metropolitan authority could be as much £1.7 million in a full year, compared with around £0.9 million for a metropolitan authority¹¹⁸. Kent County Council, for example, may face a bill in the region of £5 million if they continue to landfill at a similar level as in 1994/95, when they landfilled some three-quarters of a million tonnes of household waste¹¹⁹. Surrey County Council have already estimated their likely full year expenditure at around £3 million¹²⁰. In most cases, however, the non-metropolitan authorities have a larger taxbase from which to finance their expenditure.

It has been suggested that this year's expenditure of £74 million in England and Wales has been met through cuts in other areas of local authority budgets¹²¹:

"A similar figure, £73 million, has been cut this year from councils' highway and transportation budgets ... Philip Ramsdale, executive director of the Institute of Public Finance (the commercial arm of the Chartered Institute of Public Finance and Accountancy), who oversaw the research, says that though linking the cuts to new environmental spending commitments is simplistic, it does give a reasonable overview. 'It may well be that this is not a conscious approach in individual authorities, but in overall terms that seems to be what is happening', he says."

For 1997/8 the concern is that, in the absence of any compensatory grants from the Government, the full cost of the landfill tax, net of the offsetting reductions in national insurance contributions, will have to be met through a combination of service reductions and council tax increases. While it is accepted that local authorities will pay more in tax than they will gain through the reduction in contributions, the precise net impact is not known. On the basis of the figures produced by the Association of Metropolitan Authorities, however, the £154 million cost of the tax would be offset by a £60 million reduction in national insurance contributions, leaving local authorities to find more than £90 million in a full year.

¹¹⁶ HC Deb 19.12.95 cc 1100-1101W

¹¹⁷ "Landfill levy will raise council tax", *Daily Telegraph*, 16 September 1996

¹¹⁸ CIPFA, *Waste Disposal Statistics 1994-95 Actuals*

¹¹⁹ CIPFA, *op.cit.*

¹²⁰ "A waste of a tax?" *The Independent*, 9 October 1996

¹²¹ *ibid*

Assuming that the full burden is passed on to council taxpayers, this would be equivalent to an increase of around £5 for a band D taxpayer¹²².

Beyond 1997/98, the burden on local authorities and council taxpayers will, of course, depend largely on the extent to which local authorities are able to find alternative methods of waste management. A further factor is the possibility of increases in the rate of the tax, a scenario which some commentators believe to be inevitable so long as the tax rate is below the level at which landfill becomes more expensive than alternative methods. Paul Ekin, of the industrial forecasters Cambridge Econometrics, believes that the Government will progressively increase the rate of the tax once it is established¹²³. Tony Hammond, chairman of the local authority recycling advisory committee goes further, suggesting that:¹²⁴

"Everybody is expecting the Chancellor to increase the amount of the landfill tax in this year's Budget. Realistically, I think we can expect a Landfill Tax of £20 a ton within two or three years, whichever party is in power".

If tax rates are indeed increased there is no guarantee that there will be further compensatory cuts in rates of national insurance contributions. The link made between contributions and the tax in this year does not signify a permanent hypothecation of tax revenues, but was a presentational link; a future chancellor would not be obliged to put any additional tax revenues into reducing contribution rates¹²⁵. Local authorities are therefore likely to have to meet the cost of any future increases in tax rates in full.

C. What impact will the tax have on waste disposal?

The imposition of a landfill tax has been generally welcomed by environmentalists; it has been one of the obvious candidates for green taxation¹²⁶. The announcement that the tax would be weight-based was also welcomed. The alternative was an *ad valorem* tax (see page 25), but this was opposed by environmental groups who feared that it would encourage disposers to drive further, to cheaper less well-run sites. There is debate, however, about whether the tax will have the desired effect and significantly reduce the amount of waste going to landfill:¹²⁷

¹²² Association of Metropolitan Authorities, cited in "Landfill levy will raise council tax", *Daily Telegraph*, 16 September 1996

