

Merseyside Joint Waste Development Plan Document

APPENDIX 2

1.0 WASTE ARISING INFORMATION IN MERSEYSIDE

- 1.1 It should be noted that all data attributed to Merseyside includes data for Halton, unless otherwise stated.
- 1.2 Much work has already been carried out on the options for the treatment, recovery and disposal of municipal waste arisings to inform the submissions by the Merseyside Waste Disposal Authority of an Outline Business Case for Private Finance Initiative credits for the future municipal disposal contracts for the sub region. The waste arising predictions are based on actual tonnages at all stages in the collection, treatment and disposal activities.
- 1.3 Some may consider the management of Municipal Solid Waste to be the most significant issue to be addressed in the Waste DPD. However, this is far from the case and National Guidance in the form of PPS10 makes it clear that in order to achieve true sustainable waste management in the UK all waste arisings, including commercial, industrial, construction and demolition wastes, should be planned for.
- 1.4 Firm data on all Merseyside arisings including Commercial & Industrial (C&I) waste and Construction, Demolition and Excavation (CD&E) waste is less reliable. The table below shows that estimates of arisings within these categories have been made by the Environment Agency, the Regional Assembly and others. However much of this data is now 6+ years old and cannot be taken as wholly reliable and can, therefore, only be used to indicate the probable arisings within each category.

Table 1: Sources of Data Relating to Waste

Controlled Waste Type	Data Source(s)
Municipal Solid Waste (MSW)	A Waste Strategy for the North-West: The Challenge Ahead, The Banks Foundation, April 2004 MSW modelling reports for MWDA, ERM, 2005
Commercial and Industrial (C&I) Wastes ⁱ	EA National Waste Production Survey 1998/99 – as reported in ‘A Waste Strategy for the North-West: The Challenge Ahead’, Banks Foundation, April 2004 Commercial and Industrial Waste Survey 2002/03 presented in the EA’s Strategic Waste Management Assessment 2002/03.
Construction and Demolition (C&D) Wastes	Survey of Arisings and Use of Construction, Demolition and Excavation waste as Aggregate in England in 2003, Capita Symonds October 2004. Also previous similar surveys from 2001 and 1999.
Hazardous Wastes	EA Hazardous Waste Interrogator Database, 1999–2003
Agricultural Waste	Environment Agency’s Agricultural Waste Survey 2003
All Wastes	Strategic Waste Management Assessment (SWMA) 2002/03, EA.

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- 1.5 This issue is the same for all authorities involved in the Waste DPD process and it has been recognised that better, up to date information is required. The Environment Agency has been carrying out a study of C&I and CD&E waste arisings and is due to publish it's findings in 2007. This will enable better forecasts to be made as the plan process evolves.
- 1.6 Following the study into the waste arisings for Merseyside it was decided that Halton Borough Council will become a partner in the development of the Joint Waste DPD. The data used in this section includes arisings from Halton although, as for the rest of Merseyside, work is to be undertaken to fill the evidence gaps that currently exist and to update the less reliable data.

2.0 COMPOSITION OF THE WASTE STREAM

- 2.1 The make-up of waste in the United Kingdom as estimated by Department for Environment, Food and Rural Affairs, Environment Agency and Water UK in one year is shown below.

Table 2: UK National Waste Arising Data

Waste Type	Tonnes	Percent of Total
Construction, Demolition & Excavation (CD&E)	104,160,000	24%
Minerals (mining & quarrying)	91,140,000	21%
Agriculture	86,800,000	20%
Industrial	56,420,000	13%
Dredged Material	34,720,000	8%
Municipal	34,720,000	8%
Commercial	26,040,000	6%
Sewage Sludge	n/a	<1%
Total	434,000,000	100%

