Public Document Pack

Leeds CITY COUNCIL

DEVELOPMENT PLAN PANEL

Meeting to be held in Civic Hall, Leeds on
Tuesday, 12th October, 2010
at 1.30 pm

MEMBERSHIP

Councillors

J Lewis	S Smith	B Anderson	T Leadley
R Lewis		C Fox	
E Nash			
N Taggart (Chair)			

Agenda compiled by: Angela Bloor
Governance Services 0113 395 2194
Civic Hall

A G E N D A

Item No	Ward	Item Not Open		Page No
1			**APPEALS AGAINST REFUSAL OF INSPECTION OF DOCUMENTS** To consider any appeals in accordance with Procedure Rule 25 of the Access to Information Rules (in the event of an Appeal the press and public will be excluded) (*In accordance with Procedure Rule 25, written notice of an appeal must be received by the Chief Democratic Services Officer at least 24 hours before the meeting)	
2			**EXEMPT INFORMATION - POSSIBLE EXCLUSION OF THE PRESS AND PUBLIC** 1 To highlight reports or appendices which officers have identified as containing exempt information, and where officers consider that the public interest in maintaining the exemption outweighs the public interest in disclosing the information, for the reasons outlined in the report. 2 To consider whether or not to accept the officers recommendation in respect of the above information. 3 If so, to formally pass the following resolution:- **RESOLVED –** That the press and public be excluded from the meeting during consideration of the following parts of the agenda designated as containing exempt information on the grounds that it is likely, in view of the nature of the business to be transacted or the nature of the proceedings, that if members of the press and public were present there would be disclosure to them of exempt information, as follows:-	

Item No	Ward	Item Not Open		Page No
3			**LATE ITEMS** To identify items which have been admitted to the agenda by the Chair for consideration. (The special circumstance shall be specified in the minutes).	
4			**DECLARATION OF INTERESTS** To declare any personal / prejudicial interests for the purpose of Section 81(3) of the Local Government Act 2000 and paragraphs 8 to 12 of the Members' Code of Conduct.	
5			**APOLOGIES FOR ABSENCE**	
6			**MINUTES** To approve the minutes of the Development Plan Panel meeting held on 7th September 2010 (minutes attached)	1 - 4
7	All Wards;		**NATURAL RESOURCES AND WASTE DEVELOPMENT PLAN DOCUMENT - PUBLICATION DRAFT** To consider a report of the Director of City Development on the Natural Resources and Waste Development Plan Document (DPD) – Publication draft and seeking Panel's recommendation to Executive Board that the Natural Resources and Waste DPD can be subject to public consultation (report attached)	5 - 148
8			**DATE AND TIME OF NEXT MEETING** Tuesday 9th November 2010 at 1.30pm	

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Development Plan Panel

Tuesday, 7th September, 2010

PRESENT: Councillor N Taggart in the Chair

Councillors B Anderson, C Fox, T Leadley, J Lewis, R Lewis and E Nash

Councillor

18 Chair's opening remarks

The Chair welcomed everyone to the meeting

19 Late items

There were no formal late items but the Chair made reference to an e-mail which had been sent to all Panel Members by Councillor Ilingworth stating that the comments he had made as part of the consultation had not been included in the report , particularly in respect of a natural footpath desire line at Dunkirk Hill

Councillor Taggart asked Officers to address the issues raised by Councillor Illingworth when presenting the report on the West Leeds Gateway SPD

20 Declaration of interests

The following Members declared personal/prejudicial interests for the purposes of Section 81(3) of the Local Government Act 2000 and paragraphs 8 to 12 of the Members Code of Conduct

West Leeds Gateway Supplementary Planning Document (SPD) (minute 23 refers):

Councillor Taggart declared a personal interest as a member of West Leeds Gateway Steering Group through his involvement with the West Leeds Gateway Programme Board which had commented as part of the consultation process

Councillor Fox declared a personal interest as a member of Leeds Local Access Forum which had commented as part of the consultation process

Councillor Nash declared personal interests through being a member of English Heritage which had commented as part of the consultation process and also as a Friend of Leeds Museum as proposed improvements to the Industrial Museum at Armley Mills were referred to within the SPD

21 Apologies for Absence

Apologies for absence were received from Councillor Mulherin

22 Minutes

RESOLVED - That the minutes of the Development Plan Panel meeting held on 13th July 2010 be approved

23 West Leeds Gateway Supplementary Planning Document

Further to minute 39 of the Development Plan Panel meeting held on 9th March 2010 where Panel accepted the proposal to convert the West Leeds Gateway Area Action Plan (AAP) to a Supplementary Planning Document (SPD), Members considered a report of the Director of City Development setting out a summary of the responses received to the consultation carried out in June-July 2010; Officers' responses to the comments and the proposed amendments to the SPD arising from these comments. A copy of the SPD document was included with the papers sent to Members for the meeting

The Head of Forward Planning and Implementation stated that following the decision to take the West Leeds Gateway document forward as an SPD, a further 6 week period of public consultation had been undertaken and it was now felt that the document was ready to be adopted as formal planning guidance

Members were informed that a change to the process meant that the SPD did not now need to be submitted to the Secretary of State for independent examination and if Development Plan Panel was satisfied with the document the next stage would be to recommend to Executive Board that the SPD be formally adopted

Although the SPD could not allocate land for development purposes it would inform the site allocations plan and the UDP and would support the continued regeneration of West Leeds

The latest round of consultation resulted in 28 responses being received although Officers were unsurprised by the relatively low level of responses in view of the extensive consultation which had been carried out previously since 2005

In addition to the amendments to be made following the last round of consultation, the document would also be amended to remove references to the Regional Spatial Strategy (RSS) following its abolition

Officers highlighted the main areas of comment which were stated as:

- Greenspace
- Economics of development
- The National Grid and Armley Gyratory

Regarding Dunkirk Hill, Officers stated that no representation had been received from Councillor Illingworth on this matter. However the proposal raised by Councillor Illingworth regarding the footpath running over the top of Dunkirk Hill, along the rim of the railway cutting and linking up with the Canal towpath and Kirkstall Nature Reserve was worthy of support. Councillor Illingworth had requested this footpath be incorporated into the Definitive Footpath Map and added to West Leeds Gateway SPD

The Panel was informed that the SPD could not designate new footpaths and there appeared to be some dispute with a private landowner about the public's right to access a part of the route. This was something which would need to be addressed in work being undertaken to complete the Definitive Map for Leeds and Members were informed that Councillor Illingworth's e-mail had been forwarded to the Rights of Way team within the Council

Officers stated that the West Leeds Gateway SPD proposed a Planning Brief for the Armley Mills site and it would be possible to incorporate an aspiration to achieve this footpath link within that document

Members discussed the following matters:

- the need for railway stations in the area, particularly to serve a recently approved mixed-use development on Kirkstall Road

- the comment received regarding the lack of play areas for children and the need for Parks and Countryside section to pick this matter up, particularly in the PPG17 Audit
- that the document should have remained an Area Action Plan
- the Coal Authority's comments regarding mineral extraction; that whilst this would be covered in other documents, especially the Natural Resources and Waste DPD, the view that the comments made by the Coal Authority should be included. Officers stated that further clarity could be made in responding to the points raised as part of the consultation (included within the schedule of comments)
- the legal issues involved in public access to footpaths or realignment of footpaths; the Public Rights of Way improvement plan which was an aspiration; the need for a permissive plan but the difficulties in achieving this due to the length of the list of Rights of Way to be investigated and the lack of resources to achieve this

RESOLVED -

i) To note the representations received on the West Leeds Gateway SPD, the recommended responses to these and the comments now made

ii) That subject to the proposed amendments as set out in the submitted report; the removal of references to the RSS and an amendment to expand upon the issues raised by the Coal Authority in its latest response, that Executive Board be recommended to adopt the West Leeds Gateway Area Supplementary Planning Document

24 Date and time of next meeting

The Chair referred to the possibility of re-arranging meeting dates to enable Councillor Mulherin, who had been appointed to the Panel, to be able to attend the meetings

The Chair stated that he would check the possibility of altering the date of the next meeting from 12th October to 8th October and Members would be advised if that was to be the case

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Leeds CITY COUNCIL

Agenda Item 7

Agenda:

Originator: David Feeney

Tel: 2474539

Report of the Director of City Development

Development Plan Panel

Date: 12 October 2010

Subject: Natural Resources & Waste Development Plan Document – Publication Draft

Electoral Wards Affected:	**Specific Implications For:**
All	Equality and Diversity ☐
✓ Ward Members consulted (referred to in report)	Community Cohesion ☐
	Narrowing the Gap ☐

EXECUTIVE SUMMARY

1. The Natural Resources & Waste Development Plan Document (DPD) is one of a number of planning documents currently being prepared as part of the Local Development Framework (LDF). The preparation of this document has been driven by the requirements of national planning guidance (PPS10), the implications of European Waste Management Directives and the City Council's commitments to managing environmental resources and tackling climate change. Central to these requirements also, is the need for local authorities to develop an overall strategy for waste management (aligned to the Council's own municipal waste strategy) and to identify specific sites to manage, municipal, commercial and industrial waste.

2. Following extensive periods of consultation (Issues & Alternative Options and 'Policy Position' document), Development Plan Panel is requested to consider the "Publication Draft" document, to be subject to a further formal 6 week period of consultation (LDF, Reg. 28). Following consideration of representations received, the City Council may then proceed to the formal Submission of the DPD (LDF, Reg. 30) to the Secretary of State for Independent Examination.

1.0 Purpose of this Report

1.1 Development Plan Panel is requested to consider the Natural Resources & Waste Development Plan Document (DPD) – Publication draft and to recommend to Executive Board that this can be subject to (Local Development Framework, Reg. 28) public consultation. Following further consultation at this stage and consideration of representations, the City Council may then proceed to formal Submission of the document to the Secretary of State for Independent Examination.

2.0 Background Information

2.1 Within the context of national guidance (PPS10), European Directives and a range of City Council strategies (including municipal waste and climate change), the Natural Resources and Waste DPD has been in production since 2007. Following early technical work and stakeholder engagement, wider public consultation on an Issues & Alternative Options document took place in May – June 2008. This was subsequently followed by a further 6 week period of public consultation (18 January – 1st March 2010) on a 'Policy Position' document. Following the preparation of technical work and supporting material (including Sustainability Appraisal, Resources Flow Analysis, waste research & site requirements reports and reports of public consultation), a "Publication" DPD has now been prepared. The focus of this is to provide planning policy guidance and where necessary, site specific allocations, on natural resources (including minerals) and waste. The policy document (Publication draft and background topic papers on Waste, Minerals and Energy) is also accompanied with a detailed Map Book and Sustainability Appraisal (which will be made available to members).

3.0 Main Issues

3.1 The Natural Resources & Waste DPD Publication draft contains a range of planning policies for Land Use, Minerals & Aggregates, Water Resources, Air Quality, Sustainable Energy Use and Waste, as part of an overall integrated approach, which seeks to minimise and manage the use of natural resources. As well as containing specific planning policies and site allocations, it is also envisaged that the document will have an influencing role in supporting the City Council's wider strategic objectives for the environment.

3.2 Within this overall context, a number of key issues have emerged, which are addressed through the document. These include:

- planning for minerals & aggregates supply (whilst managing environmental assets and amenity),
- planning for municipal, commercial and industrial waste activity, including site specific allocations, (whilst seeking to reduce waste arisings overall)
- seeking to reduce flood risk, through mitigation and adaptation, in taking into account the effects of climate change.

3.3 Following public consultation on Issues & Alternative Options (May – June 2008), and a 'Policy Position' (January – March 2010) there has been a strong measure of support for the overall strategy and policy approach of the DPD. However, representations have been received regarding the designation of particular sites for minerals and aggregates (and the need to be more explicit about the identification of coal deposits). Concerns have been expressed also regarding site specific

allocations for strategic waste management facilities including the potential use of specific sites for a future City Council 'Energy from Waste' facility. Sites being considered are Former Skelton Grange Power Station Site, Land within Knostrop Sewage Treatment Works and Former Wholesale Markets Site, Cross Green Industrial Estate.

3.4 In seeking to address these issues and concerns, the Publication draft provides a strategic planning, policy and site allocation context for subsequent proposals and initiatives. In response to specific concerns raised in respect of minerals and waste issues noted above, the Publication draft:

- focuses upon minimizing the impact of necessary minerals working by 'safeguarding' *existing* sites where necessary and by carefully managing the extent of any future expansion,

- acknowledges the presence and broad location of coal deposits across the district (and its management through 'criteria based' planning policies), with the extent of coal deposits subsequently identified in supporting technical material,

- provides a planning framework for the allocation of sites for municipal, commercial and industrial waste (including amenity and locational considerations), whilst supporting overall waste reduction as a priority. Such an approach therefore provides a planning policy context for the consideration for the provision of waste management facilities, including 'Energy from Waste'.

4.0 Implications for Council Policy and Governance

4.1 As noted above, the Natural Resources & Waste DPD, forms part of the Local Development Framework and once adopted will form part of the Development Plan for Leeds. Following completion of the six week period of consultation on the Publication draft (and consideration of representations received), Development Plan Panel & Executive Board will need to receive a further report to recommend to Full Council the formal Submission of the DPD for Independent Examination (LDF, Reg.30).

5.0 Legal and Resource Implications

5.1 The DPD is being prepared within the context of the LDF Regulations, statutory requirements and within existing resources. There are no specific resource implications for the City Council arising from the planning policies and allocations.

6.0 Conclusions

6.1 The preparation of the Natural Resources and Waste DPD has been through several phases. The Publication draft is a key step in moving the process through to independent examination and final adoption.

7.0 Recommendations

7.1 The Development Plan Panel is recommended to:

(i) Consider the Natural Resources & Waste DPD (and supporting material)

(ii) Recommend to Executive Board that it approves the Natural Resources & Waste DPD together with the sustainability appraisal report and other

relevant supporting documents for the purposes of publication & public participation.

Background Papers

Natural Resources & Waste DPD – Publication draft

Map Book

Sustainability Appraisal

Topic Papers (Waste, Minerals & Energy)

Natural Resources & Waste DPD Issues & Alternative Options & 'Policy Position documents (and supporting technical papers & Reports of Consultation)

Leeds Local Development Framework

Natural Resources and Waste Development Plan Document

Publication Draft

October 2010

If you do not speak English and need help in understanding this document, please phone: 0113 247 8092 and state the name of your language. We will then we contact an interpreter. This is a free service and we can assist with 100+ languages. We can also provide this document in audio or Braille on request.

(Bengali):-

যদি আপনি ইংরেজীতে কথা বলতে না পারেন এবং এই দলিলটি বুঝতে পারার জন্য সাহায্যের দরকার হয়, তাহলে দয়া করে 0113 247 8092 এই নম্বরে ফোন করে আপনার ভাষাটির নাম বলুন। আমরা তখন আপনাকে লাইনে থাকতে বলে কোন দোভাষীর (ইন্টারপ্রিটার) সাথে যোগাযোগ করব।

(Chinese):-

凡不懂英語又須協助解釋這份資料者，請致電 0113 247 8092 並說明本身所需語言的名稱。當我們聯絡傳譯員時，請勿掛斷電話。

(Hindi):-

यदि आप इंग्लिश नहीं बोलते हैं और इस दस्तावेज़ को समझने में आपको मदद की ज़रूरत है, तो कृपया 0113 247 8092 पर फ़ोन करें और अपनी भाषा का नाम बताएँ। तब हम आपको होल्ड पर रखेंगे (आपको फ़ोन पर कुछ देर के लिए इंतज़ार करना होगा) और उस दौरान हम किसी इंटरप्रिटर (दुभाषिए) से संपर्क करेंगे।

(Punjabi):-

ਅਗਰ ਤੁਸੀਂ ਅੰਗਰੇਜ਼ੀ ਨਹੀਂ ਬੋਲਦੇ ਅਤੇ ਇਹ ਲੇਖ ਪੱਤਰ ਸਮਝਣ ਲਈ ਤੁਹਾਨੂੰ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ, ਤਾਂ ਕਿਰਪਾ ਕਰ ਕੇ 0113 247 8092 'ਤੇ ਟੈਲੀਫ਼ੂਨ ਕਰੋ ਅਤੇ ਅਪਣੀ ਭਾਸ਼ਾ ਦਾ ਨਾਮ ਦੱਸੋ. ਅਸੀਂ ਤੁਹਾਨੂੰ ਟੈਲੀਫ਼ੂਨ 'ਤੇ ਹੀ ਰਹਿਣ ਲਈ ਕਹਾਂ ਗੇ, ਜਦ ਤਕ ਅਸੀਂ ਦੁਭਾਸ਼ੀਏ (Interpreter) ਨਾਲ ਸੰਪਰਕ ਬਣਾਵਾਂ ਗੇ.

(Urdu):-

اگر آپ انگریزی نہیں بولتے ہیں اور آپ کو یہ دستاویز سمجھنے کیلئے مدد کی ضرورت ہے تو براہِ مہربانی اس نمبر 0113 247 8092 پر فون کریں اور ہمیں اپنی زبان کا نام بتائیں۔ اس کے بعد ہم آپ کو لائن پر ہی انتظار کرنے کیلئے کہیں گے اور خود ترجمان (انٹرپریٹر) سے رابطہ کریں گے۔

This publication can also be made available in Braille or audio cassette. Please call 0113 247 8092.

HAVE YOUR SAY

Leeds City Council is consulting on the XXXXX for the Natural Resources and Waste Development Plan Document between xxxxx. The XXXX Report and supporting documents are available for inspection at the following locations,

- Development Enquiry Centre, Development Department, Leonardo Building, 2 Rossington Street, Leeds, LS2 8HD (Monday – Friday 8:30am – 5pm, Wednesday 9:30am – 5pm)
- All libraries across the Leeds district
- All One Stop Centres across the Leeds district

These documents are also published on the Council's website. To download the proposals go to www.leeds.gov.uk/ldf and follow the link for the Natural Resources and Waste Development Plan Document within the Local Development Framework. Paper copies of the document can be requested from the address below.

Please return your comments to NRWDPD@jacobs.com or the following address by XXXX

NRWDPD Consultation Response
1 City Walk
Leeds
LS11 9DX

SEEKING INDEPENDENT ADVICE AND SUPPORT

Planning Aid provides free, independent and professional advice on planning issues to community groups and individuals who cannot afford to pay a planning consultant. Yorkshire Planning Aid also provides a programme of community planning, training and education activities.

To contact Planning Aid

Yorkshire Planning Aid
The Green Sand Foundry
99 Water Lane, Leeds, LS11 5QN
Telephone / Fax: 0113 237 8486
Email: ykco@planningaid.rtpi.org.uk
Website: www.planningaid.rtpi.org.uk

For general planning advice contact the Planning Advice Helpline:

Telephone: 0870 850 9808
Email: ykco@planningaid.rtpi.org.uk

CONTENTS

1 INTRODUCTION

WHAT IS THIS DOCUMENT?

1.1 The Natural Resources and Waste Development Plan Document (NRWDPD) is one of several Development Plan Documents (DPD's) which make up the Leeds' Local Development Framework. This document sets out the Council's policies on the future use of Natural Resources and Waste for the plan period up to 2026. Local Development Frameworks replace the previous development plan system of Unitary Development Plans (UDP's) under the requirements of the Planning and Compulsory Purchase Act 2004.

1.2 The Councils UDP was reviewed in 2006 and many of its policies are "saved". This means they are approved by the Government until they are replaced or superseded by policies in new plans such as this adopted NRWDPD. Some of the saved policies of the UDP have been replaced by new NRWDPD policies, and others deleted as they are no longer required.

1.3 This document provides policies for determining planning applications which have an effect on minerals, waste, energy, water or air and sets out how the planning system can help to achieve a more efficient use of natural resources. The policies of this DPD will:

- Ensure the responsible and efficient use of natural resources, such as prioritising the use of alternative minerals and measures to reduce the amount of water used in development;
- Plan for managing future pressure on natural resources, for example, from climate change and housing growth. This includes policies which reduce flood risk, improve air quality and increase renewable energy provision;
- Increase waste re-use, recycling, composting and residual waste treatment with energy recovery so that as little waste as possible is disposed of at landfill;
- Provide sufficient land, which includes a range of suitable and sustainably located sites, to deliver new processes which manage waste as a valuable resource;
- Encourage more use of those resources that don't run out, such as solar, hydro and wind energy; and encourage the production of Low Carbon Energy; and
- Encourage the movement of freight by alternative means to road, including the transfer of minerals and related products by water.

THE PLAN AREA

1.4 The NRWDPD covers the whole administrative area covered by Leeds City Council as shown on the key characteristics diagram. This includes the main urban area of the City of Leeds and surrounding settlements. Where this document refers to 'Leeds' this means the whole area covered by the administrative boundary unless stated otherwise within the text.