¹²³ "Landfill tax only the start...", *Construction News*, 10 October 1996

¹²⁴ "Landfill levy will raise council tax", *Daily Telegraph*, 16 September 1996

¹²⁵ Stephen Tindale & Gerald Holtham, *Green Tax Reform ...*, Institute for Public Policy Research, 1996 p.76

¹²⁶ for example Stephen Smith, "*Greening the tax system in Britain and Germany*", Institute for Fiscal Studies an Anglo-German Foundation Report, 1995

¹²⁷ Stephen Tindale & Gerald Holtham, *Green tax reform - pollution payments and labour tax cuts*, Institute for Public Policy Research, 1996 p.94

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"The landfill tax is an important and welcome innovation, the first new tax introduced for genuine environmental reasons in the UK. But it is deficient in three respects. First, it is too low, and is unlikely to alter significantly the amount of waste going to landfill. The Government should have announced that the £7 rate was a first instalment, and that there would be annual increases until the tax had a more substantial incentive effect. This would have sent a clear signal to waste producers, without inducing a sudden jump in their costs."

The same commentators call for a higher rate tax band for special waste and for a tax to be applied to all waste disposal, with perhaps incineration attracting a lower levy.

Prior to the announcement of the rates of duty to be charged on landfill, the Institute for Fiscal Studies was not hopeful that the tax would affect the amount of landfill significantly:¹²⁸

Crucially, the success of the policy relies on the government choosing an appropriate tax rate that adequately reflects the costs of landfill. In general, the social costs of landfill will depend upon the nature of the waste. Inert waste such as building rubble will result in little environmental degradation relative to toxic substances. Externalities will also vary with location of the landfill site. Waste deposited in urban landfill sites need not be transported as far as waste generated in rural areas and so the social costs of rural landfill generally tend to be higher than those of urban landfill. Externalities associated with landfill without energy recovery¹²⁹ have been estimated by the Centre for Social and Economic Research on the Global Environment (CSERGE) as being around £3.50 per tonne in urban areas and £4.00 in rural areas, although these figures should be interpreted with caution since they do not include other significant impacts on the community such as noise, odour, unsightliness, etc. Although it would be appropriate for tax rates to capture differences in externalities, this is likely to increase both administration and compliance costs. In view of this, the Chancellor is expected to announce two rates, a lower one for inert waste and a higher one for more environmentally damaging waste. It is likely that the higher rate will be at least £4 per tonne if it is to reflect the external effects of landfill ...

In addition to increasing the tax burden on industry, the proposed levy will also have a significant impact upon local authorities that are responsible for the collection and disposal of all household waste and some commercial waste. IFS estimates for England suggest that local authorities' total waste disposal costs will increase by approximately £87m. Of this, around £40m will be paid purely on the collection of domestic waste. Assuming that there will be no corresponding increase in grants from central to local government to help ease the burden of the levy, and that increases in costs occurring from the collection of domestic waste will be purely borne by households and not businesses, then a tax of £5 per tonne will, on average, lead to an

¹²⁸ Institute for Fiscal Studies, *Options for 1996 : the Green Budget*, October 1995 pp 88-89
¹²⁹ Some landfill sites have the facilities to recover methane from deposited waste.

increase in B and D council taxes of around £3.80 per year.

By itself, the landfill levy is unlikely to have a significant impact upon the amount of waste generated. Whilst the current system of charging for domestic refuse disposal is incorporated into council tax bills, there will be no incentive for households to reduce waste. Consequently, if the government is to reach its target of stabilising the production of household waste at its 1995 level, it will be necessary to introduce further measures.

Nor do environmental groups and the waste management industry appear certain that the tax will significantly affect the reliance on landfill by those disposing of rubbish:¹³⁰

The Environmental Services Association, the trade body which represents waste collection companies, said yesterday that the tax would add to costs and push up council tax bills. Friends of the Earth, however, said the tax was not high enough to achieve its objective of reducing the amount of rubbish dumped in landfill sites. 'It's a small green step in the right direction. But it won't really work,' said FoE campaigner Mike Childs. On this point the two sides agree. ESA chairman and chief executive, Peter Neill, said: 'I am sceptical whether isolated economic instruments will be enough to encourage sustainable waste management.'

