Leeds Local Development Framework

Natural Resources and Waste Development Plan Document

Waste Topic Paper

Final

October 2010

Waste Topic Paper

SUMMARY

This waste topic paper provides the basis for supporting the waste strategy in the Natural Resources and Waste Development Plan Document (NRWDPD). It is a linking document between the NRWDPD submission and the detailed supporting evidence the strategy and policies are based on. The topic paper sets out how much waste Leeds must plan for over the plan period (upto 2026) and how much of this should be recycled or composted, treated (with recovery) and why Leeds should be planning for a major reduction in disposal by landfill.

An analysis of the capacity gap is provided, which is how much waste management capacity Leeds already has and how much is needed to meet the plan. This analysis is translated into the types of new waste management facilities which are required and provides a broad indication of how much land is required to meet this need. The land use strategy and table of sites to meet this need is provided as a conclusion.

Although the plan period is until 2026, projections for future waste arisings are only provided until 2021.This is partly because the now revoked RSS provided projections until 2021. As our evidence was undertaken before this revocation, our local evidence used the same date for consistency. On a practicable level, the longer in the future projections are undertaken into the future the more potential there is for inaccuracies and National Planning Guidance only requires Local Planning Authorities to plan for waste uses ten years into the future. Furthermore, waste projections are expressed as a figure per annum so this means new facilities are generally constructed with some spare capacity to allow for fluctuations in throughputs during their operational life.

Overall the NRWDPD aims to provides for Leeds to be self sufficient in terms of the waste management needs for the plan period and to support the vision of a Zero waste high recycling society through:

- **Supporting complimentary measures to prevent and reduce waste, including a more efficient use of natural resources;**
- **Safeguarding existing waste management capacity and making better use of this existing infrastructure;**
- **Identifying three strategic locations suitable for major Residual Waste Treatment facilities including Energy Recovery Facilities and Anaerobic Digestion.**
- **Providing for other recycling, composting, sorting, transfer and smaller scale recovery to take place within industrial areas.**
- **Identifying a specific site for additional activity to support the CD&E sector.**
- **Not providing for any additional landfill sites above those which already have planning permission.**

1.0 INTRODUCTION

1.1 Introduction

This document pulls together the waste evidence for the NRWDPD Publication and Submission Document . It sets out:

The future waste arisings of Leeds during the plan period;
What waste management capacity exists at present;
What additional waste management capacity is required to meet the shortfall between current capacity and future waste management needs;
How the future needs translate into land use requirements; and
The spatial strategy for providing these land use requirements.

1.2 Evidence Base

This report is based on specific local evidence which has been completed to inform the NRWDPD:

Table 1.1: Waste Evidence Base

Document Title	Description
Site Selection Study for Major Waste Facilities February 2007	This is a Leeds wide site selection study undertaken for the City Councils Waste Solution Programme. The terms of reference for this study were to complete a City wide search to identify suitable sites for a major residual waste treatment facility[1] including the potential for facilities to be co-located with other waste management uses. The study undertook a sieving exercise using site selection criteria from National Planning Guidance on Sustainable Waste Management (PPS 10) and other locally important criteria[2]. It began with a database search of over 2000 sites which was reduced to a list of over 42 sites by applying a number of sieving criteria including the minimum site area which was determined to be 2.5 hectares. The 42 sites were then assessed through a workshop and graded green, amber or red. A total of 7 green sites were identified and after detailed assessment and scoring four suitable strategic waste management sites were identified.
2009 Site Selection Update, November 2009	This provided an update of the 2007 study with the following additional scope: • To validate that the study is robust to be used as evidence for the NRWDPD. • To assess its conformity with the published RSS (the RSS has subsequently been revoked). • To set out why Leeds is pursuing its own Municipal Waste Treatment Facility. • To review the site selection methodology and benchmark it against other similar studies. • Define more clearly what is meant by a strategic waste management

[1] Facilities that can treat waste as a resource to recover recyclable materials, heat and power. There are a range of technologies available including mechanical, biological and thermal treatments, and these may be used in combination in a single facility. Some technologies involve burning waste at high temperatures to reduce its volume by turning it into ash and generate heat, which may be used directly or to generate electricity (these are often referred to and Energy from Waste Plants or Energy Recovery Facilities). Thermal treatment also includes gasification and pyrolysis, which are considered new technologies in the UK but are regularly used to treat waste in Europe.
[2] DCLG, Planning Policy Statement 10, Planning for Sustainable Waste Management, 2005

Document Title	Description
	facility and why this distinction needs to be made. • Update and re-assess the scores based on the most up to date information. Within these sections the update addressed other specific issues for the NRWDPD, so the study is now not just focused on the requirements of the Councils Waste Solutions [3]. **The Leeds Wide Site Selection study has informed the allocation of strategic waste management sites in the DPD. It has also helped to identify which other areas are most suitable for other non strategic waste facilities.**
Background Waste Research Report	This report undertakes waste projections for the DPD for all waste streams. It sets out current waste arisings, a low and high growth scenario in waste arisings, recycling rates for each stream and what the requirements are forecast to be in terms of how much future waste will need to be recycled/composted and treated. As the Leeds Wasteflow model is continually updated, the projections for Municipal Waste have been updated further since this report was completed (see below Leeds Wasteflow Model). The report also sets out the operational characteristics, land use requirements and locational issues for different types of waste facilities. This was completed to inform the choice of sites in the NRWDPD. **The study has informed the total amount of waste to be managed during the plan period for each waste stream and what proportion of waste will need to be recycled/composted and treated/recovered.**
Leeds Wasteflow Model	This model is continually updated and forecasts future municipal waste arisings in Leeds up to 2040/41 (part year) or 2039/40 (full year). However, the figures become less reliable the longer they go into the future and this DPD therefore only uses the figures which are relevant to the plan period. The most recent figures are used in the NRWDPD. **The Wasteflow Model has been used to inform the future amount of Municipal Waste Arisings during the plan period.**
Defining Municipal Waste Site Requirements, September 2009. Household Waste Sorting Sites Review.	This document aims to define the potential requirements for additional municipal waste facilities (apart from for residual waste treatment which is covered in the City Wide Site Selection Study) which need to be delivered to achieve increases in recycling and composting as well as to meet the need for waste transfer activity. The purpose of the report is to evaluate and identify the planning issues for the following types of municipal waste facilities: • Food Waste Facilities/Green Waste Composting. • Household Waste Sorting Sites. • Materials Recovery Facility. • Waste Transfer Stations. • Residual Landfill requirements following these activities.

[3] The Waste Solution Programme focuses on implementing the Integrated Waste Strategy for Leeds 2005-2035. Reducing the amount of waste sent to landfill is an urgent environmental and financial priority for the United Kingdom - See Leeds City Council Website: www.leeds.gov.uk Waste Solution Programme

Document Title	Description
	This report has informed the NRWDPD in terms of how the strategy for the Council Waste Solutions Programme informs decisions taken within the NRWDPD. This has enabled the NRWDPD to plan for the changes and provide flexibility. programme. The Council has also completed a review of Household Waste Sorting Sites[4].
Safeguarded Sites Assessment	A major data gathering and mapping exercise was completed to identify all waste management operations in Leeds. **This has enabled a comprehensive database of all existing waste management uses to be compiled. This has enabled an assessment of which sites should be safeguarded for the continuation of waste activities during the plan period and beyond.**
Sustainability Appraisal	**The spatial options considered and the impacts of each policy have been assessed and used to inform the direction of the plan.**
Report of Consultation	This sets out the responses received to the Policy Position Report for each NRWDPD theme including waste. **This has informed further evidence gathering and final amendments to the Policy Position to be completed.**

In addition to the above this report has also used information from the Environment Agency Interrogator database[5], the Waste Strategy for England 2007[6] (WS2007) and the Integrated Waste Strategy for Leeds 2005-2035 (IWS).[7]

This topic paper pulls the main findings of these reports into one document to support the policies and strategy of the NRWDPD. It does not repeat this evidence or add justification where this is contained in the separate reports. It should therefore be read in conjunction with this evidence.