2.2 Municipal Solid Waste

- 2.2.1 Municipal Solid Waste (MSW) consists mainly of household and other wastes collected by a waste collection authority (WCA) or its contractors. It may also include a small amount of commercial and industrial waste. Biodegradable municipal waste (BMW) makes up the majority of this waste (approximately 70%) and consists of paper and card, food and garden waste and textile waste. The rest is mostly plastics and other residues.
- 2.2.2 Based on the Merseyside 2005/6 actuals, Municipal Solid Waste (MSW) arisings in Merseyside are approximately 899,550 tpa. ERM's Initial Needs report provides an estimate of the future requirements to 2020 for recycling and composting, residual waste treatment and landfill of MSW residues; to meet the Landfill Allowance Trading Scheme (LATS) targets. These are presented in a later section.
- 2.2.3 The reported waste flow data for Merseyside indicates that Merseyside is only 64% self-sufficient in terms of MSW management, with some 36% of the sub-region's MSW being exported for landfill disposal elsewhere (mostly to Cheshire). No imports of MSW into Merseyside were recorded. If Merseyside continues to export a proportion of its MSW, the scale of the facilities required within Merseyside will be reduced – although the same facility capacity requirements remain, albeit provided in part outside of Merseyside.

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Table 3: Municipal Solid Waste - Predicted Arisings to 2020

Source / Scenario	Data Source / Growth Rate Description	
1.ERM, June 2005	Reducing from 3% to 2% by the end of 2005/2006	
	Reducing to 1% by 2009/2010	
	Reducing to 0% by 2014/2015 and 0% thereafter	
2. ERM, March 2005	3% from 2002/2003 onwards	
	2% from 2012/2013 onwards	
	1% from 2022/2023 onwards	
3.Banks Report, April 2004	Banks 1:	
	3% growth 2003-2007	
	2% growth 2007 - 2020	
4. ERM June 2005 & Banks Report, April 2004	Low growth scenario:	
	Zero growth (static) beyond 2005	
5. ERM June 2005 & Banks Report, April 2004	High growth scenario:	
	Continued growth of 3% to 2020	

Table 4: MSW Growth Forecasts for Merseyside (High Growth)

2005	2010	2015	2020
899,550	1,042,825	1,208,920	1,401,469

Note: Assumes current growth rate of 3% continues (growth rate of 3% taken from the Regional Waste Strategy for the North West, September 2004 – North West Regional Assembly)

Table 5: MSW Growth Forecasts for Merseyside (Low Growth)

2005	2010	2015	2020
899,550	1,002,913	1,054,071	1,054,071

Note: Assumes current growth rate of 3% dropping to 2% from 2006 then 1% by 2010 and 0% by 2015. (Taken from the 2005 ERM best estimate for MWDA)

2.2.4 The breakdown of waste produced by a typical household in Merseyside (households produce the majority of municipal waste) was measured in a survey undertaken by SWAP 2005/6. The findings of this study are shown below and have been applied to the total arisings of MSW.

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Table 6: Estimate of the annual aggregated composition of material currently collected in Merseyside from domestic properties and HWRCs

Category	kg/hh/wk	%
Paper and card	4.80	20.17
Plastic	2.07	8.71
Textiles	0.88	3.68
Glass	1.69	7.10
Wood (not garden waste)	1.07	4.50
Disposable nappies	0.59	2.47
Metals and white goods	1.10	4.64
Other electrical items	0.36	1.51
Hazardous items (non electrical)	0.21	0.87
Garden waste	2.31	9.73
Kitchen waste	3.98	16.73
Potentially reusable items (non electrical)	0.52	2.18
Other material	4.21	17.71
TOTAL	23.79	100.00

2.2.5 Current Disposal, Treatment and Recovery of Municipal Waste in the DPD area:

Table 7: Municipal Waste 2005/6 (Actuals)

	Landfill	Recycled	Re-Used	Composted
Liverpool	187,572	16,131	15	3,951
Knowsley	65,512	4,767	0	3,618
Sefton	99,238	15,751	5	6,590
St Helens	68,725	6,831	10	8002
Wirral	123,575	10,750	34	6,175
Halton	50,165	8,871	0	6,294
MWDA	114,914	33,907	34,680	23,468
Totals	709,701	97,007	34,744	58,098
	78.9%	10.78%	3.86%	6.46%
Total Household Waste Arisings = 899,550 Tonnes				
Waste Diversion Rate = 21.1%				

2.3 Commercial and Industrial Waste

2.3.1 Commercial and Industrial (C&I) waste is broadly similar to MSW and is produced by commercial sources such as trade, business, sport, recreation and entertainment sites. It is also the source of most hazardous waste. The main industrial element includes general industrial (paper and packaging, floor sweepings and general rubbish), chemicals, other general and biodegradable, paper & card waste, metals, mineral waste and residues, etc.