... FoE cites a study for the Government by consultants Coopers & Lybrand which estimated that the current level of tax will increase recycling by only 1 per cent. It wants the tax set at a minimum £30 per tonne and it wants that sum also levied on incineration, to avoid the levy diverting waste from landfill sites to incinerators, which it believes are dangerous and do not encourage sustainability. The industry is concerned that now the tax is in place, the sum could easily be increased by a hard-up Chancellor, just like tax on booze or cigarettes. And it argues that a hefty landfill bill will increase illegal fly-tipping. There is not even agreement on the greenest part of the plan - the creation of Environmental Trusts, financed by up to 20 per cent of the tax revenues. Everyone agrees they are a good thing, but FoE worries that they will be supervised by a regulator largely controlled by the industry ...

While one view is that the levy could or should be progressively raised, another is that its usefulness may eventually wane, as landfill regulation and controls tighten. In their report for the DoE, Coopers & Lybrand said that one of the reasons for introducing a landfill levy was:¹³¹

"...to cover the external (environmental) costs associated with landfill that are not fully reflected in the existing pricing structure - for example, landfills generate methane which contributes, inter alia, to global warming, leakage from decomposing waste can

¹³⁰ "Green tax fails to please anyone", *Guardian*, 1 October 1996

¹³¹ *Landfill costs and prices...*, NS 8852 February 1993 p.3

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damage water courses and there may be disturbance costs from waste delivery and odour - insofar as ever tightening regulation of landfill operations will internalise these costs, the justification for a levy may also diminish."

Coopers & Lybrand argued that a levy would be unlikely to have any significant effect on the amount of waste being landfilled in the short term¹³² and that incineration would be likely to remain an attractive option throughout England and Wales; recycling was expected to be relatively unattractive even with a levy set at £20 per tonne.

The 1993 DoE report *Externalities from Landfill and Incineration*¹³³ - which examined the environmental case for a levy - pointed out that the externalities associated with incineration and landfilling were fairly obvious (disamenity, litter, noise, smell, local disturbance, local and global pollution and transport effects) but difficult to express in monetary terms. Nevertheless the report indicated that a levy in the range of £5-8 per tonne of controlled waste landfilled would reflect the international benefit of air pollution displacement from energy recovery; and £3-6 would be appropriate if only the UK benefit were taken into account. Importantly, the report was not intended to estimate the size of a levy as such: "Government may wish to bring various considerations other than the size of the externality into the setting of a levy."

As mentioned above, Friends of the Earth have called for the landfill tax to be set at £30 per tonne and for incineration and other forms of waste disposal to be covered as well¹³⁴. FoE Scotland has described the landfill tax as a 'missed opportunity' which will have some negative effects in making incineration more attractive; a waste tax on the other hand would have encouraged recycling. FoE Scotland has also pointed out that with the different costs of landfill around the country, the charge might be little noticed in the South-East or London where landfill costs are already high, but could double the cost of landfill in Scotland.¹³⁵ The chairman of the Recycling Advisory Group Scotland has called the landfill tax "correct in principle but flawed in practice."¹³⁶

The managing director of 3C Waste, one of Britain's largest waste management companies, has called the landfill tax a 'disaster' which will raise disposal costs for all businesses and households and "worse still, encourage fly-tipping in our hedgerows and on remote land and roadside verges." The tax is, he feels, not aimed at the real polluters who use unlicensed landfill sites, falsify licenses or already dump rubbish illegally, and nor can alternatives, such

¹³² *op.cit.*

¹³³ CSERG Warren Spring Laboratory and EFTEL for the DoE, *Externalities from landfill & incineration*, Dep.9876 1993