1.2 Key policy drivers.

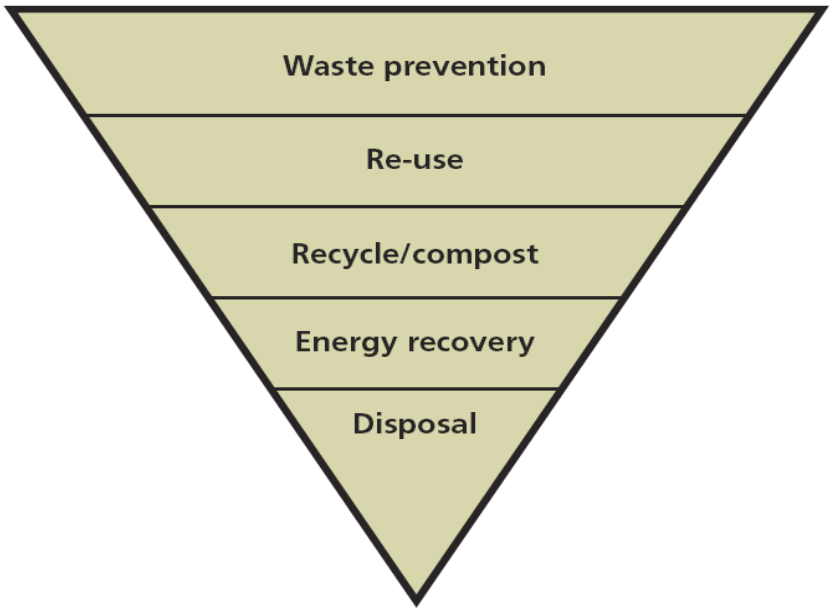
The UK is currently undergoing a period of rapid change in terms of the way waste is being managed. This is driven by changes in European Legislation, which have been transposed into UK legislation and Policy. The key policy drivers and a summary of how they are addressed in NRWDPD is set out in the table provided as Annex 1.

1.3 Waste Hierarchy

The Waste Hierarchy aims to drive the change in waste management and prioritises the action to complete this. At the top of the hierarchy is waste prevention and the last option is to dispose waste to landfill.

[4] Report of the Director of Environment and Neighbourhoods, Executive Board, 22nd June 2010, Strategic Review of Household Waste Sorting Sites and Bring Sites.
[5] Waste Data Interrogator 2008 & Hazardous Waste Interrogator 2008 – Environment Agency
[6] Defra, Waste Strategy for England 2007,May 2007 - www.defra .gov.uk
[7] Leeds City Council, Integrated Waste Strategy for Leeds 2005 – 2035 www.leeds.gov.uk

Figure 1.1: The Waste Hierarchy[8]



Application of the Waste Hierarchy shown in Figure 1.2 below is taken from the Waste Strategy Annual Progress Report 2007/2008. It shows how the waste strategy can work in practice through decisions taken by businesses, households, local authorities and the waste management industry.

1.4 Applying the Waste Hierarchy in Leeds

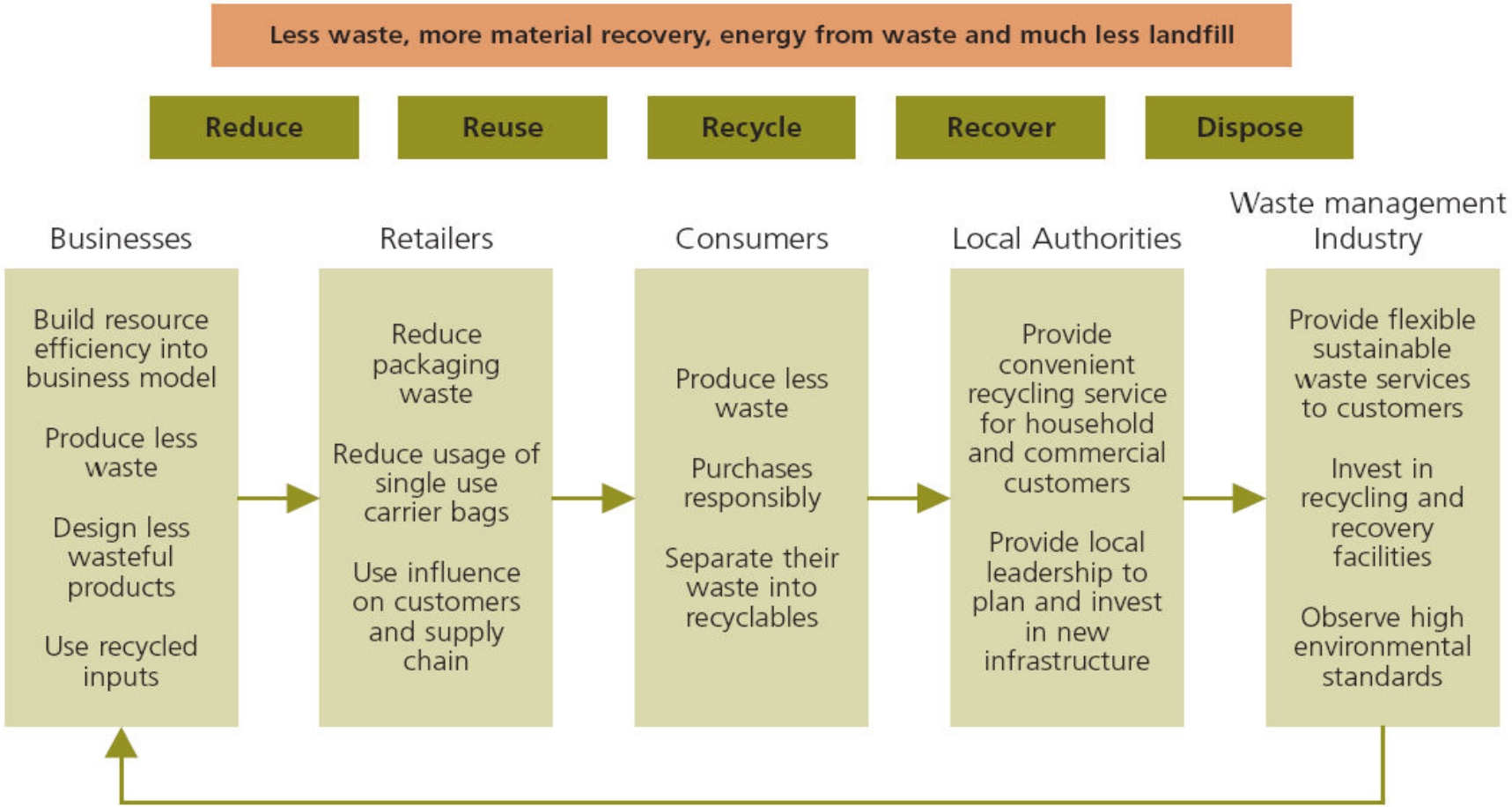
Preventing Waste

Preventing the amount of waste produced in the first place will reduce the pressure to provide land to manage this waste. The Government review of National Waste Policy is looking at ways in which preventing and reducing waste can be better achieved[9].

Some of the primary actions to prevent waste cannot be achieved through spatial planning policies and require wider ranging initiatives at a global and national level, for example, through manufacturers and retailers reducing the amount of packaging in products.
1.1

[8] Waste Strategy Annual Progress Report 2008/2009, October 2009 – www.defra.gov.uk
[9] This will not be published until Spring 2011: http://www.defra.gov.uk/corporate/consult/waste-review/index.htm

Figure 1.2: Application of the Waste Hierarchy



Maximise the Potential to Re-Use Waste

The definitions between what constitutes waste prevention and actions such as re-using and reducing waste means it is difficult to differentiate between them but both are crucial in delivering sustainable waste management. The principal mechanism in which the LDF can be used to reduce waste is through the design and construction of new developments, particularly through the implementation of Site Waste Management Plans which were introduced in 2008 for all construction projects with a value over £300,000[10]. The Core Strategy requires all development to provide sufficient space for the sorting, recycling and separation of waste both during and after construction. The Council is producing a Supplementary Planning Document called Building for Tomorrow Today 'Sustainable Design and Construction' which sets out how waste can be minimised when designing and constructing new developments.

When waste is produced, some of this can be re-used directly either without any further processing or through repair or refurbishment. Again there are limitations to how the planning system can support this, but innovative construction can make use of salvaged materials both externally and when fitting out new buildings. The Sustainable Design and Construction SPD will strongly encourage such practices.

Recycling and Composting

The target for waste collected by the Council (MSW) is to recycle or compost at least 50% by 2021. The recycling rate for 2009/2010 was 31.25%. The Council is implementing a Waste Solution Programme[11] to deliver the changes to meet this recycling and composting target.

