



North Yorkshire Sub-Region Waste Arisings and Capacity Evidence Project



Waste Arisings and Capacity Requirements

INTERIM REPORT

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STAGE 1a: Updating and Compiling Baseline Waste Arisings for the Four Authorities

A baseline review of the robustness and limitations of currently available information on current and expected arisings of waste in the North Yorkshire Sub-Region has been thoroughly carried out for a range of waste streams.

The North Yorkshire Sub-Region is defined in this study as comprising the North Yorkshire County Council Waste Planning Authority boundary, the National Parks (Yorkshire Dales National Park (YDNP) and North York Moors National Park (NYMNP)¹) and York City Council. Waste arisings data is traditionally published on a county basis i.e. North Yorkshire including the Yorkshire Dales and North York Moors National Parks, with waste arisings data for York published separately.

This Interim Report provides information relating to the arisings for each of the following waste streams in the North Yorkshire Sub-Region:

- Commercial and Industrial;
- Local Authority Collected Waste;
- Hazardous Waste;
- Construction, Demolition and Excavation Waste;
- Agricultural;
- Low Level Non-Nuclear Radioactive Wastes; and
- Water Waste/Sewage Sludge.

This report also provides information on the cross-border movement of waste across the North Yorkshire Sub-Region.

Details of data sources used to inform this Interim Report are provided in a list of references at the end of this report.

¹ The NYMNP includes an area of land within Redcar and Cleveland Borough, whilst part of the YDNP falls within Cumbria.

1. Commercial and Industrial Waste Arisings Projections

1.1 Survey Data Sources

There have been no specific surveys of Commercial and Industrial (C&I) waste arisings in the Sub-Region and there is no direct method by which C&I waste arisings can be measured on an annual basis to cover the Sub-Region. However, estimates of the quantities of C&I waste arisings can be extrapolated from surveys that have been undertaken at the National and Regional (Northwest) level. The relevant surveys which have been used for this study use data collected in the years 2009² and 2008/9³.

The data from the National Report is from a national survey of 6,005 businesses gathered between June and October 2010, with estimates of waste arisings in 2009 and ONS data on business size and number from 2009. Of the interviews conducted for the survey, 54.5% were face-to-face, with the remaining data taken from telephone interviews, corporate data and PPC (Pollution Prevention Control) returns to the Environment Agency. In total, 7.77% of the surveys were within the Yorkshire and Humberside Region. PPC data is added in to the survey published totals and will therefore introduce distortions into any manipulation of published data. The published totals with PPC data added are not statistically derived and therefore manipulation of the numbers using baseline survey and ONS statistics will produce distorted results.

The Northwest (NW) survey was completed through site visits to surveyed premises undertaken in 2009 and covered 1000 businesses. The North West survey was chosen as it is geographically close to the North Yorkshire Sub-Region and data is published in sufficient detail to allow customisation for the Sub-Region (details of waste arisings per C&I sector and business size allow data to be generated covering the number, sector and size of businesses operational in the Sub-Region). The North West survey extrapolations correlate with the observed quantity of landfilled C&I waste from the EA Interrogator, which supports confidence in the extrapolated estimates.

1.2 Commercial and Industrial Waste Arisings

Stage 1 – Extrapolations for the North Yorkshire Sub-Region

The first stage in determining C&I arisings for the Sub-Region is to extrapolate data at a Regional level for Yorkshire and Humberside. Table 1 compares the outputs for Yorkshire and Humberside from the published national survey (ONS businesses 2009, projections using ONS data on business size and number from 2008) with outputs from the NW Regional

² Commercial and Industrial Waste Survey 2009 Final Report May 2011 (Jacobs, for Defra)

³ North West of England Commercial and Industrial Waste Survey 2009 (For the Environment Agency March 2010)

Survey (2008 ONS business data). Survey data is from 2009 (Defra National Survey) and (2008/9 NW Regional Survey).

Note about survey data: It is rarely the case that actual full year data is available from businesses. In practice, survey methodology means that annual estimates are scaled up from recent month's invoices or actual waste on site (estimated by container sizes) multiplied up to calculate annual totals. Thus data collected in mid 2009 when the NW survey was completed is unlikely to be at significant variance within statistical margins of error to the Defra survey, for which field work was carried out in early 2010 for the year 2009/2010. Full details of the extrapolation method are provided in Appendix A of this report.

Table 1 C&I arisings comparison (tonnes) using the published National Survey and the NW Regional Survey

Projected sector arisings for Yorkshire & Humberside	Published Arisings Projected* in the Defra National Survey Report 2009 (000 tonnes)	Arisings Projected* from the NW Survey 2009 (000 tonnes)
Food, and drink	690	526
Textiles/wood/paper/publishing	583	344
Power & Utilities	2,064	215
Chemical/non-metallic minerals manufacturing	571	428
Metal manufacturing	772	372
Machinery & equipment (other manufacturing)	268	459
Retail & wholesale	816	1,272
Other services	795	988
Public sector	387	528
Totals	6,944	5,132
Total minus Power & utilities	4,880	4,917

*Extrapolated figures

The high values for the power and utilities sector indicate that PPC data for ash disposal at power stations was factored into the national survey results. Projections from the NW survey exclude PPC (Pollution Prevention and Control) data. Exclusion of the Power and Utilities sector⁴ (due to treatment required at specialist restricted user landfill) brings the totals closer, although there are some significant variances within SIC (Standard Industrial Classification) categories⁵. The national survey shows relatively high arisings for metal manufacturing, food & drink, and textiles/wood/paper/publishing sectors, whilst projections from the NW survey show a relatively high level of arisings from machinery & equipment (other manufacturing) sector, and the retail and wholesale sector. Variance between the

⁴ Waste deposited at restricted landfills are unique arisings and require specific management and disposal, which requires separate provision. They are therefore not considered along with the management of wastes generated from general commercial and industrial activity.

⁵ A Standard Industrial Classification (SIC) was first introduced into the UK in 1948 for use in classifying business establishments and other statistical units by the type of economic activity in which they are engaged.

national survey for the Yorkshire and Humberside and NW survey in specific sectors may be due to sampling methodology. For example, the National Survey included 54.5% face-to-face surveys, whereas the NW survey was mainly face-to-face with only PPC added in. The national survey also reflects an average of all English regions whereas the NW Survey was for one region only. It is only by reviewing other data sets such as those derived from the EA Interrogator that a judgement can be made as to which survey extrapolation is most appropriate for use.

Stage 2 – Comparison of Estimated Projections

The second stage of extrapolation is to project estimates for C&I arisings using the national survey data and compare this with projections extrapolated from the NW survey at the North Yorkshire County Council and City of York Unitary Authority (UA) level (see appendix A for extrapolation method). This is shown in Table 2 below. Column 4 of Table 2 also gives the projected arisings provided in the Urban Mines report for Amey Cespa 2012, produced in support of a planning application for a waste recovery facility at Allerton Park in North Yorkshire (this report also sought to extrapolate C&I data at a North Yorkshire and York level). The National Parks cannot be directly factored into these calculations as the data is not available at comparable survey, geographic or business sector levels.

Table 2 Comparison of C&I Projections for North Yorkshire County Council and City of York Council (UA Level) (tonnes)

Projected arisings for North Yorkshire CC and City of York Council	Arisings Projected using the Defra National Survey 2009	Arising projected using NW 2009 Survey	Projected Arisings from Urban Mines 2012 Report for Amey Cespa (Presumed Data from National 2009 Survey)
Food, and drink	218,312	134,686	228,620
Textiles/wood/paper/publishing	142,684	38,702	34,459
Power & Utilities	192,893	29,241	929,942
Chemical/non-metallic minerals manufacturing	54,418	36,581	63,394
Metal manufacturing	134,336	39,312	11,579
Machinery & equipment (other manufacturing)	21,741	40,278	29,973
Retail & wholesale	138,482	205,703	130,604
Other services	134,908	168,102	140,690
Public sector	71,327	81,817	67,464
Totals	<u>1,109,101</u>	<u>774,421</u>	<u>1,636,725</u>
Totals Minus Power & Utilities	916,208	745,179	706,783

The Urban Mines figures (Column 4 of Table 2) have clearly included estimates for the power station ash disposals, whilst these are not included in the NW extrapolation and the national survey provides a national average for these utilities. A total, minus power and utilities sector wastes therefore provides a better comparison of the three arisings projections.

The projections using the national survey data shows relatively high arisings for metal manufacturing, food & drink and textiles/wood/paper/publishing sectors as does the Urban Mines for food & drink manufacturing sector. The NW survey is generally lower in manufacturing and higher in commercial waste, in particular from the wholesale and retail sector. This is consistent with the expected profile of businesses located within the Sub-Region as shown through ONS estimates of businesses located within the Sub-Region (see appendix A).

Published data from the national survey also included waste arisings by material type and method of management for Yorkshire and Humberside. A further calculation that can “distort” C&I figures is the inclusion of LACW trade waste collections. These are shown in Table 3 for 2011/12 (published data) although the total are relatively small. The trade waste collection totals (commercial waste) must be subtracted from the total C&I waste arisings projections to avoid double counting. No trade waste data for waste collected within the national parks is available for South Lakeland or Redcar and Cleveland, however any amounts collected would be insignificant and have no practical impact on the estimated total C&I arisings.

Table 3 Trade Waste Collections by Local Authority

Trade Waste Local Authority Collections (2011/12)	
Local Authority	Tonnes
Craven	2,648
Hambleton	0.00
Harrogate	4,776
Richmondshire	0.00
Ryedale	3,149
Scarborough	5,103
Selby	1,739
North Yorkshire Total	17,414
York	10,900
North Yorkshire & York UA Total	28,313.99

Table 4 Total (Tonnes) assuming Trade Waste Collected by Local Authorities is counted within LACW totals

Total (Tonnes) assuming Trade waste collected by local authorities is counted within LACW totals Totals are “minus power and utilities” as shown in Table 2	North Yorkshire and York Proportional to National Survey	NW Survey Extrapolated To North Yorkshire & York	North Yorkshire and York Urban Mines ⁶
	887,894	716,866	678,470

⁶ See Appendix A, page 4 for source of data

Stage 3 – Collation of C&I Estimates

Stage 3 is the collation of C&I estimates to cover the North York Moors National Park (NYMNP) and the Yorkshire Dales National Park (YDNP) to determine the C&I data for the sub-region. This is set out in tables A4 and A5 of Appendix A. The same methodology as used for the North Yorkshire and York has been adapted based on business numbers and employment by sector as provided in “Economic Profiles” of the North York Moors National Park and the Yorkshire Dales National Park by the Defra Rural Statistics Unit, July 2010 (data collected 2008).