¹³⁴ "New tax won't dump but fails to fill recycling gap", *Guardian*, 5 October 1996

¹³⁵ "Landfill tax 'will act as catalyst'", *Herald*, 29 November 1995 p.2

¹³⁶ "New landfill levy seen as burden on councils", *Scotsman*, 29 November 1995

as recycling, be developed quickly enough without real markets.¹³⁷

On the other hand, the managing director of UK Waste, the company which released the results of its survey of landfill sites in 1994 (see page 19) has said the landfill tax will act as "an important catalyst for waste minimisation, recovery, and recycling in the UK" by dramatically raising the cost of waste disposal by landfill and giving waste producers a financial as well as environmental incentive to seek ways to reduce the amount of waste which they send to landfill.¹³⁸

The Institute of Wastes Management has suggested that the landfill tax will be 'not very' significant: "the majority of waste will still go to landfill and life as we know it will go on." The reasons for this include the fact that some large companies have told landfill operators that they do not intend to pay the increased landfill rates and are expecting operators to absorb the tax if they want their business. If operators decline to do this, 'cowboys' will be waiting to offer their services. The IWM says that with regard to recycling, 'many leading figures' have predicted that it will provide very little spur. The point is also made that many incinerators are having to close at the moment because they do not meet modern emission control standards.¹³⁹ Indeed, in their report,¹⁴⁰ Coopers & Lybrand pointed out that incineration capacity would not be great enough until the end of the decade to realise the potential switch from landfill to incineration.

D. What role will environmental trusts have?

The 1993 Coopers & Lybrand report¹⁴¹ on landfill suggested that one possible although not attractive reason for a landfill levy could be to provide a clean up fund for managing later environmental difficulties which might arise. A system of Environmental Trusts was first suggested in the landfill tax consultation paper¹⁴² as a means of providing tax rebates for landfill operators making payments to trusts for specified environmental improvements. This would reflect the environmental impact of landfill and further encourage the development of alternatives. The payments made will be limited to restoration of closed landfill sites (or damage caused by such sites) when liability is unclear, research into and development of new waste technologies, or pilot projects for waste minimisation, recycling, composting and energy recovery. At the time of the November 1995 Budget, it was announced that site operators would be able to claim a rebate of 90 per cent of their annual contributions, up to a maximum

¹³⁷ "Landfill tax will be a disaster in Cheshire", *Wastes Management*, August 1996 p.23

¹³⁸ "Landfill tax 'will act as catalyst'", *Herald*, 29 November 1995 p.2

¹³⁹ "IWM Comment: Taxing times, but for who?", *Wastes Management*, September 1996 p.4

¹⁴⁰ DoE, *Landfill costs and prices ...*, NS 8852 February 1993 p.vi

¹⁴¹ *op.cit.* p.2

¹⁴² HM Customs and Excise, *Landfill Tax: consultation paper*, Dep/3 1341 21 March 1995 pp 11-12

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of 20 per cent of their landfill tax bill in any given year.¹⁴³ The Secretary of State for the Environment, John Gummer, has said that the trusts will "strengthen the environmental credentials of the landfill tax" and have the potential to generate up to about £100 million of private sector expenditure for environmental improvement.¹⁴⁴

A working group chaired by the DoE and including the waste management industry, other industries that landfill their own waste, the CBI, environmental groups involved in waste management and land remediation and local authority associations was established to decide how the trusts would operate. The activities in which trusts may be able to become involved, subject to approval by the Government, include:

- research into, and development of, more sustainable waste management practices and the provision of education, information and support for innovative projects (examples here might include research into new technology, pilot projects or training schemes aimed at waste minimisation, re-use, recycling, composting and energy recovery);
- collection and dissemination of information about waste management and more sustainable waste management practices;
- remediation, restoration and amenity improvement of sites which are not able to support economic or social use due to past waste management or other industrial activities (providing that no benefit accrues to a person who caused or knowingly permitted the environmental damage or is anyway liable for its remediation); and
- provision of environmental, amenity and recreational facilities in the vicinity of landfill sites, eg creation of habitats, wildlife and conservation areas.

