

WASTE DISPOSAL COSTS AND FINANCIAL INCENTIVES TO IMPROVE WASTE MANAGEMENT

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1. Introduction

Waste disposal in the UK has traditionally relied on landfill, and this is the main focus of this Section. Incineration has a long history, with many technological advances being made in municipal incinerator design and operation. However, as a result of financial constraints imposed on local authorities in the 1980s, no new municipal incinerator was opened between 1979 and 1994. In addition, the implementation of tighter emission controls as a result of EC Directives on municipal incinerators (89/369/EEC for new plants and 89/429/EEC for existing plants) meant that 26 incinerators closed by December 1996, with only eight deemed suitable for upgrading.

The following table gives a typical breakdown of the main cost elements for landfill and incineration. Whilst operational costs are similar, major differences can be seen in terms of (land) acquisition costs for landfill versus capital costs for incineration, and whilst landfill restoration is similar to decommissioning for incineration, long term after-care doubles this cost for landfill.

	Landfill	Incinerator
Acquisition	43.4%	0.7%
Assessment	0.8	0.1
Development	13.2	55.8
Operation	33.6	38.5
Restoration/after-care	9.0	
Decommissioning		4.7

Table1: Typical Breakdown of Landfill and Incinerator Costs

In both cases the data becomes complicated when increased capital investment is needed to treat leachate and/or capture methane at landfill sites, or install more sophisticated emission control equipment and/or capture heat and/or power. Costs for both facilities are likely to increase as operators have to progress through both waste management licensing and land use planning regimes, which can be as long as 8-10 years with planning enquiries and appeals.

Companies are now faced with the need to conduct (expensive) environmental impact assessments and Not In My Back Yard (NIMBY) attitudes require greater expenditure on public relations, publicity material and other expenditure to convince local communities of their environmental and economic benefits.

Comparative data for waste disposal in EU Member States was collected on behalf of DG X1 for 1993, and is shown in the following table. Overall contrasts between landfill and incineration are apparent, together with national and urban/rural variations. Recovery of energy from landfill operations has less overall impact on costs than heat and/or power generation from incineration.

	UK	B	Dk	Dd	F	It	NL	Sp
<u>Landfill – Urban</u>								
Without energy recovery	26	22	48	51	21	25	36	25
With energy recovery	25	22	47	51	20	24	36	24
<u>Landfill – Rural</u>								
Without energy recovery	19	17	28	29	15	18	21	14
With energy recovery	18	17	27	28	14	16	21	16
<u>Incineration</u>								
Without energy recovery	51	50	98	103	87	48	130	46
With heat recovery	43	47	88	93	79	30	127	35
With power recovery	43	49	86	97	81	33	120	46
With heat and power recovery	34	44	77	86	72	18	116	33

Source : *Coopers and Lybrand 1996.*

Table 2: Net Financial Costs (ECU per tonne) for Waste Disposal

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