Estimates of C&I waste arisings have been made on the basis of using the average national waste arisings by sector for smaller business (1-4 and 5-10) (See Appendix A) together with business numbers provided in the Economic Profiles and average business sizes derived from the total number of employees per business sector. The estimates in Table 5 are for the whole of the National Park areas including North Yorkshire, Redcar and Cleveland and South Lakeland.

(Manufacturing is condensed into a single category within the published data).

Table 5 Calculating C&I Arisings for the NYMNP and YDNP (2008)

Note - Data shown is rounded in calculation and may not calculate exactly from the tables	Number of businesses	Number employees	Average number employees	Average Tonnes per business	Total Waste Arisings tonnes
North York Moors National Park					
Manufacturing	80	450	6	9	752
Retail & wholesale	205	835	4	24	4,839
Other Services	605	3,000	5	1 ⁷	870
Public Sector	75	810	11	6	455
					6,915
Yorkshire Dales National Park					
Manufacturing	60	445	7	9	564
Retail & wholesale	195	925	5	24	4,603
Other Services	665	3,215	5	1	956
Public Sector	105	1,330	13	6	637
					6,759

Table 5 shows that there was an estimated total of 752 tonnes industrial waste and 6164 tonnes commercial waste arising from within the North York Moors National Park. There were an estimated total of 564 tonnes industrial and 6196 tonnes commercial waste arisings from within the Yorkshire Dales National Park.

⁷ Average number of employees is 4.834586. However, the use of 11 tonnes as a factor per business would produce an unrealistic estimate as it is likely that a great many of the other services would be office or home based business (Mint Database 2010)

1.3 Conclusion regarding C&I arisings for the North Yorkshire Sub-region

It has been shown that there are variations in extrapolating data for C&I from the two data sources. This can be expected because both surveys had different methodology in survey process (mixtures of face to face, PPC data, telephone surveys and corporate data) but also the base year ONS figures are different for both surveys. In addition to survey methodology and base data, there are also differences arising from the inclusion and exclusion of the Power and Utility Sector and from double counting of Local Authority collected trade waste.

We recommend taking out the Power and Utility Sectors to eliminate the identified distortions associated with the treatment of wastes from this sector. If this sector is removed, the differences in the 2 data sets are in the order of 700,000 tonnes (Table 1; exact difference 708,935 tonnes) at a Yorkshire and Humberside level and therefore for North Yorkshire and York (Table 2) in the order of 170,000 tonnes (Table 2; exact difference 171,029 tonnes). It has been possible to calculate C&I arisings for the national parks using persons employed and waste arisings per person.

In the forthcoming work the model can have the ability to use both sets of figures (national baseline extrapolations and NW region baseline extrapolations) to enable differences over the Plan period to be seen. It is also proposed to use figures minus the Power and Utility Sector, take out trade waste LACW distortions and consequently use baseline C&I data for each of the North Yorkshire sub-region members. The model will therefore have the ability to view projections over the plan period individually at LA level and collectively for the North Yorkshire sub-region.

Table 6 Summary of C&I Arisings

	Arisings Projected using the Defra National Survey 2009/10	Arising projected using NW 2009 Survey
	Tonnes	Tonnes
City of York Council	232,327	157,183
North Yorkshire County Council *	824,756	565,229
City of York Council Trade Waste Actual	10,900	10,900
North Yorkshire County Council Trade Waste Actual	17,414	17,414
North York Moors National Park Arisings Tonnes (estimates)	6,915	6,915
Yorkshire Dales National Park Arisings Tonnes (estimates)	6,759	6,759

Totals * Excludes Power & Utilities arisings	916,208	745,179
Totals * Including Power & Utilities arisings	1,109,101	774,430

A summary of C&I arisings is shown in Table 6. Regarding the National Parks, these figures are for the *total* park area. No separate data is available for C&I arisings in those parts of the National Park that lie outside the North Yorkshire Boundary. However, such amounts will be very low and insignificant within the statistical validity of these projected totals.

2. Local Authority Collected Waste

2.1 Data Sources

Detailed waste arisings and waste growth forecasts, which are more than adequate to inform the needs assessment modelling process based on 2011/12 data are posted on the North Yorkshire County Council web site⁸. Appendix B provides a detailed breakdown of LACW arisings for North Yorkshire WDA and York City Council. This data is confirmed by records in the national Waste Data Flow website made available through Defra. The latest available data to September 2012 shows no significant variation in arisings which would have any impact on modelling projections.

LACW arisings from the national parks are low in quantity and residual waste is already treated through established facilities and does not need to be addressed separately in any planning document. With respect to LACW arisings from those parts of the national parks which lie outside of the county boundary of North Yorkshire, the most significant is that within South Lakeland District Council and Cumbria as a Waste Disposal Authority. Kerbside recycling and residual waste is collected by South Lakeland. Residual waste is treated at the Southern Resource Park in Barrow, which was opened on 5th March 2013 and will treat up to 75,000 tonnes of waste every year from households in Barrow, South Lakeland and Eden. The data gathered is shown in Table 7.

LACW arising from properties of the NYMNP within Cleveland and Redcar district council is provided for with a kerbside recycling and residual waste collection service. Residual waste is treated through the Teesside energy from waste facility. The original facility was a joint venture between SITA UK and the four Teesside local authorities of Stockton, Middlesbrough, Redcar and Cleveland, and Hartlepool. Operational since May 1998, the plant processes municipal and confidential waste. The facility has been extended to accept residual waste from Northumberland County Council, the South Tyne and Wear Waste Management Partnership. There is no need to make provision for LACW arising in Redcar and Cleveland as it has been dealt with through the Tees Valley Minerals and Waste Plan, and it will be a relatively small amount.

⁸ <http://www.northyorks.gov.uk/index.aspx?articleid=15309>

2.2 Local Authority Collected Waste Arisings

Table 7 LACW 2011/12 for the North Yorkshire Sub-Region

Data in Tonnes As recorded in Waste Data Flow	LACW Arisings	LACW Collected for Recycling, Composting and Reuse	LACW sent directly to Landfill (inputs)	Inert
North Yorkshire				
April 2011 to March 2012	335,455	141,250	179,948	14,257
York				
April 2011 to March 2012	101,070	46,301	53,490	3,750
National Parks				
Total North York Moors National Park	10,038 ⁹	No separate data is available for recycling, composting and residual totals		
Total Yorkshire Dales National Park	8,494	No separate data is available for recycling, composting and residual totals		
Yorkshire Dales (Lakeland District only*)	2,010	750	1,260	
Yorkshire Dales National Park (North Yorkshire only)	6,484	Estimated total for YDNP within the boundary of North Yorkshire County Council		
*Estimate provided by South Lakeland DC for the geographic area of South Lakeland DC within the National Park the YDNP 2012-2013.				

Figures used for the national parks are the best estimates available however the totals are only a small proportion of the total LACW managed in the North Yorkshire sub-region.

2.3 Conclusions

Projections of LACW waste arisings will be used to inform the Model. The data published by North Yorkshire County Council has been confirmed by records in the national Waste Data Flow website made available through Defra. There are no significant variations in arisings between the two data sources which would impact on modelling projections.

⁹ Estimate based on Population and average Arisings per head for Craven and Richmondshire 0.429 Tonnes per annum (These districts are the most representative of National Park Population densities) data taken from Defra's WasteDataFlow web site. South Lakeland DC have estimated their arisings at 428kg/ head of population, which indicates that LACW arisings are likely to be at a similar rate across the national parks and surrounding districts.

No data is available for the Redcar and Cleveland part of this total however this will be relatively very small and of no significance for forward planning purposes.

3. Hazardous Waste

3.1 Data Sources

Data on hazardous waste is sourced from the 2011 Hazardous Waste Environment Agency Interrogator. It is not possible to separate hazardous waste data for the two national park areas from the Environment Agency data, nor is there any reasonable method to apportion hazardous waste arisings for the two national parks (for example, there is no explicit relationship of hazardous waste arisings per head of population). Therefore, the figures used are based on data covering North Yorkshire and York. The arisings are not distinguishable for the national parks but in any case will be low quantities due to the low number of businesses generating such hazardous wastes and it can be assumed that any arisings will continue to be dealt with through the current means throughout the life of the proposed waste plan.

3.2 Hazardous Waste Arisings

The Sub-Region recorded 27,014 tonnes of hazardous waste arisings and 12,575 tonnes of hazardous waste managed in 2011 (Table 8), with only 3,187 tonnes of hazardous waste both arising and being managed within the Sub-Region (Table 9). These totals are lower than data for 2010 (29,960 tonnes arising and 13,823 tonnes managed in the sub region). It is possible that this reflects reduced production resulting from the economic recession over this period.

The movement of hazardous waste reflects the management of these specialised wastes at regionally or nationally significant facilities. Whilst some 9,388 tonnes are seen to be imported (Table 9), the Sub-Region is a net exporter of hazardous waste with 22,357 tonnes exported in 2011 (Table 10).

Table 8 Hazardous Waste Arisings in North Yorkshire Sub-Region by Substance (2011)

Hazardous Waste Substances Arising in the Sub-Region	Total Arising in North Yorkshire (tonnes)	Total Arising in York (tonnes)	Total Arising in North Yorkshire and York (tonnes)
Agricultural and Food Production	1	0	1
C&D Waste and Asbestos	4,697	1,320	6,017
Healthcare	1,471	549	2,020
Inorganic Chemical Processes	126	5	131
Metal Treatment and Coating Processes	446	12	458
MFSU Paints, Varnish, Adhesive and Inks	1,392	61	1,453
Municipal and Similar Commercial Wastes	2,871	680	3,552
Not Otherwise Specified	3,925	2,717	6,642
Oil and Oil/Water Mixtures	3,575	768	4,343
Organic Chemical Processes	776	-	776
Packaging, Cloths, Filter Materials	453	70	523
Petrol, Gas and Coal Refining/Treatment	0	26	26
Photographic Industry	63	14	77
Shaping/Treatment of Metals and Plastics	170	17	188

Hazardous Waste Substances Arising in the Sub-Region	Total Arising in North Yorkshire (tonnes)	Total Arising in York (tonnes)	Total Arising in North Yorkshire and York (tonnes)
Solvents	366	29	395
Thermal Process Waste (inorganic)	44	-	44
Waste/Water Treatment and Water Industry	366	0	366
Wood and Paper Production	4	0	4
Total	20,748	6,266	27,014

Table 9 Hazardous Waste Managed in North Yorkshire Sub-Region (2011)

Hazardous Waste Management Method	Total arising & managed in North Yorkshire and York (tonnes)	Total Imports to North Yorkshire and York (tonnes)	Total Managed in North Yorkshire and York (tonnes)
Incineration with energy recovery	7	747	754
Incineration without energy recovery	2	2	4
Other Fate	68	-	68
Recovery	2,318	4,409	6,727
Transfer (Disposal)	136	69	205
Transfer (Recycling)	370	1,582	1,951
Treatment	286	2,580	2,866
Total	3,187	9,388	12,575

Figure 1 shows the proportion of hazardous waste managed at different types of facility in the Sub-Region. Over half of hazardous waste is managed at recovery facilities, with just 2% sent to transfer facilities prior to final disposal. There are no hazardous landfill facilities within the Sub-Region.