2.3.2 The baseline data for Commercial & Industrial (C&I) waste arisings in Merseyside has been taken from the National Waste Production Survey, carried out by the Environment Agency (EA) in 2002/2003. The EA is due to publish an updated survey in 2007. However, the

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currently available data on C&I Waste data in Merseyside is now four years old and therefore likely to be inaccurate.

- 2.3.3 It is suggested in the Initial Needs Assessment report that Merseyside is only 31% self-sufficient in the management of its C&I waste arisings, with some 69% of these being exported elsewhere for processing and disposal (much of it being managed in Cheshire). Clearly, if Merseyside continues to export such a high proportion of its C&I Wastes for processing elsewhere, the scale of facilities required within Merseyside will be substantially reduced. However it is probable that there is a significant amount of C & I waste imported into Merseyside and, given the potential environmental and economic benefits that could be derived from developing more C&I Waste processing capacity within Merseyside, planning for future processing capacity would make sense.

Table 8: Environment Agency C&I survey 2002/3- North West Waste Types

	Waste Type Description								Total
	Chemicals	Metals	Non-metallic	Discarded equip	Animal & plant	Mixed	Common sludges	Mineral wastes	
Industrial									
Total in DPD area	124,500	49,000	95,400	2,400	92,000	138,700	15,100	214,700	731,800
North West	924,000	325,000	731,000	12,000	639,000	928,000	135,000	809,000	4,502,000
Commercial									
Total in DPD area	52,320	14,900	208,700	6,760	58,600	388,420	4,760	23,280	757,740
North West	248,000	78,000	1,098,000	33,000	275,000	1,964,000	19,000	119,000	3,833,000

*Halton figures extrapolated as 38% of combined figure with Warrington

- 2.3.4 The current disposal methods for commercial and industrial waste in Merseyside are tabulated as follows:-

Table 9: Commercial and Industrial Waste (Banks Report) 2003 – indicative management arrangements

Landfill	Land Recovery	Re-Use	Recycle	Thermal treatment	Waste Transfer	Waste treatment	Unrecorded
49.43%	3.84%	7.46%	24.90%	0.97%	1.63%	5.94%	5.83%

- 2.3.5 In addition, the Regional Waste Strategy for the North-West (September 2004) establishes the following targets for C&I wastes:

- achieve and retain 0% growth in the amount of wastes produced in these sectors
- recycle 35% of all C&I wastes by 2020
- recover value (including recycling) from at least 70% of all C&I wastes by 2020
- provide sufficient treatment and landfill capacity for these waste streams up to 2020 – approximately 4 million cubic meters per annum

- 2.3.6 Clearly there is an expectation on the part of government that C&I wastes will be managed in a more sustainable way in future and take into account the growth in arisings which are expected to show a 1% growth until 2010 and then a 0.5% growth thereafter as follows:-

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Table 10: Commercial & Industrial Waste – Growth Forecasts (EA C&I survey 2002/03 data) (Tonnes)

	2003	2005	2010	2015	2020
Commercial	757,740	772,970	812,400	832,914	853,946
Industrial	731,800	746,509	784,588	804,400	816,527
TOTAL C&I	1,489,540	1,519,479	1,596,988	1,637,314	1,670,473

Data includes estimated arisings in Halton as 38% of total C&I arisings in Warrington & Halton

2.3.7 The Regional Waste Strategy for the North-West 2004 set a 35% target for recycling by 2020. One of the other key requirements of Regional Waste Strategy is that at least 70% of all C&I Wastes are subject to processing to 'recover value', by 2020

2.4 Construction, Demolition and Excavation Waste

2.4.1 Construction, Demolition and Excavation (CD&E) waste arises largely from the construction, repair, maintenance or demolition of structures (e.g. roads) and buildings. The make up is mostly of brick, concrete, hardcore, subsoil and topsoil. Timber, metal, plastics and occasionally some hazardous waste is included.