The trusts will be non-profit distributing bodies within the private sector and when they were announced it was made clear that HM Customs & Excise would approve a regulatory body to monitor the scheme's operation and audit the trusts' expenditure. This body, the Environmental Trust Regulatory Body Ltd, or Entrust, was launched in October 1996.¹⁴⁵ Entrust is a private sector body which will enrol environmental organisations as approved bodies to receive funding from landfill operators. Entrust will have a ten-strong board of which five members have so far been announced; its chairman will be the Earl of Cranbrook¹⁴⁶. Some environmental groups have criticised the links between members of

¹⁴³ HM Customs & Excise press notice, *Landfill tax - using market forces to help the environment*, 28 November 1995

¹⁴⁴ DoE press notice 573, *Landfill tax new environmental trusts are given the go-ahead*, 28 November 1995
¹⁴⁵ HC Deb 30.10.96 c.121W

¹⁴⁶ "Good works trust launched", *Water Bulletin*, 725 25 October 1996 p.5

Entrust's board and the waste disposal industry:¹⁴⁷

'This is designed to exclude green organisations who might ask challenging questions,' said Tony Juniper, deputy campaigns director at FoE. 'It is going to oversee spending of public money. It needs to be truly independent and run by people with no axe to grind.' But Lord Cranbrook said that the executive's experience of the landfill industry would be advantageous. 'We have to regulate and decide priorities in the environmental field. Many of these landfill operators do see themselves as working for the environment,' he said. 'I am chairman of Shanks & McEwan's advisory board. It has given me quite wide experience of the sort of things that might arise from landfill sites. But we are quite separate from Shanks & McEwan.'

For its part, the Institute for Fiscal Studies was unenthusiastic about the prospective impact of environmental trusts, in its discussion of landfill tax published in its *Green Budget* in October 1995:¹⁴⁸

A second feature of the government's proposals is that landfill businesses are to receive tax rebates on money they pay into environmental trusts, approved by government, involved in the restoration of closed landfill sites or research and development into sustainable waste management practices. It is envisaged that rebates on payments would never be more than 90%. This should ensure that firms will have an incentive to check that their payments are being used carefully. Although the waste disposal industry has broadly welcomed the idea of environmental trusts, the measure can be interpreted as a move towards hypothecation, albeit under a different name, and over the long term, these rebates may also be a somewhat unsustainable practice. From an environmental perspective, the main purpose of the tax is to reduce the amount of waste going to landfill, but at the same time the rebates are to be used to promote long-term objectives such as research and development and restoration of old landfill sites. However, it is expected that revenues from the tax should dwindle over time as firms adopt alternative measures for waste disposal, and so this will undoubtedly constrain the government's ability to fund future rebate payments. Furthermore, since it is essentially the private sector rather than government that will be responsible for the trusts' activities, these new environmental expenditures will not appear in the public finances.

¹⁴⁷ "Industry links taint green tax", *Observer*, 29 September 1996

¹⁴⁸ *Options for 1996 : the Green Budget*, October 1995 p.89

E. The cut in National Insurance Contributions (NICs)

When he announced the introduction of landfill tax in his 1995 Budget speech, Kenneth Clarke proposed that the money raised by the new tax would be used to cut National Insurance Contributions (NICs): "The money raised by the landfill tax will allow for a matching cut in the main rate of employers' national insurance contributions by a further 0.2 per cent to 10 per cent from April 1997. That will cut the cost of employment by half a billion pounds and will make it cheaper for businesses to create new jobs."¹⁴⁹

The authors of a recent pamphlet on environmental taxes published by the Institute for Public Policy Research applauded the principle at stake in cutting NICs:¹⁵⁰

The concept of a green tax reform is not nearly as widely debated in the UK as in many other European countries, but it has been gaining support gradually in recent years. Conservative Chancellor Kenneth Clarke signed up to the principle when he linked the new landfill tax to a reduction in employers' National Insurance Contributions, saying: "I want to increase the tax on polluters, and make further cuts in the tax on jobs". (The Treasury subsequently pointed out that this was not hypothecation but a presentational link - a future Chancellor is not obliged to put any extra revenues from the landfill tax into reducing NICs). However, the landfill tax raises a comparatively small amount of money, around half a million pounds a year, so the shift cannot be said to be significant, and the 1995 Budget contained no new taxes on polluters ...