Figure 1 Hazardous Waste Managed in North Yorkshire Sub-Region (2011)

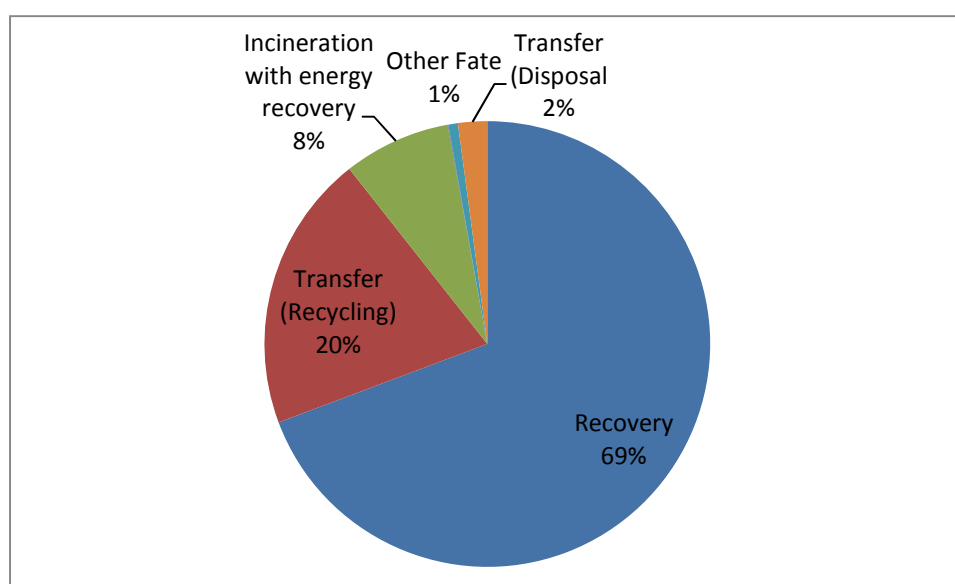


Table 10 Hazardous Waste Exported from North Yorkshire Sub-Region (2011)

Methods used to Manage Hazardous Waste	Hazardous Waste Exports from North Yorkshire (tonnes)	Hazardous Waste Exports from York(tonnes)	Total Hazardous Waste Export by fate (tonnes)
Incineration with energy recovery	12	-	12
Incineration without energy recovery	646	-	646
Landfill	4,187	-	4,187
Other Fate	27	-	27
Recovery	5,689	2,863	8,552
Transfer (Disposal)	1,129	313	1,442
Transfer (Recycling)	3,820	642	4,462
Treatment	2,662	366	3,028
Total	18,172	4,185	22,357

Figure 2 shows the proportion of hazardous waste managed at different types of facility once it has been exported from the Sub-Region. 19% of hazardous waste is exported to landfill, with a further 6% being exported to transfer facilities and onward disposal.

Figure 2 Hazardous Waste Exported from North Yorkshire Sub-Region (2011)

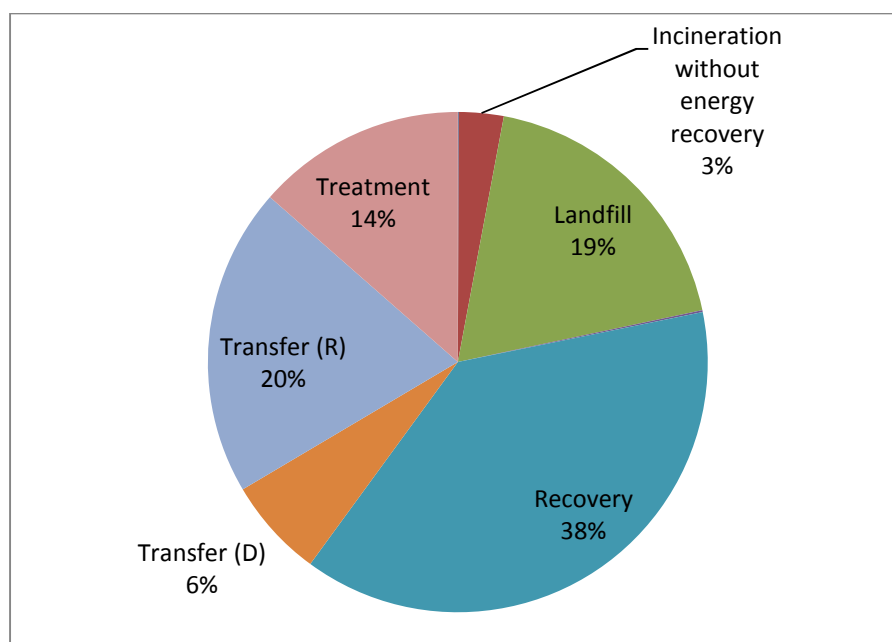


Table 11 Main Exported Hazardous Waste by Substance from the North Yorkshire Sub-Region (2011)

Waste Substance	Tonnes
Asbestos	5,960
Construction and demolition waste	
Oil & water mixtures	3,916
Healthcare	2,010
Paint and Varnish	1,351

Municipal and similar	1,215
Substance not specified	6,436

Table 11 shows that of the hazardous waste exported from the Sub-Region, 65% is comprised of just five categories. A further 29% of exports have no substance specified in the Environment Agency Records. The remaining 6% of hazardous waste exports are in relatively small quantities and cover a wide range of substances. In terms of volume, the largest specified category of hazardous waste exported is 'asbestos construction and demolition wastes'.

A list of planning authorities for which there have been cross boarder Hazardous waste movements is shown in Appendix C.

4.3 Conclusion

The data on hazardous waste which will inform the Model will be based on the data from the 2011 Hazardous Waste Environment Agency Interrogator and based on data covering North Yorkshire and York. This is the most accurate data available on this waste stream.

4. Construction, Demolition and Excavation Waste

4.1 *Data Sources*

An estimate of how much CD&E waste is produced in North Yorkshire Sub Region can be made with respect to CD&E managed through permitted sites. Data has been published by the Environment Agency for 2010 (EA Interrogator database). This gives quantities of CD&E waste deposited at sites which are subject to Environment Agency permit. This data provides some information on origin and waste movements but is incomplete as some CD&E wastes are not fully recorded for all details.

Data on Construction, Demolition and Excavation deposits (CD&E) has been gathered from the EA Interrogator (2011 deposit data) and an analysis of the waste categories has taken place to enable the separation of construction and demolition waste from excavation waste. This shows that over 88% of construction and demolition waste is already recycled, and that excavation waste (soils and naturally occurring waste) is mainly deposited at inert landfill and non hazardous landfill to assist in restoration. There is no specific data available covering arisings from the two National Parks, however a small number of waste management sites within the NYMNP that manage CD&E materials have been identified and with 5,398 tonnes of CD&E waste managed at two transfer facilities. This reflects the likely levels of CD&E waste in the National Parks being relatively low due to the low level of construction that takes place within the area.

There is no data available covering “Registered Exemptions” for CD&E which would include registered exemptions for burning practices on land, spreading waste on land for reclamation/improvement and or sites used for the storage of CD&E materials.

4.2 *Construction, Demolition and Excavation Waste Deposits and Arisings*

Accurate data on the quantity of CD&E waste arisings has historically been poor. Since 1999, CLG has conducted national surveys of arisings and use of alternatives to primary aggregates. The latest national survey in 2005 suggested that the production of recycled aggregate in the region had increased slightly since the previous 2003 survey. However, due to the limited level of returns and at +/- 15% confidence level, the apparent changes in the 2003 and 2005 surveys are not statistically significant. The data at regional level are even less robust.

An estimate of how much CD&E waste is produced in the North Yorkshire Sub -Region can be made with respect to CD&E managed through permitted sites. Data on how much CD&E was deposited at permitted sites has been published by the Environment Agency for 2011 (EA Interrogator database). This data will represent a minimum of arisings as CD&E waste is also managed through sites which are registered with the Environment Agency as exempt from formal permitting. There is no available data on deposits “Registered Exemptions” for CD&E which would include registered burning practices on land, spreading waste on land for reclamation/improvement and or sites used for the storage of CD&E materials. If the

proportion of CD&E waste managed through permitted sites and exempt facilities remains constant then the indicative arisings from CD&E managed through permitted facilities can be projected to represent future requirements for CD&E waste management sites.

No separate data on CD&E waste is available for the national parks, there are no operational sites in the Yorkshire Dales National Park. Whilst there are permitted sites in the North York Moors National Park, only two transfer facilities record CD&E waste deposits and it cannot be ascertained if these arisings are from within the North York Moors National Park. However construction activity within both the national parks is minimal and thus CD&E arisings will be low and consequently included within the totals for the North Yorkshire sub-region and principally North Yorkshire as set out below.

Table 12 shows deposits of CD&E in North Yorkshire and York. A total of 768,765 tonnes of CD&E waste is deposited in North Yorkshire and York, with 215,559 tonnes of this being construction and demolition waste and 553,205 tonnes being Excavation waste.

Table 12 CD&E Deposits in North Yorkshire and York (2011)

North Yorkshire			
Construction & Demolition Wastes	Tonnes	Excavation Wastes	Tonnes
Concrete bricks & gypsum	63,002	Soils	480503
Mixed construction waste	41,012	Naturally Occurring minerals	596
Other wood waste	23,146	Dredgings	13,121
Waste from carbonised road planings	810		
Sub Totals	130,630		496,960
York			
Concrete bricks & gypsum	38,579	Soils	56,034
Mixed construction waste	31,654	Naturally Occurring minerals	188
Other wood waste	14,697	Dredgings	23
Waste from carbonised road planings	0		
Sub Totals	84,929		56,245
North York Moors National Park			
Mixed Construction waste	2,540	Soils	2740
Other wood waste	119		
Sub Totals	2659		2740
Construct & Demolition Total	215,559	Excavation Total	553,205
CD&E Total	768,765		

Tables 13 and 14 shows how CD&E is managed and at what type of sites in North Yorkshire and York.