For C&I, national targets for recycling and composting have not been set although they are likely to be in the future. A national survey of C&I arisings is currently being undertaken by DEFRA but information will not be available until December 2008[12]. The Annual Monitoring Report for the National Waste Strategy suggests about 45% of this waste stream is being recycled nationally[13.]

There are no national targets for recycling and re-using CD&E waste. However, the Waste Resources and Action Programme (WRAP)[14] has a national programme for construction businesses to halve the amount of waste they send to landfill. WRAP has identified a number of good practice construction projects which achieve re-use and recycling rates of between 70 and 93%. There are strong financial incentives for the construction industry to reduce waste and the main barrier to achieving very high recycling levels in Leeds is maintaining enough land to support these activities. The requirement for Site Waste Management Plans means there is significant impetus for achieving these higher rates of recycling.

[10] Site Waste Managements plans were introduced on the 6th April 2008. For full details of the requirements see The Site Waste Management Plans Regulations 2008, Section 6

[11] See Leeds City Council Website: www.leeds.gov.uk Waste Solution Programme

[12] Survey of Commercial and Industrial Waste Arisings 2010: http://www.defra.gov.uk/evidence/statistics/environment/waste/wrindustry.htm

[13] See DEFRA website www.defra.gov.uk: Waste Strategy Annual Progress Report 2008/2009

[14] www.wrap.org.uk

Residual Waste Treatment with Energy Recovery

Residual waste is what remains after recycling, composting and re-use. To deliver a major shift from landfill, new residual waste treatment facilities[15] will be required where value from waste is recovered and turned directly into energy or treated and a fuel produced which is then usually turned into energy through another process. This can be through producing energy and/or heat directly or through processing operations which produce materials to be used in energy production elsewhere. These facilities will be required to recover value from both MSW and C&I as although this waste comes from different sources, the nature of these two waste streams is very similar.

The Council Waste Solution Programme will deliver a new Energy Recovery facility with a capacity for processing between 135,000 and 175,000 tonnes of residual waste generated in Leeds from 2015.

In addition there will be a need for other residual waste facilities to meet the requirements of the Commercial and Industrial market as the type of waste produced is similar to Municipal Waste. Indications from the waste industry are that during the life time of the plan there is the potential for at least a further 500,000 tonnes of C&I waste to be recovered through such processes in Leeds.

As major residual waste treatment facilities have a life of at least 25 years, they may be built to accept a greater capacity than is required at the outset. This means the plant can accommodate increases in throughput over the lifetime of the plant.

Planning to Reduce Landfill

The gap analysis later in this report show that there is no requirement to provide for any further landfill provision in Leeds, other than what already has planning permission.

1.5 Waste Hierarchy Targets for Leeds

Based on the above, the following targets will be achieved by the NRWDPD policies to move the management of waste up the hierarchy in Leeds:

Re-use, Recycling and Composting Targets:

The target re-use, recycling and composting rate for MSW is to achieve 50% by 2020. This reflects the national target for this waste stream set out in the National Waste Strategy 2007[16.]

The target recycling rate for C&I is 70% based on a combination of evidence. The Background Waste Research report has cited proposed revisions to the European Waste Framework Directive for 70% reuse and recycling to be achieved[17]. Local skip operators in Leeds are advertising potential recycling rates of up to 85%. Elsewhere in the UK, the Welsh Assembly Government has set out a 70% composting and recycling target for all waste streams by 2025[18].

The CD&E target recycling rate is between 70-85%. This is based on the Waste Resource and Recycling (WRAP) best practice evidence regarding how much recycling can be achieved in

[15] See Background Waste Research Report and the Waste Topic Paper for a full description of these facilities
[16] P11 of WS2007 www.defra.gov.uk
[17] P34 of the Background Waste Research Report
[18] Towards Zero Waste – A Consultation on a New Waste Strategy for Wales www//wales.gov.uk

construction projects. This shows that at least 70% re-use and recycling can be achieved and over 90% is possible[19]. Changes to the Waste Framework Directive, which were scheduled to come into force during 2010, will also require 70% of this waste stream to be re-used, recycled or recovered[20].

Residual Waste Treatment with Energy Recovery Targets

The anticipated recovery amount for MSW is the same as the proposed residual waste treatment PFI which is due to be operational from 2015. This will recover upto 90% of residual waste in Leeds. This is higher than the National Waste Strategy 2007 target of 70% recovery by 2020[21.]

The anticipated amount of residual waste treatment for all other waste streams is based on information from a major national waste operator. They have stated that the amount of C&I which could be recovered in Leeds (rather than landfilled) is at least 25% of the total C&I waste stream the total amount of overall recovery capacity (other than for MSW) could be between 500 and 600k.

[19] http://www.wrap.org.uk/construction/case_studies/index.html - Multiple Office Refurbishment, Manchester and Maze Long Kesh Prison.
[20] P11 of Waste Strategy Annual Progress Report 2007/2008 www.Defra.gov.uk
[21] P11 of Waste Strategy for England 2007 www.defra.gov.uk

2.0 FUTURE WASTE MANAGEMENT REQUIREMENTS IN LEEDS

2.1 Total Future Requirements

The table below sets out the future waste arisings in Leeds (tonnes per annum) and the anticipated change during the plan period[22]. This is based on specific projections of future wastes arisings for Leeds contained in the Background Waste Research Report and the Leeds Waste Flow Model. The NRWDPD projections are benchmarked to those undertaken for the revoked Regional Spatial Strategy for MSW and C&I waste[23].

Table 2.1 Future Waste Management Needs in Leeds[24] (tonnes per annum)

Waste Stream	Current Arisings	Arisings at 2021		Change Over the Plan Period
		Projection undertaken for the RSS	DPD Projection	
Municipal Waste (MSW)[25]	342,725	424,000	383,976	+ 41,251
Commercial and Industrial (C&I)[26]	975,364	1,245,000	1,212,000	+ 237,636
Construction, Demolition and Excavation (CD&E)[27]	1,405,000	n/a	1,556,000	+ 151,000
Hazardous Waste (HW)[28]	92,974	n/a	103,026	+ 10,052
TOTAL	**2,816,063**	**n/a**	**3,255,002**	**+ 438,939**

The projected changes in waste arisings provide a guide for future planning but they should not be regarded as absolute targets. They do not mean that waste should not be prevented or reduced as far as possible and this should always be the first priority. Waste arisings depend on many factors such as: the level of economic growth, changes in the number of households, changes in fashion, manufacturing and production processes, shopping habits and public attitudes. This changing situation will continue to be monitored during the plan period. For MSW, the Councils Wasteflow model is constantly being updated.

[22] The plan period is until 2026 but waste forecasting is generally completed over 10 year periods to reduce potential for inaccuracies, therefore waste projections for the DPD run to 2021.
[23] Yorkshire and Humber Plan, May 2008, www.goyh.gov.uk
[24] Source Background Research Report and Leeds Wasteflow Model.
[25] Annex C1 of the Waste Strategy for England 2007 (WS2007) defines Municipal waste includes household waste and any other wastes collected by waste collection authorities (or their agents) such as municipal parks and garden waste, beach cleansing waste, commercial or industrial wastes and waste resulting from the clearance of fly-tipped materials.
[26] Annex C2 of the WS2007 broadly defines commercial waste as waste arising from wholesalers, catering establishments, shops and offices (in both the public and private sectors) while industrial waste is waste arising from factories and industrial plants. Neither of these categories includes consideration of wastes from the construction, demolition and excavation sectors.
[27] Annex C3 if WS2007 does not closely define this waste stream other than construction, demolition and excavation (CD&E) waste and describes it as diverse.
[28] Hazardous waste is specifically defined in European law as those waste featuring on a list drawn up by the European Commission (the European Waste Catalogue ((EWC) because they possess one or more of the hazardous properties set out in the Hazardous Waste Directive.

2.2 The 'Capacity Gap' in Leeds.

The gap between existing and future waste management capacity is assessed by the table below and described further in the text. This is based on achieving the waste hierarchy targets for Leeds set out in section 1.5.

