

Department of the Environment

Statement of Facility Needs for Hazardous Wastes in Northern Ireland

October 2005



Environment &
Heritage Service
www.ehsni.gov.uk

Contents

Foreword	2
Acknowledgements	3
Hazardous Waste Arisings and Facility Needs	4

Foreword

Northern Ireland has always had relatively few facilities for the treatment or disposal of hazardous wastes. The end of co-disposal landfill in July 2004, extension of the definition of hazardous wastes in July 2005, and introduction of the Waste Incineration Directive in December 2005 could all make this situation worse.

The Hazardous Waste Forum was set up in 2003, in response to a proposal made in the three sub-regional Waste Management Plans, adopted by District Councils, that a working group be established to identify the preferred hazardous waste management solutions for the longer term, particularly in the light of these upcoming legislative changes. The Hazardous Waste Forum Action Plan was published in June 2004.

One recommendation in the Hazardous Waste Forum Action Plan was that *'An authoritative 'statement of facility needs' for the management of Northern Ireland's hazardous wastes is required as a matter of urgency.'*

This statement has been prepared by the Department of the Environment in response to that recommendation. Its purpose is to establish facility need as required by the Planning Policy Statement PPS11 on Planning and Waste Management, and to provide a framework to guide the sub-regional Waste Groups and business in the planning and procurement of new hazardous waste infrastructure. Waste Groups should take this framework into account when preparing their revised Waste Management Plans. The statement is supported by a technical report which screens those types of facilities most likely to be justified by need within Northern Ireland.

Acknowledgements

The Department of the Environment would like to acknowledge the members of the Northern Ireland Hazardous Waste Forum for providing information, advice and comments during the preparation of this Statement, in particular, the Environment Protection Agency in the Republic of Ireland for providing information and data. The detailed technical work of ERM consultants is also gratefully acknowledged.

Hazardous Waste Arisings and Facility Needs

In 2002, just over half the 50,000 tonnes per year of special wastes generated in Northern Ireland were managed within the province, with the remainder exported to GB. The end of co-disposal, and the resulting lack of any landfill within Northern Ireland to accept hazardous wastes, was expected to reduce the portion managed in Northern Ireland towards 40%, a large portion of this being recovered fuel oil, for which the current market outlet, to the roadstone industry, is under threat because they cannot meet the requirements of Waste Incineration Directive.

The total generation of hazardous wastes in Northern Ireland of around 50,000 tonnes per annum (tpa) can be compared to current arisings of around 500,000 tpa in the Republic of Ireland and 5 million tpa in England and Wales. Given the range of waste treatment and disposal facilities required for the environmentally sound management of hazardous wastes, and the significant economies of scale required for many of these, it is inevitable that Northern Ireland will continue to rely on co-operation with Great Britain, and potentially also the Republic of Ireland, to meet its facility needs.

Nevertheless, it is important that Northern Ireland remains or becomes self-sufficient in the treatment and disposal of those types of hazardous wastes for which the local demand and the economics makes that feasible.

Based mainly on a study carried out for the Hazardous Waste Forum in 2003, a quantitative estimate has been made of future capacity needs for Northern Ireland's hazardous waste treatment and disposal, taking into account both the end of co-disposal (and the need to pre-treat hazardous wastes prior to landfill) and the additional hazardous wastes resulting from the change in definitions. This is summarised in Table 1.

An analysis of facility needs was undertaken based on these estimates of hazardous waste arisings in Northern Ireland and the resulting capacity needs. In addition, an assessment of the potential for co-operation in facility provision on an all-island basis has been made (this was the main recommendation from the three Waste Management Plans in 2003). The results are summarised in Table 2.

Table 1: Summary of Generic Treatment / Disposal Route Capacity Needs (tonnes per annum) ^a

Generic Treatment Route	Estimate Treatment / Disposal Capacity Needs				Resultant Hazardous Waste Landfill Capacity Required for Residues / Outputs from Treatment Process			
	Special Waste Currently Treated	Special Waste Currently Landfilled	Additional Wastes	Total	Special Waste Currently Treated	Special Waste Currently Landfilled	Additional Wastes	Total
Stabilisation/ Solidification	2,120	6,870	5,880	14,870	4,240	13,740	11,760	29,740
Landfill after pre-treatment (no significant increase in weight)	-	2,440	3,350	5,790	-	2,440	3,350	5,790
Physico-chemical treatment	21,430	1,760	1,620	24,810	-	1,320	1,220	2,540
Wastewater treatment	-	340	40	380	-	n/a	n/a	n/a
Thermal treatment	3,570	1,650	1,480	6,700	n/a	n/a	n/a	n/a
Recovery	4,290	-	-	4,290	n/a	-	-	n/a
Total	31,410	13,060	12,370	56,840	4,240	17,500	16,330	38,070
a. This table should be read alongside the assumptions set out in section 2 of the supporting report, and in the notes to Tables 2.7 - 2.9								

The priority needs identified are:

- to ensure that adequate market outlets remain available for recovered fuel oil;
- dismantling and pre-processing facilities for Waste Electrical and Electronic Equipment (WEEE);
- authorised treatment facilities for end of life vehicles;
- a stabilisation/ solidification facility and an associated single cell for stabilised non-reactive hazardous waste at a non hazardous waste landfill site; and
- additional transfer stations, both in general, for asbestos wastes and for the collection of household hazardous waste, including WEEE and batteries.

A number of additional, potential, needs have been identified, which may be rather more 'marginal' in terms of their likely economic feasibility.