Table 13 CD&E Deposits in North Yorkshire and York Managed by Waste Management Facility (2011) (tonnes)

North Yorkshire (Note data includes deposits within NYMNP and YDNP)		
Facility Type	Construct & Demolition Tonnes	Excavation
Household Waste Recycling Centres	23,807	249
Car Breaker	-	-
Composting	3,425	-
Deposit to land (recovery)	-	11,678.00
Hazardous Waste Transfer Station	19,958	7,101
Hazardous Waste Transfer/Treatment	778	411
Inert Landfill	4,345	277,790
Inert Transfer Station	1,731	2,465
Inert Transfer/Treatment	114	534
Materials Recycling Facility	1,600	4,200
Metal recycling	1,772	-
Non Hazardous Landfill	18,713	141,555
Non Hazardous Transfer Station	31,404	12,413
Non Hazardous Transfer/Treatment	15,164	33,350
Physical Treatment	7,820	5,213
	130,630	496,960
York		
Facility Type	Construct & Demolition Tonnes	Excavation Tonnes
Household Waste Recycling Centres	2,556	-
Car Breaker	41	-
Composting	1	-
Deposit to land (recovery)	-	-
Hazardous Waste Transfer Station	5,244	-
Hazardous Waste Transfer/Treatment	-	-
Inert Landfill	-	-
Inert Transfer Station	-	-
Inert Transfer/Treatment	-	-
Materials Recycling Facility	42,812	13,771
Metal recycling	-	-
Non Hazardous Landfill	1,452	40,397
Non Hazardous Transfer Station	32,822	2,077
Non Hazardous Transfer/Treatment	-	-
Physical Treatment	-	-
	84,929.32	56,245.02

Table 14 CD&E Deposits by Site Type for North Yorkshire Sub-Region (2011) (tonnes)

Facility Type	Construction & Demolition	Excavation
Household Waste Recycling Centres	26,363	249
Car Breaker	41	-
Composting	3,427	-
Deposit to land (recovery)	-	11,678
Hazardous Waste Transfer Station	25,202	7,101
Hazardous Waste Transfer/Treatment	778	411
Inert Landfill	4,345	277,790
Inert Transfer Station	1,731	2,465
Inert Transfer/Treatment	114	534
Materials Recycling Facility	44,412	17,971
Metal recycling	1,772	-
Non Hazardous Landfill	20,164	181,953
Non Hazardous Transfer Station	64,226	14,490
Non Hazardous Transfer/Treatment	15,164	33,350
Physical Treatment	7,820	5,213
	215,559	553,205

From the baseline data gathered (Imports and exports of waste are shown in Table 25) it can be seen that some 14% of the total of CD&E waste managed in the North Yorkshire Sub-Region is definitely¹⁰ imported whilst the quantity shown in the EA interrogator as exported is equivalent to 8% of the total managed in the Sub-region (See Table 15).

¹⁰ There is a degree of uncertainty because the origin and fate of waste movements is only reported at a Yorkshire and Humberside level. It can be seen that CD&E waste is mainly arising and managed in the Plan Area and not exported outside the Sub-region.

Table 15 CD&E Origins Summary North Yorkshire Sub-Region (2011) (tonnes)

	Inert CD&E
Waste definitely originating North Yorkshire & York as a percentage of total waste deposited in the North Yorkshire Sub-Region	45%
Waste possibly originating in North Yorkshire & York as a percentage of total waste deposited in the North Yorkshire Sub-Region (origin recorded at Yorkshire & Humberside level only)	41%
Waste definitely imported as a percentage of total waste deposited in the North Yorkshire Sub-Region	14%
Exports as a percentage of the total managed in North Yorkshire and York	8%

With respect to landfilled excavation waste, some 460,000 tonnes can be taken as definite arisings. However, information from the EA Interrogator shows 93,462 tonnes as being deposited at transfer and treatment facilities, but these deposits may be double counted as arisings as 61,922 tonnes are recorded as landfilled after initially managed through transfer and treatment facilities within the sub region. Disposal at exempt facilities may also account for some of this material. Construction & Demolition not sent to landfill is shown as 191,049 tonnes, which indicates that over 88% of C&D is currently recycled. Of the 24,509 tonnes of C&D waste landfilled, 11,563 tonnes were initially managed through waste transfer and treatment facilities.

4.3 Conclusion

The only quantitative data available for CD&E wastes is for waste deposited at permitted sites. An assumption can be made that waste deposited are reasonably equivalent to arisings for the baseline information for the plan. Given that Construction & Demolition not sent to landfill is shown as 191,049 tonnes., 12,946 tonnes of construction and demolition wastes were deposited directly to landfill, this indicates that the total C&D waste managed was in the order of **200,000 tonnes**, which would therefore be an appropriate figure for a baseline value for C&D. Excavation waste managed in total amounted to 553,000 tonnes with 459,743 landfilled of which 61,922 tonnes was initially managed through transfer facilities. This indicates that an appropriate value for excavation wastes would be 500,000 for the baseline year. There is no data available covering "Registered Exemptions" for CD&E and it is assumed that such activities such as spreading waste on land for reclamation/improvement and or sites used for the storage of CD&E materials will be taking place in the North Yorkshire Sub-region. If data existed on registered exemptions then it can be assumed that the overall CD&E waste stream figures would be higher, therefore the CD&E arisings given in this report must be assumed as minimum arisings figures.

5. Agricultural Waste

5.1 Data Sources

In order to estimate agricultural waste arisings for the North Yorkshire Sub-region, data has been extrapolated using the relationship of agricultural land size and number of farm holdings and associated waste generation. This work is based on the Defra annual agricultural census by region and farm type (published in 2013 for 2010) and the Environment Agency Agricultural Waste and By-Products Survey 2003 and Towards Sustainable Agricultural Waste Management, Environment Agency 2001. Although the EA Agricultural Waste and By-Products survey was carried out in 2003 following the detailed work in 2001 the practice of agricultural waste generation is not likely to have significantly changed since that time. It should be appreciated that the figures presented are estimates at regional level and that the limited precision and availability of some of the data means that the accuracy of the final estimates cannot be guaranteed. In the original survey by the Environment Agency an assessment of the likely accuracy of the estimates was undertaken which were defined as 'High', 'Medium' or 'Low'. Agricultural Waste arisings figures shown at regional level were estimated at predominantly medium accuracy level. All the waste volumes were calculated against surveyed farm holdings and practice of waste management within that farming unit allowing extrapolation against the number of farm holdings within the North Yorkshire sub-region to be calculated on this basis.

5.2 Agricultural Waste Arisings

Farm holding figures are published by DEFRA separately for National Parks and for each of the English Local Authorities. In calculating the figure for North Yorkshire the total figure of 6,500 farm holdings has been reduced to 3458 to subtract the farms within the two National Parks¹¹. There are 1,369 farm holdings in YDNP, 1,673 in NYMNP (DEFRA June 2009 Agricultural and Horticultural Survey) and 3,458 farm holdings in North Yorkshire, and 248 farm holdings in York (DEFRA Local Authority breakdown for key crops areas and livestock numbers on agricultural holdings last update 2012). Table 16 shows extrapolated waste arisings for the whole of Yorkshire and Humber based upon farm holdings number using the 2003 Environment Agency Agricultural Waste and By-Products Survey 2003.

Table 16 Estimates of Agricultural Waste Arisings in Yorkshire and the Humber, 2003 Environment Agency based upon 12,143 farm holdings.

Waste type	Quantity (tonnes)
Plastic Packaging	2,495
Cardboard and paper packaging	770

¹¹ Using this assumption it should be highlighted that this figure may be a bit lower than is actually the case, as the National Park farm holdings numbers include farms within the Redcar and Cleveland and Cumbrian parts of the National Parks.

Metal, glass, wood and rubber packaging	195
Other non-packaging plastics	6381
Agrochemicals	7098
Animal Health Products	7276
Machinery Waste (oils, batteries, tyres, redundant machinery)	7776
CD&E Waste (Asbestos Cement Bonded Roof Sheeting)	2160
Organic by-products waste (slurry, waste milk, straw)	8,186,371
Animal By-products	24,260

Table 17 shows the extrapolations of waste arisings for the individual authorities within the North Yorkshire sub-region (based upon the assumption that each farm holding produces the same proportion and quantity of each waste type). The potential waste management treatment options for each waste type has also been estimated based upon current practice.

Table 17 Extrapolations of waste arisings (rounded) for North Yorkshire excluding NYMNP and YDNP which are shown separately and York based upon the number of farm holdings, DEFRA survey 2010 for Yorkshire and Humberside and EA Agricultural Waste and By-Products

Waste Type	Potential waste management Treatment route	North Yorkshire (3458 farm holdings) excluding NYMNP & YDNP	YDNP (1369 Farm Holdings)	NYMNP (1673 Farm Holdings)	York (248 farm holdings)
Plastic Packaging	Recycling/Landfill	710	281	344	51
Cardboard and paper packaging	Composting on site/Recycling/Landfill	219	87	106	34
Metal, glass, wood and rubber packaging	Recycling/Landfill	55	22	27	4
Other non-packaging	Recycling/Landfill	1817	719	880	130

Waste Type	Potential waste management Treatment route	North Yorkshire (3458 farm holdings) excluding NYMNP & YDNP	YDNP (1369 Farm Holdings)	NYMNP (1673 Farm Holdings)	York (248 farm holdings)
plastics					
Agrochemicals	Treatment/Incineration	2021	800	978	145
Animal Health Products	Incineration	2072	820	1002	148
Machinery Waste (oils, batteries, tyres, redundant machinery)	Recycling/treatment	2214	877	1071	159
CD&E Waste (Asbestos Cement Bonded Roof Sheeting)	Hazardous Landfill	615	243	297	44
Organic by-products waste (slurry, waste milk, straw)	Composting/Land Recovery/Treatment on site	2,331,258	922,930	1,127,876	167,193
Animal By-products	Specialised Treatment	6,908	2,735	3,342	495
Total		2,347,889	929,514	1,135,923	168,403

Table 18 summarises the waste arisings into common treatment routes, choosing for each category of waste the highest potential management route from the waste hierarchy ie. identifying recycling in favour of landfill. This has recorded waste that is currently managed on site within the farm holding and that which should be managed off site.