MSW Capacity Gap

It is easier to transpose the capacity gap into the actual facilities required as MSW is controlled by the Council. The Municipal Site Waste Site Requirements report and Council review of Household Waste Sorting Sites has identified the following potential needs[29]:

- The completion of the reorganisation of the 11 HWSS. A review of Household Waste Sites has been undertaken as part of the Councils Waste Solution Programme. This has recommended the closure of Calverley Bridge Zero Waste Site and the replacement of the site at Gamblethorpe (which is within the Green Belt) preferably through reciprocal agreements by which Leeds residents accessing facilities in adjacent local authority areas. Otherwise an alternative replacement site may be required in the South East of the City. The two HWSS sites, which have not been previously modernised, will be refurbished to increase the capacity of the overall network from 75,000 tonnes to 100,000 tonnes per annum.

- The existing household waste Sorting Facility could also increase capacity by 20,000 tonnes, from 60,000 tonnes to 80,000 tonnes if necessary, although this would require a change in the Environmental Permit which is currently limited to 75,000 tonnes.

- The potential need for an organic waste facility to deal with garden and food waste. This is most likely to be Anaerobic Digestion (AD) or In-Vessel Composting. Preventing and producing less food waste in the first place is the preferred course of action (see the Natural Resources Flow Analysis).

- Further waste transfer is unlikely as the residual waste treatment facility will operate 24/7.

- Increasing the number of local recycling banks known as bring facilities and further changes in the way waste is collected at the kerbside will also increase the recycling rate for MSW.

- The Councils Residual Waste Treatment PFI has also identified the need for a new facility with a capacity of between 135 -175,000 tonnes of waste per annum.

The capacity gap for the MSW is:

- **To increase the capacity for recycling and composting which will require changes to existing infrastructure and may potentially require a new Household Waste Sorting Site and an Organic Waste Facility.**
- **A major new residual waste treatment facility will be delivered in the first five years of the plan period.**

[29] Report of the Director of Environment and Neighbourhoods, Executive Board, 22nd June 2010, Strategic Review of Household Waste Sorting Sites and Bring Sites.

Table 2.2 The Capacity Gap in Leeds (tonnes)

	MSW	C&I	CD&E	Hazardous
Re-use, Recycling and Composting				
Current re-use, recycling and composting capacity	Household Waste Sorting Sites: 75k Bring Sites: 10k Materials Recycling Facility: 60k Green Waste: 34k (Waste Transfer excluded)	Skip hire and commercial waste businesses: 250k End of life vehicles and other scrap businesses 150-300k (upper range includes major regional facility).	Capacity Unknown but 6-8 operational sites (changes occurring with existing capacity potentially reducing)	Not possible under law.
TOTAL A: Existing re-use, recycling, and composting capacity	**179k**	**400 – 550k**	**Unknown**	**N/A**
Additional re-use recycling and composting capacity with planning permission	The existing MRF capacity could increase to 80k with relatively small changes.20k	Extant planning permission for Materials Recycling Facilities (250K)	0	
TOTAL B: Additional Capacity with Outstanding Planning Permission	**0**	**250k**	**0**	**0**
TOTAL A+B: Total Potential Capacity during plan period	***199k***	***650–800k***	***Unknown***	***0***
TOTAL C: PLAN REQUIREMENTS TO MEET SELF SUFFICIENCY: Total re-use, recycling and composting requirement to meet re-use, recycling and composting targets for each waste stream	***192k***	***850k***	***1,089k – 1,275k***	***0***
DIFFERENCE BETWEEN PLAN REQUIREMENTS AND EXISTING CAPACITY (TOTAL C – TOTAL A+B). *Difference between the plans need and existing and outstanding re-use, composting and recycling capacity in the City.*	***+7k***	***-50k –200k***	***Unknown***	***0***

Residual Waste Treatment including Energy Recovery				
Current capacity	**0**	**0**	**0**	**120k**
Difference between capacity need and existing and outstanding capacity in the City	***-135 – 175k***	**-350k– 500k**	**(-75,000)k** A notional assumption of 5% for the total waste stream is assumed but this is unknown	***+17,000***

C&I Capacity Gap

It is difficult to determine the C&I capacity which exists within Leeds. Some recycling operations does not register as they take place within industrial units where a separate planning consent is not always required. Although a full review of waste management licenses is undertaken in the Background Waste Research Report, it is not possible to distinguish between many waste recycling operations and general industrial operations.

We know around 100 companies operate in Leeds collecting commercial as well as waste from other streams (construction and household). Existing waste management sites have also been identified through the safeguarded sites assessment.

Although Leeds has a reasonable level of recycling capacity this is not sufficient to support the future increases which are required. This is borne out by waste site monitoring undertaken by the Councils development management service, which indicates that many waste management operators appear to be struggling to accommodate their activities within the boundaries of their sites and within the limitations of their planning permissions.

Some existing recycling capacity is accounted for by a regional facility to serve a wider waste management market. This distorts the figures for C&I as it is unlikely that Leeds has enough capacity to meet self sufficiency (but when the total existing capacity is added up it appears that it does).

There is no food waste recycling facility in Leeds and there may be a requirement to provide one during the plan period. This provision may be met either through:

- Existing capacity at sites elsewhere outside Leeds but close to the boundary;
- The City Council placing its own contract which could involve an operator constructing a new facility in Leeds; or
- A commercial decision by an operator to build a new facility if there is a viable market for this.

There is outstanding planning permission for a Materials Recovery Facility with capacity to sort 200,000 tonnes of waste per annum at Gelderd Road[30]. Other smaller outstanding permissions for sorting facilities exist at Howley Park Trading Estate and Arthington Quarries. Storage and sorting capacity is crucial because this is the link in the chain between collection and further recycling processes.

The Council has received a pre-application enquiry for a major Energy Recovery facility for C&I waste. This could potentially handle one quarter of Leeds C&I waste but the market for this is at least double. If this capacity is delivered it would divert the vast proportion of residual C&I from landfill to residual treatment during the plan period. At the time of preparing this Topic Paper, a formal planning application has yet to be submitted.

The capacity gap for C&I is:

- **To safeguard and expand current capacity at existing local skip and other recycling operations.**
- **Identify land and buildings for new recycling, composting and small scale recovery operations, such as Anaerobic Digestion.**
- **Identify sites for residual waste management facilities, to include significant levels of energy recovery. As there is no current capacity such facilities are critical to the delivery of the plan.**

CD&E Gap Analysis

Re-use and recycling operations currently occur at 6-8 aggregate recycling sites around Leeds (the status of different sites is changing) where crushing and grading generally take place in the open and material is stored until it is required elsewhere. These activities are best undertaken in locations which are already heavily industrialised and located away from sensitive properties. They also generally require larger areas of land in comparison to the throughputs of other waste management facilities which can handle more waste using less land. The situation is changing and the existing provision might reduce during the plan period.

Our evidence is that to achieve recycling rates indicated by WRAP best practice projects, there may be a shortfall of land to meet the needs of this sector during the plan period unless new sites are developed.

A high proportion of recycling activity may also take place on actual construction sites using mobile crushers. Crushed material is also often stockpiled at the site until such time it is redeveloped which in some cases maybe many years after. It is unknown how much quantity of demolition material this might be accounting for.

It is very difficult to assess the existing capacity of this sector. The quantity of material processed at sites is not known. Furthermore, material is often processed directly on site once demolition has occurred and it may be stored at the same location before being removed (often until the site is redeveloped which in some cases maybe many years later). Likewise, it can be re-used directly on site or straight into other construction projects. So even if site capacities were known at fixed processing sites, the use of mobile plant and temporary demolition activities still give rise to uncertainties.

Given that the number of sites might decrease over the plan period, the main issue is a potential lack of potential space to store and process recycled materials. These types of operations tend to more land intensive than other waste management operations and can be an unpopular waste neighbour due to open storage, stockpiling of materials, the use of heavy plant and potential for dust. Sites also tend to be visually unappealing and may be linked to other related uses, such as plant hire or aggregate production.

The capacity gap for CD&E is:

- **To provide additional land for the potential shortfall in sites to store and process recyclable materials which arise from site clearance, demolition and construction projects, especially because high re-use and recycling rates can be achieved in this sector.**

Hazardous Waste

Leeds is currently a net importer of hazardous material which means it deals with more waste than it produces. Effluent and clinical waste treatment facilities located at Knostrop serve a wider catchment than just Leeds. These facilities will be safeguarded for their continued use during the plan period.

However, there is an identified gap in that solid hazardous waste (as opposed to that in liquid form) has to be transported long distances outside Leeds for treatment and disposal. As such, the plan will make provision for such waste to be disposed of in Leeds should this be required.