2.4.2 The main data source for Construction, Demolition and Excavation (CD&E) Wastes is the 'Survey of Arisings and Use of Construction, Demolition and Excavation Waste as Aggregate in England', carried out by the Symonds Group for ODPM. The data used is from the 2003 survey. The data is based on a survey which has limited accuracy, particularly at the sub-regional level, and should always be expressed accurate within a range of +/- 12%, to reflect the confidence levels inherent in the survey methodology. In addition the survey data excludes 'soft' CD&E arisings such as timber, plastics, metals, packaging, plasterboard etc. and is therefore considered to be at best indicative of the CD&E Waste arisings in Merseyside. A 2006 survey is currently being completed by Capita Symonds on behalf of the Department for Communities and Local Government.

2.4.3 No specific data on imports and exports of CD&E Wastes from Merseyside was available and this should be obtained, where possible. However, taking account of the dense nature of the bulk of CD&E Wastes and its suitability for use on some exempt sites, it is considered unlikely that much of the hard and inert fraction is exported out of the Merseyside sub-region.

2.4.4 The following table gives details of the quantities of CD&E waste produced and how it is managed in the Merseyside sub region:

Table 11: Quantities of CD&E waste in Merseyside and Management

C&D Waste Process / Disposal Type	Tonnes	%
Total tonnes of C&D waste recovered as aggregate and soil	1,146,819	46.91%
Total tonnes of C&D waste for landfill engineering and restoration	202,574	8.29%
Total tonnes used to backfill voids	220,170	9.00%
Total tonnes of C&D waste/recycled aggregates and other material held on registered exempt sites	636,095	26.02%
Total tonnes of C&D waste disposed of to landfill	239,086	9.78%
Total production/uses of C&D waste and soil	2,444,744	100%

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Tonnage data from 2003 ODPM survey of CD&E arisings and calculated as a proportion of the North West data based on the split in the population of Merseyside compared to that of the North West Region (2001 Census).

- 2.4.5 It can be seen from the table that, based on the available data, it is estimated that only 10% of the total CD&E Waste in Merseyside is disposed of to landfill.
- 2.4.6 While there are currently no statutory targets for the recycling and recovery of CD&E wastes in the UK, CD&E waste represents a subset of Industrial wastes and are therefore subject to the same aspirational targets as C&I wastes.
- 2.4.7 However it is recognised that recycling levels of CD&E Wastes are already significantly higher than those for C&I Wastes and the European Commission, in its working document on Construction and Demolition waste, suggested that Member States should aim towards combined recycling and re-use targets of 50-75% by 2005 and 70-85% by 2010.
- 2.4.8 The results of the analyses suggest that the 2005 targets for recycling and re-use of CD&E Wastes may already have been met – although it should be noted that more recent, Merseyside-specific data would be required to confirm this.

2.4.9 Future Management of Construction, Demolition and Excavation Waste

- 2.4.10 This section reviews the likely future potential waste management methods required for Construction and Demolition Wastes in Merseyside. The projections are set out in the following table; these are based on the following:
- The fate of C&D Wastes in the North West Region, as recorded by the 2003 survey is assumed to apply in the same way to the CD&E waste produced in Merseyside and follow the same processing and disposal, by type, as that for the North-West Region, as a whole;
 - The future growth of C&D Waste arisings in Merseyside is based on Scenario 3 Peak Growth rate; it is assumed that this growth rate applies uniformly across the various C&D Waste fractions; and
 - The aspirational requirement to increase the quantity of C&D Waste recycled and re-used to at least 75% (2005) and 85% (2010) is achieved and maintained beyond these years and also that the current level of reliance on beneficial re-use of C&D Waste through exempt activities and landfill engineering uses, would decline by 2010 and beyond. This would result in an increase in ‘true’ recycling in aggregates and soil to 50%.