Table 18 Potential Treatment routes for Extrapolated Waste Arisings for North Yorkshire (excluding NYMNP and YDNP which are calculated separately and York based upon farm holdings (2009 and 2010) and the 2003 Environment Agency Agriculture Waste and By-products

Waste Management Route (optimum route within the waste hierarchy has been chosen)	North Yorkshire (Farm holdings 3458)	Yorkshire Dales National Park (1369 Farm Holdings)	North York Moors National Park (1673 Farm holdings)	York Farm holdings 248	Totals
Composting on site/ Land recovery/treatment on site	2,331,258	922,930	1,127,876	167,193	4,549,257
Management off site					
Recycling	4731	1986	2428	378	9,523
Treatment plant/Incineration	4093	1620	1980	293	7,986
Animal By-Products incineration	6,908	2,735	3,342	495	13,480
Landfill	0	0	0	0	0
Hazardous Landfill	615	243	297	44	1199
Total management off site	16,347	6,584	8047	1,210	
Total	2,347,605	929,514	1,135,923	168,403	4,581,445

For the purpose of planning for future capacity requirements the significant areas are to provide for off farm site waste management. The estimated quantities involved (see caveats under data sources regarding extrapolation method) are therefore in the region of 16,347 tonnes generated within North Yorkshire, 6,584 tonnes from within YDNP, 8047 tonnes from within NYMNP and 1,210 from within York. If the optimum route for waste management is assumed there will be a requirement for capacity at treatment facilities as shown in Table 18.

The 2003 data is the only available for this waste stream and it is not likely to have changed significantly since the survey was undertaken.

5.3 Conclusion

New legislation came into force in April 2010 amending the existing system of waste exemptions including agricultural waste exemptions currently undertaken by farmers. All farmers will have to re-register their agricultural exemptions covering such practices as land spreading and depositing dredgings cleared from farm ditches along banks, by 1st October 2013. In addition to re-registration some of the exemptions are also changing. There are approximately 30 exemptions covering agricultural activities, however nearly all exemptions covered at present will still be covered in the new system. However, in some cases there may be slight changes to the limits and conditions within the waste exemption. There are also a number of new exemptions that could be applied to farming.

In addition to any effect of the new exemption regulations, it is likely that in the future more waste may be diverted from landfill to recycling (due to the increasing awareness of the potential to recycle), however it is expected that the quantities involved will still be small and will be of low significance in the overall waste arisings for the Plan area. It is recommended that the situation be reviewed post 2013 once all the registrations have come into place and reviewed by the Environment Agency.

It is likely that the majority of agricultural waste will still be managed within the farm holdings via land treatment/spreading and composting. In looking at waste treatment the optimum route for treatment using the waste hierarchy has already been chosen to reflect that in the future more waste can be diverted from landfill to recycling. It should be noted that a capacity allowance should be made to take into account the specialised treatment requirements for certain types of agricultural waste management such as animal by-products incineration and hazardous landfill and that the figures reflect the optimum level of treatment according to the waste hierarchy and in reality some of the waste may not be able to be practically or cost effectively recycled and therefore require treatment by other methods such as landfill.

6. Low Level Non-Nuclear Radioactive Wastes

6.1 Data Sources

The Environment Agency confirmed in 2012 that the most recent records suggest that the production of Low Level Radioactive Waste (LLW) in North Yorkshire and the Plan area is below the reporting threshold – which is measured in terms of radioactivity.

In order to improve the existing data on LLW and for the purposes of this study, a survey was undertaken.

6.2 Low Level Non-Nuclear Radioactive Waste Arisings

A survey was undertaken of LLW in the Sub-Region. Potential larger producers of LLW were identified under the following categories:

- Healthcare (7 organisations identified)
- Pharmaceutical Companies (2 organisations identified)
- Research and Educational Establishments (4 organisations identified)
- Oil and Gas Industry (5 organisations identified)
- Veterinary Clinics (1 major organisation identified which has MRI etc.)

Organisations were contacted where possible in order to identify the most appropriate person to complete the survey and survey forms were sent electronically in April 2013. Where no survey forms had been returned, follow up contact was made in May 2013.

Five responses were received in relation to the survey, representing c.25% of all those initially contacted. Responses were received from 4 'healthcare' organisations and 1 'research and educational' establishment.

Of the 5 responses received, two respondents identified their organisation as producing LLW. Although the response rate to the survey was low, those responses that were received showed that levels of LLW produced in the Sub-Region are minimal (under 300MBq per annum in total for those responses received). This waste includes general items such as gloves, overshoes and tissues which are disposed of as general laboratory waste, as well as glassware and sharps which are contained in sharpsafes and assigned as radioactive and disposed of as radioactive.

All the LLW arisings identified through the survey were managed by the same company at a facility based in Leeds. The treatment method for this waste is incineration.

Smaller producers of LLW are likely to be operating in the Plan area (e.g. doctors, vets) but it is not possible to identify all of these.

6.3 Conclusion

Volumes of waste are not requested from producers of LLW, however an estimate has been made that the annual arising of LLW in the Plan area is likely not to exceed 100m³ based on

information in the Government's Strategy for the management of solid low level radioactive waste from the non-nuclear industry in the United Kingdom

No landfill sites in the Plan area are permitted for controlled burial of LLW. The nearest landfill to the Plan area able to accept LLW is Clifton Marsh in the adjacent county of Lancashire which is permitted until 2015 with likely future capacity subject to permissions. The latest planning permission relating to Clifton Marsh (Refs: 05090376/ 06090395) restricts the amount of LLW originating from outside the North West Region and imported into the site to not more than 4,000 tonnes per annum.

7. Waste Water/Sewage Sludge

There are three companies operating Waste Water Treatment Works (WWTW) within the Sub-Region; United Utilities, Yorkshire Water and Northumbrian Water. The three companies have been contacted previously¹² in order to gain a broad overview of their future capacity requirements as far into the future as possible. The responses explained that they cannot give any indication of what future requirements are likely to be with regard to waste water, especially not for the Plan period; up to 2030.

Waste water companies are only regulated on a 5 year cycle through Asset Management Plans (AMPs). The current AMP (AMP 5) will not finish until the end of March 2015. The programme for AMP6 will be driven by water quality requirements (yet to be finalised by the Environment Agency) for example compliance with the Water Framework Directive, and growth pressures.

As a general principle, when greater capacity is required, WWTW operators would try and place new plant on existing treatment works, or failing that purchase land from an adjacent land owner. Therefore it is unlikely that new sites will be required within the Plan area to handle waste water/sewage sludge. However, in some circumstances it may be beneficial to do so, for example, if there are site sensitive receptors near to an existing works making expansion unfeasible. The precise location would be dependent on engineering and environmental feasibility studies.

At present it is not envisaged that sites will be identified within the Minerals and Waste Local Plan for future use as WWTW as there is no current known requirement for additional facilities. The three WWTW companies should be kept informed of progress with preparation of the Plan and invited to comment at consultation stages.

¹² Waste water companies contacted by Urban Vision in 2012 as part of evidence base work for North Yorkshire County Council.

8. Deposits Recorded by the Environment Agency Waste Interrogator

Table 19 below gives total recorded waste deposits at sites in the North Yorkshire sub region. Note that waste deposited at intermediate waste management facilities can result in double counting of primary arisings. However if intermediate facilities are required for effective waste management then facilities will be needed for more than one stage of waste management.

Table 19 Total recorded waste deposits at sites in the North Yorkshire sub region*

North Yorkshire County Council	Data in Tonnes			
	Total 2011	HIC	Inert	Hazardous
Biological Treatment	1,160	1,160	-	-
Household Waste Recycling Centres	69,650	52,578	14,761	2,310
Car Breaker	1,499	158	1	1,340
Composting	34,378	32,342	2,036	-
Deposit to land (recovery)	11,678	-	11,678	-
Hazardous Waste Transfer Station	63,911	33,596	26,291	4,024
Hazardous Waste Transfer/Treatment	2,049	860	1,189	-
Inert Landfill	282,135	-	269,023	13,112
Inert Transfer Station	4,198	2	4,196	-
Inert Transfer/Treatment	648	-	648	-
Materials Recycling Facility	5,800	-	5,800	-
Metal recycling	49,704	41,513	2,581	5,609
Non Hazardous Landfill	346,590	184,714	161,876	-
Non Hazardous Transfer Station	236,440	186,803	49,637	-
Non Hazardous Transfer/Treatment	98,131	51,849	46,282	-
Physical Treatment	30,162	15,841	14,321	-
Physical/Chemical Treatment	3,709	3,709	-	-
Restricted User Landfill	861,453	861,453	-	-
Vehicle Depollution Facility	100	-	-	100
WEEE Treatment	1,026	359	-	666
Totals	2,104,419	1,466,936	610,321	27,162
North York Moors National Park				
Facility type				
Household Waste Recycling Centres	980	980	-	-
Car Breaker	1,684	-	-	1,684
Non Hazardous Transfer Station	23,118	17,720	5,398	-
Totals	25,782	18,700	5,398	1,684
North York Moors National Park (Located in Cleveland and Redcar)				
Car Breaker	-	-	-	904
York				
Facility Type				
Household Waste Recycling Centres	7,770	6,034	1,344	392
Car Breaker	4,642	2,203	120	2,320
Composting	38,793	38,791	1	-
Hazardous Waste Transfer Station	14,633	11,148	2,560	925
Materials Recycling Facility	121,032	64,447	56,585	-
Non Hazardous Landfill	255,097	213,304	41,793	-

Non Hazardous Transfer Station	72,980	30,555	35,473	6,952
Physical/Chemical Treatment	9,988	9,988	-	-
	524,934	376,470	137,876	10,588
North Yorkshire Sub Region				
Facility Type	Total 2011	HIC	Inert	Hazardous
Biological Treatment	1,160	1,160	-	-
Household Waste Recycling Centres	77,419	58,612	16,105	2,702
Car Breaker	6,141	2,361	121	4564
Composting	73,171	71,133	2,038	-
Deposit to land (recovery)	11,678	-	11,678	-
Hazardous Waste Transfer Station	78,545	44,744	28,851	4,949
Hazardous Waste Transfer/Treatment	2,049	860	1,189	-
Inert Landfill	282,135	-	269,023	13,112
Inert Transfer Station	4,198	2	4,196	-
Inert Transfer/Treatment	648	-	648	-
Materials Recycling Facility	126,832	64,447	62,385	-
Metal recycling	49,704	41,513	2,581	5,609
Non Hazardous Landfill	601,687	398,018	203,669	-
Non Hazardous Transfer Station	309,420	217,358	85,111	6,952
Non Hazardous Transfer/Treatment	98,131	51,849	46,282	-
Physical Treatment	30,162	15,841	14,321	-
Physical/Chemical Treatment	13,696	13,696	-	-
Restricted User Landfill	861,453	861,453	-	-
Vehicle Depollution Facility	100	-	-	100
WEEE Treatment	1,026	359	-	666
Total for North Yorkshire Sub-Region	2,630,257	1,843,406	748,197	38,654

*There are no facilities in the Yorkshire Dales National Park.