In terms of all-island co-operation, particular priorities might include establishing common markets for recovered fuel oil and for secondary liquid fuel for use in cement kilns; utilising existing or planned treatment

facilities on an all-island basis; and exploring the joint development of WEEE treatment facilities and of hazardous waste landfill capacity.

The analysis here is a first step, aimed at screening those types of facilities most likely to be justified by need within Northern Ireland. A next step for 'priority' facilities would be to establish if this is indeed the BPEO for the target waste streams: a BPEO report has already been published for asbestos wastes. In addition, any prospective facility developer would need to carry out their own detailed investment, financial, market and environmental appraisals.

It is possible that an entrepreneur may identify market opportunities for hazardous waste facilities in addition to those listed here. In such a case, the applicant is free to make the case for planning permission by demonstrating that the project is a BPEO solution that meets need.

Table 2: Summary of Facility Needs for Hazardous Waste Management in Northern Ireland

Facility type	Existing provision	Need		Synergy with Republic of Ireland
		Priority	Potential	
Treatment / Recovery				
Physico-chemical	1 acid neutralisation plant, considerable export to GB	-	Could be some potential for expansion or additional facilities	1 acid neutralisation plant.
Oil separation and treatment	4 facilities for recovered fuel oil production, adequate capacity: but market is in a state of flux	Priority is to ensure that adequate market outlets for recovered fuel oil remain available	This may require some modification to existing facilities, or even new facilities, to adapt to new market outlets	Existing healthy demand for recovered fuel oil in Republic of Ireland – not affected by Waste Incineration Directive. Potential to serve the all-island market for recovered fuel oil.
Thermal treatment	None for high temperature incineration	-	Unlikely, as Northern Ireland quantities very low compared to an economic size of facility	A high temperature incineration facility in County Cork is awaiting a final decision on licensing
	None for organic waste pre-processing to form a secondary liquid fuel for co-incineration	-	Quantities small, but could be an opportunity if Northern Ireland cement kilns adapt to use secondary liquid fuel	3 organic waste pre-processing facilities exist/ under development in Republic of Ireland
	Two cement kilns could potentially use secondary liquid fuel or other waste derived fuels (e.g. recovered fuel oil) to replace fossil fuels – one has trials in progress	If these go ahead, then storage facilities at the cement plant to accept secondary liquid fuel and/or recovered fuel oil would become a priority need		Republic of Ireland produces/ will produce substantial quantities of secondary liquid fuel for export. Potential for an all-island market for secondary liquid fuel.

Facility type	Existing provision	Need		Synergy with Republic of Ireland
		Priority	Potential	
	One steam sterilisation plant for healthcare risk wastes	-	Capacity adequate	A common procurement procedure led to 2 steam sterilisation plants being built, 1 North and 1 South..
Recovery	None in Northern Ireland.	-	Could be some potential for specialised facilities.	Small facilities for solvent recovery, photochemical wastes and fluorescent lamps, but all are also exported.
Waste Electrical and Electronic Equipment (WEEE)	One specialised plant for refrigeration equipment containing chlorinated fluorocarbons	Priority need for one or more WEEE dismantling and recovery plant(s)	May be some opportunities for more specialised facilities, e.g. for fluorescent lamps – economics could favour serving a wider area than Northern Ireland	Priority need both North and South – obvious potential for collaboration
End of Life Vehicles (ELVs)	Well established network of vehicle dismantlers	Priority need to establish a network of authorised treatment facilities		Likely to be adequate demand to support facilities North and South. Co-operation in border areas could be explored.
Contaminated soils	None	Facilities to treat wastes from specific redevelopment sites, or 'mobile' plants to serve several sites in turn	A central facility to serve a number of sites	one pre-treatment plant for oil-contaminated soils: otherwise exported.

Facility type	Existing provision	Need		Synergy with Republic of Ireland
		Priority	Potential	
Disposal				
Hazardous waste landfill	None	-	Unlikely to be justified simply to serve Northern Ireland	See below
Cell for stabilised non-reactive hazardous wastes at a non-hazardous waste landfill site (general)	None	Priority need for a cell for stabilised non-reactive hazardous waste , accepting a range of waste types. Would require a solidification/ stabilisation plant, most likely on same site.		National priority in Republic of Ireland to establish 2 cells for stabilised non-reactive hazardous waste – Government has stated that funding may be available. As no current facilities, co-operation could be mutually beneficial.
Cell for asbestos only	One cell operational			One cell operational, for bonded asbestos only. Potential for co-operation.
Collection and Transfer stations	22 transfer stations, 6 accepting a range of hazardous wastes	Additional general transfer stations, and better geographical spread. Urgent: further asbestos transfer stations Network of sites for household hazardous wastes, WEEE, batteries etc.	Will be a continuing need for further, more specialised, transfer stations	Co-operation in border areas could be explored.

Facility type	Existing provision	Need		Synergy with Republic of Ireland
		Priority	Potential	
Integrated hazardous waste management facility	None	-	Development of an integrated facility, offering some combination of: physico-chemical treatment, oil separation, organic waste pre-processing for secondary liquid fuel, solidification/stabilisation, landfill and transfer (for export), could help to improve economics.	Several partially integrated facilities already exist (but without solidification or landfill). Potential for co-operation.



Our aim is to protect and conserve the natural and built environment and to promote its appreciation for the benefit of present and future generations.

Environment & Heritage Service
Commonwealth House
35 Castle Street
Belfast BT1 1GU
Tel: (028) 9054 6565
Email: info@ehsni.gov.uk

www.ehsni.gov.uk



An Agency within the Department of the
Environment
www.doeni.gov.uk



INVESTOR IN PEOPLE