Table 12: Growth Scenarios for Construction and Demolition Waste in Merseyside

	2003 (tonnes)	2005 (tonnes)	2010 (tonnes)	2015 (tonnes)	2020 (tonnes)
Zero growth	2,444,744	2,444,744	2,444,744	2,444,744	2,444,744
Medium growth	2,444,744	2,543,512	2,808,242	3,100,526	3,423,231
Peak growth	2,444,744	2,695,330	3,440,000	3,612,000	3,612,000

Note: Medium growth is 2% per annum; peak growth is 5% per annum to 2011 then 0%.

- 2.4.11 It is expected that the arisings of Construction, Demolition and Excavation waste will follow the peak growth scenario and continue to grow to 2011, mainly due to the expected level of

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economic activity already in the pipeline. Thereafter it is expected that arisings will level out showing a 0% growth from 2015.

Table 13: Summary of Projected Required Capacities for Future C&D Waste Management

Management Method	% (2003)	2005 (tonnes)	% (2010+)	2010 (tonnes)	2015 (tonnes)	2020 (tonnes)
Recycled aggregate / soil	47	1,266,805	50	1,720,000	1,806,000	1,806,000
Beneficial re-use on landfill	8	215,626	10	344,000	361,200	361,200
Backfilling voids	9	242,580				
Use for Exempt * activities	26	700,786	25	860,000	903,000	903,000
Landfill Disposal	10	269,533	15	516,000	541,800	541,800
Total:	100%	2,695,330	100%	3,440,000	3,612,000	3,612,000

Note: * Exempt activities refer to Paragraph 9 and 19 exemptions under Schedule 3 of the Waste Management Licensing Regulations 1994.

2.5 Hazardous Waste

- 2.5.1 The terms ‘special’ and ‘hazardous’ are defined as follows: ‘hazardous’ waste refers to future waste arisings following the introduction of the Hazardous Waste Regulations (i.e. from 16 July 2005), whilst ‘special’ waste has been used to refer to the historic situation which was regulated by the Special Waste Regulations (1996). From herein, all wastes will be referred to as ‘hazardous’ to avoid confusion, with the exception of legislative uses of the word ‘special’.
- 2.5.2 The revised European Waste Catalogue identifies a wider range of hazardous wastes than those that were previously assigned hazardous (i.e. special waste) status. The new classification identifies an additional 250 categories of materials which were not previously considered as hazardous (e.g. computers, fluorescent tubes, batteries and televisions). The impacts of the introduction of the new Hazardous Waste Regulations combined with restrictions on co-disposal of hazardous waste (introduced in July 2004) has led to some uncertainty about hazardous waste management under the new legislation.
- 2.5.3 With the new Hazardous Waste classification system implemented on 16th July 2005 (which replaced the Special Waste Regulations), it is uncertain whether this will lead to a significant increase in hazardous waste quantities or not. While there is a significant increase in the types of waste that are classified as hazardous under the new legislation, there has also been a tendency in the past to ‘over-consign’ waste as special waste, where in fact much of the consignment is non-special. With the introduction of the ban on co-disposal (where hazardous and non-hazardous waste is disposed together in the same landfill cell) to landfill on 16th July 2004 and associated reduction of hazardous waste landfills, it was reported by the Environment Agency that quantities of hazardous waste quantities dropped significantly, giving rise to concerns about whether these are being disposed of legally or not. This issue continues to be the subject of strong debate.

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- 2.5.4 The restriction on hazardous waste disposal to landfill has resulted in increased gate prices at the limited number of authorised landfill sites. Further requirements of the Landfill Regulations require pre-treatment of all hazardous waste prior to disposal which results in a greater demand for such facilities.
- 2.5.5 The Environment Agency remains the most accurate and detailed source of information on hazardous waste, which is accessible through its Hazardous Waste Interrogator database. Hazardous waste data collated by the EA can be broken down into sub-regional data and also provides detailed data on wastes produced, waste disposed, waste type, waste fate, and waste movements. The data covers 1999, 2000, 2001, 2002 and 2003 and is available at a National, regional, sub-regional and local authority level. 2004 data, which will cover some of the period following the implementation of the Hazardous Waste Regulations is due to be released over the next few months.