DOCUMENTS WHICH MAKE UP THE NRWDPD

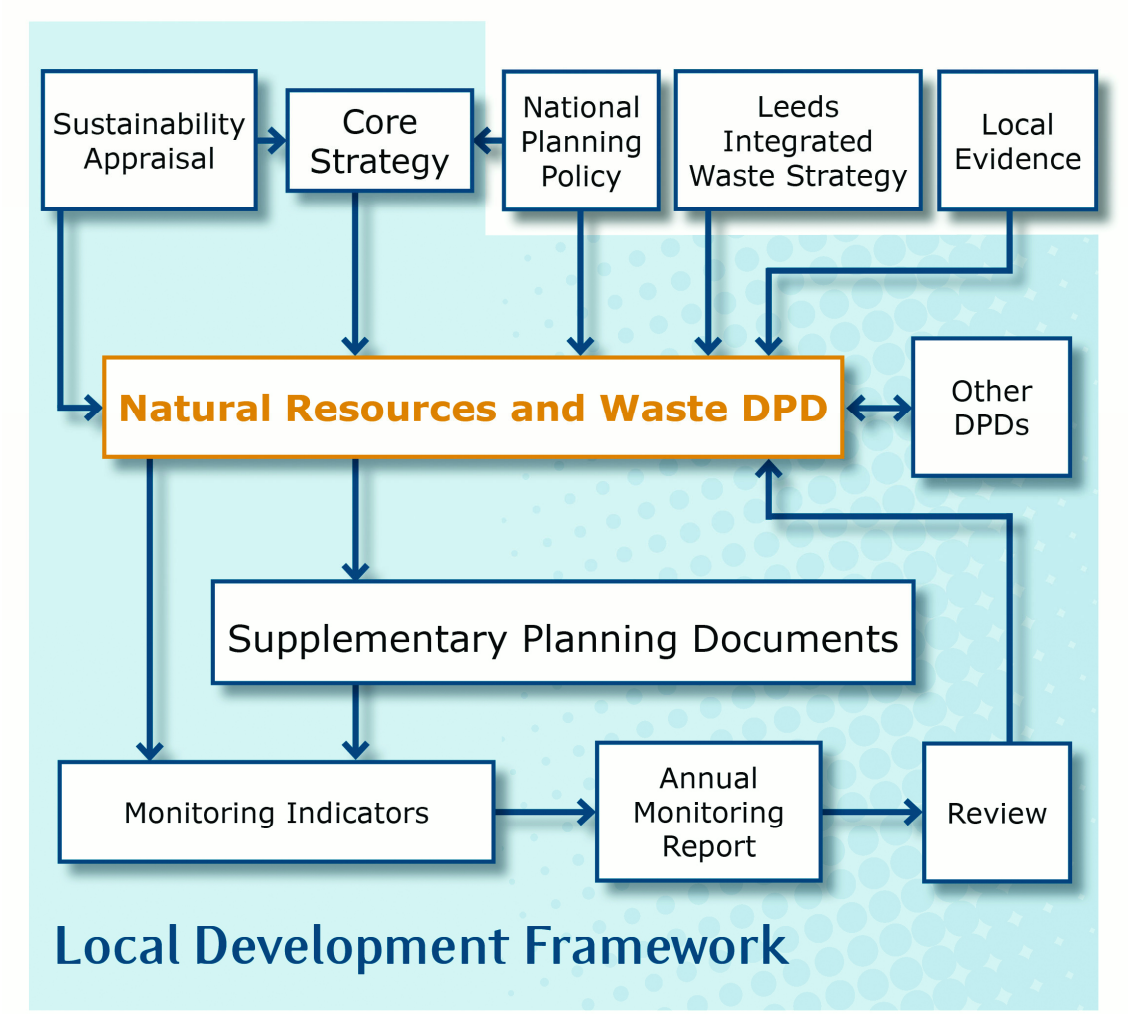
1.5 The NRWDPD comprises:

- This Publication document which includes background diagrams and supporting appendicies;
- The Map Book which sets out all the plans which are part of the NRWDPD;

- Separate technical topic papers on Minerals, Energy and Waste. These link to other detailed evidence studies completed to support this document. They provide all the evidence to support the submission but will not be Adopted; and
- Sustainability Appraisal.

The diagram below shows the relationship between the Natural Resources and Waste DPD and other documents.

Figure 1.1: Relationship of NRWDPD with Other Policies



HOW THE DOCUMENT HAS BEEN PRODUCED

1.6 The NRWDPD has been informed through the following processes:

Table 1.1: NRWDPD Process

Process	Outcome
Topic Papers	The decisions taken and the way we reached the position in this plan are reported in three supporting topic papers covering waste, minerals and energy. • The minerals topic paper seeks to explore the issues surrounding planning for minerals development and sets out the factors and issues that will shape how minerals policies for Leeds are to be developed. • The waste topic paper sets out the evidence on how the Council has determined the amount of waste which this DPD must plan for. It sets out how much waste should be re-used, recycled or composted or treated including energy recovery. It sets out how these have been interpreted into the land use requirements of this plan. • The energy topic paper summarises the key aspects of future energy generation and management that will inform and shape future planning policy development in Leeds.
Detailed Evidence	The DPD is supported by other specific, local evidence where it was necessary to determine particular information through a bespoke study or analysis. These studies show how the facts and information that support the plan have been derived: • Natural Resources Flow Analysis and Ecological Footprint: This analyses how resources are currently used in Leeds, how this compares to other areas and what could happen if the current situation continues into the future. • Safeguarded site database. This is a database containing what is known about the existing minerals and waste sites in Leeds and is used to determine which sites would be appropriate to safeguard. • Background Waste Research Report. This report undertakes waste projections for the DPD for all waste streams and what the requirements are forecast to be in terms of how much future waste will need to be recycled/composted and treated. It also sets out the operational and land use requirements of different waste management facilities. • The Leeds Wide Waste Site Selection Study and Update Addendum: This 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 types of waste facilities. • Defining Municipal Waste Site Requirements (other than for Residual Waste Treatment): This identifies the types of waste management facilities which will be required to deliver greater re-use, composting and recycling for municipal waste during the plan period. • Yorkshire and Humber Regional Aggregate Working Party Annual Report 2008 and Aggregates Monitoring 2008: This survey is part of an annual programme that collects data on sales of aggregate minerals in the Yorkshire and Humber Region. • Local evidence from the Leeds Strategic Flood Risk Assessment November 2007, the Leeds Air Quality Review and Assessment 2010 and the Leeds Landscape Character Review 1994.

Process	Outcome
	• Map of Wind Speeds in Leeds and assessment of Contribution of Renewable Energy Technologies
Issues and Alternative Options Report and Consultation[1]	A Leeds wide consultation exercise was undertaken at the start of the process in 2008. This included the public, local interest groups, hard to reach groups and formal stakeholders. This shaped the direction of the document through seeking views on 41 issues and options of how each could be addressed. Consultation processes and responses were recorded in a Consultation Report.
Policy Position Report and Consultation Report including Policy Position Map Book[2]	Following feedback from the Issues and Options, a further consultation exercise was undertaken to seek the views on the proposed policy position at this time. This included a map book to show the safeguarded sites and other proposed waste management areas including proposed strategic sites. A Consultation Report, dated May 2010, formally records the responses to this. This helped inform and shape the policies of this document.
Sustainability Appraisal[3]	Sustainability appraisal has been progressed in parallel with the development of the Plan to set out the social, environmental and economic effects of the policies. This process is reported in the Sustainability Appraisal Report.

[1] Leeds City Council, Issues and Alternative Options, 8 May – 19 June 2008
[2] Leeds City Council, Policy Position Report for Consultation October – January 2010
[3] Sustainability Appraisal

LEGISLATIVE FRAMEWORK

1.7 There is a significant amount of legislation, planning policy and strategy documents which this DPD must take into account. This is summarised in the table below with further details set out in the topic papers and background evidence.

Table 1.2: Summary of Legislative and Policy Framework[4]

Topic	European	National	Local
Minerals	None	MPS 1: Planning and Minerals, 2006. PPG 13: Transport, 2001.	Regional Aggregate Working Party Monitoring Report April 2008.
Waste	Waste Framework Directive (2008/98/EC) Waste Framework Directive (2006/12/EC) Waste Framework Directive (75/442/EEC as amended by Directive 91/156/EEC) Landfill Directive (1999/31/EC) Hazardous Waste Directive (91/689/EEC)	PPS 10: Planning for Sustainable Waste Management, July 2005. National Waste Strategy for England, 2007. Consultation on National Waste Strategy, 2001.	Leeds Integrated Waste Strategy 2005 – 2035. Aire Valley Leeds Area Action Plan (AVLAAP) Preferred Options Summary, October 2007.
Energy	Directive to Promote Electricity from Renewable Energy (2001/77/EC)	PPS 22: Renewable Energy, 2004. PPS1 Supplement Planning and Climate Change, 2007. Planning and Energy Act, 2008. Building Regulations (particular Part L) Towards A Greener Future, Towards Zero Carbon Development, CLG, 2007	Leeds LDF SPD – Building for Tomorrow Today – Sustainable Design and Construction:(Consultation Draft).
Natural Resources	Water Framework Directive (2000/60/EC) Air Quality Framework Directive (96/62/EC)	PPS 25: Development and Flood Risk, 2010. Air Quality Strategy, DEFRA 2007 and Low Emission Strategies Guidance, DEFRA 2010.	SPG22: Sustainable Urban Drainage, June 2004 Leeds Strategic Flood Risk Assessment Nov. 2007 City of Leeds (Metropolitan District) (No.1) Air Quality Management Order, 2010.
All Topics	As above	PPS 1: Delivering Sustainable Development and Climate Change Supplement, 2006. Climate Change Act 2008. Code for Sustainable Homes.	LDF Core Strategy. Vision for Leeds 2004 to 2020. (Vision for Leeds 3 - consultation September to December 2010). 'Leeds 2050' July 2007. The Yorkshire and Humber Plan (until the point this was revoked).

[4] See Minerals, Energy and Waste Topic Papers for detailed references.

2 KEY CHARACTERISTICS AND SPATIAL VISION FOR LEEDS

2.1 The characteristics of Leeds which form the basis for this plan are set out below and shown on the key characteristics diagram and the minerals resource map.

THE PLAN AREA

2.2 Leeds is a metropolitan district of three quarters of a million people. It is dominated by the urban City of Leeds and has a number of important settlements such as Wetherby and Otley as well as many smaller communities. For ease, we refer to the whole area covered by Leeds City Council administration as "Leeds" within this document. The surrounding countryside is under pressure to meet the needs of a large urban population. For Leeds, the Natural Resources Flow Analysis shows that the ecological footprint is in line with other UK cities at 5.99 global hectares per capita which is way beyond the capacity of our planet to sustain[5]. Leeds consumes natural resources at a rate that is nearly double what is sustainable in the long term.

2.3 During the 1980s and 90s, Leeds experienced considerable growth within the finance and banking sector and along with the compact shopping area this helped create a strong city centre. Leeds is a regionally important City and because of this the travel to work area extends into most parts of Yorkshire. This means that a lot of people travel into Leeds for work, but do not necessarily live here.

2.4 The natural resources of Leeds have shaped the City. The City thrived and expanded rapidly during the industrial revolution, because the underlying geology provided the many minerals necessary for industry and construction. River valleys provided fertile land for agriculture with sheep farming leading to the development of the woollen industry. They also provided a source of water, transport and power. Smaller market towns developed along the River Wharfe in the north of the District and to the east the limestone plateau gave rise to a distinctive landscape characterised by villages built from the local limestone.

TRANSPORTATION NETWORK

2.5 The Leeds – Liverpool Canal played a vital role in the development of Leeds. It meant that Leeds could transport the goods it produced by water and could reach the Trent Navigation, the canals of the Midlands, London and the South. Raw materials could be brought in from the Humber Ports and an inland dock was established. In more recent years, the decline of manufacturing industry and higher land values associated with residential development have meant that most of the wharves have been lost, which restricts the use of the canal for freight.

2.6 The rail network was of equal importance, supporting the movement of coal which meant that Leeds had an ample supply of coal at advantageous prices. This encouraged the growth of industries which thrived on coal such as chemical works, potteries, glassworks and cloth dyeing. The position of Leeds on a strategically central location on the rail network still makes it a desirable location for industries wanting to utilize the network for distribution although the majority of freight in and out of Leeds is now moved by road.

[5] Leeds City Council, Natural Resources and Waste Development Plan Document – Policy Position, January 2010, p5

2.7 Leeds is well connected to the strategic road network with three key motorways M621, M62 and M1/A1.

MINERALS RESOURCES

2.8 Leeds contains resources of coal, sand and gravel, sandstone, limestone and various clays. These have been extensively worked in the past, but now tend to be more difficult to work or less commercially attractive. The distribution of economic minerals is shown on the minerals resource map.

2.9 There are no more active opencast coal sites in the District. Sand and gravel extraction is a constant, but with declining overall permitted reserves. Hard rock quarries still have significant reserves and building stone production is steady, having recovered in recent years, however output is small compared with aggregates. Total aggregate production is around 430,000 tonnes[6] per year, however in order to meet demand Leeds has to import a lot of aggregates. There are two clay quarries and each contain large factories where some 80 million facing bricks are produced each year, making Leeds self-sufficient in bricks.

WASTE

2.10 A large industrialised, urban population inevitably produces a lot of waste and the regional role of Leeds increases the pressure on resources. The largest producer of waste is from construction, demolition and excavation (CD&E) activities followed by the commercial and industrial business sectors (C&I). Municipal solid waste (MSW), domestic waste collected by the Council is also a substantial proportion of the total waste stream[7]. Waste produced by agriculture and hazardous waste, which needs to be disposed of separately, are much smaller but important forms of waste. The Natural Resources Flow Analysis estimates that 5 tonnes of gross waste is produced per head of population in Leeds which is slightly lower than the UK average of 5.6 tonnes[8].

2.11 Only municipal waste is collected by Leeds City Council, which includes that collected through 11 household waste sorting sites distributed around Leeds. Leeds currently recycles 31.25%[9] of its municipal waste but the Leeds Integrated Waste Strategy (IWS) has a target to recycle 50%[10]. Most of the remaining waste is currently sent to landfill. For other waste streams information is more difficult to obtain but recycling rates are likely to be higher than for MSW although there is still significant potential to increase this[11].

NATURAL RESOURCES

2.12 Other important resources in the District include water, air and wind. The large majority of river water in Leeds is classed as good or fair quality. Contamination of the River Aire is due to surface water run off, effluent discharges, mine waters and industrial discharges, and pesticide contamination.

2.13 According to the Natural Resources Flow Analysis, gross water consumption in Leeds is 36% higher than the national average although it does not have a shortage of water which can be collected and

[6] Leeds Annual Monitoring Programme 2009
[7] See Waste Topic Paper for a formal definition of each waste stream.
[8] Leeds City Council, Natural Resource Flow Analysis and Ecological Footprint, January 2008, p4.
[9] Leeds City Council Final 2009/2010 Recycling Performance, Period 12 to 31st March 2010
[10] Leeds City Council, Integrated Waste Strategy for Leeds 2005-2035, p18
[11] Based on information from DEFRA: www.defra.gov.uk

treated for drinking water supply. It is possible that climate change may lead to increased pressure on the water supply in the future[12].

2.14 Flooding is a major concern in Leeds. There are over 3,862 homes and 700 businesses at risk of flooding from the River Aire alone[13]. There are also substantial risks from surface water flooding. Communication networks, energy networks and other important infrastructure such as schools are vulnerable to disruption from flooding.

2.15 The rivers in Leeds generally do not have flow rates that would support large scale commercial hydropower but during the mediaeval period the Cistercian monks created a number of weirs on the rivers specifically for the purposes of increasing flow to generate water power.

2.16 The City of Leeds is generally low-lying and is therefore not particularly windy but there are some areas outside the main urban area where wind speeds at a height of 45 metres are above 6.5 m/sec[14].

2.17 Air quality is generally good and has improved since coal-burning has ceased. Of the seven main air quality pollutants, Leeds only has any potential problem with levels of Nitrogen Dioxide ($NO_{2)}$ and Particulates (PM_{10})[15]. Road traffic is the greatest source of emissions for both of these. The District is served by the Leeds and Bradford International Airport. Unless air passenger numbers grow from the current 3 million per annum to beyond 5 million, the most immediate impact of the airport on air quality is the road traffic emissions which arise from car use due to limited public transport accessibility[16].

[12] Leeds City Council, Natural Resource Flow Analysis and Ecological Footprint, January 2008
[13] Figures provided by the Environment Agency in their consultation response, March 2010.
[14] Leeds City Council, Policy Position Report Appendix, Figure 9, windspeeds, January 2010
[15] City of Leeds (Metropolitan District) (No.1) Air Quality Management Order, 2010
[16] Leeds City Council, Natural Resource Flow Analysis and Ecological Footprint, January 2008

Figure 2.1: NRWDPD Key Characteristics Diagram

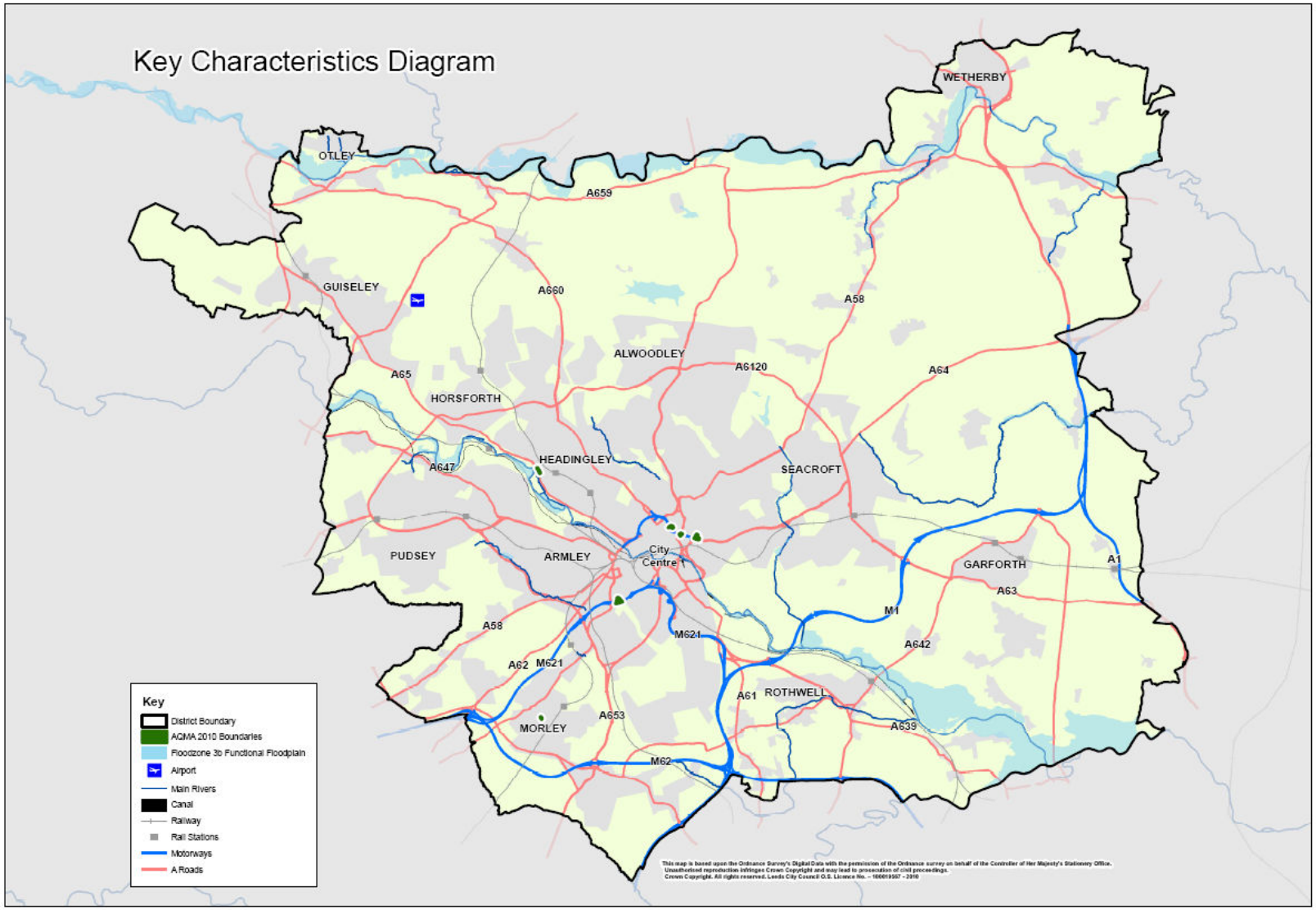
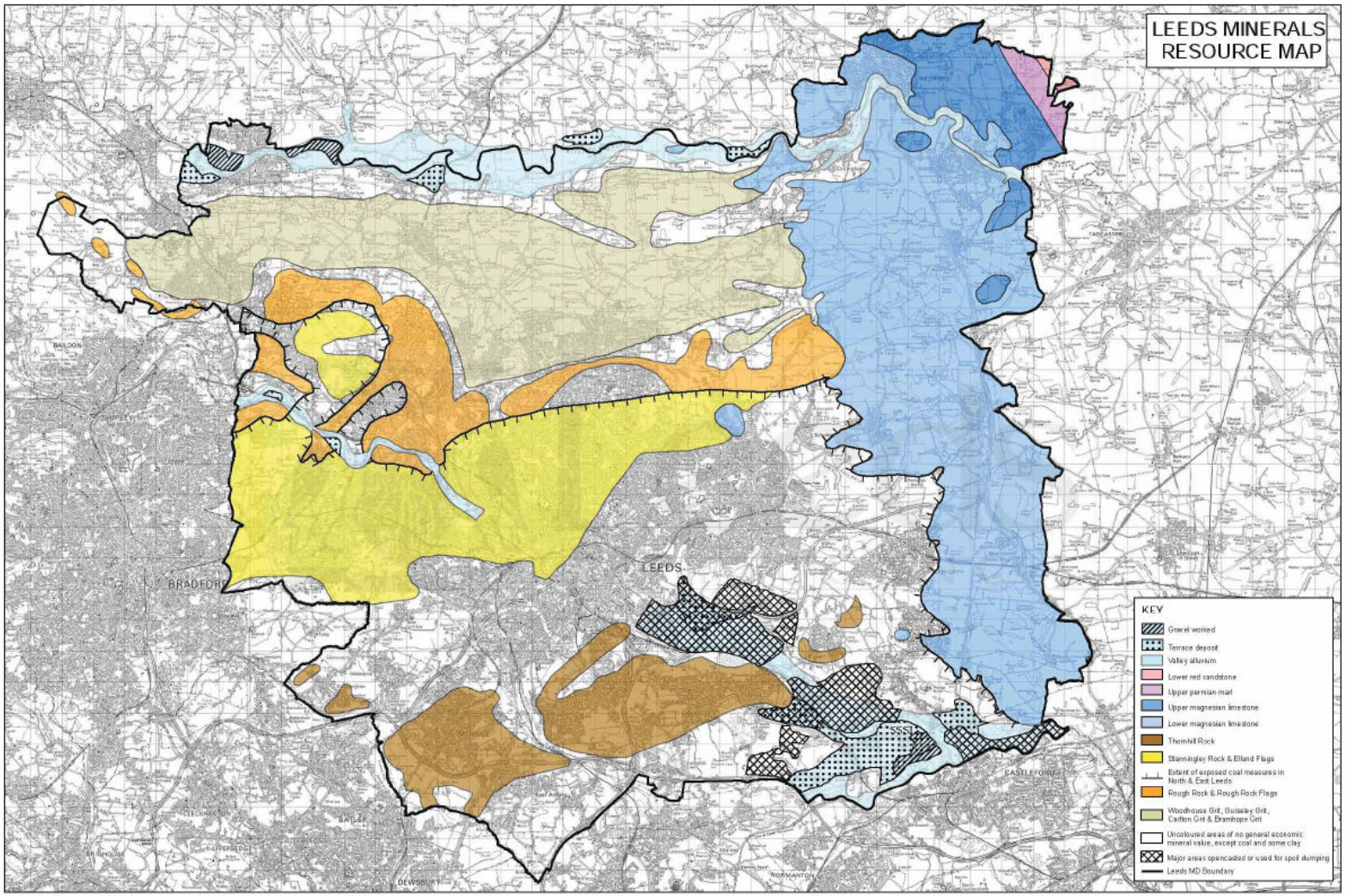


Figure 2.2: Minerals Resource Plan



SPATIAL VISION AND STRATEGIC OBJECTIVES

2.18 The spatial vision sets out where the Council wants Leeds to get to in the long term:

LEEDS LOCAL DEVELOPMENT FRAMEWORK SPATIAL VISION

For Leeds to be a distinctive, competitive, inclusive and successful City, for the benefit of its communities, now and in the future.