The capacity gap for Hazardous Waste is:

- **To provide for solid hazardous waste disposal within Leeds.**

Landfill

Landfill is currently the predominant way in which waste is dealt with in Leeds. The two main landfill sites currently serving Leeds are Skelton Grange and Peckfield. Combined these accept around 850,000 tonnes per annum although Skelton Grange is the larger accepting 500,000 tonnes per annum (all waste streams including a small amount of hazardous waste at Skelton Grange). These sites are expected to operate until 2017 and 2022. There are also a number of other sites which have planning permission for landfilling.

The table below sets out the landfill position during the plan period.

Table 2.5: Landfill provision in Leeds

Active Landfill Sites	
Site	**Description**
Skelton Grange	Likely to operate until 2017 although actual landfilling may cease before this. MSW + C&I and small amount of solid hazardous, Remaining void space approximately 1.5 million^{3} [31]
Peckfield	Likely to operate until 2022. MSW + C&I. Remaining capacity about 3 million m^{3} [32]
Calverley / Woodhall	Landfill/landform accepting inert waste upto 1million m^{3}. This will close around 2013. Remaining capacity approximately 250,000m^{3} [33]
Athington Quarry	Remaining capacity approximately 600,000 m^{3} [34]
Sites with Extant Planning Permissions.	
Site	**Description**
Small unimplemented permissions.	Include 38,000 m^{3} of inert wastes in a railway cutting at Carlisle Road, Pudsey.
Howley Park Quarries	Subject to phasing and other details. Could be engineered to accept MSW&C&I. First phase could be operational prior to closure of Skelton Grange. Estimated eventual capacity could be upto 6 million, dependent on continued quarrying but possibly 2 million m^{3} capacity in the near

[31] MAX AND HELEN TO ADD SOURCE
[32] MAX AND HELEN TO ADD SOURCE
[33] MAX AND HELEN TO ADD SOURCE
[34] MAX AND HELEN TO ADD SOURCE

	future.
Britannia Quarry, Morley	Likely to accept inert waste only. Estimated eventual capacity in excess of 2 million m^3 capacity with disposal expected to commence 2012 alongside stone extraction.
Swillington Quarry	Has permission for infilling with inert waste, but as a brick clay quarry could be engineered to accept MSW/C&I wastes. The availability of the void space will depend on if the brickworks are re-opened. Could provide at least 500,000m^3 at present.
Other Potential Sites	
Sites	**Description**
Blackhill, Arthington, Methley and Moor Top Quarries.	Could accept inert wastes in the unlikely event that further need is required.

Given the shift away from landfill which will occur during the plan period, combined with the significant potential capacity which already exists, the capacity identified above should meet any remaining disposal requirements for Leeds which are set out in the table below. This shows that future landfilling could be minimal if policies for increased re-use, recycling, composting and residual waste treatment are successful.

Table 2.6: Leeds Potential Disposal Requirement (tonnes per annum)

Waste Stream	Total Need	Recycling Target and Need		Anticipated Residual Waste Treatment Need During the Plan Period	Waste Hierarchy Breakdown	
		Target	Need		Total Recycling, Re-use, Composting and Residual Waste Treatment	Potential Disposal
MSW	384k	50%	192k	135k - 175k	327k - 367k	17k – 57k
C&I	1,212k	70%	850k	350k - 500k	1,200k – 1,350k	- 12k – + 162k
CD&E	1,556k	70% - 85%	1,089k – 1,275k	Unknown - 75k	1,089k – 1,275k	281k – 467k
HW	103k	-	-	0	120k	- 17k
TOTAL	***3,255k***					***269 - 669k***

In addition, Wellbeck Landfill in Wakefield District (located in Normanton close to the boundary with Leeds) has permitted capacity until 2034 based on if the current disposal rates of 500,000 tonnes per annum were maintained (which is considered unlikely)[35]. With the planned decrease in landfill in other parts of West Yorkshire combined with financial disincentives to relying on landfill this capacity is therefore likely to remain well after 2034. There are also a number of other landfill sites in West Yorkshire which have a large amount of remaining or unimplemented capacity.

Other Wastes

Other wastes generated in Leeds include Agricultural Waste and Sewage Sludge. Agricultural Waste is generally dealt with where it occurs although diversification into composting schemes with the material been re-used for agricultural purposes is beginning to occur more frequently. Sewage sludge is dealt with at the incinerator located within the Knostrop Waste Water Treatment Works.

There are no other types of waste generated, such as radio-active wastes other than clinical waste, and therefore no other specific provision is required.

Overall Capacity Gap

Based on the capacity gap, the key spatial issues for the NRWDPD are therefore to:

Key Spatial Issues for the NRWDPD based on the Leeds Capacity Gap:

- **Plan to safeguard and increase re-use, recycling and composting capacity at existing waste management sites.**
- **Enable further segregation and sorting of material ready for recycling if further MRFs, other than those already with planning permission are required.**
- **Provide a new organic waste treatment facility to serve both MSW and C&I, should this prove to be necessary.**
- **Plan for new residual waste treatment facilities to meet the need of MSW and C&I waste streams.**

Waste Movements to and from Other Parts of West Yorkshire

Even though we are planning for self sufficiency, the plan recognises that waste management operates across borders. The urban nature of West Yorkshire means that this area effectively operates as a sub-regional waste management market. There are also close links with North Yorkshire.

The Council has consulted with its neighbours, the results of which are shown in Annex 2. The main conclusions from this are:

There is significant remaining landfill capacity in both West Yorkshire and North Yorkshire, particularly at Wellbeck in Normanton (Wakefield District), which has 12million m^3 tonnes of capacity. Given the reduction in landfill, there may be a significant over provision of landfill capacity in West Yorkshire.

[35] See Annex 2.

Two sites in North Yorkshire are allocated for Waste Recovery Facilities, both of which are within 5km of the administrative boundary. There are two outstanding permissions in Bradford for Commercial Energy Recovery Facilities which if implemented could accept waste from Leeds.

Composting, organic treatment and biomass wood processing facilities operate in North Yorkshire and there is a strong likelihood they are accepting waste from Leeds.

Esholt Waste Water Treatment Works in Bradford is likely to take some waste from Leeds. The composting facility at the same location may also accept green waste.

There is a specialist electrical/electronic waste recycler located at Kirkheaton in Kirklees, which serves West Yorkshire and the north of England.

3.0 DETERMING THE SPATIAL REQUIREMENTS TO DELIVER SELF SUFFICIENCY

3.1 Operational Needs of Different Waste Facilities

The Background Waste Research Report and the Municipal Site Waste Management Reports have undertaken research on the locational and land use needs of different waste management facilities. This draws on research undertaken by the ODPM in 2004[36].

This evidence shows that:

- Capacity is not necessarily linked to the amount of land or size of the building. It is primarily linked to the design and operation of the facility and they can be designed to fit different sites. The amount of land required will also be location specific because of different landscape and access requirements.
- Residual waste treatment facilities generally require sites of a minimum of 2 hectares, whereas most other facilities can be provided on much smaller sites.
- A range of site sizes is required to accommodate the different needs and requirements of facilities. The storage and processing of construction and demolition waste is probably the most land intensive in terms of the amount of land required.
- Many operations can be fully enclosed with design and operational layouts improving all the time. As such, most modern facilities do not give rise to significant amenity issues. CD&E and skip recycling operations tend to give rise to the most potential amenity issues. Odour control is a significant design requirement in organic waste treatment and composting.
- Increases in capacity can be achieved by changing layouts and operations at existing sites to make them more efficient (e.g. at HWSS). Therefore, additional land is not always necessary to increase capacity.
- Recycling processing operations for paper, plastics etc are industrial processes and are generally acceptable in existing industrial buildings and within existing industrial estates.
- Sorting (Material Recovery Facilities) are also industrial in nature and take place in fully contained buildings with modern operations using automated processes to achieve a high level of separation. This is important to achieve good quality materials which are easier to recycle.
- Some MRFs take material which is already separated at source to some extent ('clean MRFS'). Others take non separated materials and remove the non recyclable material (which is then sent for recovery or landfill). Both types of facility are extremely important.
- MRFs are also used to sort residues from processes such as Energy from Waste, as these still contain materials like metals which can be separated and recycled.
- Waste transfer (where waste is simply stored for short periods after collection and then transferred to larger vehicles for further sorting, direct recycling or treatment) can be carried out alongside segregation operations, where this is necessary.
- Where waste is recovered for energy, a major energy user or direct link to electricity or heat infrastructure is the most sustainable and efficient method for transferring this energy. This should be a key factor is locating facilities.
- Landfill has the most amenity and environmental issues.
- The use of waste residual treatment processes with energy recovery, such as EfW, will produce some fly ash which is hazardous in nature and needs special treatment/disposal.