Table 14: Hazardous Waste Arisings in Merseyside

Waste Type	Tonnes	%
Mining and Minerals	25	0.015
Agriculture & Food Production	240	0.134
Wood and Paper Production	30	0.018
Leather and Textile Production	4	0.003
Petrol, Gas & Coal Refining	447	0.25
Inorganic Chemical Processes	24,602	13.59
Organic Chemical Processes	44,649	24.67
MFSU Paints, Varnish, Adhesive & Inks	2,127	1.18
Photographic Industry	470	0.26
Thermal Process Waste	1,638	0.91
Metal Treatment & Coating Processes	2,156	1.19
Shaping/Treatment of Metal & Plastic	2,651	1.46
Oil and Oil/Water Mixtures	30,573	16.89
Solvents	3,882	2.15
Packaging, Cloths & Filter Material	4,162	2.30
Unspecified	4,761	2.63
C & D Waste including Asbestos	26,264	14.51
Healthcare	175	0.10
Waste Water & Water Industry	21,759	12.02
Municipal & Similar Commercial Waste	2,478	1.37
Unclassified	7,873	4.35
Total	180,966	100

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Table 15: Hazardous waste projection for Merseyside based on 'low, medium and high growth' scenario (Tonnes) –

	2000	2005	2010	2015	2020
Low Growth	181,609	177,364	168,672	160,405	152,544
Medium Growth	181,609	184,604	194,019	198,918	203,942
High Growth	181,609	191,987	222,565	245,729	271,305

2.5.6 Current Hazardous Waste Management Methods

2.5.7 Methods of hazardous waste treatment and disposal have been taken from the Environment Agency Hazardous Waste system for 2003 and the breakdown for the various disposal and treatment methods is summarised below.

Table 16: Hazardous Waste Methods of Treatment and Disposal

Method of Treatment & Disposal	%
Incineration with energy recovery	0.023%
Incineration without energy recovery	6.17%
Landfill	31.42%
Other	0.08%
Recycling/reuse	9.8%
Transfer(short term)	15.52%
Treatment	36.99%
	100%

2.5.8 These proportions have been applied to the 2003 Hazardous Waste Arisings to show how the waste is currently managed in Merseyside. This information is displayed below.

Table 17: Quantities of Hazardous Waste Produced by Merseyside Districts

	Deposits 2003 EA	Incin. with energy recovery	Incin. without energy recovery	Landfill	Other	Recycling / reuse	Transfer (short term)	Treatment
Northwest	691,017	67,302	21,370	241,109	968	83,312	111,761	165,193
Merseyside	180,966	42	11,174	56,867	145	17,740	28,082	66,916
Wirral	36893	25	3667	10700	40	4098	6910	11452
Liverpool	56734	12	2936	35187	0	1167	8569	8863
Sefton	6118	3	195	1408	105	882	3009	516
Knowsley	43513	1	1923	3234	0	7631	5411	25314
St Helens	3046	1	0	1328	0	440	553	724
Halton	34662	0	2453	5010	0	3522	3630	20047

2.5.9 It should be noted that the data in these tables refers to hazardous wastes managed within Merseyside, rather than the management of hazardous wastes arising within Merseyside (but managed elsewhere).

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2.5.10 The EA's Hazardous Waste Interrogator website-based database provides detailed information about the imports and exports of Hazardous wastes from Merseyside.