2.19 To make this vision more specific to the aims and topics of the NRWDPD and in response to consultation, this has been expanded so the four main principles and strategic objectives below underpin all the policies of the NRWDPD.

NRWDPD Vision and Strategic Objectives

AN EFFICIENT USE OF NATURAL RESOURCES

- **The prudent use of natural resources is at the heart of the way things are done in Leeds.**
- **Ensure sufficient contribution to supply for local and regional minerals demand is provided, but look to use secondary / re-cycled materials first.**
- **Avoid sterilising future mineral resources.**
- **Efficient use of previously developed land, especially contaminated land.**
- **Support better management of the water cycle and application of efficient uses of water.**
- **Protect and increase the amount of tree cover.**

A ZERO WASTE HIGH RECYCLING SOCIETY

- **Support activities to reduce the level of waste produced.**
- **Maximise the reuse of waste.**
- **Maximise recycling and composting waste where possible.**
- **Recover energy from waste.**
- **Provide sufficient management facilities in appropriate and accessible locations in order to minimise the amount of waste going to landfill.**

A LOW CARBON ECONOMY

- **Identify opportunities for renewable energy generation and heat distribution.**
- **Promote sustainable movement of freight including minerals.**
- **Make better use of the water and rail transportation networks.**

A HIGH LEVEL OF ENVIRONMENTAL PROTECTION

- **Ensure the protection of the quality of watercourses and other sources of water.**
- **Ensure flood risk is managed, taking into account the effects of climate change.**

2.20 The key characteristics and natural resource flow analysis have shaped our spatial vision for the future by demonstrating where we need to take action to ensure resources are protected or used more efficiently.

An Efficient Use of Natural Resources

2.21 The efficient use of natural resources should be at the heart of the way decisions are taken in Leeds. We want to ensure that the growth planned for in our LDF Core Strategy takes place in a way that respects and makes best use of our natural resources including land, minerals, energy and clean air and water.

2.22 We want to ensure that, where possible, we are able to use minerals produced from within the District rather than importing them from further away. Using local minerals for building adds to the local distinctiveness of Leeds and helps to keep its character as well as creating jobs locally.

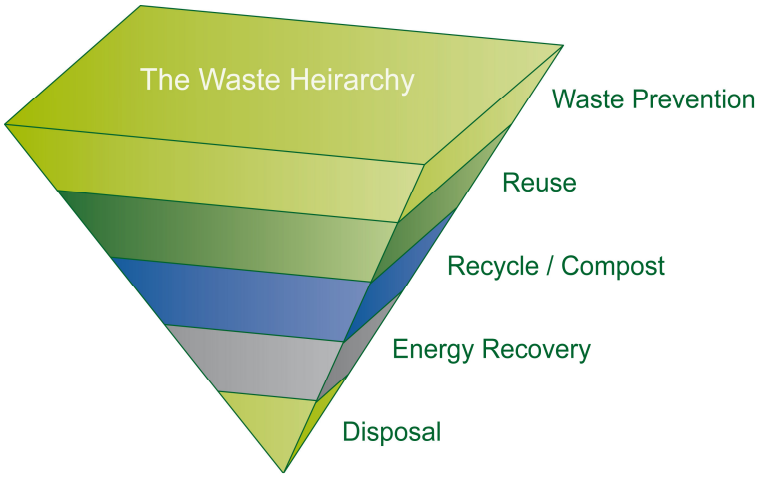
2.23 The efficient use of resources also includes the efficient use of land and managing the water resource.

A Zero Waste High Recycling Society

2.24 The Integrated Waste Strategy for Leeds 2005-2035 (IWS) aims for Leeds to become a Zero Waste City. A Zero Waste society is defined by the Government[17] as adopting a new attitude where business, industry and households treat waste as a valuable resource. This means planning for waste to be reduced in the first place then reused, composted is recycled and when this is not possible treated including energy recovery. Disposal to landfill is the last option only when other alternatives are not feasible. Over a longer period of time the amount of waste sent to landfill will be reduced to the minimum.

2.25 The waste hierarchy[18] is a 5-stage approach to achieving sustainable waste management where decisions are taken in accordance with the most sustainable option as shown by the triangle below. The NRWDPD policies will achieve the right balance between the different elements of this hierarchy.

Figure 2.3: The National Waste Hierarchy



[17] www.defra.gov.uk/corporate/consult/waste-review
[18] Defra, Waste Strategy Annual Progress Report 2008/2009, October 2009, p3 – www.defra.gov.uk

A Low Carbon Economy

2.26 This DPD encourages renewable energy and energy production from renewable sources. The Rivers Aire and Wharfe have the potential to supply small amounts of Hydro Power and a study of wind speeds has identified there may be some potential for wind energy in parts of Leeds. A major source of potential energy comes from diverting waste which is currently sent to landfill and recovering value from this so it can be used ("energy from waste").

2.27 The major issue of climate change is recognised throughout this document. Local authorities have a crucial role in tackling climate change and there is a need for up-to-date planning policies to help the Council contribute to meeting national policies for sustainable development and reducing greenhouse gas emissions such as carbon dioxide. Diversifying the energy supply to increase the contributions from renewable and Low Carbon Energy technologies are supported by this document.

A High Level of Environmental Protection

2.28 At a strategic level, actions to improve air quality are largely addressed in the Core Strategy through its overall locational policies. This DPD aims to support low emission strategies and ensure that new development does not make air quality worse. It also aims to ensure that longer term the City seeks to develop the electric charging infrastructure necessary to encourage people to choose to use electric vehicles.

2.29 The DPD aims to manage flood risk so as to reduce the risk and take account of climate change. This means that future growth will need to make space for water where appropriate and take measures to reduce the speed of surface water run off. This will also help us to improve water quality to meet the requirements of the Water Framework Directive which requires all rivers to meet 'good' status by 2015[19]. At the same time, climate change could mean pressure on water supply so the DPD supports water minimization measures.

2.30 This document also plans to protect environmentally sensitive areas of Leeds from harmful development, and to make sure that future development occurs in locations which are appropriate to its use. It gives added protection for trees and aims to ensure that any trees which are lost through development are replaced threefold.

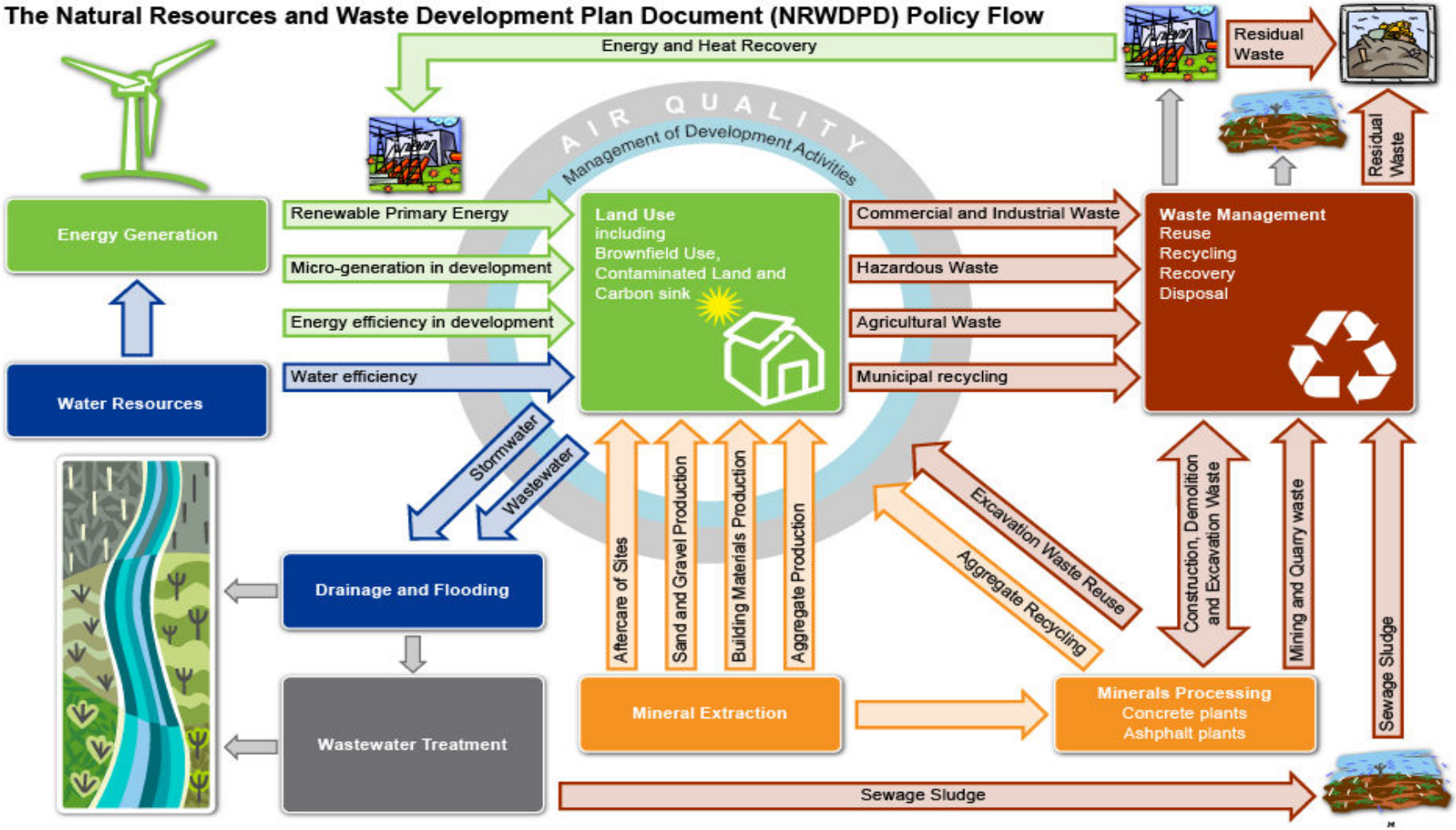
THE NATURAL RESOURCES POLICY FLOW

2.31 New development does not impact on each part of the Vision in isolation. For example, a new house will require land, use aggregates and other materials as well as producing waste whilst it is being built. Once it is lived in, it will then consume energy and water (indirectly producing emissions and waste).

2.32 The way in which these policies interact with each other is shown in the diagram overleaf. Each arrow represents an issue on which a policy is presented in this document.

[19] European Commission, Water Framework Directive, Water Note 2: Cleaning up Europe's Waters, March 2008, p1

Figure 2.4: The NRWDPD Policy Flow



POLICY TOPIC AREAS

2.33 To deliver the vision and objectives, the NRWDPD is organised into four topic areas with the strategy and policies for each topic set out separately. These are;

- Minerals including the transportation of freight;
- Waste in terms of how much waste must be planned for and how this will be managed;
- Energy, including the provision for renewable energy, low carbon energy technologies and combined heat and power; and
- Conserving, protecting and using other natural resources efficiently (water, land, air quality).

2.34 Within each topic area there is a hierarchy of intent within which the policies are driven by the vision and the interactions between each topic as shown on the Policy Flow:

- First we try to encourage the reduction in the use of a resource, or in the case of waste, prevent its production. This includes planning to use less energy sources and using existing resources more efficiently;
- Then we look to reuse in the first instance, or recycle the resource into secondary re-usable materials rather than use new primary minerals or other resources. We also seek to make best re-use of existing assets and infrastructure;
- We then plan to recover value from anything that cannot be re-used or recycled, such as cutting the use of non-renewable fossil fuels; and finally
- Where we do require the use of new resources, or need to deal with waste that remains, we have planned for this to be provided in the Leeds District as far as possible.

2.35 The way in which this hierarchy is applied to each topic area is summarised in Table 2.1.

Table 2.1: Of Hierarchy and Topic Policies

Hierarchy of Intent	Minerals	Waste	Energy	Natural Resources
Reduce	Code for Sustainable Homes (CSH) encourages the use of alternative building materials.	Foster an ethos of being less wasteful and support activities that reduce waste.	Energy efficiency in new development CSH	Water efficiency in new development Reduce surface water run-off Reduce flood risk Reduce air quality impacts Reduce land take.
Reuse	Safeguard mineral processing sites. Re-use of Construction Demolition & Excavation waste.	Safeguard existing Construction Demolition &Excavation (CD&E) facilities. Safeguard existing re-use facilities at Household Waste Sorting Sites.	Encourage provision of heat distribution infrastructure to allow reuse.	Encourage brownfield development. Remediation of contaminated land.
Recycle	Safeguard Aggregate recycling sites. Identify industrial estates with potential for new recycling sites.	Safeguard exist CD&E, Commercial and Industrial (C&I) and Municipal Solid Waste (MSW) facilities.		Greywater harvesting.
Recover	Recover coal from previously developed sites.	Energy recovery	Energy recovery. Wind turbines. Solar power.	Encourage additional trees for CO2 uptake and climate cooling
Plan for need	Identify Preferred Areas for mineral extraction. Sustainable new extraction. Site management. Restoration and aftercare.	Strategic Waste Management (WM) sites. Sustainable new WM sites Less need for landfill sites.	Encourage low carbon energy generation.	Protect water quality. Low emissions strategy. Alternative transport modes. Electric vehicle charging infrastructure.

3 MINERALS

OBJECTIVES FOR MINERALS

3.1 Minerals are a finite natural resource which can only be worked where they are found. They are, however, vital for growth and a strong economy. National planning policy in Mineral Planning Statement 1 (MPS1)[20]: Planning and Minerals requires the council to:

- Make sufficient provision for future needs which is not based purely on historic trends;
- Safeguard proven resources through the establishment of Mineral Safeguarding Areas; and
- Provide clear policy direction in relation to ancillary or secondary mineral development, restoration and aftercare.

3.2 In Leeds, mineral production is limited to a small number of working sites. Production levels do not currently meet local consumption (with the exception of clay for brick making) due to both geographic constraints on production and the quality of the minerals produced. From the most up to date information available.[21], Leeds will continue to rely on the importation of some types of minerals for the foreseeable future.

3.3 In order to meet the objectives set out in Chapter 2 and provide a steady supply of minerals whilst husbanding finite natural resources, the Council will seek to encourage greater use of recycled aggregates and the use of alternative building materials in order to reduce current levels of use of primary resources and safeguard them for the future.

Types of Minerals

3.4 The different types of minerals found in Leeds District are:

- Aggregates (sand and gravel and crushed rock);
- Stone;
- Clay; and
- Coal.

3.5 Aggregates, which also include crushed stone, play an important part in construction and are therefore essential to the growth of the District. Based on figures provided by the Yorkshire and Humber Regional Aggregates Working Party in 2008 [22] Leeds will need to produce around 1.1million tonnes of sand and gravel and 3.6 million tonnes of crushed rock for the plan period [23].

3.6 In addition to producing primary aggregates there is a requirement for provision of alternative /recycled material. National guidelines set the figure at 60 million tonnes per annum for the period between 2003 and 2009 but this has now been increased by 9% to 65 million tonnes per annum for the remainder of

[20] DCLG, Minerals Policy Statement 1: Minerals and Planning, November 2006
[21] DCLG, Yorkshire and Humber Regional Aggregates Working Party, Annual Report 2008 and Aggregates Monitoring 2008, October 2009
[22] DCLG, Yorkshire and Humber Regional Aggregates Working Party, Annual Report 2008 and Aggregates Monitoring 2008, October 2009
[23] See Minerals Topic Paper

the plan period [24]. Operators are not required to provide returns for this so it is difficult to know how well Leeds is performing.

3.7 Where possible, recycled and or alternative materials should be used rather than exploit natural mineral resources. This is consistent with the objectives of this plan and supports the waste hierarchy.

MINERALS 1: PROVISION OF AGGREGATES

Leeds will encourage the recycling of aggregate making materials in order to conserve primary resources, supplement and maintain landbanks of permitted reserves of aggregate minerals and contribute to the regional apportionment of aggregates agreed by the Regional Aggregates Working Party in conjunction with other West Yorkshire District Councils.

SAFEGUARDING MINERAL RESOURCES

3.8 Where there are proven deposits of minerals, we will ensure that they are protected from developments that may prejudice their future extraction. These protected areas are known as Mineral Safeguarding Areas (MSAs).The Council has identified Mineral Safeguarding Areas (MSAs) [25] for sand and gravel and for coal as shown on the A3 maps in the map book that accompanies this DPD. The purpose of MSAs is to alert potential developers to the presence of the deposit, to protect valuable natural resources and prevent any form of development which could sterilise important mineral deposits that may be needed within the plan period and beyond.

3.9 A Mineral Safeguarding Area designation does not imply that planning permission for extraction will be granted within a particular area or that non minerals development within an MSA is unacceptable. All proposals for minerals development will be subject to environmental assessment and the criteria in MINERALS 9 below. Where proposals for non mineral development can, by means of prior extraction, be carried out without sterilising the mineral, the proposal will be assessed on its merits and against relevant planning policies.

MINERALS 2: MINERAL SAFEGUARDING AREAS (MSA)

Within areas identified as Mineral Safeguarding Areas, shown on Map A3, mineral resources will be protected from development which could sterilise them for future use.

Applications for development within an MSA must demonstrate that there will be no sterilisation, or that extraction of the mineral will take place prior to or during development if appropriate as detailed in MINERALS 8 below in the case of surface coal.

3.10 Existing mineral sites within Leeds are already subject to strict planning and environmental controls which are reviewed regularly. To minimize the environmental impact of mineral extraction and to reduce pressure for new workings by making the most of existing mineral workings, we propose to protect them as 'Safeguarded Sites'. This is in order to ensure that the impact of new minerals development is kept to a minimum and that provision can be made for predicted future demand.

[24] DCLG, National and Regional Guidelines for Aggregates Provision in England 2005 – 2020
[25] NRWDPD Map Book

MINERALS 3: SAFEGUARDING EXISTING MINERAL EXTRACTION SITES

The existing minerals sites shown as Maps B1, B2 and B3 will be safeguarded to ensure that mineral reserves are not compromised by other forms of development.

Applications for the change of use of a safeguarded minerals site will be required to demonstrate that there is no longer a need for the site for mineral purposes either within the Leeds district or adjoining West Yorkshire local authority areas.

3.11 The Council is proposing 'Preferred Areas' and 'Areas of Search' as the areas where we want to encourage the mineral operators to look for new extraction sites. We are proposing an Area of Search for sand and gravel, whilst protecting the high landscape quality areas in the Wharfe Valley. Preferred Areas for limestone are proposed in the east of the district.

PROVISION OF AGGREGATES (SAND, GRAVEL, CRUSHED ROCK)

3.12 The Council is required to provide a landbank, or stock, of planning permissions that will ensure that the contribution to regional provision can be met for a specified period in the future, however this is dependent on viable applications coming forward. Currently this landbank is set at 7 years [26]. In West Yorkshire the current landbank for sand and gravel is well below this figure and is estimated to be in the region of only 1.1 years.[27]

3.13 To ensure that minerals development will contribute to the level of provision required to meet the district's needs, the Council has identified areas within the wider MSA which it considers should be the first to be developed.

3.14 The site at Midgley Farm at Otley in the Wharfe Valley is known to have a proven resource of sand and gravel amounting to 1.6 tonnes. Although the resource has been identified and the site has previously been allocated for minerals development, it has yet to be taken up by the industry. This resource will be required during the plan period if Leeds is to meet the required level of aggregate provision and maintain a contribution to the sub regional landbank.

3.15 Sand and gravel resources are known to exist around Methley. The Council has identified the area as an Area of Search for sand and gravel. Some of the sand and gravel shown on the Mineral Resource Map is assumed to have been lost through former open cast coal mining and therefore this has not been included in the Area of Search.

3.16 The landbank for crushed rock in the region has sufficient capacity to satisfy current estimates of demand for a period of 37 years. In Leeds production of crushed rock is expected to continue at the existing site at Howley Park where there are significant reserves likely to outlast the plan period and safeguarded under MINERALS 3 above.

[26] DCLG, Minerals Policy Statement 1: Minerals and Planning, November 2006, p15
[27] See Minerals Topic Paper

MINERALS 4: MINERAL EXTRACTION – SAND AND GRAVEL

AREA OF SEARCH

Proposals for exploration for sand and gravel within the defined Area of Search at Methley (as shown on Map AoS B4), will be supported in principle.

ALLOCATION

Land at Midgely Farm, Otley is allocated for sand and gravel extraction as shown on Map XB4

3.17 There are aggregate deposits throughout the Wharfe Valley but the need for aggregate has to be balanced against specific concerns relating to the potential impact upon the environment. The high landscape quality of the Wharfe Valley and in particular the area of special landscape which lies to the east of Pool, is of fundamental importance and contributes to the distinctiveness of the district. An increase in aggregate production within the plan period could potentially have a harmful impact on the relatively natural landscape of the valley.