9. Cross Border Movements

An analysis, using the 2011 EA Interrogator database, has taken place to review cross boundary movements to and from the North Yorkshire Sub-region. Background data has been gathered to review the total deposits of all C&I, LACW, CD&E and hazardous waste in the North Yorkshire Sub-Region and assess the impact of imports and exports. Information gathered covers North Yorkshire, York and the sites located within the NYMNP (there are no waste management Sites in the YDNP).

9.1 Imports to the Sub-Region

Tables 20 and 21 shows imports to the sub-region where this is positively identified In the EA Interrogator (there is some uncertainty where the origin of waste is only recorded at a Yorkshire and Humberside level).

The Interrogator data shows that 43% of waste deposited in the North Yorkshire sub-region is recorded as arising in the Sub-Region. 5% is definitely imported from outside the North Yorkshire Sub-Region with an uncertainty over 52% of the waste deposited which is only recorded at a Yorkshire and Humberside level.

Table 20 Imports to the North Yorkshire Sub-Region (2011) (tonnes)

Imports to North Yorkshire Sub-Region				
Imports from Other Regions	Hazardous	HIC (Household/ Industrial/ commercial)	Inert CD&E	Totals (rounded)
East Midlands	274	12,369	9	12,652
East of England	261	903	-	1,163
London	41	4	-	44
North East Region	568	787	36,847	38,202
North West Region	245	3,247	-	3,491
N Ireland	335	-	-	335
Scotland	26	65	-	90
South East Region	126	61	-	186
South West Region	52	28	-	80
Wales	30	117	-	146
West Midlands	35	64	-	99

Total from other regions	1,994	17,644	36,856	56,493
Imports from Yorkshire & Humberside Districts (outside North Yorkshire Sub-Region)	Hazardous	HIC (Household/ Industrial/ commercial)	Inert CD&E	Totals (rounded)
Barnsley	1	492	-	493
Bradford	71	1,163	6,062	7,295
Calderdale	31	1,124	-	1,154
Doncaster	3	107	-	109
East Riding of Yorkshire	35	284	182	502
Kingston upon Hull	31	33	-	63
Kirklees	6	657	-	662
Leeds	261	8,643	56,838	65,741
North Lincolnshire	17	-	2,036	2,053
Rotherham	1	-	-	1
Sheffield	15	26	-	41
Wakefield	131	128	489	748
Total from Yorkshire & Humberside Districts (outside North Yorkshire Sub-Region)	604	12,658	65,607	78,868
Origin given as Yorkshire & Humberside only	Hazardous	HIC (Household/ Industrial/ commercial)	Inert CD&E	Totals (rounded)
Origin Yorkshire & Humberside	7,234	1,012,137	257,795	1,277,166
Origin Yorkshire & Humberside Estimated	15,617	23,174	47,747	86,538
Total from Yorkshire & Humberside (possibly from the Sub-Region)	22,851	1,035,311	305,543	1,363,704
Origin North Yorkshire and York	Hazardous	HIC (Household/ Industrial/ commercial)	Inert CD&E	Totals (rounded)
Origin North Yorkshire		748,205	279,875	1,036,325

	8,245			
Origin York	4,057	29,589	60,316	93,961
Total from North Yorkshire and York	12,302	777,793	340,191	1,130,286
Total Waste Deposited in the North Yorkshire Sub-Region ¹³	37,750	1,843,406	748,197	2,629,353

Data on cross border movements relating to the National Park authorities is known on a car breaker site within the North York Moors National Park (which is also located within the Cleveland and Redcar Local Authority), with hazardous waste managed here originating in North Yorkshire and the North East Region. For sites located in the part of the National Park within North Yorkshire, waste managed is mostly originating from North Yorkshire but also from Redcar and Cleveland and from the North East Region.

Table 21 Imports to NYMNP (2011) (tonnes) Sites Located in Redcar and Cleveland

North York Moors National Park Sites in Redcar & Cleveland Data in Tonnes	Hazardous
North Yorkshire origin	143
North East origin	761
Total Deposits	904

Table 22 Imports to NYMNP (2011) (tonnes) Waste Management Sites Located in North Yorkshire

North York Moors National Park Sites in North Yorkshire Data in Tonnes	Hazardous	HIC	Inert	Total
North Yorkshire Origin	-	17,721	4,242	21,963
Redcar & Cleveland UA Origin	-	-	1,156	1,156
Yorks & Humber (Est'd)	546	-	-	546
North East Region Origin	234	-	-	234
Redcar & Cleveland UA Origin	11,678 One-off inert deposit to land			

¹³ Total deposited – any double counting will be from transfer facilities deposited at other NY sub region sites.

Table 23 Waste removed from Sites in the North York Moors National Park

Exports from Site in North York Moors National Park				
Recorded Destination	Tonnes Removed Totals (rounded)	Hazardous	HIC (Household/Industrial/commercial)	Inert CD&E
Redcar & Cleveland UA	982	3		982
Scarborough	16,026		13,460	2,566
Yorks & Humber	2,162	7	240	987
North East Region	188			188
Birmingham City	6			
Hartlepool UA	433			
North Yorkshire	114			
Nottinghamshire	453			
Stockton-on-Tees	518			

9.2 Exports from the Sub-Region

Table 22 shows confirmed exports from the North Yorkshire Sub-region which amount to 215,315 tonnes, approximately 8% compared to the total managed within the Sub-Region. Again some uncertainty remains with regard to origin recorded as Yorkshire and Humberside where the Sub-region is not specified in the data recorded in the EA Interrogator. Exports from the National Parks are not identified separately in the Environment Agency Interrogator

Table 24 Exported Waste from the North Yorkshire Sub-Region (2011) (tonnes)

Exports from York UA				
Location	Hazardous	Household Industrial & Commercial	Inert C&D	Totals (rounded)
South Yorkshire	756	355	141	1,252
Tees Valley	409	2,293	434	2,747
West Yorkshire	1,214	4,961	1,706	7,882
North West Region	260	6	0	267
North East Region	30	112	0	143
East Midlands	2,830	0	0	2,830
West Midlands	490	661	0	1,152
East of England	1	39	18	60
London	0.1	0	0	0
South East Region	14	88	0	102
South West Region	0	1375	0	1375
Wales	2,430	5	0	2,436
Former Humberside	51	4417	154	9,193
Exports from North Yorkshire				
Location	Hazardous	Household Industrial & Commercial	Inert C&D	Totals (rounded)
Lincolnshire	17	142	-	158

South Yorkshire	652	4,580	13,200	18,433
Tees Valley	4,765	24,419	6,792	35,976
West Yorkshire	3,079	39,822	17,350	60,251
North West Region	485	7,617	241	8,343
North East Region	215	7,367	23,883	31,466
East Midlands	1,117	680	-	1,798
West Midlands	348	3,633	117	4,098
East of England	3	2,399	38	2,440
London	0	136	-	136
South East Region	21	25	19	65
South West Region	4	61	-	65
Wales	157	311	6	474
Former Humberside	589	22,823	842	24,254
Total Exports from North Yorkshire & York	19,937	128,327	64,941	213,315

9.3 Summary of Imports/Exports

A summary of Imports and Exports is shown in Table 25. This table shows that a high proportion of the LACW, C&I and inert CDEW wastes that are arising in the Sub-Region are also managed in the Sub-Region. However, a considerable proportion of the hazardous waste arising in the Sub-Region is exported and managed elsewhere.

Table 25 Imports and Exports Summary for the North Yorkshire Sub-Region (2011) (Percentages compared to the total managed in the sub-region)

	Hazardous	Household Industrial & Commercial	Inert CD&E	Totals
Waste definitely originating North Yorkshire & York as a percentage of total waste deposited in the North Yorkshire Sub-Region	33 %	42%	45%	43%
Waste possibly originating in North Yorkshire & York as a percentage of total waste deposited in the North Yorkshire Sub-Region (origin recorded at Yorkshire & Humberside level only)	61%	56%	41%	52 %
Waste definitely imported as a percentage of total waste deposited in the North Yorkshire Sub-Region	7 %	2 %	14%	5%
Exports as a percentage of the total managed in North Yorkshire and York	51%	5 %	8%	7%

Table 26 Waste Deposited at Transfer Stations and subsequently removed for onward Waste Treatment, North Yorkshire Sub-Region (2011) (tonnes)

	Total	HIC	Inert	Hazardous
Waste deposited at	884,079	583,935	275,505	25,542

Waste Management Sites in North Yorkshire & York				
Waste Removed from Waste Management Sites in North Yorkshire & York	771,847	529,742	227,059	15,046

Table 26 shows activity at transfer stations within the North Yorkshire sub-region. The discrepancy between waste deposited and waste removed is over 110,000 tonnes i.e. significantly more waste is deposited than removed. There is no recorded explanation for the difference within the available data.

A list of planning authorities for which there have been cross boarder waste movements is in Appendix C.

Stage 1b: Growth and Waste Management Practice Modifiers

The purpose of this stage is to revise and update the growth and waste management practice modifiers to be applied within the Model to generate estimates of future arisings for the range of waste streams within the North Yorkshire Sub-region. Yorkshire and Humber Regional econometric model (produced by Leeds city Region LEP) data has been obtained and will be used to inform the Model. LACW growth modifiers have been obtained from data published by North Yorkshire WDA and York City Council.

The proposed modifiers to be used will be discussed in detail at the proposed interim meeting.

Stage 2 Capacity waste Infrastructure update for NYCC and determination for the sub-region, listing at individual planning authority level for CYC, YDNPA and NYMNP.

Significant work has already been undertaken in compiling the capacity sites database with several information updates being supplied by the Authorities. There now exists what is believed to be a definitive list, which will be sent to the Council for agreement prior to inclusion within the Model.

Stage 3: Production of projections of future waste arisings and assessment of limitations of the methodologies/scenarios used.

Following an interim meeting with the Council, work will commence on the bespoke model.