Some concern has been expressed by trade unionists about the weakening of the contributory principle if employers' National Insurance Contributions are reduced (although it is perhaps worth remembering that radical trade unions opposed the introduction of National Insurance when Lloyd George proposed it in 1911, arguing that benefits should be paid out of general taxation). The contributory principle is a fiction — National Insurance Contributions are not nearly large enough to cover what they are supposed to fund. The notion that employers should take responsibility for some aspects of their employees' well-being is a noble sentiment, and in an age of full employment or labour scarcity would be worthy of strong support. Sadly, in an age of mass unemployment when public policy makers need in effect to induce employers to take on more workers, it appears something of a luxury. What matters to individuals, in this context, is that they have a job and that there is a decent welfare system. The way in which the revenue is raised to finance the welfare system is surely a second order concern, and it must be sensible to organise the tax system in a way which maximises employment.

In any case, opposition to reductions in employers' NICs should not be taken as

¹⁴⁹ HC Deb 28.11.95 cc 1063-1064

¹⁵⁰ Stephen Tindale & Gerald Holtham, *Green tax reform ...* Institute for Public Policy Research 1996 pp 76-78

opposition to the concept of green tax reform, only as opposition to one variant of it. The revenues could equally be used to cut income tax, business rates, corporation tax or VAT.

However, in its *Green Budget* published in October 1995, the Institute for Fiscal Studies argued that the cut in employer NICs would be unlikely to have much of an effect.¹⁵¹

The tax, imposed at a rate of £3-5 per tonne, would raise in the region of £300-500m per annum, permitting a reduction in the main rate of employer NICs of 0.2 percentage points or a larger cut in the lower rate of employer NICs. Presumably, the use of revenues from the landfill levy to reduce employment taxes is an application of the 'double dividend' arguments discussed earlier. However, this initiative must largely be seen as cosmetic. Piecemeal changes are likely to have little impact overall (particularly since in this case even a tax rate of £5 per tonne, approximately 50% of current average landfill prices, will only lead to small reductions in NICs). Indeed, this measure raises the question of why the Chancellor has decided to use revenues from the landfill levy in this way when there would be much more scope to reduce direct taxes by using the revenues from other 'green' tax measures such as petrol taxes or VAT on domestic fuel and heating. Furthermore, although reductions in NICs are likely to be welcomed by industry across the board, the measure will not, in many instances, be particularly beneficial to those industries likely to bear the largest burden resulting from the tax since many of these (particularly steel-making and electricity generation) tend to be capital-rather than labour-intensive.