MINERALS 5: LIMITING SAND AND GRAVEL EXTRACTION IN THE WHARFE VALLEY

Proposals for the extraction of sand and gravel within the area to the east of Pool in the Wharfe Valley will be resisted.

STONE AND CLAY

3.18 The use of stone for new building work is mainly limited to the more rural parts of the Leeds area and this is often limited by cost. The types of stone to be found in the district are varied, with a gritty sandstone in the northern fringes of Leeds, Magnesian limestone along the eastern ridge and a fine-textured hard sandstone in the south of the district. The existing stone buildings which give the district a distinctive and varied character must also be maintained and it is essential that stone of the appropriate quality and appearance is available.

MINERALS 6: PREFERRED AREAS – STONE AND CLAY EXTRACTION

The areas listed below are the Council's Preferred Areas for stone and clay extraction during the plan period:

- **Limestone: Highmoor Quarry extension, Bramham.**
- **Limestone: Hook Moor, Micklefield.**
- **Sandstone: Kings Road Quarry extension, Bramhope.**
- **Sandstone: Moor Top, Guiseley.**
- **Sandstone: Britannia Quarry extension, Morley.**
- **Sandstone and Clay: Howley Park.**

These sites are identified as Maps B4 in the Map Book

3.19 The buildings which give Leeds its distinctive character were often built with particular local stone which is no longer available as many small quarries have closed. Where repairs or refurbishment is

needed it may be possible to supply stone from old quarries which have closed or from new sites where there are proven appropriate resources but a large quarry would not be acceptable in terms of the environment. Applications for small scale mineral development to meet this special need will be acceptable in principal providing they can satisfy MINERALS 7.

MINERALS 7: PROVISION OF STONE FOR REPAIRS AND REFURBISHMENT OF EXISTING BUILDINGS

Where repair or refurbishment of buildings requires local stone of an identical or special character which cannot be supplied from an existing approved quarry, consideration will be given to proposals for extraction operations of a limited scale and duration at former quarry sites to meet this specific need.

COAL

3.20 The impact of opencast coal mining is often considered to be environmentally unacceptable, however, fossil fuels will continue to be required in the future as an energy source or until such time as renewable energy sources are more fully developed. National planning guidance makes a presumption against open-cast coal mining where proposals do not meet the test set out in Mineral Planning Guidance Note MPG 3: Coal Mining and Colliery Spoil Disposal. The test includes an assessment of environmental acceptability of individual proposals and whether or not the proposal will bring about community benefits which will outweigh the effects of the development on the environment.

3.21 The shallow coalfield in Leeds is very fragmented but in order to protect this valuable resource the full extent of the coal field in Leeds has been identified as the Mineral Safeguarding Area for coal in order to protect the resource wherever it is found, from sterilisation. This is shown on Map A3 – Coal in the map book.

3.22 From the information available it is very difficult to establish Preferred Areas for opencast coal extraction and so two policies covering surface coal extraction are included. In practice, when coal is found to be present on a development site it might be extracted before the development starts. Where coal is found at sites involving the use of previously developed land, extraction prior to or during development will be acceptable in principle subject to MINERALS 8.

MINERALS 8: SURFACE COAL AND DEVELOPMENT SITES

Within the Mineral Safeguarding Area for surface coal applicants should consider the opportunity to recover any coal present at the site in their plans to develop the land or change its use. Applicants submitting major applications will need to demonstrate to the local planning authority that;

- **any coal beneath the site is irrecoverable or of no economic value, or**
- **there is coal but it will not be sterilised by the development proposed, or**
- **there is coal but there is an overriding need for the development proposed, the economic value of which outweighs the value of extracting the coal.**

In situations where none of the above applies applicants must show how the coal can be removed in an environmentally acceptable manner, taking account of detailed considerations listed in MINERALS 10.

MINERALS 9: SURFACE COAL AND NON-DEVELOPMENT SITES

There will be a presumption against working of surface coal deposits beneath undeveloped land which is not going to be developed for other uses, unless applicants are able to demonstrate the environmental acceptability of their proposal, that the highest operational standards will be met and that restoration will enhance landscape quality and biodiversity. Weight will be attached to schemes which provide local and/or community benefits, avoid the sterilisation of mineral resources or facilitate other development which is in accordance with the development plan.

MANAGING DEVELOPMENT

3.23 Extensions to existing quarries in Leeds are preferable to the opening of new quarries. Although it is considered unlikely that that there will be a need for many new sites to meet the demands within the plan period, we need to be flexible enough to respond to changes or exceptions. Applications for both new extraction sites and extensions to existing sites will be subject to environmental screening processes and will need to demonstrate that they have addressed the environmental and social considerations set out in MINERALS 10.

MINERALS 10: APPLICATIONS FOR MINERAL DEVELOPMENT

Applicants will need to demonstrate that adequate consideration has been given to the following matters:

- **Evidence of a proven deposit of mineral.**
- **Avoidance of or the reinstatement of the best and most versatile agricultural land.**
- **Duration of the development.**
- **The layout of operational areas e.g. plant yards and processing facilities.**
- **Effect on visual amenity.**
- **Effect on the natural environment.**
- **Retention, treatment and maintenance of boundary features as appropriate.**
- **Environmental and amenity aspects such as noise, dust, litter, odour, vermin and gas emissions.**
- **Protection of controlled waters.**
- **Drainage and use of sustainable drainage.**
- **Stripping and conservation of soils.**
- **The adequacy of the local highway network and the safety of access and egress to the site and to other users of the highway including pedestrians.**
- **Routing and frequency of vehicle movements, together with hours of operation and timescales for delivery.**
- **Measures to prevent dirt being carried onto the public highway and private highways in public use beyond the site boundary.**
- **The use of alternatives to road transport where feasible.**
- **Hours of operation.**
- **Protection of public rights of way.**
- **Temporary and permanent landscape works including screening.**
- **Restoration and aftercare.**
- **Fairly and reasonably related community benefits where appropriate (to be delivered through s106 Planning Obligations).**

SUSTAINABLE MINERAL SITE MANAGEMENT

3.24 As we move towards a reduction in the amount of waste we produce we will move away from landfilling former mineral sites to surrounding land levels and will need to consider different forms of restoration. This could include reshaping voids and back filling to lower levels to accommodate aquatic diversity, leisure uses, or other uses which could, in certain areas, help to mitigate potential flood risk. Consideration of site specific conditions, local characteristics and ongoing initiatives will play an important part in the restoration of minerals sites. Restoration of former mineral sites can offer excellent opportunities to create local nature reserves, improve local biodiversity, increase woodland planting or provide opportunities for planting crops for energy.

MINERALS 11: RESTORATION OF MINERAL SITES

Proposals for the restoration of former minerals sites must demonstrate that site-specific conditions together with local characteristics and initiatives have been fully reflected into the scheme. Proposals which can be shown to be feasible and will enhance the environmental quality and biodiversity of a particular area will be supported.

3.25 Restoration of former minerals sites can be a long process and will only be successful if a detailed programme of after care and maintenance is in place. Restoration plans involving after-uses, such as woodland planting and sites developed specifically for nature conservation, may require longer periods of time in which to become established. In order to ensure that such schemes are given every opportunity of success, developers will need to demonstrate that the duration of the maintenance and after care scheme is commensurate with the proposed scheme.

MINERALS 12: AFTERCARE OF RESTORED PROPOSALS

Proposals for aftercare and maintenance of restoration schemes must demonstrate that the duration of the scheme will be sufficient to ensure that the restoration will be successful. Following appraisal to measure progress of the scheme, an additional period of aftercare may be required to ensure the objectives of the aftercare scheme are satisfied.

MINERALS PROCESSING

3.26 Mineral-related activities such as facilities for concrete batching, asphalt plants and aggregate recycling facilities encourage recycling. Such facilities are usually located in older industrial areas and if they are lost to other uses then it may be very difficult to replace them in other locations.

MINERALS 13: SAFEGUARDING MINERALS PROCESSING SITES

The mineral processing sites shown as Maps B3 are safeguarded to protect them against alternative uses unless it can be demonstrated that the site is no longer required to produce a supply of processed minerals.

MOVEMENT OF MINERALS AND OTHER FREIGHT

3.27 Leeds will still need to import aggregates, so to minimise road use we need to improve the opportunity for the movement of freight by canal and rail. We propose to do this by safeguarding suitable sites for canal and rail-based freight purposes to ensure that they are protected from pressure for other uses and to encourage further investment in the canal and rail infrastructure. This will also help ensure we have sufficient sites for concrete batching and asphalting operations and that they are located in the industrial south-east of the District where their impact on the environment and housing is minimal. Supporting industries in this way helps to ensure their future survival by enabling them to operate more efficiently. Historically, Leeds had a strong basis in manufacturing and whilst the local economy has focused more recently on finance and law, by supporting manufacturing industry it helps to promote a strong, diverse economy.

3.28 During the plan period there will be more pressure on the rail network with an expected growth of between 50 and 70% in passenger numbers. This means that some existing railway land at Holbeck is needed for stabling and moving trains around to free up capacity in the main Leeds City Interchange. Aggregate currently comes from Skipton and Derbyshire, road stone from South Wales and coal from Scotland. The main focus for further rail freight infrastructure is between Holbeck and Stourton. A minimum of 775 metres in length is needed for a fully functioning rail siding.

3.29 There is potential for greater use of the canal for freight movements but this has to be balanced with the pressure for leisure and recreation. Use of the canal is hampered by the need for costly dredging. By safeguarding sites adjacent to the canal we hope to create a critical mass of industries sufficient to make investment in dredging worthwhile. Safeguarding sites means that planning permission will not be granted for permanent uses which would prejudice the use of the canal for freight. British Waterways advise that freight activities take on average two years to implement and so to avoid sites being left vacant, temporary employment uses will be considered.

MINERALS 14: TRANSPORT MODES

1. **The Council supports in principle the creation of new sites for the development of non – road infrastructure associated with natural resource and waste facilities .**
2. **Existing rail sidings and wharves are safeguarded to protect them from other development that would prejudice their long term availability for rail or canal freight. These sites are shown as Maps B2 in the map book.**
3. **The site at Skelton Grange Road, Stourton is suitable for provision of a new canal wharf and the site at Bridgewater Road South is suitable for provision of new rail sidings. These sites are shown as Maps XB2 in the map book. These sites are allocated for employment activities which can utilise movements of freight by rail or canal. Temporary uses which do not utilise rail or canal freight will also be accepted providing they do not prejudice the long term use of rail or canal for freight. Proposals are expected to incorporate suitable landscaping to protect views from nearby residential properties and the river/canal.**
4. **The Hunslet to Stourton rail line is identified as an area of search for an intermodal freight facility.**
5. **The Skelton Grange rail spur, which provides rail access to the former power station site at Skelton Grange, is safeguarded to preserve the future opportunity for rail freight.**

4 WASTE

MANAGING WASTE AS A RESOURCE

4.1 The way in which waste is managed is undergoing a rapid period of change. European Directives, particularly on landfill, electrical waste and end of life vehicles has already led to significant changes in the way waste is managed in the UK[28]. The Coalition Government is currently undertaking a review of National Waste Policy contained in the Waste Strategy for England 2007[29]. This review will not alter the fundamental objective of reducing disposal to landfill to an absolute minimum, but will look at how changes can be made more rapidly and efficiently. In Leeds, this means we need to plan for a major reduction in landfill and a significant increase in more efficient forms of waste management capacity.

4.2 As set out in Section 2, the vision and objectives of this plan match those of the City Council's Integrated Waste Strategy. This means future decisions will be based on applying the waste hierarchy and achieving Zero Waste.

FUTURE WASTE NEEDS

4.3 To achieve the waste vision and objectives it is necessary to understand how much future waste needs to be managed. The table below sets out the future waste arisings in Leeds (tonnes per annum) and the anticipated change during the plan period. This is based on specific projections of future wastes arisings for Leeds as contained in the Background Waste Research Report and the Leeds Wasteflow Model. For 'benchmarking' purposes, the DPD projections are compared to those undertaken for the revoked Regional Spatial Strategy for Municipal Solid Waste (MSW) and Commercial & Industrial (C&I) waste[30].

4.4 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 base was established before this revocation, our local evidence used the same date for consistency. On a practicable level, the longer into the future projections are undertaken 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, new facilities are generally constructed with some spare capacity to allow for fluctuations in throughputs during their operational life.

[28] See Waste Topic Paper
[29] www.defra.gov.uk/environment/waste/strategy/strategy07
[30] DCLG, Yorkshire and Humber Plan: Regional Spatial Strategy to 2026, May 2008

Table 4.1 Future Waste Management Needs in Leeds (tonnes per annum)[31]

Waste Stream	Current Arisings	Arisings at 2021		Change Over the Plan Period (DPD projection – Current Arisings)
		(Projection undertaken for the RSS)	DPD Projection	
Municipal Waste (MSW)	342,725	(424,000)	383,976	+41,251
Commercial and Industrial (C&I)	975,364	1,245,000	1,212,000	+236,636
Construction, Demolition and Excavation (CD&E)	1,405,000	n/a	1,556,000	+151,000
Hazardous Waste (HW)	92,974	n/a	103,026	+10,052
TOTAL	**2,816,063**	**n/a**	**3,255,002**	**+438,939**

4.5 Table 4.1 shows that overall the amount of waste arisings will increase by approximately 440,000 tonnes per annum over the plan period. The largest waste stream is CD&E, followed by C&I and then MSW. This increase is not a direct result of people producing more waste but is a consequence of economic growth and changes in household formation.

Cross Boundary Waste Movements

4.6 The management of waste operates across borders and within a commercial market and as a consequence some wastes which occur within Leeds are dealt with in other areas. The close proximity of major settlements within West Yorkshire and its urban nature means waste is transported between different local authority areas in this sub-region. The Leeds waste market also operates closely with North Yorkshire.

4.7 It is realistic to expect waste generated within the City will continue to be transported to other areas, particularly where there is substantial capacity at an existing facility or where an un-implemented planning permission for a new facility is already in place. This also works in the opposite direction. For example, Leeds is a net importer of liquid hazardous waste and also has an end of life vehicles processor, which imports vehicles from all over the north of England. Both Peckfield and Skelton Grange Landfill sites accept waste from both North and West Yorkshire.

4.8 Calderdale, Kirklees, Wakefield, North Yorkshire and Bradford Councils have been consulted to identify strategic facilities where waste is being transported to. The recycling and composting facilities likely to be accepting waste from Leeds are located at Esholt in Bradford (sewage sludge and Green Waste) and in North Yorkshire at Great Heck Biomass and Wood Fuel Processing Plant, The Maltings Composting Site at South Milford and Selby Energy Park (Biomass and Anaerobic Digestion). There is also a specialist electrical waste processor serving the north of England based in Kirklees. There are two outstanding planning permissions for commercial energy and resource recovery facilities in Bradford and an un-used allocation for the same uses in North Yorkshire. Other facilities to serve both

[31] See Background Waste Research Report and Waste Topic Paper which refers to the Leeds Waste Flow Model which updates the earlier projection.

a regional and national market are being proposed in many parts of the Country and it is possible that an operator may propose such a facility in West Yorkshire during the plan period[32].

4.9 The major landfill sites in the rest of West Yorkshire outside Leeds are Wellbeck in Wakefield with new permissions likely to be activated at Laneside and Waterholes Quarry landfill sites in Kirklees.

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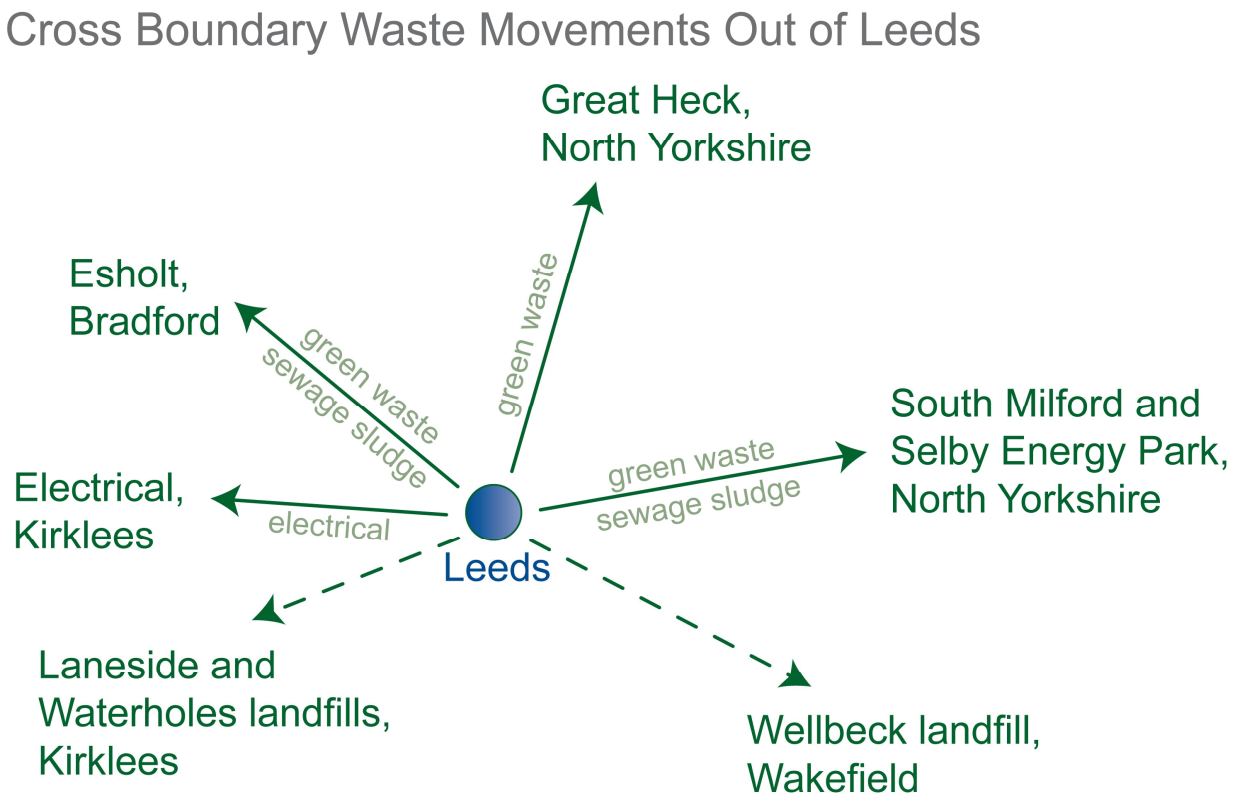
Figure 4.1: Cross Boundary Waste Movements Out of Leeds



PLANNING FOR SELF SUFFICIENCY

4.10 Although realistically waste will continue to be exported outside Leeds, as the major City in the sub-region the position of this DPD is that Leeds will plan to meet its own needs so it is not reliant on potential capacity elsewhere. At present, Leeds is heavily reliant on two major landfill sites at Skelton Grange and Peckfield for its waste management provision. With a declining amount of waste disposed through landfill new facilities higher up the waste hierarchy will be required. Achieving 'Self Sufficiency' is shown by the Sustainability Appraisal as the most sustainable option.

4.11 WASTE 1 plans to manage our fair share of waste without relying on exporting waste to other areas.

WASTE 1: SELF SUFFICIENCY FOR FUTURE WASTE MANAGEMENT IN LEEDS

Proposals which meet the future capacity requirements of waste arisings to achieve self sufficiency and demonstrate they support the waste hierarchy will be supported at safeguarded waste management sites shown as Maps C1,C2 and C3 and locations for new waste management facilities set out in WASTE 3.

[32] See Waste Topic Paper for a more detailed breakdown of waste management facilities in adjoining areas.

MEETING FUTURE WASTE MANAGEMENT NEEDS

Waste Prevention

4.12 The Government review of National Waste Policy is looking at ways in which reducing waste can be better achieved[33]. A primary focus for the IWS was to reverse the historically high growth in waste. This objective has been met as the growth in waste arisings from households has already been eliminated. 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[34]. 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.

Additional Re-use, Recycling and Composting

4.13 Table 4.2 (and illustrated in the figures below) indicates the existing re-use, recycling, composting and waste treatment capacity in Leeds for each waste stream during the plan period. It shows if existing permissions for new facilities (particularly Materials Recovery Facilities) are implemented during the plan period then this capacity will increase.

4.14 The additional capacity required to meet the needs of the plan (as shown in table 4.1), is based on achieving the following re-use, recycling and composting targets which our evidence has shown are achievable in Leeds during the plan period:[35]:

- 50% for MSW;
- 70% for C&I; and
- 70 - 85% for CD&E.