Table 18: Hazardous Waste Imports and Exports to and from Merseyside (2003)

Region	Tonnes Imported	Tonnes Exported
	Merseyside DPD area	Merseyside DPD area
Wales	6,884	3,419
West Midlands	12,647	8,037
East Midlands	852	3,205
Yorks and Humberside	10,314	18,388
North East	3,315	1,125
East Anglia	3,675	1,392
South East	4,277	2,853
London	6,866	2
South West	3,093	600
North West (excluding Merseyside)	38,244	91,780
Totals	90,167	130,801

Source: EA Hazardous Waste Interrogator

2.5.11 It is apparent from these tables that there is a considerable amount of movement of Hazardous Wastes between Merseyside and other authority areas, not only in the North-West Region, but throughout the UK. The extent of this movement is a function of the specialist treatment requirements for many Hazardous Wastes. Clearly the majority of the Hazardous Waste arisings in Merseyside are transported elsewhere for treatment and disposal (mostly to the neighbouring authorities in the North-West Region). Conversely the bulk of the Hazardous Waste managed within Merseyside has been imported from elsewhere in the UK –

2.6 Agricultural Waste

2.6.1 The Waste Management (England & Wales) Regulations 2006, came into force on 15th May 2006 and, for the first time, brought agricultural waste into the definitions of waste to which the Controlled Waste Regulations would now apply. Waste can no longer legally be buried in farm tips or burnt onsite without appropriate authorisation.

2.6.2 The intention to bring agricultural waste under waste management legislative control has been brought to the attention of the farming industry for some time and followed the assessment of the findings of the Environment Agency's Agricultural Waste Survey 2003 which sought to identify the nature and quantity of waste being generated. The number and area of agricultural holdings in Merseyside are tabulated below.

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Table 19: Agricultural Holdings in Merseyside

Authority	Number of Agricultural Holdings	Area of land used for Agriculture
Sefton	118	3,285 hectares
Wirral	127	4,134 hectares
Liverpool	No Data	No Data
Knowsley	77	2,923 hectares
St Helens	146	6,419 hectares
Halton	130	5,150 hectares
Total	598 Holdings	21,911 hectares

2.6.3 The findings of the Environment Agency's survey in respect of agricultural wastes generated in the North West Region are shown in table 20 below.

2.6.4 Of the total arisings in the North West region of 6.8million tonnes per annum it is recognised that most will be generated in the more rural counties of Cheshire, Lancashire and Cumbria. However it is also recognised that a significant waste stream will be generated in Merseyside and, by extrapolation from the regional arisings for 2003, could be as much as 203,000 tonnes of slurry, manure or vegetable waste, 1,800 tonnes of combustible waste and up to 6,150 tonnes of difficult or chemical waste. The latter two categories will further increase pressure on the treatment and disposal facilities for either C&I waste or Hazardous wastes in Merseyside.

Table 20: Agricultural waste produced in Merseyside

Waste Type	Tonnes	%
Farm yard manure	111,747	52.89
Slurry	89,870	42.53
Vegetable	1,719	0.81
Straw (unbaled)	1,426	0.68
Silage wrap (plastic)	139	0.07
Bale twine and net (plastic)	25	0.01
Fertiliser & seed bags (plastic)	30	0.014
Animal feed bags (plastic)	50	0.02
Animal feed bags (paper & card)	30	0.014
Horticulture (plastic) ²	39	0.018
Tree guards (plastic)	13	0.0063
Paper seed bags (paper & card)	2	0.00075
Oil	52	0.025
Silage effluent	5,686	2.69
Agrochemical (plastic)	2	0.001
Agrochemical (paper and card)	1	0.0007
Animal health (plastics)	3	0.0015
Animal health (paper and card)	1	0.0005
Animal health glass	3	0.0015

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Animal health rubber/metal	0	0.00006
Pesticide washings	101	0.048
Sheep dip - organic phosphates	189	0.089
Sheep dip - synthetic pyrethroids	76	0.036
Milk	92	0.043
Total	211,296	100

Data extrapolated from NW Regional data.

Note The data in respect of agricultural waste arisings is thought to be indicative at best and, therefore, predictions of future arisings have not been made until more reliable data is obtained. Over the coming months work will be completed to provide a better estimate of Merseyside's agricultural waste arisings. The results of this survey will be available in time for and used to inform the Waste DPD Preferred Options.