[36] ODPM, Planning for Waste Management Facilities, A Research Study, 2004

- Access is important for all types of facilities, but this is particularly important for major residual waste treatment facilities as they generally operate 24/7 and accept waste collected on a daily basis from across the District.

Based on this analysis the typical requirements of different waste management facilities are set out in Table 3.1 below:

Table 3.1: Typical Waste Management Facility Requirements

Facility	Typical Site Area	Potential Capacity Based on Site Area (tpa)	Operation/Location Issues
In Vessel Composting (IVC) (breaks down organic waste into composting)	0.5 - 1 ha	25,000 tonnes – 50,000	• Requires good access. • Industrial Operation • Odour needs to be controlled through design. • Contained within a building
Anaerobic Digestion (AD) (turns organic waste into energy)	1ha – 3ha	50,000 – 200,000	• Requires good access. • Industrial Operation • Odour needs to be controlled through design. • Contained within a building. • May work best where there is direct access to a heat or energy user although energy can also be produced in solid or liquid form for use in other processes.
Materials Recycling Facility (MRF) (segregates and sorts waste for onward recycling)	0.5 ha – 2.5ha	25,000 – 200,000	• Can convert existing industrial buildings. • Can range from very low tech to very high tech operations. • Higher tech operations achieve higher quality recycling product. • Needs good access. • Industrial type operation. • Fully enclosed.
Household Waste Sorting Sites (HWSS) (public and in some place trade deposit bulky items for sorting and recycling)	0.5ha – 1ha	10,000 – 25,000	• Takes place in the open but it is possible to fully enclose sites. • Needs good access and queuing capacity. • Needs to serve local neighbourhoods.
Energy from Waste (EfW) Recovers value from waste and turns this into electricity and potentially heat.	2.5 ha – 5ha.	100,000 – 500, 000	• Needs good access. • Fully enclosed. • Works best with direct heat close by. • Industrial type activity. • Potential visual impact due to size of the building and the height of the chimney.
Other Treatment (Autoclave, Mechanical Biological Treatment, Gasification) Treats waste and turns it into fuel for use in other processes including Energy from Waste plants.	1- 2.5 ha	50,000 – 150,000	• Needs good access. • Fully enclosed. • Industrial type activity.

Facility	Typical Site Area	Potential Capacity Based on Site Area (tpa)	Operation/Location Issues
Aggregate and Skip Recycling Sites	0.2 – 3ha	25,000 – 250,000	• Tend to be open with stockpiles of material. • Sometimes include manual and mechanical segregation operations. • Can be visually intrusive and produce dust. • Tend to be located in highly industrialised and generally unattractive locations away from sensitive properties. • May also be used to store plant and in conjunction with other activities, such as concrete batching, aggregate sale and production and plant hire.

Amount of Land Required in Leeds to Deliver the Capacity Gap

Waste management capacity does not directly correlate to a given amount of additional land as different waste management facilities operate on different site footprints and they can be designed to fit certain sites (a bit like housing densities can be increased by building higher, putting car parks at the ground level and decreasing landscaping). For example, an energy recovery facility with a capacity of 500,000 tpa may not necessarily require a site footprint significantly greater than a facility with a capacity of 100,000 tonnes. In addition to this, the capacities will be dictated by the market so there is no standard size of facilities and are not generally built in modular form like some other buildings. It may be difficult to extend some types of facilities once built (particularly residual waste treatment), so they may be built with spare capacity at the outset.

Based on the requirements of different waste management facilities set out, a very broad indication of the potential land requirements in the NRWDPD to meet this capacity gap is identified in the table below. This should not be considered to be an absolute benchmark for the reasons above, but it does demonstrate that it is important to have a flexible strategy which provides a range of potentially suitable sites and can deal with uncertainties.

Table 3.2: NRWDPD Waste Facilities - Broad Land Use Requirements (Excludes Hazardous Landfill)

Waste Stream	Lower Range of Facility Requirements	Upper Range of Facility Requirements	Lower Land Use Requirement	Higher Land Use Requirement
MSW	Residual Waste Treatment Facility 135,000 175,000 tpa	+ 1 additional HWSS + Organic Waste Facility	2.5ha	4.5ha
C&I	Residual Waste Treatment at a capacity of 350,000 tpa Further skip and other recycling operations	+ Further MRFs of 250,000 tonnes if extant permissions not delivered. + Further treatment	4 ha	10ha

Waste Stream	Lower Range of Facility Requirements	Upper Range of Facility Requirements	Lower Land Use Requirement	Higher Land Use Requirement
	potentially up to 50,000 tonnes of additional capacity	capacity upto 500,000 tonnes + Further skip and other recycling operations potentially up to 200,000 tonnes		
CD&E	1 additional aggregate recycling site. Capacity unknown	2 additional aggregate recycling sites. Capacity unknown	2ha	4ha
TOTAL			**8.5ha**	**18.5ha**

The table shows that at the lower range, the NRWDPD will require approximately 8.5ha of land but at the upper range this could require a further 10ha of land. Obviously this is a wide range and demonstrates why it is difficult to forecast how future capacity requirements translate into the total land area to meet the potential future need. However, the NRWDPD has identified enough land for this upper range to be met.

4.0 STRATEGY TO SAFEGUARD EXISTING CAPACITY AND MEET THE CAPACITY GAP

Spatial Strategy

The Leeds wide site selection study, safeguarded sites assessment and sustainability appraisal provide the evidence to support the spatial strategy of the NRWDPD which is:

- Leeds should provide enough land to meet its own needs to deliver the waste hierarchy.
- The majority of existing capacity will be safeguarded for its continued waste use during the plan period. This approach has generally been welcomed by operators.
- Four strategic sites (in three ownerships) were initially identified by the site selection study as suitable for residual waste treatment processes. They are all located in the Aire Valley in the south east of the main urban area (the reasons for this are not repeated here but it is the most sustainable and suitable location when considered against PPS 10 and the specific objectives of the LDF and have been assessed in the Sustainability Appraisal).
- Strategic sites are considered to meet the needs of facilities which are critical to the delivery of the NRWDPD. As the City has no existing residual waste treatment capacity, this is considered to be of particular strategic importance. More information regarding what is considered to be strategic is provided in the site selection report addendum.
- The owners of strategic sites have all confirmed the sites are deliverable and support this policy. There are 'live' proposals on three sites. As a result of the Sustainability Appraisal and the capacity assessment above it is not considered that a fourth site is required. Therefore, three strategic sites are taken forward for allocation in the NRWDPD.
- Industrial areas will be preferred locations for recycling, composting, sorting transfer and small scale recovery operations that can be contained in a building and there will be a policy to support this. This is an area where the evidence is uncertain but this allows flexibility to meet future needs. This approach is generally supported in consultation.
- A number of specific industrial estates have been identified where it is considered that waste operations are suitable within these. This is based on the characteristics of these areas and the presence of existing waste management activity. This allows for flexibility and uncertainty in the total amount of land which will be required to meet future needs. This approach is generally supported in consultation.
- This policy does not exclude waste management uses in other industrial locations provided it can be demonstrated that they are industrial in nature.
- An additional site specifically for CD&E has been identified.
- No allocation of additional landfill but outstanding capacity is safeguarded.

Safeguarding and Site Allocations of the NRWDPD

The NRWDPD policies will therefore:

- Safeguard existing sites for their continued waste management use and for these sites to increase capacity where this is appropriate.
- Allocate three sites suitable for strategic waste management facilities.
- Identify preferred areas of search within existing industrial estates for all other types of waste management facilities.
- Safeguard existing landfill sites and those with outstanding permissions for continuing use.

- Identify two existing landfill sites as suitable for solid hazardous waste.