[33] This will not be published until Spring 2011: http://www.defra.gov.uk/corporate/consult/waste-review/index.htm

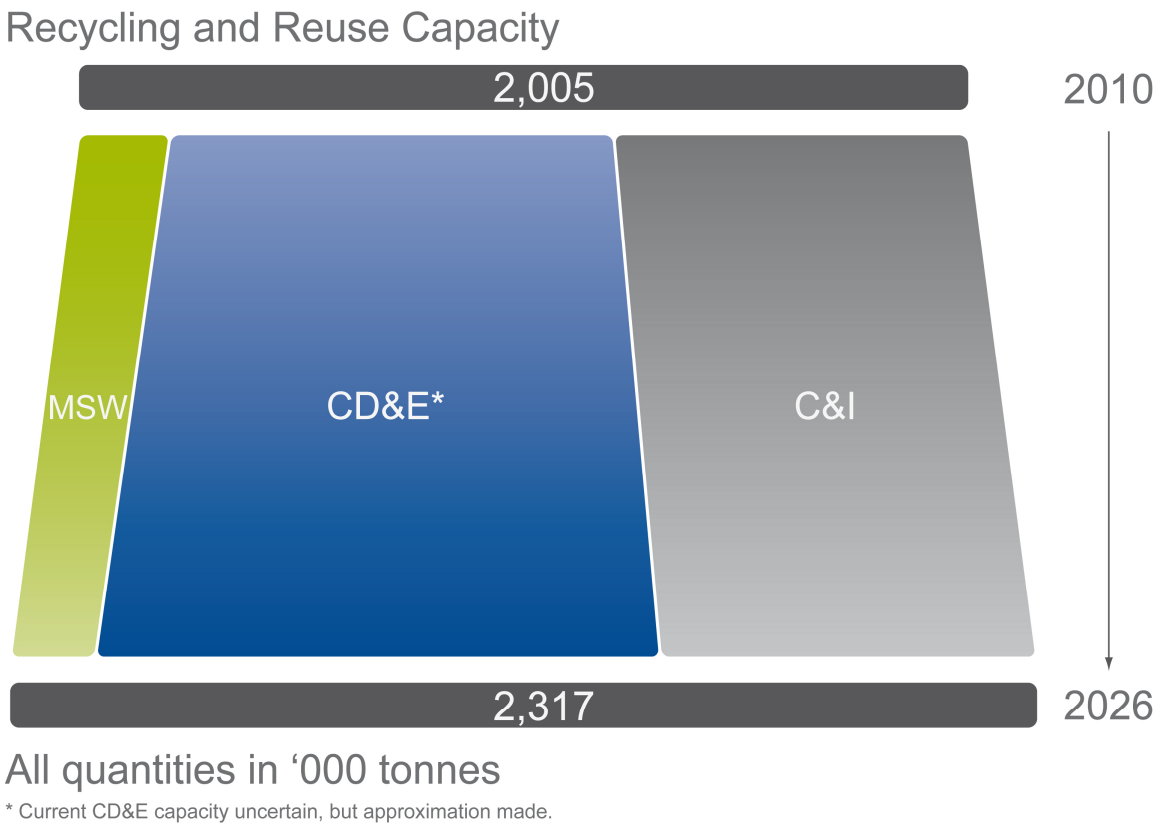
[34] Site Waste Managements plans were introduced on the 6th April 2008. For full details of the requirements see The Site Waste Management Plans Regulations 2008, Section 6

[35] See the Waste Topic Paper for the evidence to support these re-use, recycling and composting targets and a more detailed breakdown of existing capacity.

4.15 Although Leeds already has a reasonable level of recycling capacity, it is not sufficient to meet the objectives of WASTE 1 and the targets set out above. This is borne out by waste site monitoring undertaken by the council 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. Furthermore, operators in the CD&E sector may be struggling to find suitable sites to either replace existing operations or to expand. To help achieve targets for recycling of CD&E waste, Leeds has signed up to a national scheme to reduce construction waste (the 2012 Construction Commitment). This commitment applies to any construction contractors the Council uses or when new Council building contracts are awarded.

4.16 The capacity for C&I is distorted as there is a major vehicle recycling facility at Knowsthorpe Way which serves a much wider catchment than Leeds. It is unlikely that the City has enough capacity for C&I to meet the aims of self sufficiency and the shortfall in re-use, recycling and composting capacity is probably around 200,000 tonnes per annum.

Figure 4.2: Existing Re-Use, Recycling and Composting Capacity in Leeds including unimplemented planning permission (tonnes per annum)[36]

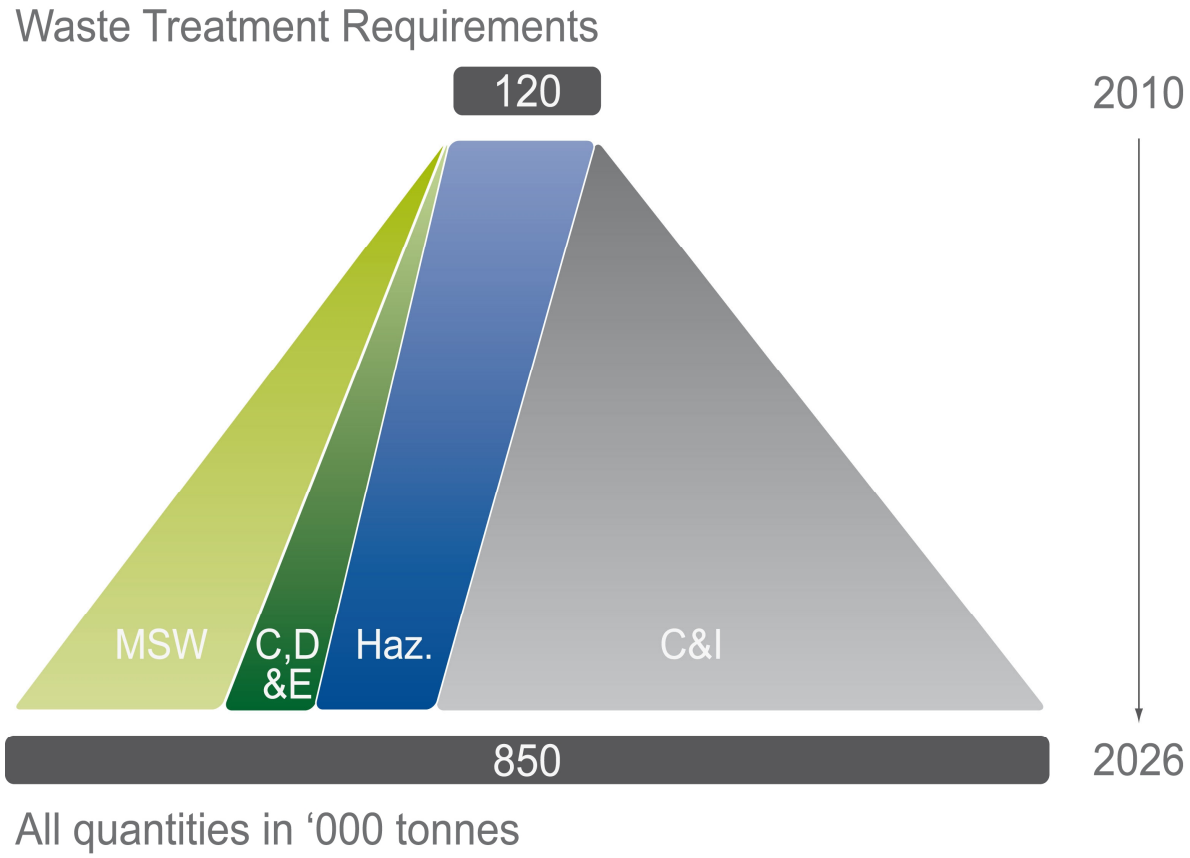


[36] See Background Waste Research Report and Waste Topic Paper which refers to the Leeds Waste Flow Model which updates the earlier projection.

Additional Residual Waste Treatment with Energy Recovery

4.17 Leeds has no significant residual treatment capacity, except for Hazardous Waste, and new provision is planned for in this DPD. Up to 730,000 tonnes of additional residual waste treatment capacity to support all waste streams may be required to meet the needs of the City.

Figure 4.3: Potential Future Waste Treatment Requirements in Leeds (tonnes per annum)



Reducing the Reliance on Landfill

4.18 There is enough remaining capacity both at active landfill sites and those with outstanding permission to meet the ever declining need over the plan period and beyond[37]. If this situation changed for any reason, then other capacity close by in West Yorkshire could meet any remaining needs.

[37] See the Waste Topic Paper for a breakdown of future landfill provision and potential requirements during the plan period.

Table 4.2 Future Waste Management Capacity and Gaps (all figures tonnes per thousands ('000)[38]

	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 by 20k with relatively small changes.	Extant planning permission for Materials Recycling Facilities (250K)	0	

[38] see waste topic paper for a more detailed breakdown of the assumptions

	MSW	C&I	CD&E	Hazardous
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**
Requirement to meet Zero Waste Vision	135–175k	350–500k	75k	**103,000**
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***

SPATIAL STRATEGY

4.19 The Leeds wide site selection study, safeguarded sites assessment and sustainability appraisal provides the evidence to support the spatial strategy to maintain existing waste management capacity and to plan for new capacity.

Safeguarding Existing Waste Management Sites

4.20 To achieve self sufficiency it is important that existing capacity within Leeds is maintained. WASTE 2 safeguards over 100 existing waste management sites as indicated in the Map Book. The Policy will also allow for the expansion or refurbishment of existing facilities at the Safeguarded sites where it is appropriate to do so.

WASTE 2: SAFEGUARDING EXISTING WASTE MANAGEMENT CAPACITY

Existing waste management sites shown as Maps C1, C2, C3, C4 and C5 are safeguarded for continued use during the plan period.

Increases in capacity or other improvements at these sites will be acceptable provided that the requirements of WASTE 9 are demonstrated.

Applications for change of use must demonstrate that there is either no longer a need to retain the site for waste management purposes or there is an overriding case for the proposed development that outweighs the need to retain the site for waste management purposes.

Planning for Additional Capacity

4.21 The Government has produced guidance on the operational and location requirements of different waste management facilities[39] and this is reflected in the Background Waste Research Report and Waste Topic Paper. The Waste Topic Paper has estimated that to meet the capacity gap, at the lower range the NRWDPD will require approximately 8.5ha of land and at the upper range this could be up to 19ha. This wide range demonstrates how difficult it is to forecast how future capacity requirements translate into the total land requirement to meet the future waste management needs[40].

4.22 A range of sites will be required to provide the flexibility to support the different site footprints and locational requirements of various waste management processes. Some waste management operations are highly technical or can take place completely within buildings, whereas others take place in the open air and require larger site areas. Modern waste management facilities are now well designed in terms of aesthetics and minimising impacts.

4.23 Taking into account the figures in tables 4.1 and 4.2 and the need for flexibility to enable more sophisticated waste management solutions to be developed in Leeds, the DPD Strategy is set out below:

[39] ODPM, Planning for Waste Management Facilities, A Research Study, 2004
[40] See Waste Topic Paper

Table 4.3: Meeting the Waste Capacity Gap

	Capacity Gap	How the gap will be met	DPD Policy Response
MSW	The main issue is maintaining and increasing the capacity of recycling facilities and planning for a new Residual Waste Treatment Facility.	A review of Household Waste Sites has been undertaken. This will increase overall capacity to 100,000 tpa. New bring sites will be encouraged around the City. A major Residual Waste Treatment Facility will be operational by 2015. An Anaerobic or In-Vessel Composting facility may also be required for organic wastes. The Councils Waste Solutions Programme[41] is delivering the major changes required to meet increased recycling and composting and reductions in landfill.	HWSS are safeguarded under policy WASTE 2. This allows for the refurbishment and enhancement of these sites where this has not already taken place. New locations are identified under policy WASTE5 where existing buildings can be converted for recycling and sorting and where the construction of new waste management facilities will be favoured. A specific strategic site allocated under policy WASTE 6 will be suitable for a Residual Waste Treatment Facilitiy.
C&I	The main gap is to provide enough space to enable an increase in the storage and segregation of co-mingled wastes. New Residual Waste Treatment Facilities will also be required.	Further commercial waste recycling operations will be required. This may range from skip operators to waste segregation halls and waste processing systems. The plan needs to provide flexibility to enable more sophisticated methods of waste management operations to be implemented. At least one Residual Waste Treatment facility will be required to deal with residual wastes with current landfill provision declining rapidly over the plan period. An energy recovery facility may also be required for organic wastes.	New locations are identified under policy WASTE 5 where existing buildings can be converted for recycling and sorting and where the construction of new waste management facilities will be favoured. A Residual Waste Treatment Facility will be supported on one of the strategic sites under policy WASTE 6 (subject to satisfying the detailed criteria in WASTE 9).
CD&E	There are currently around 8 aggregate recycling sites in	It is very difficult to identify the capacity gap, not least because a significant part of	The development of at least one additional site may be required during the plan period and

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

	Capacity Gap	How the gap will be met	DPD Policy Response
	Leeds but it is known that some of these sites may shut although replacement permissions may be sought by the current operators.	these operations take place directly on site during construction. However, at least one additional site is likely to be required to ensure there is sufficient capacity.	WASTE 7 enables this.
Hazardous Waste	Leeds has sufficient overall capacity but certain types of waste are been transported outside the City.	Preferred locations for the deposit of solid hazardous wastes to be identified.	WASTE 10 sets out where new hazardous waste cells for solid waste will be located.
Other Wastes	Agricultural waste	No specific gaps identified but there is a need to consider composting to support agricultural activity.	

4.24 Leeds currently has no residual waste treatment facilities and this type of activity will be critical to the delivery of DPD objectives. These types of facilities have very specific operational needs and in many cases will include energy recovery. They are best located in areas which are already industrial in nature and as they serve the whole of Leeds they require very good access to the transport network. Strategic facilities might also provide more than one waste management process at a single location. As these types of facility are critical to the delivery of the DPD and require very specific locations, they are referred to as strategic waste management facilities.

4.25 Recycling and composting activities tend to be both smaller scale and less complicated in terms of the processes they use. Therefore, although they still require suitable sites there is greater flexibility in terms of where they can be located. Communities and businesses may also wish to develop very small scale waste facilities which meet there own needs.

4.26 This comprehensive network of strategic facilities and other types of smaller facilities will meet the future needs of Leeds. WASTE 3 sets out the hierarchy of sites to meet these needs.

WASTE 3: A CITY WIDE NETWORK OF WASTE MANAGEMENT SITES AND FACILITIES

A network of waste management sites will be developed in accordance with the following principles:

1. **Industrial estates suitable for new recycling, sorting, transfer and small scale treatment and recovery processes such as Anaerobic Digestion and In-Vessel Composting.**
2. **Strategic waste management sites to meet the needs of major residual waste treatment including energy recovery.**
3. **A specific allocated site to provide further additional capacity, in particular, to support the Construction, Demolition and Excavation sector.**
4. **Applications for temporary waste facilities will be considered on their planning merits but where possible such activities should take place at locations which are in accordance with points 1 – 3 above.**

LOCATIONS FOR NEW WASTE MANAGEMENT FACILITIES

4.27 The development of new waste facilities has in the past proved more of a problem than other similar employment processes because waste facilities are not automatically an industrial use under land use class orders B2. Although changing the use of an existing building from industrial development to waste processing uses will often require planning permission, waste uses will be considered as having similar impacts to industrial development when applications are being considered. This also means that the principle of new waste uses within existing industrial areas is also accepted for the same reasons..

4.28 Waste uses are employment generators and therefore contribute towards providing sufficient employment land.

WASTE 4: WASTE MANAGEMENT FACILITIES - PERMANENT USES

All proposals for permanent waste management facilities will be treated as an industrial use of land. Policies which apply to the acceptability of industrial development shall apply equally in such cases.

4.29 The preferred locations for waste management facilities identified in WASTE 3, item 1, are existing industrial areas. In accordance with National Planning Policy on waste management they are considered to be the most suitable location for new waste management processes in Leeds. Under WASTE 5 specific sites within these broad industrial locations will be considered to be suitable in principle for these uses.

WASTE 5: WASTE USES WITHIN EXISTING INDUSTRIAL AREAS

The following existing industrial areas shown as MAPS E will be treated as preferred locations where new waste management facilities, as defined in Policy WASTE 3, item 1 will be supported.

- **Far Royds, Wortley**
- **Ashfield Industrial Estate, Wortley**
- **Cross Green Industrial Estate including land within Knostrop Waste Water Treatment Works**
- **Grangefield Industrial Estate, Stanningley**
- **Limewood Industrial Estate, Seacroft**
- **Thorp Arch**

Proposals in other areas will also be considered provided that it can be demonstrated they are industrial in nature and that all the tests set out in WASTE 9 are met.

4.30 Following the completion of a district wide site selection study, three strategic waste management sites have been allocated, which are located within the Aire Valley to the south east of the City. These sites best fit the site selection criteria set out in PPS10 for all forms of waste arising. The Aire Valley has extensive areas in industrial use, together with major areas occupied by current and former utilities infrastructure and has good transportation connections. The three strategic waste management sites are all on previously developed land within the area.

4.31 With regard to the sites identified, Skelton Grange is a former power station and Knostrop is a waste water treatment works. Part of this site (see Map D in the map book) is available and suitable for a strategic waste management use. The final site is a former Wholesale Market which has been vacant for a number of years. The combined area of the three strategic sites is 38.65 hectares of land.

4.32 A City Council procurement process for a residual municipal solid waste (MSW) treatment facility has been running in parallel with the preparation of the NRWDPD. As part of this process, two of the three strategic waste management sites are being considered as possible locations for the residual MSW treatment facility. However, in planning for overall waste needs, it is important that the remaining sites are allocated as part of an overall waste strategy, as a basis for meeting future capacity requirements. In the event that it can be demonstrated that the sites are no longer required for strategic waste management purposes, it will be acceptable to use these areas for other employment uses subject to the following policy:

WASTE 6: STRATEGIC WASTE MANAGEMENT SITES

The sites identified as Map D and described below are allocated as strategic waste management sites suitable for major residual waste treatment, including Energy Recovery, and for the co-location of other supporting facilities where it can be shown these are ancillary to the main operation:

- **Former Skelton Grange Power Station Site.**
- **Land within Knostrop Sewage Water Treatment Works.**
- **Former Wholesale Markets Site, Cross Green Industrial Estate.**

These sites will remain allocated for such uses for the duration of the plan. Other non waste management uses, including employment, will only be acceptable if it can be demonstrated that a site is no longer required to meet the strategic waste management needs of the Council's area.

4.33 In addition to the above, a specific need has been identified for an additional site to provide for any potential shortfall in processing and recycling capacity for CD&E operations. The site at Cinder Oven Bridge has good road connections and a potential wharf connection. Additionally it is heavily contaminated which limits its suitability for other uses.

WASTE 7: WASTE ALLOCATION

The site at Cinder Oven Bridge, shown as MapXC2, is allocated for waste management purposes to meet the need for Construction, Demolition and Excavation waste operations.

Use of the site is reserved for Construction, Demolition and Excavation waste only, unless it can be demonstrated that it is no longer required to meet the need referred to above.

4.34 Waste management proposals will be favoured on safeguarded sites and all the other specific locations identified. Proposals outside these locations will only be accepted if the circumstances identified in WASTE 8 can be demonstrated.

WASTE 8: WASTE PROPOSALS AT OTHER LOCATIONS

Waste proposals at locations other than those identified in Policies WASTE 2, 5, 6 and 7 will need to demonstrate:

- **The preferred locations in this DPD are not appropriate or available.**
- **There is a specific local need for the facility.**
- **The site meets the requirements of WASTE 9.**

The small scale composting of green waste in the Green Belt will be acceptable where it can be demonstrated that very special circumstances apply. Relevant considerations are the scale, proximity to existing agricultural buildings and the destination of the compost product.

ASSESSING THE IMPACT OF NEW WASTE MANAGEMENT FACILITIES

4.35 The spatial strategy has identified suitable locations where the principle of waste management uses will be accepted by the Council. Before allowing any proposals for all forms of Waste Management Uses, the Council will require all applicants to demonstrate that they have met the criteria set out in WASTE 9:

WASTE 9: WASTE MANAGEMENT FACILITIES - POTENTIAL ISSUES AND IMPACTS

Applications for waste management purposes must demonstrate that the following potential impacts of the planned development have been addressed in a manner so as to make them acceptable to the Council:

1. **Duration of the development.**
2. **The layout of the site and buildings.**
3. **Visual and other amenity. Recycling operations for waste such as paper, plastic, rags, glass etc. should take place inside a building, including the storage of product awaiting treatment or despatch. Storage of scrap vehicles should not exceed the height of perimeter fencing or screening.**
4. **Treatment of boundary features and new screening as appropriate**
5. **Environmental and amenity aspects such as noise, dust, litter, odour, vermin and gas emissions.**
6. **Protection of controlled waters.**
7. **Drainage and use of sustainable drainage.**
8. **Effect on the natural environment including all wildlife.**
9. **Design of built and natural features.**
10. **Restoration and aftercare where appropriate.**
11. **Measures to prevent dirt being carried onto the public highway and private highways in public use beyond the site boundary. The site entrance apron and site access road should be hard surfaced in tarmac or concrete for a minimum distance of 30 metres or to a point beyond any weighbridge whichever is the longer. Site roads and entrance areas must not drain onto the public highway.**
12. **The use of alternatives to road transport where feasible**
13. **The adequacy of the local highway network and the safety of access and egress to the site and to other users of the highway including pedestrians**
14. **Routing and frequency of vehicle movements, together with hours of operation and timescales for delivery.**
15. **Hours of operation.**
16. **Protection of public rights of way.**
17. **Fairly and reasonably related community benefits where appropriate (to be delivered through s106 Planning Obligations).**

REDUCED LANDFILL PROVISION

4.36 With greatly improved reuse, recycling, organic waste treatment and recovery, by the end of the plan period the amount of waste disposed at landfill should be reduced significantly. The remaining need can be met at existing operational sites within Leeds or through sites which have outstanding planning permission for landfill operations. If for any reason the need for further landfill capacity did arise during the plan period, then it could be provided within existing former quarry sites within Leeds or at existing operational landfill elsewhere within West Yorkshire. Therefore it is not necessary to identify any new locations for landfill in the District. WASTE 10 plans for this reduced amount of landfill provision[42].

[42] See Waste Topic Paper

WASTE 10: LANDFILL

If it is demonstrated that there is a proven need for additional landfill capacity because all other options are not suitable or feasible, this will be provided at existing or former quarry sites shown as Maps C4 and C5.

If all these quarry sites are unavailable, landraising, using inert materials only, may be considered providing there is no unsatisfied need within 10km for inert materials to infill any quarry or void area to secure the restoration of those areas.

Swillington and Howley Park landfill sites have capacity for provision for Solid Hazardous Waste during the plan period.

4.37 If further landfill permissions are required they will be subject to the following policies:

WASTE 11: WASTE DISPOSAL: LANDFILL AND LANDRAISING SITES

Final gradients at landfill and landraising sites which incorporate slopes steeper than those characteristic of the locality or steeper than 1 vertical to 3 horizontal will not be acceptable.

In addition landfill and landraising developments should include acceptable measures to:

- **Strip, conserve and replace topsoil and subsoil.**
- **Utilise any available soil forming materials.**
- **Phase site restoration, including interim restoration where possible.**
- **Restore the site including maximising opportunities for habitat diversification.**
- **Provide for 5 years of aftercare.**

Where a landfill site may generate gas then measures will be required to collect and use the gas. Collection and generating systems must be installed in a visually acceptable manner and so as not to interfere with the management and use of the land upon restoration and during aftercare.