Data Source References

Commercial and Industrial Waste

Jacobs for Defra. May 2011. *Commercial and Industrial Waste Survey 2009*. Defra

Urban Mines for Environment Agency. March 2012. *North West of England Commercial and Industrial Waste Survey 2009*. Environment Agency

Urban Mines for Amey Cespa (provided by North Yorkshire County Council)

Local Authority Collected Waste

Waste Data Flow - wastedataflow.org

Information on waste arisings and growth forecasts -
northyorks.gov.uk/index.aspx?articleid=15309

Hazardous Waste

2011 Hazardous Waste Environment Agency Interrogator -
environment-agency.gov.uk/research/library/data/142777.aspx

Construction, Demolition and Excavation Waste

2011 Environment Agency Waste Interrogator -
environment-agency.gov.uk/research/library/data/142777.aspx

Agricultural Waste

Defra Annual Agricultural Census -
gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june

Environment Agency. 2003. *Agricultural Waste Survey 2003: A Study of the Management of Non-Agricultural Waste on Farms*. Environment Agency.

Appendix A

Commercial and Industrial Waste Arisings Survey Extrapolation Methodology

Extrapolation of waste arisings estimates from published survey data is based on deriving a waste arisings unit for each business sector and business size by employee number. The Defra National Survey has published national and regional totals by business sector and company size. Also published in the report is the number of business under the same business sectors and company sizes. It is therefore possible to produce an estimate of the average quantity of waste produced by a business by size and sector. Table A1 below shows the estimated waste produced by a single company in each of the business sector and company sizes.

Table A1 Average Annual Waste Production by Business Sector (Data from Defra National C&I Waste Survey)

Business sector	1 - 4	5 - 9	10 - 19	20-49	50-99	100-249	250+
Food, drink & tobacco	1	9	61	401	1,455	2,299	8,697
Textiles / wood / paper /publishing	1	13	75	126	644	2,769	11,924
Power & utilities	1	85	46	138	552	10,073	38,124
Chemicals / non-metallic minerals manufacture	1	42	99	407	357	2,694	3,942
Metal manufacturing	6	25	48	108	795	2,025	22,720
Machinery & equipment (other manufacture)	2	8	38	62	163	484	1,876
Retail & wholesale	4	24	32	68	158	345	973
Other Services	1	11	25	53	89	114	569
Public Sector	1	6	25	25	47	127	382

If the number of business in each sector and the quantity of waste produced by sector and company size is know then the total quantity of waste produced by sector and business size can also be estimated. Table A2 give the number of businesses in the North Yorkshire Sub-Region (North Yorkshire and York).

Table A2 North Yorkshire Sub-Region Number of Businesses (ONS data 2008)

Business sector	1 - 4	5 - 9	10 - 19	20-49	50-99	100-249	250+	Totals
Food, drink and tobacco	90	60	35	25	20	20	15	265
Textiles/wood/paper/publishing	350	75	25	25	5	5	10	495
Power & Utilities	55	10	15	5	0	0	5	90
Chemical/non-metallic minerals manufacturing	105	30	30	15	10	15	0	205
Metal manufacturing	230	40	30	25	5	5	5	340
Machinery & equipment (other manufacturing)	420	80	65	45	20	5	5	640
Retail & wholesale	4900	1440	735	370	95	40	10	7590
Other services	11120	1980	1135	640	165	80	20	15140
Public sector	1165	570	695	585	185	100	35	3335

Table A3 shows the total quantities of estimated waste arisings for the North Yorkshire Sub-Region by multiplying the factors in Table A1 and the business numbers in Table A2.

Table A3 Waste Arisings Tonnes North Yorkshire Sub-Region (data in Tonnes) (Areas within both North Yorkshire CC and the national parks are included in these estimates) based on the Defra Nation C&I Survey.

Business sector	1 - 4	5 - 9	10 - 19	20-49	50-99	100-249	250+	Totals
Food, drink and tobacco	54	564	2,134	10,033	29,100	45,973	130,455	218,312
Textiles/wood/paper/publishing	386	967	1,872	3,156	3,221	13,843	119,238	142,684
Power & Utilities	36	854	695	688	-	-	190,619	192,893
Chemical/non-metallic minerals manufacturing	107	1,246	2,977	6,109	3,570	40,410	-	54,418
Metal manufacturing	1,487	994	1,443	2,711	3,975	10,127	113,600	134,336
Machinery & equipment (other manufacturing)	799	627	2,475	2,771	3,266	2,422	9,380	21,741
Retail & wholesale	17,383	33,988	23,395	25,229	14,975	13,783	9,730	138,482
Other services	15,986	21,786	28,349	33,703	14,610	9,091	11,384	134,908
Public sector	1,050	3,457	17,525	14,543	8,727	12,660	13,366	71,328
Totals	37,288	64,483	80,863	98,942	81,444	148,309	597,772	<u>1,109,101</u>
							minus Power	916,208

Tables A4 and A5 show the estimated C&I arisings for York and North Yorkshire respectively

Table A4 Waste Arisings Tonnes York City (data in Tonnes)

Business sector	1 - 4	5- 9	10 - 19	20-49	50-99	100-249	250+	Totals
Food, drink and tobacco	6	141	610	-	7,275	-	-	8032
Textiles/wood/paper/publishing	66	193	374	631	-	13,843	-	15,109
Power & Utilities	13	-	-	688	-	-	-	701
Chemical/non-metallic minerals manufacturing	15	415	-	2,036	-	-	-	2,467
Metal manufacturing	226	124	-	542	-	-	113,600	114,493
Machinery & equipment (other manufacturing)	114	78	190	308	817	-	-	1507
Retail & wholesale	3,157	7,671	6,366	6,819	5,517	5,169	4,865	39,563
Other services	3,335	5,336	7,118	10,795	4,870	3,977	5,692	41,125
Public sector	248	819	4,034	3,480	2,123	3,798	5,728	20,230
Totals	7,181	14,778	18,693	25,300	20,601	26,787	129,885	243,227

Table A5 Waste Arisings Tonnes North Yorkshire (data in Tonnes)

Business sector	1 - 4	5 - 9	10 - 19	20-49	50-99	100-249	250+	Totals
Food, drink and tobacco	48	423	1524	10033	21825	45973	130455	210,280
Textiles/wood/paper/publishing	320	774	1498	2525	3221	0	119238	127,576
Power & Utilities	23	854	695	0	0	0	190619	192,191
Chemical/non-metallic minerals manufacturing	91	830	2977	4073	3570	40410	0	51,951
Metal manufacturing	1260	870	1443	2168	3975	10127	0	19,843
Machinery & equipment (other manufacturing)	685	549	2284	2463	2450	2422	9380	20,233
Retail & wholesale	14226	26317	17029	18410	9458	8614	4865	98,919
Other services	12651	16449	21230	22907	9740	5114	5692	93,783
Public sector	802	2638	13490	11062	6604	8862	7638	51,097
Totals	30107	49704	62170	73642	60843	121522	467887	865,874

Although the aim in the Defra National C&I survey was for an overall error on the total tonnage of C&I waste across the eight English regions surveyed of within +/-5% at a 95% confidence interval, the actual precision for the total waste arisings figure was 7.29% at a 95% confidence interval and at regional level the arisings were of a similar precision. The error is reported as “higher than that targeted for due to the optimal sample being unachievable in reality within a voluntary survey”. The effect of this on the total C&I arisings projected by using the methodology described above is a projected total C&I arisings of 1,109,101 tonnes within a range from 1,028,248 tonnes to 1,189,954 tonnes (variance of 161,707 tonnes). In practice the precision and confidence level of any such projections will be reduced by deriving estimates at smaller geographical units such as sub-regions and county and unitary/district levels as the survey sampling at national level cannot reflect increasing local variations in characteristics.

Exactly the same methodology is used for extrapolation of the data from the NW Survey with the estimated of the average quantity of waste produced by a business by size and sector multiplied by the number of businesses in each sector and size classification.

Comparisons for C&I Waste Arisings by Material Type

The Defra National C&I survey data has published waste arisings by both material type and management method at regional level including Yorkshire and Humberside. The distribution of business numbers by SIC classification and business size for material type and management method has not been made available within the published data. It is not possible therefore to derive estimates of waste materials by type and management method as a factor of business classification and size.

However, some indication of materials type and management method can be calculated from the proportions of waste materials and methods of waste management shown in the national survey. Thus if it is shown in the Defra survey for the Yorkshire and Humberside that “Animal & Vegetable Wastes” make up 7% of the total arisings then an assumption can be made that “Animal & Vegetable Wastes” arisings are in the same proportion i.e. 7% for the North Yorkshire sub region. Therefore if the projected C&I arisings for the North Yorkshire Sub-region are 1,109,101 tonnes “Animal & Vegetable Wastes” arisings would be 78,742 tonnes. These projections can only be valued as indications given that at a Yorkshire and Humberside regional level the C&I waste arisings may be significantly influenced by metropolitan areas which have different characteristics to the North Yorkshire Sub regional and National Parks.

The same methodology can be used taking the total waste C&I arisings estimates from the extrapolated NW Survey estimates and the figures provided in the Urban Mines report and this has been carried out and figures shown in the report (Tables A6-A9).

If it is assumed that waste materials and management methods are of the same proportions of waste arisings for North Yorkshire and York as for Yorkshire and Humberside, arisings by waste type and management method can be compared. However, these extrapolations include the distorting effect of power and utility arisings, with the exception of the direct extrapolations from the NW survey, which are shown in the final column of Table A7.

Table A6 Comparisons for C&I Waste Arisings by Material Type

Estimated Arising by Waste Types	Yorkshire and Humber National Survey	% of Total	North Yorkshire and York Proportional to National Survey	North Yorkshire and York Urban Mines
Animal & vegetable wastes	493,000	7	78,742	116,202
Chemical wastes	750,000	11	119,791	176,778
Common sludges	91,000	1	14,535	21,449
Discarded equipment	76,000	1	12,139	17,913
Healthcare wastes	190,000	3	30,347	44,784
Metallic wastes	347,000	5	55,423	81,789
Mineral wastes	2,648,000	38	422,941	624,143
Mixed wastes	1,220,000	18	194,859	287,558
Non metallic wastes	1,129,000	16	180,325	266,109
Total	6,944,000	100	1,109,101	1,636,725

The total figure for estimated waste arisings from Yorkshire and Humber in Table A6 differs slightly from the total provided in Table 1 of the main report.