¹⁵¹ *Options for 1996 : the Green Budget*, October 1995 pp 88-89

V Landfill abroad

A. Landfill in other countries

Table 3 : Disposal of municipal waste in OECD countries

	Year	Total waste generated (million tonnes)	% of total waste(a)				
			Composting	Incineration	Landfill	Recycling	Other methods
Canada	1992	18.8	1%	6%	75%	18%	...
Mexico	1993	28.1	...	...	28%	1%	72%
US	1993	187.8	3%	2%	62%	19%	...
Japan	1991	50.8	0%	7%	38%	3%	1%
Austria(b)	1990	2.5	3%	12%	68%	16%	0%
Belgium	1994	1.2	8%	49%	43%	...	...
Denmark	1993	2.4	9%	63%	20%	9%	...
Finland	1990	3.1	16%	16%	77%	19%	...
France(b)	1992	20.5	6%	37%	46%	4%	7%
Germany	1990	21.6	2%	28%	66%	...	5%
Greece	1992	3.2	...	0%	93%	7%	...
Iceland	1992	0.1	...	17%	72%	10%	...
Ireland	1984	1.1	...	...	100%	...	...
Italy	1991	26.6	...	8%	...	86%	6%
Luxembourg	1993	0.3	2%	51%	25%	28%	...
Netherlands	1991	7.6	6%	33%	47%	8%	0%
Norway	1992	2.2	1%	19%	75%	8%	0%
Portugal	1992	3.3	14%	...	86%	...	...
Spain	1993	14.3	11%	4%	85%	...	...
Sweden	1990	3.2	3%	41%	44%	13%	...
Switzerland	1992	2.8	...	76%	23%	49%	...
UK(b)	1989	20.0	...	5%	90%	5%	...

a) Percentages may sum to more than 100% since not all treatments are mutually exclusive, and to less than 100% if not all waste disposal is recorded or reported

b) Household waste only

... data not available or not reported

Sources: OECD Environmental Data Compendium 1995, Table 7.2c; Cm 3040 Figures 1.1, 1.2

Table 3 above shows the use of landfill in disposing of municipal waste across the OECD: although the UK's geology and hydrology tend to favour landfill compared to other countries, several other OECD states make extensive use of landfill as a disposal route. 12 of the 22 countries surveyed landfilled more than half of their municipal waste¹⁵² in the latest year for which they have produced figures.

During the proceedings of the Finance Bill in January 1996, the then Paymaster General, David Heathcoat-Amory, pointed out that several other countries operated a landfill tax:¹⁵³

We are not alone in introducing such a tax. It already exists in Denmark, the Netherlands, France and parts of Belgium and I understand that the Italians are proposing to introduce such a tax. In general, the rates of those taxes are above what we are proposing ... This is not an environmental European tax. We have no desire to harmonise such tax rates throughout the European Community. We are introducing it in this country because it suits British conditions and it is good for the environment. Also, we can relieve taxation on employment [by cutting the rate of employer's NICs].

Each of the countries with a landfill tax already in force (Belgium, Denmark, France and the Netherlands) disposes of less than half of their municipal waste to landfill. Denmark has had a landfill tax since 1986, which has increased from approximately £5 per tonne to a planned £33 per tonne in 1997. The Netherlands has a landfill tax of around £12 per tonne, and France a waste storage and industrial waste tax of £5¹⁵⁴.

In Denmark particularly the introduction of a landfill tax, together with progressive increases in its rate, has coincided with a marked decline in levels of waste sent to landfill. In 1985, prior to the introduction of a tax, around 1.4 million tonnes of municipal waste, around 63% of all municipal waste, was landfilled by Danish municipalities¹⁵⁵. In 1993, only around 0.5 million tonnes of municipal waste went to landfill, around 20% of the total.

¹⁵² Waste collected by municipalities. The figures in the table showing total waste generated are not a reliable indicator of absolute levels of waste generation, since the waste responsibilities of municipalities will differ between countries. The table does, however, offer a broad comparison of disposal routes.

¹⁵³ HC Deb 23.1.96 c.165

¹⁵⁴ *Green tax reform...*, Institute for Public Policy Research, 1996 p.30

¹⁵⁵ Eurostat, *Environment Statistics 1989*, Tables 9.2 and 9.4

B. European developments in landfill legislation

A draft Landfill Directive - 93/7506/EEC - was first proposed by the European Commission in 1990. The UK's main objection concerned its proposed ban on co-disposal.¹⁵⁶ The Government was also concerned by the suggestion that all landfills should be routinely monitored.¹⁵⁷ Germany, France, Belgium, Italy and Luxembourg stated that they expected the Directive's conditions to, in effect, bar landfill without pre-treatment to ensure that stable residues only were landfilled for 'long-term safety'.¹⁵⁸ (The Royal Commission on Environmental Pollution in its report *Incineration of Waste*¹⁵⁹ recommended pretreatment of landfill waste by incineration to reduce the long term risks of pollution, greenhouse gas production, risk of leaching, and volume of landfill by up to 90%.)