5 ENERGY

OBJECTIVES FOR ENERGY

5.1 Energy is encountered in many forms. In terms of our everyday energy use, as related to planning policy, the main considerations are heat (typically for space heating and hot water) and electricity (also referred to as power).

5.2 There are two dimensions to energy that planning policy can influence – demand (also called consumption) and supply (also called production). It is finding the right balance between the energy consumption and production that will help support a sustainable society, economy and environment.

5.3 In terms of the supply of energy, heat is typically produced locally, and electricity is typically generated centrally, and supplied to local use through the national grid and local high and low voltage networks. It is clear that in the short to medium term fossil fuels will continue to be used as a primary energy source and National energy policy is aimed at reducing the carbon burden of the UK energy supply, and increasing the resilience of UK energy infrastructure.

5.4 We therefore need to plan for energy in order to:

- Reduce our contribution to human influenced climate change (by reducing greenhouse gas emissions such as carbon dioxide);
- Safeguard the security and diversity of the energy supply; and
- Diversify the choice of energy sources.

5.5 To do this we must plan to:

- Reduce the amount of energy used by reducing energy demands from development;
- Reduce carbon production in energy generation;
- Enable and promote local solutions, such as heat energy distribution; and
- Safeguard future opportunities for flexibility in energy generation technology.

5.6 Similar to the commonly recognised waste hierarchy, successful energy planning follows a hierarchy of actions:

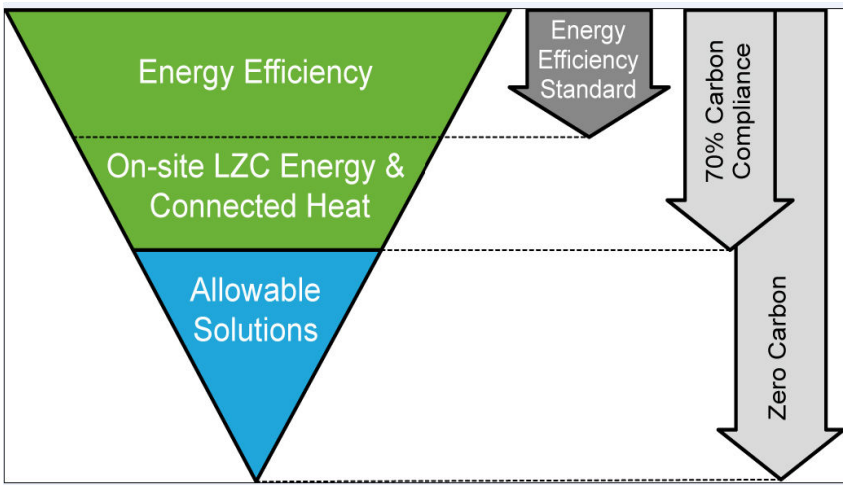
- Avoid energy use – change design to eliminate unnecessary use;
- Reduce energy use – using technology to improve energy efficiency;
- Replace energy sources – use renewable, low carbon energy generation; and
- Exploit non-sustainable energy sources – using e.g. Combined Heat and Power.

AVOIDING ENERGY USE AND ENERGY EFFICIENCY

5.7 To deliver the objectives of the LDF including this NRWDPD, it is important to support the efficient use of energy in new development. Emerging Core Strategy policies for energy aim to reduce energy demand and will support sustainable construction methods to increase energy efficiency in new development by an earlier date than is required by Part L of the Building Regulations The draft Sustainable Design and Construction SPD also sets out the way in which these objectives can be implemented.

5.8 To deliver this strategy, energy efficiency standards for building design will be increased under the Building Regulations, with the performance 'gap' that cannot be achieved through further energy efficiency gains being delivered through a flexible combination of on- and off-site generation options (the latter is referred to as allowable solutions). To enable these changes to occur, it is important that the planning system makes sure new developments are designed to improve energy efficiency and achieve carbon reduction at the outset. The mechanisms for achieving this are set out below.

Figure 5.1: Proposed Zero Carbon Hierarchy (Building a Greener Future[43])



SUPPORTING LOW CARBON ENERGY GENERATION

5.9 National planning policy sets a context for a rapid transition towards renewable and low-carbon energy generation[44]. Linked to this, the revoked RSS set a target for Leeds to produce at least 75MW of installed grid-connected renewable energy capacity by 2021. While the RSS is no longer applicable as a driver, the evidence and studies which were carried out to establish this target are still valid. Leeds has retained this target to significantly increase low carbon energy from the current 11MW of existing renewable energy provision[45] to 75MW by 2021.

5.10 Renewable and Low Carbon energy generation takes many forms, all of which will have different relationships with the local environment[46]. This will affect the specifics of how the planning system relates to the different renewable and low carbon technologies and schemes need to be well designed, reflect local circumstances and demonstrate how any negative environmental, social and economic impacts have been avoided or minimised through careful site selection, design and other measures. Low carbon electricity generation can be linked to heat generation through combined heat and power, or through specific power technologies such as wind, hydro and solar photovoltaic generation.

5.11 Indicative contributions of how the Council will deliver the 75MW energy target (mostly power) from low carbon renewable sources are shown in Table 5.1. As each technology has different development

[43] CLG, Building a Greener Future, Towards Zero Carbon Development, July 2007
[44] See PPS 22 and the Planning and Energy Act 2008.
[45] See the Energy Topic Paper for a detailed breakdown of existing renewable energy provision.
[46] This includes Wind Energy, Hydro Power, Energy from Waste, Biomass, Organic Waste Treatment, Solar and Photovoltaics, Landfill Gas and Ground Source Heating.

needs, their needs are considered individually in the commentary although covered by a technology neutral policy where possible.

Table 5.1: Estimated Installed and Potential Grid Connected Renewable Energy Generation Capacity (MW) for the Leeds district[47]

	Current Production Levels (MW)	Potential Contribution (MW) 2021	Comments
Landfill Gas	9	12	Takes account of permissions for Peckfield and Skelton Grange, however these will reduce post 2021 with reductions in landfill.
Wind Power	0	20	Based on an estimate of 10 large scale turbines or equivalent.
Micro-generation Including solar power, heat pumps	0	10	Allowing for half of future house development to have solar PV installations.
Energy from Waste	0	35	Based on known potential for plants to be brought forward
Hydro-power	0	2	Based on known multiple, small-scale potential developments
Energy from biomass	0	2	Based on potential for a plant using organic waste (e.g. food, green waste)
Total	12	81	

Large-scale Wind Power Generation

5.12 Large-scale installed grid-connected onshore wind energy development can significantly contribute to meeting Leeds' (and the UK's) renewable energy targets. We have defined large scale as that requiring a Screening Opinion on the need for EIA from the planning authority under The Town and Country Planning (Environmental Impact Assessment) (England & Wales) Regulations 1999 (Statutory Instrument 1999 No. 293). Research suggests that micro and small scale wind can be viable, but there are some basic limitations which severely limit the power generation potential of such technologies[48]. Smaller-scale wind energy development is covered by micro-generation below.

5.13 Some of the windiest parts of Leeds fall within nationally or locally recognised designations (Sites of Special Scientific Interest, Scheduled Monuments, Conservation Areas, Listed Buildings, Registered Historic Battlefields and Registered Parks and Gardens) and planning permission for wind energy development will be granted where it can be demonstrated that the objectives of a nationally or locally important designation will not be significantly compromised[49]. In Green Belt locations applications for energy are classed as inappropriate and will need to demonstrate very special circumstances.

5.14 Where a scheme is being proposed in an area with another proposed, consented or operational scheme (including those that may be close by but fall within another adjoining administrative boundary), a cumulative assessment should be carried out to determine the overall effect on issues such as landscape character, visual amenity and nature conservation interests.

[47] The Energy Topic Paper refers to a number of detailed evidence studies which set out the contribution from each source.
[48] Energy Waste Topic Paper
[49] Wind speed map in the Appendix

5.15 ENERGY 1 sets out the considerations which the Council will take into account when considering new applications for large-scale wind development.

ENERGY 1: LARGE SCALE WIND ENERGY GENERATION

The acceptability of a wind energy development will be judged on whether its benefits can be shown to outweigh any significant impacts on:

1. **The character and appearance of the landscape or townscape;**
2. **The living and working conditions of occupants of nearby property by reason of visual impact, noise, shadow flicker or reflected light;**
3. **Any nationally important designation, including their visual amenity and setting;**
4. **Areas of ecological importance;**
5. **Potential for cumulative effects with other existing or proposed wind energy developments;**
6. **Transport infrastructure and highway safety;**
7. **Civilian and military aeronautical radar services or the operation of aerodromes and their protected surfaces; and,**
8. **Telecommunications and television reception.**

In addition proposals shall provide for reinstatement of the site through the removal of the facilities should it cease to be operational or upon decommissioning.

In assessing proposals against the requirements of this policy, full account will be taken of proposed mitigating measures.

Small Scale and Micro-generation

5.16 Micro-generation of low carbon energy is supported by a number of Government policies and financial incentives in the form of the Feed In Tariff and proposed Renewable Heat Incentive[50].

5.17 Small scale low carbon energy generation is that which is less than utility scale (large power stations, hydro or wind schemes). This can be very suitable for industries, campus locations or on a community development level.

5.18 Micro-generation is defined as, 'the production of energy on a small scale from a low carbon source'.[51] Biomass boilers, ground and air source heat pumps, solar power, hydro-generation, and wind turbines up to 50kW have the potential to make a valuable contribution to Leeds renewable energy targets and requirements and are discussed in the Topic Paper supporting this document. Small-scale domestic micro generation technologies, such as biomass, CHP, solar and ground source heat pumps do not require planning permission under Part 40 of the General Permitted Development Order but some others, such as micro wind energy, do require permission. There are also circumstances where planning permission may still be required on domestic properties, for example where it is a listed building and where other exceptions outlined in the GDPO are not met. The coalition Government is

[50] www.rhincentive.co.uk
[51] Local Government Yorkshire and Humber Renewable Energy Toolkit (2009)

set to relax further the types and scale of technologies where planning permission will not be required subject to further legislation being passed[52].

5.19 When planning permission for micro-generation is necessary, proposals will be supported subject to ENERGY 2.

Small scale and Micro-generation Criteria

ENERGY 2: MICRO-GENERATION DEVELOPMENT

Where micro-generation development requires planning permission, the Council will encourage proposals for technologies that are acceptable in terms of their impact on:

1. **Landscape.**
2. **Visual amenity.**
3. **Noise.**
4. **Safety.**
5. **Ecology.**
6. **Conservation of the built environment.**

Cumulative effects of development will also be considered.

Energy Recovery from Waste

5.20 Leeds City Council is working to reduce the amount of waste produced and to fulfil the vision of the IWS for a zero waste city. Modern waste treatment facilities reduce disposal to landfill, promote energy recovery and represent a significant contribution to meeting our renewable energy target.

5.21 Although the common perception of recovering energy from waste is incineration, there is a range of technologies available, including Anaerobic Digestion (AD), Pyrolysis and Energy from Waste (thermal treatment). Different waste sources - food waste, garden waste, municipal solid waste, commercial waste – lend themselves to different and appropriate technologies. These waste treatments can generate both heat and power, and make a significant contribution to carbon reductions: not only from low carbon energy generation, but by reducing the greenhouse gas impact of landfilling.

5.22 Sites for new waste management technologies to contribute to this objective are provided under the policies of the waste section. ENERGY 3 supports the principle of using waste as a resource to recover heat and power.

Combined Heat and Power (CHP) and Heat Distribution Networks

5.23 CHP, also known as cogeneration, is the production of heat and power at the same time. Conventional power stations typically emit the heat created as a by-product of electricity generation into the natural environment through cooling towers and up chimneys. CHP captures the by-product heat for domestic

[52] See the planning portal.gov.uk for updates on the most recent guidance on micro-generation as the planning rules are likely to change during the plan period.

or industrial heating purposes, either very close to the plant, or as hot water for district heating. Systems should be led by heat demand to make most efficient use of fuel and a year round heat load can be ensured by using heat energy to provide cooling (in a similar way to a fridge) which is known as trigeneration, or Combined Cooling Heat and Power (CCHP).

ENERGY 3: HEAT AND POWER ENERGY RECOVERY

Proposals for low carbon energy recovery methods, including Combined Heat and Power applications, and supporting infrastructure will be supported in principle. The proposals must demonstrate that:

- **The facility has the potential to connect to an outlet for any energy produced;**
- **The development has addressed as a minimum the potential environmental impacts listed in WASTE 9; and**
- **New proposals for Energy Recovery from Waste should demonstrate the potential to contribute towards CHP.**

5.24 Using heat that would otherwise be wasted to facilitate community or district heating (potentially housing and/or commercial or industrial uses) is an efficient use of energy, contributes to reducing CO_2 emissions, and can support the development of low-carbon homes where the density and style is suitable. Heat distribution networks deliver heat from a central generation source to a district via hot water or steam. They can utilise heat from local industry or can be linked to power generation technology such as CHP. It is the Council's aim to build upon existing research, mapping of significant heat sources (such as existing CHP) and heat users (such as hospitals) and to develop this further to produce a mapped assessment to define the most appropriate locations for District Heating Networks.

5.25 Mapping the opportunities for implementing district energy networks across Leeds will allow stakeholders to consider options and plan to achieve a more integrated energy network. This exercise is supported through the NRWDPD. It will require significant consultation with the private sector to identify existing and potential opportunities. This objective is supported by ENERGY 4.

ENERGY 4: HEAT DISTRIBUTION INFRASTRUCTURE

The promotion of heat distribution infrastructure will be supported providing that the following are undertaken and are satisfactory:

- **An assessment of environmental effects;**
- **An assessment of heat source(s) and heat use.**

OTHER ENERGY INFRASTRUCTURE

5.26 Although energy demand management and decentralised energy opportunities can reduce the reliance on grid supplies, conventional grid supplies of both gas and electricity will continue to be the main ways in which energy is conveyed to us. Therefore it is important that development takes due regard of energy (and more broadly utility) infrastructure requirements such as gas supply pipes, high voltage supplies and sub-stations. Given the increasing expectations on smart metering and smart

grid supply, provision should be made for associated energy for more effective control of energy distribution through electronic monitoring and management.

5.27 The Council will take opportunities to work with other companies, agencies / local authorities, including adjacent ones, to address all aspects of energy demand and supply, with an ambition to implement the energy hierarchy. The Council is currently exploring the formation of a strategic body ('Energy Leeds') that will encourage all major new developments to investigate the potential for renewable energy technologies. This body will employ delivery vehicles such as Energy Service Companies (ESCo's) which are tailored to meet the needs of specific projects or initiatives in order to deliver low carbon projects.

6 NATURAL RESOURCES

WATER

OBJECTIVES FOR WATER RESOURCES

6.1 Although water is not a scarce resource in the Leeds area, uncertainties caused by climate change mean that it needs to be used much more carefully in the future. The Council recognises the need to reduce demand for treated clean water and more efficient use of water will both reduce wastewater quantities and also help prevent reductions in water quality and risks for public health. There are also targets for improving water quality set by Government which need to be met (the Water Framework Directive).

6.2 The Rivers Aire and Wharfe and their tributaries are a dominant feature of the Leeds area as shown in the key characteristics diagram. This means that there is potential disruption to life for a large proportion of the population due to flood risk. The south-eastern boundary of the District is adjacent to the River Calder and Leeds also experiences flooding from this River. The Environment Agency estimates that there are 3,862 homes and 700 businesses at risk of flooding from the River Aire alone in the Leeds District. Leeds City Centre is the economic and commercial heart of not only the District, but the wider region and parts of it have a 5% risk of being flooded from the River Aire. The Core Strategy sets the strategic framework for planning for flood risk, but it is an important issue, particularly in adapting to climate change and has been significantly expanded upon in this DPD.

6.3 In recent years Leeds has also experienced problems created by surface water flooding. Smaller watercourses and drains are far more susceptible than the larger river systems to flash flooding as a result of localised intense rainfall. With changing climate patterns it is expected that storms of this nature will become increasingly common, potentially increasing the risk posed to properties situated in close proximity to local streams.

WATER EFFICIENCY

6.4 The Natural Resources Flow Analysis found that overall water consumption within Leeds is higher than average. Increased water efficiency should therefore be encouraged. This issue is largely dealt with in the Core Strategy through the policy requirement to meet higher standards of the Code for Sustainable Homes and BREEAM. Further detailed information on ways to ensure water efficiency and water quality improvements is found in the Council's Sustainable Design and Construction Supplementary Planning Document 2010. Additionally, developers are encouraged to refer to the Environment Agency's Water Resources Strategy which sets out how water resources should be managed to 2050 and identifies areas where action is required.

WATER 1: WATER EFFICIENCY

All new developments should include measures to improve their overall water efficiency where appropriate. This will be achieved through a mixture of measures to use less treated water and reduce wastewater such as:

- **Sustainable urban drainage systems,**
- **Rainwater collection and storage,**
- **Grey water recycling and storage systems, and**
- **More absorbent surfaces for water drainage.**

PROTECTION OF WATER QUALITY

6.5 Local authorities must address any targets for water quality improvements as required by the Water Framework Directive (2000). This covers both surface and groundwater sources and the Environment Agency are responsible for classifying and monitoring the quality of these water sources. Research has shown that by considering the water management infrastructure (eg. sewers, drains, pumping stations, ditches, infiltration systems and swales) as an integral part of the design a better effect on water quality is achieved [53].

WATER 2: PROTECTION OF WATER QUALITY

Development within areas adjacent to sensitive water bodies, such as rivers, streams, canal, lakes and ponds, must meet the following criteria to minimise any adverse impacts on water quality:

- **Demonstrate control of quality of surface water runoff for the lifetime of the development and during construction,**
- **For major developments the water management infrastructure should be considered as an integral part of the urban and landscape design.**

MAKING AND PROTECTING SPACE FOR FLOODING

6.6 Leeds has produced a Strategic Flood Risk Assessment (SFRA) which defines the four flood zones:

- zone 1 is areas of low flood probability;
- zone 2 is areas of medium flood probability;
- zone 3a is areas of high flood probability; and
- zone 3b is the functional floodplain.

6.7 This pattern of flood risk zoning is an important input to frame policies and is shown on Figure 3 in the Appendix.

6.8 The functional flood plain is primarily associated with the Rivers Aire and Wharfe and their tributaries, is defined in the Leeds SFRA and is shown on Figure 3 in the Appendix. It is land where water flows, or is stored in times of flood from an event with at least a 5% probability of occurring (1 in 20 years or more frequently). It may be reserved by the Council to preserve this flood storage function and this means that development is not permitted unless it is water compatible or else essential infrastructure, which satisfies the Exception Test (allowing water compatible uses such as flood control infrastructure, amenity open space and marinas / docks and wharves).

WATER 3: FUNCTIONAL FLOOD PLAIN

Development will not be permitted in the areas shown as functional floodplain in the Leeds SFRA unless it is water compatible or essential infrastructure.

[53] Water Sensitive Urban Design – Results and Principles, Prof. Heike Langenbach, Dipl.-Ing. Jochen Eckart and Dipl.-Ing. Gerko Schröder, University of Hamburg, 2008.

6.9 Zone 3a is classed as having a high probability of flood risk. In Leeds it has been sub-divided into zone 3ai and 3aii as shown on the Leeds SFRA. Land which is situated in flood zone 3aii has the same probability of flooding as land which is in the zone 3b functional floodplain (i.e. a 5% chance of flooding in any one year). The difference is that the zone 3b land is largely open and undeveloped and therefore can provide storage space for flood water in times of flood, however the land in zone 3aii is largely developed and therefore the whole of the site cannot be reserved for storage space of flood water. The fact is that flood water is likely to go there.

6.10 It is important to make space for flood water. Although land, which is in zone 3a, can be redeveloped over the plan period (subject to passing Planning Policy Statement PPS25 Sequential and Exception Tests), it helps manage the flood risk better if some space can be provided within the site to accommodate some of the flood storage. The Leeds SFRA shows that there is a considerable amount of land within the District, which falls within zone 3a. This represents a serious potential flooding problem in Leeds. For this reason, when sites in zone 3a are being considered for redevelopment, the whole of the site should not be regarded as the developable area. There should be no net increase in the building footprint or changes in ground levels, or else compensatory storage volume should be provided. Where the sequential test is required, the developer is advised to agree the extent of the area of search with the Local Planning Authority. There are often opportunities to agree an area of search based on specifically defined areas such as regeneration areas, town centre boundaries or walking distance from the Leeds rail station.

6.11 The proportion of compensatory storage space that is required will be guided by the detailed Flood Risk Assessment which should be submitted alongside the planning application and which will also reveal flood issues, such as flow routes, which will need to be accommodated in the development. It is likely that more space for water will be required in zone 3aii than zone 3ai because of the greater flood risk. Most development is required to provide a proportion of open space and this requirement can be combined with the requirement to accommodate space for water. Where there are any flood risk issues associated with the development a Flood Risk Assessment will always be required.

WATER 4: DEVELOPMENT IN FLOOD RISK AREAS

All developments are required to consider the effect of the proposed development on flood risk, both on-site and off-site the detail of which should be commensurate with the scale and impact of the development. Within zones 2 and 3a proposals must:

- **Pass the Sequential Test and if necessary the Exceptions Test as required by PPS25.**
- **Make space within the site for storage of flood water, the extent of which to be determined by the Flood Risk Assessment.**
- **Must not create an increase in flood risk elsewhere.**

MANAGING THE RISK FROM FLOODING

6.12 The City Council is working in partnership with the Environment Agency to provide protection from flooding from the River Aire in the form of the Leeds Flood Alleviation Scheme. Additionally the Leeds SFRA identifies a small number of existing formal and informal raised flood defences which give localised protection against river flooding. The area behind the defence would be inundated with water

should the defence fail during a flood, potentially posing a risk to people who are present at the time. These areas are defined as Zones of Rapid Inundation and are shown on Figure 3 in the Appendix.

6.13 National guidance (PPS25) does not place any specific restriction on development within these zones, however the PPS25 Practice Guide states that 'New development behind flood defences can increase the residual flood risk'. The Council considers it essential that the potential risk of defence failure is addressed in any planning applications for development within the Zones of Rapid Inundation.