4.1 Final Table of Safeguarded Waste Sites

Site Hierarchy	**Sites**	**Total Area**
Safeguarded Sites	101 Sites	
Strategic Sites	3 sites	
Preferred Industrial Estates	Not defined	
Other CD&E locations	Cinder Oven	
TOTAL		

Annex 1: Waste Policy Drivers

Policy/Legislation	Requirements	How it is addressed in the NRWDPD
Waste Framework Directive 2008/98/EC	It consolidates and updates the framework of EU law on all aspects of waste, and merges the hazardous and non-hazardous regimes into one directive. Although the directive is scheduled for transposition by December 2010, it is effectively the law now.	The Spatial Vision and objectives identifies the need to protect the environment and to produce a zero waste high recycling society.
Waste Framework Directive (2006/12/EC)	The essential objective of all provisions relating to waste disposal must be the protection of human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste.	The Spatial Vision and objectives identifies the need to protect the environment and to produce a zero waste high recycling society.
Waste Framework Directive (75/442/EEC as amended by Directive 91/156/EEC)	Encourages appropriate disposal and recovery of waste, the use of recovered materials, promotion of clean technologies and recycling with an end to self-sufficiency. Member States shall take the necessary measures to prohibit the abandonment, dumping or uncontrolled disposal of waste.	The Spatial Vision states that the plan for waste is for it to be reduced in the first place, reused, composted, recycled and treated with energy recovery and other solutions which derive value from waste.
Landfill Directive (1999/31/EC)	Prevent or reduce as far as possible the negative effects on the environment from the landfilling of waste, by introducing stringent technical requirements for waste and landfills. • Waste must be treated before being landfilled; • Hazardous waste within the meaning of the Directive must be assigned to a hazardous waste landfill; • Landfill sites for inert waste must be used only for inert waste;	The Spatial Vision states that disposal to landfill is the last option only when other alternatives are not feasible and over a longer period of time the amount of waste sent to landfill will be reduced to the minimum in accordance with the waste hierarchy. The NRWDPD also plans to meet its own waste needs and deliver a major shift in the way waste is managed through reducing the reliance on landfill and moving towards the zero-waste vision. By ensuring sufficient sites for waste sorting, recycling and treatment are provided the plan will help to divert waste from landfill.

Policy/Legislation	Requirements	How it is addressed in the NRWDPD
	• Criteria for the acceptance of waste at each landfill class must be adopted by the Commission in accordance with the general principles of Annex II.	
Hazardous Waste Directive (91/689/EEC)	Aims to ensure ecologically sound management of this particular waste flow. It sets controls on hazardous waste management, specifically requirements related to traceability, forbidding the mixing of hazardous waste with other waste and the obligation to inform the Commission of waste which has hazardous properties, but which is not listed as such. Member States are to ensure that hazardous waste is recorded and identified and that different categories of hazardous waste are not mixed, hazardous waste is not mixed with non-hazardous waste, save where the necessary measures have been taken to safeguard human health and the environment. Any establishment or undertaking that carries out disposal operations must obtain a permit.	The two main landfill sites currently serving Leeds are Skelton Grange and Peckfield. Skelton Grange is the larger accepting all waste streams including a small amount of hazardous waste. The plan will make provision for solid hazardous waste to be disposed of in the City.
PPS 10 Planning for Sustainable Waste Management	Para 4: The planned provision of new capacity and its spatial distribution should be based on clear policy objectives, robust analysis of available data and an appraisal of options.	This has been undertaken through the Spatial Vision and Objectives, evidence gathering, the Sustainability Appraisal and consultation on Issues and Options as well as the Policy Position report.
	Paragraph 17: Allocate sites to support the pattern of waste management facilities and apportionment set out in the RSS.	The RSS has now been abolished. The Council has produced its own projections in the Background Waste Research Report and the Leeds Wasteflow Model. The RSS has been used as a benchmark to validate these projections.

Policy/Legislation	Requirements	How it is addressed in the NRWDPD
	Paragraph 18: In doing so, Waste Planning Authorities should: • Demonstrate Capacity of at least 10 years of the annual rates set out in the RSS. • Identify the types of waste management facility that would be appropriately located on the allocated site or in the allocated area. • Avoid unrealistic assumptions on the prospects for the development of waste management facilities, or of protected areas, having regard to particular ownership constraints.	The policy position has identified a hierarchy of sites where it is considered that there is the most realistic chance of waste management uses being delivered. This meets capacity requirement until at least 2021 (because this is when waste forecasts are available to). However, as waste facilities operate on long life spans they are often built with 'spare' capacity. Facilities delivered in this plan period are therefore likely to operate well beyond 2021. This plan is informed by, but not constrained to, rigid targets. Leeds is planning to be 'self sufficient' which means it is planning to provide enough capacity to meet the waste management needs of the City without relying on exporting waste elsewhere outside the City.
	Paragraph 20: In searching for sites and areas suitable for new or enhanced waste management facilities, WPAs should consider a broad range of location, including industrial sites and opportunities to co-locate facilities together and with complimentary activities.	The City Wide selection study considered the potential for waste management facilities on a range of sites across the City. Although the conclusion from this was to identify four potential locations suitable for major residual waste treatment facilities, the process also identified other sites that although were not suitable for a major strategic waste use could be suitable for other smaller scale uses including many industrial locations. The safeguarded sites assessment also identified where existing waste management uses were taking place within industrial estates. This has enabled the waste policies to develop a clear hierarchy of suitable waste management locations.

Policy/Legislation	Requirements	How it is addressed in the NRWDPD
	Paragraph 21: Sets out detailed waste site selection criteria which are developed further in Annex E.	Annex E sets out the following considerations and these have been taken into account in identifying the hierarchy of waste sites. Protection of water resources. Land instability. Visual intrusion. Nature conservation. Historic environment. Traffic and access. Air emissions, including dust. Odours. Vermin and birds. Noise and vibration. Litter. Potential land use conflicts.
National Waste Strategy for England 2007	The Waste Hierarchy	The NR&WDPD strategy is based on changing the way in which waste management is dealt with to reflect the waste hierarchy. This is to significantly reduce the current reliance on landfill to meet the waste management needs of the City.
Consultation on National Waste Strategy 2010	Consultation closes on 7 October 2010. The early results of the Review will be made available in Spring 2011.	N/A
Leeds Integrated Waste Strategy 2005-2035	The IWS contains the following vision. 'A zero waste city, whereby we reduce, re-use, recycle and recover value from all waste , waste becomes a resource and no waste is sent to landfill'.	This is part of the vision for the NR&WDPD and the strategic objectives and policies support this.
	The IWS contains the following targets: Reduce the annual growth in waste to 0.5% per household by 2010 and eliminate growth in waste per household by 2020.	These targets are reflected in the future waste management requirements that the NR&WDPD is planning for and the spatial policies.

Policy/Legislation	Requirements	How it is addressed in the NRWDPD
	Achieve a minimum recycling rate of 50% of household waste by 2020. Achieve the recovery of value from 90% of household waste by 2020.	
Aire Valley Leeds Area Action Plan (AVLAAP) Preferred Options Summary, October 2007.	The council is exploring the creation of a 'Sustainable Energy and Resource Park' which could include a materials recycling facility for separating the dry recyclables collected in the green wheeled bins, organic waste processing facilities, an Energy from Waste facility, an education centre and business units for the development of products made from recycled materials. Evaluation work on potential sites within and external to Aire Valley Leeds has identified the potential of Aire Valley Leeds as a suitable location. Using site selection criteria the most likely locations for a Sustainable Energy Resource Park are: • Sites 3A.1 and 3A.2 former wholesale market; • Sites 4.1 and 4.2 Knostrop; • Area 4 Yorkshire Water surplus operational land; • Site 6C.1 Skelton Grange Knostrop is one of the largest sewage plants of its type in Europe and serves a city wide function in the disposal of domestic and commercial waste. Its retention is essential. The odour issue is an important element in respect to the possibility of new housing on nearby sites. **Preferred Option 5: Waste Management and Knostrop**	All the sites allocated within the Aire Valley in the east of the City (under Waste Policy 6) are available and supported by the waste management industry. There is a very high certainty that facilities can be delivered during the plan period or beyond. Combined these sites provide a total of XX hectares of land.

Policy/Legislation	Requirements	How it is addressed in the NRWDPD
	The potential of Aire Valley Leeds as a location for a Sustainable Energy Resource Park and/or other waste management facilities should be recognised in the AAP. Knostrop treatment works will remain in its current location. The implementation of measures that will reduce odour emissions from Knostrop WWTW to such a level that will allow for the development of a wider range of uses such as housing are promoted.	