In their contribution to the Royal Commission's report, Aspinwall & Co commented on the likely effect of the Landfill Directive.¹⁶⁰

"The siting of a landfill site is already a complicated process but it is bound to become even more difficult in the future. The latest draft of the EC Landfill Directive proposes to include restrictions in terms of proximity (not less than 5000 metres) to roads, recreational areas, houses, waterways or agricultural sites. Clearly this doesn't leave much room for new development ... The UK tradition of refilling voidspace left by quarrying works may ease the impact of this new restriction, but in the long term the consequence will be that landfills will become fewer, and subsequently more valuable."

In May 1996 however, the European Parliament, on the recommendation of the Environment Committee's rapporteur, rejected the common position on the draft Directive (445 votes to 18, with 22 abstentions).¹⁶¹ MEPs felt that the Directive did not go far enough, in that it did not ban an indefinite perpetuation of co-disposal. It also included the possibility of exempting small landfills in mountainous or sparsely populated areas from control. This had been inserted at the insistence of Ireland and Portugal and meant, said the rapporteur, that half the land area of the Community might possibly be excluded from the scope of the Directive.¹⁶² Because the Council of Ministers had adopted its common position by qualified majority rather than unanimity (France and Belgium wanted the Directive to go further) the Parliament's vote effectively killed the Directive, as the rapporteur acknowledged, calling for

¹⁵⁶ *Europe Environment*, 14 June 1994 p.1

¹⁵⁷ *Landfill of waste*; European standing committee A 2 February 1994, HMSO

¹⁵⁸ *ENDS Report*, September 1994 p.18

¹⁵⁹ Cm 2181 May 1993

¹⁶⁰ *op.cit.* Appendix B

¹⁶¹ "MEPS sound the death knell for landfill directive" *Europe Environment* 487, 31 May 1996 p.6

¹⁶² "EC waste policy up in the air as MEPs reject landfill Directive" *ENDS Report* 256, May 1996 pp 38-39

the Commission to table a revised draft 'respecting the views of MEPs'.¹⁶³

At least eight Member States are reported to have recently introduced or to be considering pretreatment of degradable waste prior to landfilling, and the Commission's draft waste strategy published in early 1996 indicated support for this principle, which suggests that any revised draft Directive would include such provisions.¹⁶⁴ This is also the Government's view, although it does not agree with it.¹⁶⁵

"Recently, the United Kingdom's landfill policy has been discussed in the context of the European Commission's communication on the review of the Community strategy for waste management. The Commission's communication suggests that all waste going to landfill should be pre-treated. There is no sound scientific basis to this approach. Landfill when properly engineered and controlled is a viable waste management option for a range of wastes.

The United Kingdom favours the disposal of untreated biodegradable waste to landfill, and the use of the biochemical process engineering - bio-reactor - approach to manage landfill sites. This approach is designed to prevent pollution caused by the degradation process, and to provide conditions in the landfill in which stabilisation of the waste in situ is as rapid as possible. The approach is based on research into landfill practices that the [DoE] has sponsored for more than 20 years."

The Commission is expected to publish a new proposal for a Directive 'in the next few weeks'. The UK has undertaken to oppose any provisions requiring the pre-treatment of all waste going to landfill.¹⁶⁶

¹⁶³ UNEP/Inter-Parliamentary Union, *Environmental Notes for Parliamentarians*, June/July 1996

¹⁶⁴ "EC waste policy up in the air as MEPs reject landfill Directive" *ENDS Report* 256, May 1996 pp 38-39

¹⁶⁵ HC Deb 16.10.96 cc 1060-1061W

¹⁶⁶ HL Deb 31.10.96 c.28WA

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