6.14 There is always a residual risk that defences might fail, either by over-topping or breach. This residual risk depends on the height of the defences and the nature (construction) of the defence and therefore it varies for each Zone of Rapid Inundation within Leeds. These are a very small number of locations as shown in the Leeds SFRA. The policy towards Zones of Rapid Inundation is provided below:

WATER 5: ZONES OF RAPID INUNDATION

Where there is currently no built development within a Zone of Rapid Inundation then it should be regarded as if it were functional floodplain and there will be a presumption against anything other than water compatible uses or essential infrastructure.

Where development already exists in a Zone of Rapid Inundation, applications for development will only be permitted where it can be demonstrated that residual risk of flooding is reduced to an acceptable level. A detailed breach analysis is required as part of the Flood Risk Assessment for applications in these areas. The PPS25 sequential and exception tests must also be passed.

6.15 It is important that for all development, consideration is given to flood risk. A Flood Risk Assessment should be provided for all sites. This needs to be commensurate with the degree of potential flood risk to the site and the potential impact of the development on flood risk to others. Where it is clear that there is unlikely to be any flood risk to the site and no possibility of impact on others, then a simple statement to that effect may be all that is required:

WATER 6: FLOOD RISK ASSESSMENTS

All applications for new development will be required to consider flood risk, commensurate with the scale and impact of the development. Where, in the opinion of the Local Planning Authority (LPA), there is the possibility of any flood risk to the site, or the potential for flood risk impact on other sites, a Flood Risk Assessment is required.

The LPA is unlikely to support the development unless the Flood Risk Assessment demonstrates the following:

- **No increase in flooding on-site and elsewhere will result from the new development. The implications of climate change must be taken into account (these are predicted in Table B.2 of PPS25).**
- **There is less than a 3.33% chance of site flooding in any one year.**
- **There is less than a 1% chance of any premises on the site flooding in any one year, after allowing for the effects of climate change, and**
- **For flows beyond the 1% flood design event it is demonstrated that there are no unreasonable adverse impacts off site, after allowing for the effects of climate change.**

Developer contributions may be required for improvement works to ensure that the drainage infrastructure can cope with the capacity required to support the new development.

6.16 Local flooding is not just associated with rivers but occurs throughout built up areas (Figure B, Leeds SFRA). There is considerable flood risk associated with the finite capacity of culverts, drains and minor watercourses to accommodate locally intense rainfall and this is described in Appendix A of the SFRA. There is often little warning of this type of flooding compared with the flooding on the rivers Aire and Wharfe, where the Environment Agency has sufficient time to issue flood warnings.

6.17 Development increases the volume and speed of surface water run-off. PPS25 (Annex F3) recommends that the rate of surface water run-off arising from new development should be reduced to mimic the flow before the development was there. New Development should also reduce the flood risk to the site itself and elsewhere and take account of climate change (Annex F6).

6.18 Flooding is already a problem throughout the district and this is expected to worsen with climate change, therefore the Council is introducing a requirement for a 30% reduction in peak run off rates for sites that have previously been developed. The Practice Guide for PPS25 (paragraph 5.50) suggests developers should "reduce run-off rates from previously-developed sites as much as reasonably practicable". The 30% reduction reflects a consensus view amongst Council drainage officers, the Environment Agency and the sewerage undertaker about what is "reasonably practicable". Additionally, the Council has already been successfully applying this standard to development since May 2007 thus demonstrating that it is a feasible and viable requirement.

6.19 There is flexibility in terms of how to achieve the 30% reduction and there are a number of ways of doing this including the use of green roofs, planting, rain-water harvesting, permeable surfacing and Sustainable Urban Drainage Schemes (such as attenuation tanks below ground and ponds above ground). The Council has provided Supplementary Planning Guidance (SPG22: Sustainable Urban Drainage, June 2004) to assist with sustainable drainage schemes. The 30% reduction is based on the existing peak rate of discharge from the site prior to redevelopment, where that site is already connected to the drainage infrastructure. Applications for development are expected to comply with the Council's Minimum Development Control Standards for Flood Risk which are updated regularly and found on the Council's website.

WATER 7: SURFACE WATER RUN-OFF

All developments are required to ensure no increase in the rate of surface water run-off to the existing formal drainage system. Development will be expected to incorporate sustainable drainage techniques wherever possible.

- **On previously developed sites peak flow rates must be reduced by at least 30%**
- **On sites which have not previously been connected to the drainage infrastructure, or watercourse, surface water run off rates will not exceed the 'greenfield' run-off rate (i.e. the rate at which water flows over land which has not previously been developed).**

6.20 Since the publication of the Issues and Alternative Options report, the General Permitted Development Rights Order has been reviewed which sets out what works can be undertaken without the need to apply for planning permission. Planning permission is now required to lay impermeable driveways or

other impermeable surfacing between a building and the highway. The Council considers that this advice is also appropriate to all extensive areas of hard standing.

6.21 The Surface Water Management Plans may be used to help the Council to identify where Permitted Development rights may be removed during the plan period.

6.22 Leeds is an important city in the region and must provide for the functions of a regional city. This includes the need to provide large surfaced areas such as events spaces and surface car parks. These large surfaced areas contribute significantly to flash flooding and therefore it is prudent to encourage them to be constructed from permeable materials, which help to manage flood risk better. Permeable materials should be the starting choice unless there are sound reasons why impermeable surfacing should be accepted.

AIR QUALITY

OBJECTIVES FOR AIR QUALITY

AIR QUALITY

6.23 Clean air is a vital natural resource. The Air Quality Strategy (DEFRA 2007) sets out health based national standards and objectives for eight specific pollutants within the UK and we have to demonstrate how we expect to achieve these. All development, through construction, operation and decommissioning can impact on air quality and it is therefore appropriate for Planning policies to address this issue.

6.24 Improving air quality means tackling carbon emissions and other air pollutants together. Within Leeds, housing and transport are the major sources of carbon emissions that currently average 6.44 tonnes per person per year (3.8 for housing and 2.64 for transport). These levels are below the English national average of 6.54 tonnes of carbon per person per year. On average, every gallon of petrol used produces 10.4 kg of carbon dioxide and every gallon of diesel produces 12.2 kg of carbon dioxide. Carbon dioxide emissions are a major cause of climate change and air pollutants cause harm to our health and the environment.

6.25 Whilst air quality across the city is generally good, there are six small Air Quality Management Areas (AQMAs) where the national air quality objective for annual nitrogen dioxide is not achieved. Emissions from road traffic are a significant cause in all of these. All local authorities are required to work towards achieving the national air quality objectives and Leeds has produced an Air Quality Action Plan to indicate the actions we intend to take to address air quality. This includes controlling emissions, limiting the impact of any proposals and locating development appropriately. These actions are necessary all over the District and not just in those areas where air quality is poor so that we reduce peoples' exposure to pollutants that have a serious effect on health.

AIR QUALITY MANAGEMENT

6.26 The Core Strategy aims to reduce the need for people to travel through the appropriate location of development and also aims to ensure that new development is energy efficient. However, there are other specific actions we can take to help to improve air quality.

6.27 No single available option will address the problem but through the Air Quality Action Plan, the Council presented a series of actions to reduce air pollution concentrations. The Air Quality Actions which are of most relevance to spatial planning include promotion of public transport, cycling and walking, integrated transport systems (such as park and ride), requirements for travel plans and section 106 contributions for public transport improvements, planning for biofuels and associated infrastructure and the creation of Low Emission Zones where appropriate.

6.28 As a result of sharing ideas and knowledge, the 'Delivering Cleaner Air' Beacon Authorities produced a Low Emission Strategies document (DEFRA, January 2010). The City Council is currently participating as part of a national Low Emission Strategies partnership group, in developing a series of low emissions projects (with funding support from DEFRA). Within this context, a key project is to develop a Low Emission Strategy Supplementary Planning Document (SPD) template, for use by local authorities to address issues associated with Air Quality and development proposals. At a Leeds

level, it is currently anticipated that the SPD will contain guidance on emission assessments and Low Emission Strategy mitigation measures including low emission vehicle technologies and their availability (including the provision of electric vehicle charging points as part of development proposals). Many of these measures are also encouraged by other current planning guidance (e.g. the Public Transport Contributions SPD) and local initiatives including the use of bio fuels.

AIR 1 THE MANAGEMENT OF AIR QUALITY THROUGH DEVELOPMENT

All applications for major development will be required to incorporate low emission measures to ensure that the overall impact of proposals on air quality (including unpleasant odours) is minimised and managed.

LAND

OBJECTIVES FOR LAND USE

6.29 Land is a finite resource and national policy requires that land is used in the most efficient manner. For example, the use of greenfield land (land not previously developed) is discouraged and the reuse of contaminated and previously-developed (brownfield) land is encouraged. Higher densities of development are also required. This approach reduces land-take for development and fosters undeveloped land as a natural resource. The Core Strategy contains policies that restrain development from taking place within the greenbelt, in areas of important landscapes, in areas of nature conservation and biodiversity, and on agricultural land of the best quality.

6.30 This Plan deals with additional land-use policies to minimise the land-take for development by prioritising the use of previously developed land and also deals with some of the ways of reducing the impacts of climate change and pollution that may be caused by developing contaminated land.

LAND DEVELOPMENT

6.31 National and regional policy sets overall targets for how much development is to be located on brownfield sites. Leeds has exceeded these targets in recent years. The emerging Core Strategy will set targets for the use of brownfield land in Leeds and for achieving higher densities of development.

6.32 The co-location of natural resource and waste activities on the same sites can be beneficial in reducing landtake for these operations (e.g. mineral aggregate recycling) and will be supported by the Council.

CONTAMINATED LAND

6.33 There are barriers to the development of land contaminated either by previous development activity, or by natural contamination such as the financial implications of restoring land quality.

6.34 All councils are required to ensure that applications to develop actual or potentially contaminated land provide sufficient information to establish whether a risk exists or will be created to people, ecological systems, buildings or controlled water when the land is developed. When Leeds grants planning permission developers will be required by condition to implement measures to ensure an unacceptable risk is not created.

6.35 The national target contained in PPS 3 states that 60% of development brought forward must be on previously developed land[54]. The emerging Core Strategy sets a target that 75% of all development should be on previously developed land. Not all previously developed land is contaminated and indeed, some contaminated land is undeveloped land, but by supporting development on contaminated land, the aim of developing on brownfield land is more likely to be deliverable.

Land 1 – Contaminated Land

The City Council supports the principle of development of previously developed land in preference to greenfield sites. To ensure the risk created by actual and potential contamination is addressed, developers are required to include information regarding the status of the site in terms of contamination with their planning application. The Council will then assist applicants in the development process to identify an appropriate remediation solution, where necessary, prior to the development being brought into use.

TREE PLANTING

6.36 Trees are a key natural resource with many positive attributes. Tree planting assists with combating climate change, creating habitats, offering landscape / townscape enhancements, and providing recreational benefits. The Core Strategy seeks to increase tree planting and so strengthen green infrastructure. For these reasons, tree planting is an important part of the Council's environmental and design policies and strategies.

6.37 Tree planting can be on existing and proposed greenspace; as part of initial screening and restoration of mineral workings; alongside transport corridors, and as part of regeneration schemes, and landscape transition zones to adjacent open land. Design of such planting will need to take account of the landscape character and opportunities for enhancing and improving links in Green Infrastructure.

6.38 Inevitably there may also be occasional circumstances where removal of existing trees has to be considered, in which case suitable mitigation measures will need to be agreed.

Land 2: Development and Trees

Development should conserve trees wherever possible and also introduce new tree planting as part of creating high quality living and working environments and enhancing the public realm.

Where removal of existing trees is agreed in order to facilitate approved development, suitable tree replacement should be provided on a minimum three for one replacement to loss. Such planting will normally be expected to be on site, as part of an overall landscape scheme.

Where in certain circumstances on-site planting cannot be achieved, for example due to lack of suitable space in City Centre locations, off- site planting will be sought, or where the lack of suitable opportunity for this exists, an agreed financial contribution will be required for tree planting elsewhere.

Planting design and specification should in all cases meet the current best practice.

[54] PPS 3, Communities and Local Government, June 2010, paragraph 41

7 IMPLEMENTATION AND MONITORING

6.1 The Planning and Compulsory Purchase Act 2004 requires Local Planning Authorities to carry out annual assessment of the extent to which policies in local development documents are being implemented. Developing a monitoring system is a key means of assessing the effectiveness of the NRWDPD and to determine whether or not strategic aims and objectives are being delivered. This will enable timely and effective responses to be made if delivery is not being achieved in line with the agreed strategy.

6.2 The objectives of the NRWDPD will ultimately be implemented through the granting of planning permissions in accordance with the governments National Planning Policy Statements, Minerals Policy Statement and the policies of the NRWDPD and any other policies in the LDF. The policies within this NRWDPD are the key mechanism for implementation. Other activities will also affect the delivery of the NRWDPD including the operation of other policies, the work of other agencies, the behaviour of the general public and the actions of industry.

6.3 '*Monitoring is essential to establish what is happening now, what may happen in the future and then compare these trends against existing policies and targets to determine what needs to be done*'[55]. Monitoring is twofold as it needs to consider both the beneficial and any unforeseen adverse effects of implementation. It measures the actual significant effects of implementing the NRWDPD polices and then assesses the contribution they make towards achieving the strategic objectives. In addition monitoring highlights unforeseen adverse effects and the need to undertake counteractive measures. The approach taken to monitoring must be objective and target led, as well as focus on significant effects. It should involve measuring the performance of the plan against indicators to establish a link between implementation and the significant effects being monitored.

6.4 The Planning and Compulsory Purchase Act 2004 requires the production of an Annual Monitoring Report (AMR) for the Development Plan to be submitted to the Secretary of State. The implementation of the NRWDPD will be kept under review using the key performance indicators set out in Table 7.1 and reported in the Annual Monitoring Report.

6.5 The following table sets out the monitoring framework for the NRWDPD and identifies for each policy:

- The indicators for measuring whether a policy is successful or not;
- The monitoring targets for each policy;
- Who is responsible for delivering the objectives of each policy; and
- A point which will trigger a review of a policy if it is not having the anticipated impact.

6.6 Whilst the importance of monitoring is recognised, there are significant pressures on local authority resources and many competing priorities. In reality this may well impact on the Council's ability to undertake the regular and comprehensive monitoring set out in the Monitoring Framework.

[55] DCLG, Local Development Framework Monitoring: A Good Practice Guide, March 2005, paragraph 1.1

Table 7.1 – NRWDPD Monitoring Framework

Policy	Key Performance Indicators	Target	Implementation Partners	Trigger point for correction/mitigation measures
Minerals				
Minerals 1: Provision Of Aggregates	Amount of aggregate produced in line with the plan period provision in the NRWDPD.	Sand and Gravel production of at least 1.1 million tonnes per plan period. Crushed Rock production of 3.6 million tonnes per plan period.	Minerals Industry Regional Aggregates Working Party Leeds City Council	Provision undershoots by 25% over five years of the plan period
Minerals 2: Mineral Safeguarding Areas (MSA)	Key resources in MSAs safeguarded or extracted prior to development.	No significant development that would otherwise sterilise resources allowed in MSAs except where prior extraction has taken place.	Leeds City Council Development Industry Minerals Industry	No specific trigger point
Minerals 3: Safeguarding Existing Mineral Extraction Sites	Facilities for minerals processing are safeguarded from development of non minerals related uses.	No loss of minerals facilities to an alternative use unless provision made or no need for particular facility proved.	Leeds City Council Development Industry Minerals Industry	More than two approved proposals over a two year period result in a loss of minerals processing (with no alterative provision made)
Minerals 4: Mineral Preferred Areas – Sand and Gravel and Crushed Rock	Approved proposals for exploration and extraction of sand and gravel and crushed rock located within the preferred areas.	No proposals for exploration and extraction of sand and gravel and crushed rock are located outside of the preferred areas.	Leeds City Council Development Industry Minerals Industry	More than two approved proposals over a two year period are located outside of the preferred areas.
Minerals 5: Sand And Gravel Production In The Wharfe Valley	Approved proposals for the extraction of sand and gravel are not located in an area of Special Landscape Value.	No extraction of sand and gravel located within The Wharfe Valley, except at Midgeley Farm.	Leeds City Council Development Industry Minerals Industry	A proposal is permitted within The Wharfe Valley.
Minerals 6: Preferred Areas – Stone And Clay Extraction	Approved proposals for stone and clay extraction are located within the preferred areas.	No proposals for stone and clay extractions are located outside of the preferred areas.	Leeds City Council Development Industry	More than two approved proposals over a two year period are located outside of the preferred areas.

Policy	Key Performance Indicators	Target	Implementation Partners	Trigger point for correction/mitigation measures
			Minerals Industry	
Minerals 7: Provision of Stone For Repairs and Refurbishment of Existing Buildings	Consideration of extraction operations of a limited scale and duration at a specific quarry to meet specific need.	In all applications where a specific need for local stone has been demonstrated consideration is given to the scale and location of extraction methods.	Development Industry Leeds City Council	No specific trigger point required
Minerals 8: Surface Coal And Previously Developed Land	Proposals for redevelopment of land demonstrate that consideration has been given to prior extraction.	Where coal is located on previously developed land prior extraction takes place.	Leeds City Council Coal Producers	No specific trigger point
Minerals 9: Surface Coal And Undeveloped Land	Proposals demonstrate accordance with policy criteria.	Where development takes prevention of sterilisation and community benefits.	LCC Coal Producer	No specific trigger points
Minerals 10: Applications for Mineral Extraction	Approved proposals meet criteria.	All approvals meet the criteria.	Minerals Industry	No specific trigger points required.
Minerals 11: Restoration of Mineral Extraction Sites	There is an agreement on restoration for all minerals schemes granted planning permission.	A restoration scheme has been agreed in all instances.	Minerals Industry Leeds City Council – development control monitoring	No specific requirements
Minerals 12: Aftercare of Restored Proposals	There is an agreement on aftercare for all minerals schemes granted planning permission.	An aftercare scheme has been agreed in all instances.	Minerals Industry Leeds City Council	No specific trigger points.
Minerals 13: Safeguarding Minerals Processing Sites	Mineral processing sites are safeguarded from development of non minerals related uses.	No loss of minerals processing sites to an alternative use.	Leeds City Council Development Industry Minerals Industry	More than two approved proposals over a two year period result in a loss of minerals processing sites.
Minerals 14: Transport Modes	Wharves and sidings are used for freight purposes.	Diversion of freight from road to rail and canal.	British Waterways Network Rail Canal Boat Operators Association	No specific trigger points.
Waste				

Policy	Key Performance Indicators	Target	Implementation Partners	Trigger point for correction/mitigation measures
Waste 1: Self Sufficiency for Future Waste Management in Leeds	Existing and new capacity meets annual provision figures.	Figures shown in tables 4.1 and 4.2	Waste Industry Leeds City Council Environment Agency DEFRA	Review of waste planning permissions granted over each five year period of the plan.
Waste 2: Safeguarding Existing Waste Management Capacity	Facilities for waste processing are safeguarded from development of non waste related uses.	No loss of waste facilities to an alternative use unless provision made or no need for particular facility proved.	Leeds City Council Development Industry Waste Industry	More than two approved proposals over a two year period result in a loss of m of safeguarded waste management sites (with no demonstration that there is no longer a need or the change of use outweighs the need for waste management)
Waste 3: A City Wide Network of Waste Management Sites and Facilities:	Develop a city wide network of sites in line with the Core Strategy.	A network of sites is developed and meets the criteria.	Leeds City Council Waste Industry	Review of waste planning permissions over a five year period of the plan.
Waste 4: Waste Management Facilities - Permanent Uses	Proposals for waste facilities are treated as an industrial use of land and have regard for manufacturing and distribution polices.	All approved proposals reflect manufacturing and distribution polices.	Leeds City Council Waste Industry	Review of waste planning permissions over a five year period of the plan.
Waste 5: Waste Uses Within Existing Industrial Areas	Approved proposals for new waste management facilities are located within existing industrial areas.	Waste uses are located on appropriate sites.	Leeds City Council Development Industry Waste Industry	Review of waste planning permissions over a five year period of the plan.
Waste 6: Strategic Waste Management Sites	Approved proposals for major new waste management facilities are located on the identified strategic waste management sites.	Sufficient sites are available to support provision of strategic facilities.	Leeds City Council Development Industry Waste Industry	Review of waste planning permissions over a five year period of the plan.

Policy	Key Performance Indicators	Target	Implementation Partners	Trigger point for correction/mitigation measures
Waste 7: Additional Waste Management Sites	Approved proposals for recycling, composting and segregation operations are located on the additional waste management sites.	Sufficient sites are available to support provision of recycling, composting and segregation proposals.	Leeds City Council Development Industry Waste Industry	Review of waste planning permissions over a five year period of the plan.
Waste 8: Waste Proposals at other Locations	Approved waste proposals are situated on the sites identified in policies 5, 6 and 7.	No waste proposals approved at sites other than those identified in policies 5, 6 and 7.	Leeds City Council Development Industry Waste Industry	More than two approved proposals over a two year period are located outside of the identified sites
Waste 9: Waste Management Facilities - Potential Issues and Impacts	Approved proposals meet criteria	All approvals meet the criteria.	Waste Industry	No specific trigger points
Waste 10: Planned Reduction in Landfill	Approved proposals for additional landfill capacity that have demonstrated there is a proven need are located at existing or former quarry sites.	No additional landfill capacity above that already with extant permission.	Leeds City Council Development Industry Waste Industry	More than two approved proposals for additional landfill capacity over a two year period are located outside of existing or former quarry sites.
Waste 11: Waste Disposal - Landfill And Landraising Sites	Number of planning permissions for landfill and landraising.	No additional landfill capacity above that already with extant permission.	Leeds City Council Development Industry Waste Industry	More than two approved proposals for additional landfill capacity over a two year period are located outside of existing or former quarry sites.
Energy				
Energy 1: Wind Energy	Evidence of energy contribution and other benefits outweighing any significant impacts.	All approvals have provided evidence of how energy contribution and other benefits outweigh any significant impacts.	Leeds City Council Development Industry Energy Industry	More than two refusals over a two year period are based on a lack of evidence to support wind energy.
Energy 2: Micro-Generation Development	Approved applications for micro-generation development meet criteria.	All approvals meet the criteria.	Leeds City Council Development Industry	No specific trigger points required.