Annex 2 – Consultation with Adjoining Authorities

WASTE MANAGEMENT

Consultation Query		Authority Response:
		Bradford Blue Calderdale Orange Kirklees Black Leeds Green Wakefield Red North Yorkshire Purple
Q1	Please identify any EXISTING strategic waste facility within your district with a remaining life in excess of 3 years which takes ANY waste materials liquid or solid from outside your district. If you know the area from which waste is delivered to the facility beyond your district please say. Please provide a location ref. for such a strategic waste facility collecting waste beyond your districts' borders, describe the waste and the generally rated tonnage per annum.	Esholt Waste Water Treatment Works (SE186395) - treats C200,000 tonnes of sewerage sludge and imports C30,000 tonnes of Green Waste for composting - assumed that a proportion of treated sludge may arise from north Leeds. Laneside landfill site Bell String Lane/Liley Lane Kirkheaton (Grid Ref: 418863 417460). 2,000,000 tonnes capacity. Site infrastructure in place and preparatory works now underway involving import of inert waste from inside and outside the district. Permission for general waste including household. Existing permission valid until 2015. Delay in commencing full blown tipping due to Great Crested Newt mitigation and the issue of an Environmental Permit. Likely that a further grant of planning permission will be necessary to achieve approved restoration. Waterholes quarry Thewlis Lane Crosland Hill Huddersfield (Grid Ref: 411711 414064). Landfill capacity of approximately 750,000 tonnes. Environmental Permit has been issued and an imminent start to full blown tipping likely. Current permission allows deposit of inert waste only and is valid until 2016. Both the above sites will be cited as important in providing waste disposal capacity for Kirklees in the Core Strategy. Peckfield Landfill site, Micklefield takes all non hazardous waste up to 300k tonnes pa from Leeds and locations up and down the A1. This site will be active until 2022. Remaining capacity about 3 million m3. Effluent treatment plant at Knostrop sewage works takes liquid wastes from a wider area than Leeds. About 120k tonnes pa. Skelton landfill is expected to have an extended life until 2015, with about 1.5 million3 currently remaining. At its peak took over 400K pa but now declining. A large facility at Garforth taking special wastes from printing and photography and many others burnt down in July. (Wastecare). Large skip business at Wetherby collects appreciable quantities from north and eastwards into NYorks. Welbeck landfill site, Normanton (east of the Calder and Hebble Navigation) The facility has planning permission until 2018. Remaining capacity - 12M tonnes. Currently approximately 500,000 tonnes per annum deposited. Waste types - primarily municipal, with some industrial & commercial, and construction, demolition & excavation.

Consultation Query		Authority Response:
		In N Yorks close to or fairly close to West Yorks with high probability of taking wastes from West Yorks .Composting site at South Milford; large anaerobic digester at Selby taking food waste; biomass (wood) processing plant at Great Heck, non hazardous landfill at Barnsdale; non hazardous landfill at Skibeden (Skipton)
Q2	Please identify any PROPOSED strategic waste facilities within your district on the same basis as Q1 above. A proposed strategic waste facility would be one the subject of an application, being discussed with the applicant in a purposeful manner, or in the process of procurement. In this section mention any proposal for any district to provide for a neighbouring district's municipal waste.	Permission 09/05140/FUL - Ripley Road Energy Recovery Facility - Biogen SE167317 - 160,000 tonnes - applicant indicated that facility was capable of treating MSW, C&I and elements of C&D waste and that their anticipated feedstock would be C&I from Bradford and Calderdale - Permission not yet implemented Permission 06/09330/FUL - Buck Street/ Hammerton Street Resource Recovery Facility - SE172328 - 320,000 tonnes - facility for the steam treatment of mixed wastes followed by mechanical separation - applicant indicated facility was capable of treating MSW and C&I - Permission not yet implemented PFI project currently in progress for procurement of facility for the treatment of MSW from Bradford and Calderdale - Site: Current Council Waste Transfer Station at Bowling Back Lane SE182325 – Capacity C330,000 There are at present no PROPOSED strategic waste facilities within Calderdale; However, the Bradford Calderdale PFI partnership will establish a strategic facility within Bradford that receives all Calderdale's non recyclable Municipal Waste. This is due to commence in 2014. Bromley Farm Quarries Barnsley Road Denby Dale Huddersfield (Grid Ref: 421992 408765). Potential capacity of approximately 1,000,000 tonnes. Planning application expected within the next few months. Proposed municipal waste incinerator from 2014 at Cross Green taking up to 220K tonnes pa from within Leeds. Proposed C&I incinerator at Cross Green taking 300K tonnes pa. from 2014. Large MRF for 200K tpa capacity approved at Gelderd Rd (Biffa) but not built yet. None
Q3	Please identify any ALLOCATED SITES or POTENTIALLY ALLOCATED strategic waste sites on the same basis as Q1 above. No need to double mention any sites which fall into more than one category.	No allocated sites. Currently undertaking site sieving process as part of preparation of Waste Management DPD None Sites for both above at 2. to be allocated in LDF Quarry at Howley Park Morley to be safeguarded for continued quarrying and has pp for waste disposal also Welbeck landfill site is allocated in the adopted waste DPD for the

Consultation Query		Authority Response:
		development of a commercial & industrial waste recycling, composting and recovery facility. The landfill site will also be safeguarded as a means of final disposal of residual waste. **North Yorks** allocated sites Jackdaw Crag nr Tadcaster saved allocation for waste recovery not begun (but inerts already disposed of there)
Q4	Are you aware of any other changes affecting any existing site which may change its status from a local facility to a cross border or sub regional facility? If so, say what.	PFI Facility to treat MSW from Calderdale as well as Bradford (see above). Approved Biogen Facility intention to treat C&I from Calderdale as well as Bradford (see above). Bradley Park Landfill site, Quarry Road Bradley. (Grid Ref: 416683 421276). Approximately 2,000,000 tonnes capacity for inert and hazardous waste. Current Planning Permission restricted to use of site by Syngenta (Former ICI). LPA Currently negotiating with a company who wish to purchase the site with a view to allowing waste for other sources. Hopefully this will be resolved in the coming months. No Not aware of any
Q5	Are you aware of any facilities in the region or neighbouring regions used for the acceptance (disposal or treatment) of significant amounts of waste arising within West Yorkshire. If so, say which. This would also be an opportunity to comemnt on the under provision for hazardous waste in the Leeds City Region.	Majority of MSW from Bradford disposed of at Welbeck landfill site in Wakefield. Approx 50,000 tonnes of household, industrial and commercial waste from Bradford landfilled at Skelton Grange landfill in Leeds (according to 2008 EA interrogator) **The following is based on information from the Calderdale Waste Management team and the Environment Agency's Waste Data Interrogator 2008.** **Landfill** Exports to neighbouring regions – All Municipal Waste destined for landfill is exported to Oldham and Rochdale. However this is likely to change due to the implementation of the Calderdale Bradford PFI waste partnership in 2014 / 2015. (The main destination (in terms of tonnages) for all waste types exported from Calderdale destined for landfill is Wakefield (Welbeck). Since municipal waste is sent to landfill in Oldham / Rochdale, the majority of Calderdale's waste exported to Wakefield for non hazardous landfill would appear to be C & I.) **Treatment** – The main destination for wastes exported to treatment facilities from Calderdale is Kirklees (Waste Water). The destination that receives the largest amount of waste from Calderdale that isn't in WY is Sheffield (just over 1000 tonnes). In terms of the Municipal Waste that is recycled / treated, again this is exported out of the district – with the main destinations being North Wales, South Yorkshire, West Midlands, East Midlands and Lincolnshire . Municipal Food waste is delivered to an in vessel composting facility in Todmorden. Calderdale exports Hazardous waste mainly to Leeds and Sheffield, with a number of smaller amounts going to both the North West and

Consultation Query		Authority Response:
		the North East. Matrix Direct Recycle School Lane Kirkheaton (Grid Ref: 417644 417292). Specialist electrical/electronic waste recycler. Current Environmental Permit allows approximately 25,000 tonnes of waste (some hazardous) to be dealt with per annum. The site currently accepts waste from around West Yorkshire and much of the north of England. Half Leeds Green Waste goes to sites at York, Skipton and Escholt. Solid haz waste from Leeds travels a long way. Eg Winterton nr Scunthorpe (no site in Wakefield !) Not aware of any