Table A7 Comparisons for C&I Waste Arisings by Management Method

Estimated Waste Arising by Management Method	Yorkshire and Humber National Survey	% of Total	North Yorkshire and York Proportional to National Survey	North Yorkshire and York Urban Mines	NW Survey Extrapolated To North Yorkshire & York
Land disposal (Landfill)	1,997,000	29	318,962	470,700	184,341
land recovery	238,000	3	38,014	56,097	23,976
Thermal Energy recovery	107,000	2	17,090	25,220	15,914
Incineration	205,000	3	32,743	48,319	10,979
Non Thermal treatment	332,000	5	53,027	78,254	25,589
Transfer Station	78,000	1	12,458	18,385	11,735
Recycling	3,143,000	45	502,002	740,816	454,564
Composting	92,000	1	14,694	21,685	3,276
reuse	213,000	3	34,021	50,205	0

Estimated Waste Arising by Management Method	Yorkshire and Humber National Survey	% of Total	North Yorkshire and York Proportional to National Survey	North Yorkshire and York Urban Mines	NW Survey Extrapolated To North Yorkshire & York
Unknown	539,000	8	86,089	127,044	44,045
Total	6,944,000	100	1,109,101	1,636,725	774,421

Table A8 shows the projections of C&I waste arisings by material type, excluding data covering the Power and Utilities sector. Table A9 shows the same by management method.

Table A8 Projections of C&I Arisings by Material Type Excluding Power and Utilities

	Yorkshire and Humber National Survey (tonnes)	% of Total	North Yorkshire and York Proportional to National Survey (Tonnes)	NW Survey Extrapolated To North Yorkshire & York (tonnes)	North Yorkshire and York Urban Mines (tonnes)
Animal & vegetable wastes	493,000	9	78,802	184,341	60,789
Chemical wastes	750,000	13	119,881	23,976	92,479
Common sludges	91,000	2	14,546	15,914	11,221
Discarded equipment	76,000	1	12,148	10,979	9,371
Healthcare wastes	190,000	3	30,370	25,589	23,428
Metallic wastes	347,000	6	55,465	11,735	42,787
Mineral wastes	1,436,000	25	229,532	454,564	177,066
Mixed wastes	1,220,000	21	195,006	3,276	150,432
Non metallic wastes	1,129,000	20	180,460	44,047	139,211
Total	5,732,000	100	916,208	774,421	706,783

Table A9 Projections of C&I Arisings by Management Method Excluding Power and Utilities

Estimated Waste Arising by Management Method	% of Total	North Yorkshire and York Proportional to National Survey	NW Survey Extrapolated To North Yorkshire & York	North Yorkshire and York Urban Mines
Land disposal (Landfill)	29	263,489	222,713	203,261
land recovery	3	31,402	26,543	24,224
Thermal Energy recovery	2	14,118	11,933	10,891
Incineration	3	27,048	22,862	20,866
Non Thermal treatment	5	43,805	37,026	33,792
Transfer Station	1	10,292	8,699	7,939
Recycling	45	414,695	350,519	319,905
Composting	1	12,139	10,260	9,364
reuse	3	28,104	23,755	21,680
Unknown	8	71,117	60,111	54,861
Total	100	916,208	774,421	706,783

Table A10 Extrapolation from the NW Survey 2009 showing Business Sector and Material Type

	Animal & vegetable wastes	Chemical wastes	Common sludges	Discarded equipment	Health care	Metallic wastes	Mineral wastes	Mixed (ordinary) wastes	Non-metallic wastes
Food, drink and tobacco	71,477	14,460	8,241	90	9	730	8,746	19,945	10,936
Textiles/wood/paper/publishing	0	973	1,087	25	6	1,411	528	15,547	18,733
Power & Utilities	156	17,016	1,437	105	2	2,266	4,349	3,112	764
Chemical/	660	10,893	2,688	14	6	934	6,063	8,591	6,627

non-metallic minerals manufacturing									
Metal manufacturing	4	4,464	0	19	2	22,473	1,757	5,870	3,239
Machinery & equipment (other manufacturing)	2	1,309	68	287	12	21,135	111	10,884	5,623
Retail & wholesale	3,353	1,950	14	4,374	97	4,790	656	58,803	114,284
Other services	6,488	3,587	4,100	485	1,095	9,538	1,743	64,668	60,413
Public sector	945	19	0	1,897	15,400	194	890	43,639	17,786
	83,084	54,670	17,635	7,296	16,629	63,471	24,842	231,059	238,405

Appendix B

LACW Arisings Details – North Yorkshire WDA & York City Council YEAR 2011/12

Table B1 North Yorkshire County Council

Kerbside Collection - Source Separated Recyclates		45,702.79
3rd Party Recycling		2,699
Reuse		304
Kerbside Residual		129,929
Total Collected (Composition Affected) Household Waste		178,635
Other Household - Green	Green	52,373
Other Household - Bulky Collection	Recycled - scrap metal	23
Other Household - Litter & Sweepings	Composted	999
	Non-recycled	13,794
Other Household - Clinical Waste	Non-recycled	35
Total Collected (Composition Unaffected) Household Waste		67,224
TOTAL COLLECTED H'Hold Waste Arisings		245,858
Trade Waste	Recyclates/Compostibles	945
	Residual	17,414
Total Collected Trade Waste - composition sensitive		18,359
	of which Non-recycled	150
Total Collected Other Non-Household Waste		150
TOTAL COLLECTED NON-HOUSEHOLD WASTE ARISINGS		18,508
Recycled		24,329
Reused		487
	Residual	

		18,627
	Green	13,388
Total HWRC Household Arisings		56,832
Non-Household	Inerts	14,257
Total HWRC Non Household Arisings		14,257
TOTAL WDA HWRC WASTE ARISINGS		71,089

Table B2 York City Council

York City Council	2011/12
<u>Waste Arisings</u>	Tonnes
Household Waste (Including Prescribed / Excluding Inert)	90,170
Other Municipal Waste (Commercial, Inert etc.) Mainly Trade	10,900
Total Municipal Waste	101,070
<u>Recycling, Reuse, Composting & Disposal</u>	Tonnes
Recycling Banks (Excluding Household Waste Recycling Centres)	1,670
Kerbside Recycling	15,070
Household Waste Recycling Centres - Scrap Metal, Wood, Paper, Glass etc.	3,320
Third Party Recycling	540
Household Waste Recycling Centres - Minimum Recycling Performance (Excluding Inert)	4,490
Kerbside Recycling - Increased Participation & Capture Rates	
Kerbside Recycling - New households	
Trade Waste Recycled	-510
Total Recycling & Reuse - Household Waste	24,580
Green Waste - Household Waste Recycling Centres (Excluding Trade) & Parish Councils	3,640
Green Waste - Household Waste Recycling Centres (Trade)	110
Green Waste Collection Service	13,630
Total Composting	17,380
Commercial Waste Recycling	
Inert Waste - Household Waste Recycling Centres	3,750
Adjustment - Trade Waste Recycled (does not include green waste)	510
Liquid Waste	1,360

Residual Waste - Landfill	53,490
Household Waste Recycling Centres:	
Base Tonnage	33,000
Less: adjustment for impact of kerbside recycling, green waste collection service and permits	11,100
Revised Base Tonnage	21,900
Less: Inert Waste	3,750
Recycling Performance Tonnage Base	18,150
Number of households	85,715

Appendix C

Hazardous waste Cross Boundary Movements Year 2011

Table C1 Exports of Hazardous Wastes from North Yorkshire Sub-Region (exceeding 100 tonnes per annum)

Leeds	2,677
Wakefield	1,812
Derbyshire	1,739
Redcar and Cleveland	1,411
Stockton-on-Tees	1,185
Kirklees	987
Sheffield	809
Rotherham	796
Hartlepool	781
Lancashire	724
Walsall	695
Salford	549
Nottinghamshire	542
North East Lincolnshire	495
County Durham	233
Bradford City	204
Sunderland	160
Sefton	151
North Lincolnshire	144
Stoke-on-Trent City	143
Kingston Upon Hull City	121
Liverpool	116
Dudley	114
Middlesbrough	100

Table C2 Hazardous Waste Imports to the North Yorkshire Sub-Region (exports exceeding 100 tonnes per annum)

Redcar and Cleveland	287
Stockton-on-Tees	261
Calderdale	221
Hartlepool	206
Darlington	161
Bradford	148
Leeds	141
Wakefield	125
County Durham	121

Craven	116
Gateshead	103
East Riding of Yorkshire	100

Table C3 Cross Boundary Movement (Household, industrial & commercial, hazardous and CD&E wastes) deposited into the North Yorkshire Sub-Region (Exceeding 100 Tonnes per Annum)

EA Interrogator deposits in the North Yorkshire Sub Region Recorded geographical Origin All waste types	Tonnes Received
Leeds	65,705
Redcar & Cleveland UA	12,834
Lincolnshire	11,884
Bradford	7,249
Darlington UA	3,390
Manchester	2,526
North Lincolnshire UA	2,036
Calderdale	1,123
Wakefield	683
Sedgefield	678
Kirklees	657
Huntingdonshire	537
Barnsley	481
East Riding of Yorkshire UA	456
Wigan	363
Craigavon	334
Derby UA	208
Wigan	180
Hertfordshire	166
Chelmsford	150
East Riding of Yorkshire UA	147
East Riding of Yorkshire UA	127
Leicester UA	124
Mansfield	115
Cumbria	106

Table C4 Cross boundary movement (Household, industrial & commercial, hazardous and CD&E wastes) originating in the North Yorkshire Sub-Region and exported to other geographical areas

EA Interrogator deposits Originating in North Yorkshire Sub Region All waste types Recorded geographical first destination	Recorded Origin	Tonnes Received
County Durham WPA	North Yorkshire	23,220
Rotherham WPA	North Yorkshire	12,221
East Riding of Yorkshire WPA	North Yorkshire	11,815
Leeds WPA	North Yorkshire	22,562
North Lincolnshire WPA	York UA	14,580

EA Interrogator deposits Originating in North Yorkshire Sub Region All waste types Recorded geographical first destination	Recorded Origin	Tonnes Received
Wakefield WPA	North Yorkshire	13,946
Redcar and Cleveland WPA	North Yorkshire	9,430
Hartlepool WPA	North Yorkshire	10,381
North East Lincolnshire WPA	North Yorkshire	4,632
Gateshead WPA	North Yorkshire	3,349
Nottingham City WPA	York UA	2,827
Calderdale WPA	York UA	1,925
Darlington WPA	North Yorkshire	1,750
Stockton-on-Tees WPA	North Yorkshire	2,798
Kirklees WPA	York UA	2,046
Nottinghamshire WPA	North Yorkshire	1,049
Bradford City WPA	North Yorkshire	734
Sheffield WPA	York UA	407
Knowsley WPA	North Yorkshire	260
Derbyshire WPA	York UA	254
Lancashire WPA	North Yorkshire	591
Lincolnshire WPA	North Yorkshire	142
Doncaster WPA	York UA	134
Kingston Upon Hull City WPA	North Yorkshire	110
Northumberland WPA	York UA	105