Policy	Key Performance Indicators	Target	Implementation Partners	Trigger point for correction/mitigation measures
			Energy Industry	
Energy 3: Heat And Power Recovery	Submission of CHP applications.	CHP applications approved for current and future development.	Leeds City Council Development Industry Energy Industry	Review of CHP planning permissions over a five year period of the plan.
Energy 4: Heat Distribution Infrastructure	Approved applications for heat distribution infrastructure meet the criteria.	All approvals for such schemes meet the criteria.	Leeds City Council Development Industry Energy Industry	No specific trigger point.
Water				
Water 1: Water Efficiency	Approved applications for new developments include measures to improve water efficiency and meet the criteria.	All approvals meet the criteria and improve overall water efficiency.	Leeds City Council Development Industry Environment Agency	More than two refusals over a two year period based on a lack of evidence of how the proposal has improved water efficiency.
Water 2: Protection Of Water Quality	The water quality of sensitive water bodies is protected and applications are refused on grounds of water pollution.	All approvals have considered water quality and ensured that sensitive bodies are protected.	Leeds City Council Development Industry Environment Agency	Review of planning permissions where water quality has been affected, over a five year period of the plan.
Water 3: Functional Flood Plain	Applications for new development or a change of use are refused if they are located in the functional flood plain.	All approvals for development or a change of use are located outside of the functional flood plain.	Leeds City Council Development Industry Environment Agency	Review of planning permissions where the site is situated in the functional flood plain, over a five year period of the plan.
Water 4: Development In Flood Risk Areas	Applications are refused where flood risk has not been considered and the criteria has not been met.	All approvals meet the criteria and minimise flood risk.	Leeds City Council Development Industry Environment Agency	Review of planning permissions where flood risk has been identified, over a five year period of the plan.
Water 5: Zones Of Rapid		No increase in number of developments		

Policy	Key Performance Indicators	Target	Implementation Partners	Trigger point for correction/mitigation measures
Inundation		affected by residual flood risk.		
Water 6: Flood Risk Assessments	Approved applications for new developments have considered flood risk and where there is a risk of flooding have submitted a flood risk assessment. Applications are refused on grounds of not submitting a flood risk assessment.	All approvals have considered flood risk and submitted a flood risk assessment where necessary.	Leeds City Council Development Industry Environment Agency	Review of planning permissions where flood risk has been identified, over a five year period of the plan.
Water 7: Surface Water Run-Off	The rate of surface water run-off is not increased through new developments and applications are refused on grounds of increased surface run-off.	All approvals ensure that the rate of surface water does not increase and all criteria are met.	Leeds City Council Development Industry Environment Agency	Review of planning permissions where surface water has increased, over a five year period of the plan.
Air Quality				
Air 1: Low Emissions Strategies	Approved applications for new development have considered low emissions measures.	Reduction in nitrogen dioxide and particulates measured.	Leeds City Council Development Industry	Review of planning permissions where air quality has been affected, over a five year period of the plan.
Land				
Land 2: Contaminated Land	Percentage of major site applications for the redevelopment of sites with proven contamination.	Remediation of contaminated land.	Leeds City Council Developers	
Land 2: Development and Trees	Approved proposals protect existing tree cover and propose additional planting	Increases in tree cover.	Leeds City Council Developers	Review of planning permissions where tree cover has not been considered/protected, over a five year period of the plan.

7 GLOSSARY of TERMS AND LIST OF ABBREVIATIONS

GLOSSARY

Term	Definition
Aftercare	The treatment of land for a period (usually five years) following restoration to bring the land to the required standard so that it is fit for its agreed after-use.
After-use	The use (nominally for agriculture, forestry or amenity) that land is put to once restored following mineral working
Aggregates	Materials such as sand and gravel and crushed rock used in the construction industry for purposes such as concrete and roadstone.
Agricultural Waste	Waste from premises used for agriculture within the meaning of the Agriculture Act 1947.
Ancient Woodland	An area of woodland which has had a continuous history of tree cover since at least 1600.
Apportionment	The County's share of Regional aggregate provision
Aquifer	A water bearing geological formation.
Area of Search	A broad area within which some mineral extraction may be acceptable subject to detailed consideration.
Biodiversity Action Plan (BAP)	A strategy for conserving, restoring, enhancing and creating habitats of importance.
Commercial and Industrial Waste (C&I) Waste	Broadly, *commercial waste* is classified 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.
Composting (Aerobic Digestion)	A biological process in which biodegradable wastes such as garden and kitchen wastes are decomposed in the presence of air by the action of micro-organisms (for example bacteria and fungi).
Construction and Demolition and Excavation Waste	Construction and demolition waste (C&D waste) includes hard C&D and excavation waste materials as separately defined in this glossary. These waste materials arise as a direct result of: ▪ the total or partial demolition of buildings and/or civil engineering infrastructure; or ▪ the construction of buildings and/or civil engineering infrastructure.
Development Plan	Statutory documents produced under the Planning Acts that set out the planning policies and proposals for the operational development and use of land. Decisions on planning applications

	must conform to the development plan, unless material considerations indicate otherwise.
Development Plan Document (DPD)	A term introduced by the Planning and Compulsory Purchase Act 2004. DPDs are part of the Local Development Framework for an area. The Council is required to produce the following DPDs to guide future land use and other spatial planning matters: A Core Strategy, site specific allocations of land or thematic policies, a proposals map, and area action plans (where needed). Together the DPDs form the statutory development plan.
Environment Agency	Regulatory Authority formed in 1996, combining the functions of the former National Rivers Authority, Waste Regulation Authorities and Her Majesty's Inspectorate of Pollution.
Excavation waste	Includes both clean and contaminated waste soil, stone and rocks arising from land levelling, civil works and/or general foundations.
Fluvial	The term fluvial refers to rivers, river waters or any plants and animals that inhabit them
Groundwater	Water within soil, sediments or rocks below the ground surface. Water contained within underground strata is referred to as an aquifer
Hazardous Waste	Specifically defined in European law as those wastes featuring on a list - the European Waste Catalogue (EWC), drawn up by the European Commission because they possess one or more of the hazardous properties set out in the Hazardous Waste Directive
Impermeable	An impermeable surface is one which does not allow the passage of water through it and which water therefore will run off
Inert waste	Waste that does not undergo any significant physical, chemical or biological, transformations.
Landbank	A stock of mineral reserves with planning permission for their winning and working.
Local Development Framework (LDF)	A term introduced by the Planning and Compulsory Purchase Act 2004, the LDF comprises a suite of documents, which together guide future development for a local area. In addition to DPDs, the LDF must contain a Local Development Scheme (which sets out the timetable for completing each document), a Statement of Community Involvement (which sets out how the Council will involve local people and stakeholders in decision-making on planning matters), and an Annual Monitoring Report. Additionally, Supplementary Planning Documents can be prepared to provide additional detail on areas of planning policy not contained in DPDs.
Landfill and Landraise	Two main ways of disposing of waste to land. Landfill is when a large hole, usually an old quarry is filled up with waste whereas land raise operations place waste on top of existing land levels thus raising the height of the land.
Mineral Consultation Area	An area identified in order to ensure consultation between the relevant LPA and the Mineral Planning Authority before certain non-mineral planning applications made within the area are determined.
Mineral Planning Authority (MPA)	An organisation with statutory planning powers relating to minerals

	development
Municipal Waste (MSW)	Municipal waste includes household waste and any other wastes collected by waste collection authorities (or their agents) such as municipal parks and gardens waste, beach cleansing waste, commercial or industrial waste and waste resulting from the clearance of fly-tipped materials.
Opencast Working	A form of surface mining to win minerals.
Permeable	A permeable surface is any surface which will allow the passage of water through it; for example gravel is permeable, while tarmac is not. Different surfaces have differing levels of permeability and when saturated, water will run off permeable surfaces.
Permitted Development Rights	Rights to carry out certain limited forms of development without the need to make an application for planning permission, as granted under the terms of the Town and Country Planning (General Permitted Development) Order 1995.
Planning Conditions	Conditions attached to a planning permission for the purpose of regulating and controlling the development.
Primary Aggregates	Naturally occurring sand, gravel and crushed rock used for construction purposes.
Reclamation of mineral workings	The combined processes of Restoration and Aftercare following completion of mineral working.
Recycled Aggregates	Aggregates produced from recycled construction waste such as crushed concrete, planings from road surfacing etc.
Restoration	Operations designed to return an area to an acceptable environmental state, whether for the resumption of the former land use or for a new use following mineral working. Involves the reinstatement of land by contouring, the spreading of soils or soil making materials etc.
Saved Policies	As part of the local planning context, the City Council's Unitary Development Plan (UDP, which was adopted in August 2001, was followed by a selective UDP review (adopted in July 2006). Under the Local Development Framework transitional arrangements, policies in the UDP are 'saved' for an initial period of 3 years or until they are replaced by LDF policies and documents. See the link below for further details. http://www.leeds.gov.uk/page.aspx?pageidentifier=6e8fe6ea-41bb-4840-b9df-efe98b3a4e65
Scheduled Ancient Monuments	Nationally important monuments and archaeological areas that are protected under the Ancient Monuments and Archaeological Areas Act 1979.
Secondary Aggregates	By-product wastes e.g. power station ash and colliery spoil that can be used for low-grade aggregate purposes, either solely or mixed when mixed with primary aggregates.
Sites of Special Scientific Interest (SSSIs)	Sites that are notified and protected under the Wildlife and Countryside Act 1981 on account of their flora, fauna, geological or physiographical features.

Special Area of Conservation (SAC)	An SSSI considered being of international importance designated under the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora.
Statement of Community Involvement (SCI)	A document that sets out the planning authority's intended consultation strategy for different elements of the planning process. This is a requirement brought in by the Planning and Compulsory Purchase Act 2004.
Sterilisation	When a change of use or the development of land prevents possible mineral exploitation in the foreseeable future.
Strategic Environmental Assessment (SEA)	An evaluation process for assessing the environmental impacts of plans and programmes. SEA is a statutory requirement introduced through an EU Directive.
Supplementary Planning Document (SPD)	A document that expands on policies set out in a DPD or provides additional detail.
Sustainability Appraisal (SA)	An evaluation process for assessing the environmental, social, economic and other sustainability effects of plans and programmes. SA is a statutory requirement introduced by the 2004 Planning Act.
Thermal Treatment (Incineration)	The burning of waste at high temperatures. This reduces its volume by turning it to ashes and also generates heat, which may be used to generate electricity. Some industrial processes co-incinerate (mix waste with conventional fuels) to produce energy. Thermal Recovery facilities use waste to generate heat/electricity and are also known as Energy from Waste plants (EfW).
Waste Transfer Stations (WTS)	Facilities for receiving and "bulking up" waste before its onward journey for treatment, recycling or disposal elsewhere. They are used to transfer waste from smaller road vehicles to vehicles with greater capacity or trains /barges, thus reducing the related traffic.
Yorkshire and Humber	A regional body comprising of representatives from local authorities and other economic, environmental and social organisations. Responsible for preparing the Regional Spatial Strategy before its abolition in July 2010.

LIST OF ABBREVIATIONS

AAP	Area Action Plans
AMR	Annual Monitoring Report
AQMA	Air Quality Management Area
BAT	Best Available Techniques
BAP	Biodiversity Action Plan
BGS	British Geological Survey
BMW	Biodegradable Municipal Waste
C,D&E	Construction, Demolition and Excavation Waste
CHP	Combined Heat and Power
C&I Waste	Commercial and Industrial Waste
CNG	Compressed Natural Gas
DCLG	Department for Communities and Local Government
DPD	Development Plan Document
DPH	Dwellings Per Hectare
EF	Ecological Footprint
ELV	End of Life Vehicles
GDP	Gross Domestic Product
IAO	Issues and Alternative Options Paper
IWS	Integrated Waste Strategy
LATS	Landfill Allowance Trading Scheme
LCC	Leeds City Council
LDD's	Local Development Documents
LDF	Local Development Framework
LNR	Local Nature Reserve
LPG	Liquefied Petroleum Gas
MPA	Mineral Planning Authority
MPG	Minerals Policy Guidance
MPS	Minerals Planning Statements
MSA	Mineral Safeguarding Areas

MSW	Municipal Waste
NRFA	Natural Resource Flow Analysis
NRWDPD	Natural Resources and Waste Development Plan Document
PPC	Pollution Prevention Control
PPG	Planning Policy Guidance
PPS	Planning Policy Statements
REAP	Resource and Energy Analysis Programme
RPB	Regional Planning Bodies
RSS	Regional Spatial Strategy
RTAB	Regional Technical Advisory Body
SAMs	Scheduled Ancient Monuments
SSSIs	Sites of Special Scientific Interest
SAC	Special Area of Conservation
SCI	Statement of Community Involvement
SEA	Strategic Environmental Assessment
SFRA	Strategic Flood Risk Assessment
SPD	Supplementary Planning Document
SA	Sustainability Appraisal
UDP	Unitary Development Plan
WDA	Waste Disposal Authority
WEEE	Waste Electrical and Electronic Equipment Directive

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Leeds Local Development Framework

Natural Resources and Waste Development Plan Document

Minerals Topic Paper

Final

October 2010

Minerals Topic Paper

SUMMARY

This minerals topic paper provides the basis for supporting the minerals 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 Leeds must plan for minerals over the plan period (upto 2026).

An analysis of the current mineral resources available is provided, and the targets for recycling of aggregates and the minerals set out.

Overall the NRWDPD provides for Leeds to manage current mineral reserves and safeguard future resources where practical. The plan sets out to encourage recycling of mineral resources where possible to mitigate demand on primary resource extraction:

- **Support recycling measures to reduce pressure on resources.**
- **Create Mineral Safeguarding Areas to prevent sterilisation of resources that would stop them being used in the future.**
- **Safeguard existing mineral extraction sites to ensure supply.**
- **Identify preferences for where future mineral activities should take place.**
- **Identify how to sustainably manage mineral extraction sites.**
- **Support the sustainable transport of minerals.**

Definitions and Glossary - A glossary is provided in the main Submission report covering the terms used within this Topic Paper.

1.0 Introduction

1.1 As the Mineral Planning Authority (MPA), Leeds City Council has a responsibility to prepare planning policies for the provision of minerals within the district. The purpose of this topic paper is to provide an introduction to minerals planning in Leeds.

1.2 Using the most up to date information drawn from a number of sources including the Annual Monitoring Reports[1]and British Geological Survey Maps[2] this paper seeks to explore the issues surrounding planning for minerals development. References to information sources are given as footnotes throughout the paper.

1.3 The paper takes as its starting point the national, regional and local policy context for minerals planning. It then goes on to provide an overview of individual mineral types within the district, where they are to be found and their importance in economic terms.

1.4 Minerals are a finite resource and can only be worked where they arise. The extraction and processing of minerals can be detrimental to social, economic and environmental conditions therefore it is essential that a balance is achieved between the need for minerals and the need to protect and preserve both the mineral resource and the environment. This topic paper sets out the factors and issues that will shape how minerals policies for Leeds are to be developed.

2.0 National, Regional and Local Policy Context

2.1 National Guidance

2.1.1 National policy relating to mineral planning is set out in a series of Mineral Planning Guidance notes (MPGs) and Statements (MPSs). The most important of these are MPS 1: Planning and Minerals 3 and the accompanying Practice Guide. The key objective of national policy is to ensure the prudent, efficient and sustainable use of mineral resources. It seeks to ensure closer integration of minerals planning policy with national policy on sustainable construction and waste management and other applicable legislation for the protection of the environment. This necessitates the steady provision of an adequate supply of minerals within the environmental limits of the district.

2.1.2 Based on the best available information MPAs must identify Mineral Safeguarding Areas (MSAs) to protect proven resources and to alert non-mineral developers to the presence of valuable mineral resources. Wherever possible MPAs should encourage the prior extraction of minerals in order to prevent sterilisation by other forms of development.

2.1.3 In addition to MPS1 there are two further key guidance documents. These are the *National and Regional Guidelines for Aggregates Provision in England 2005 – 2020*[4] and *A Guide to Mineral Safeguarding in England*[5]. These two papers set out how MPAs should incorporate the key aspects

[1] Yorkshire and Humber Region Aggregates Working Party Annual Report 2008 Aggregates Monitoring 2008
[2] British Geological Survey Maps, England & Wales, Sheets 70 Leeds, 69 Bradford, 77 Huddersfield & 78 Wakefield
[3] Minerals Policy Statement MPS1: Planning and Minerals (DCLG; November 2006) and the accompanying Practice Guide(DCLG; November 2006)
[4] National and Regional Guidelines for Aggregates Provision in England 2005 – 2020
[5] A Guide to Mineral Safeguarding in England (British Geological Survey October 2007)

of national policy into their own development plans. Different mineral types are covered in detail later in this paper.

2.2 Regional Policy Context

2.2.1 Notwithstanding recent legislative changes (May 2010) specifying that Regional Spatial Strategies (RSSs) are no longer to be regarded as a material consideration, the *Yorkshire and Humber Plan – Regional Spatial Strategy to 2026*[6] translated national minerals policy into a regional context. It supported the key objectives of national minerals policy and provided guidance for regional and sub-regional levels of aggregate provision.

2.2.2 These levels are based on the work of the Yorkshire and Humber Regional Aggregate Working Party (YHRAWP), a body made up of representatives from MPAs and the minerals industry. This group is responsible for producing annual monitoring reports detailing levels of aggregate production and reserves for the region. The supporting background information relating to the required levels of provision at sub regional level produced for the RSS therefore remains the most relevant and up to date information relating to the provision of aggregates in the Leeds district and is discussed in more detail in Section 4 of this topic paper.

2.3 Local Policy Context

2.3.1 At local level, the current development plan containing specific policies relating to minerals within the Leeds district is the Unitary Development Plan (UDP). This was originally prepared and adopted in 2001 and subsequently reviewed in 2006.[7]

2.3.2 In 2007 the Secretary of State put in place provisions to ensure that policies remained valid during the transition period from the adopted UDP, through the preparation of individual elements of the Local Development Framework (LDF). Minerals policies carried forward in the UDP Review have been saved by the Secretary of State's Direction and remain in force until such time as they are succeeded by the policies within the Core Strategy and the NRWDPD.

3.0 Context and Characteristics

3.1 Underlying Geology

3.1.1 The Leeds Mineral Resource Map (Figure 2.2 NRWDPD Publication Document) depicts the economic geology present within the Leeds District and where strata have been worked over part of their extent in the past. Whilst Leeds has limited mineral resources which are of high economic value, it does have extensive resources which are of more modest value in economic terms.

3.1.2 Also shown on Fig 2.2 are gravels, sandstone, coal and various clays have been worked very extensively in the past but only a few active extraction sites remain. There have also been quarries, usually small in scale, which exploited very local sandstones and clays in the uncoloured area of the Mineral Resource Map.

[6] The Yorkshire and Humber Plan – Regional Spatial Strategy to 2026; CLG/GOYH May 2008
[7] Leeds Unitary Development Plan Review 2006

3.1.3 Sand and gravel, coal, sandstone, limestone and clays continue to be worked in the Leeds district. Although the aggregate produced is not of sufficient quality for road building or wide use in concrete, significant added value is very often achieved by working processes such as brickmaking and stone sawing in particular.

3.1.4 Magnesian Limestone - Although extensive over the eastern quarter of the district this is generally of low quality and is unsuitable for most aggregate uses. However there are discrete horizons within the succession which are suitable for building stone.

3.1.5 Sandstone – Within the district the Thornhill Rock, Stanningley Rock, Elland Flags, Rough Rock, Woodhouse Grit, Guiseley Grit, Carlton Grit and Bramhope Grit strata all contain areas of proven economic deposits. These are primarily at or near to existing or recently worked quarries although it should be noted that there are no active quarries in the extensive Elland Flags/ Stanningley Rock Series. Both aggregate and building stone can be produced from these resources though the former is not suitable for most concreting use or as roadstone. The variability of the strata means it is not possible to identify new proven deposits without detailed surveying and costly feasibility studies.

3.1.6 Clay – Various shales, mudstones and clays including valuable fireclay occur extensively within the coal measure series within Leeds. However there are no specifically identifiable geological horizons of specific economic value.

3.1.7 Sand and Gravel – Mapped deposits of alluvial sand and gravels are extensive within the Wharfe valley in Leeds, the Aire valley and around the confluence of the Rivers Aire and Calder. Through the City the alluvium has been completely built over and in much of the lower Aire valley the alluvium has been buried with colliery spoil or removed via the opencast working of coal. Nonetheless a significant resource remains around Methley and in most of the Wharfe valley (see Fig 2.2 Publication document).

3.1.8 Surface Coal - The surface coalfield within Leeds is shown on Fig. 2.2 in the Publication document. Within this area seams of coal can sometimes lie just beneath the soil, or much deeper, depending on the local geology. Generally the likelihood of encountering economic amounts of surface coal increases from west to east and from north to south, but coal can be found in some surprising places; for example at Leeds Bradford Airport.

4.0 Key Issues

4.1 Ensuring an adequate and steady supply of minerals

Provision of Aggregates

4.1.1 The requirement for MPAs to secure an adequate and sustainable supply of minerals is outlined in national policy. To meet this policy objective, central government sets national and regional aggregates supply figures calculated over a 16 year period. The latest national figures were published in June 2009 for the period 2005 – 2020 inclusive.[8] In general these figures represented a downwards revision in relation to landwon aggregates but increased the figure for alternative materials to 65 million tonnes per annum. The regional guidelines for Yorkshire and Humber for the period are 78 million tonnes of sand and gravel and 212 million tonnes crushed rock.

[8] *National and Regional Guidelines for Aggregates Provision in England 2005 – 2020; CLG 2009*

4.1.2 In addition to this MPAs are required to ensure that a sufficient stock or landbank of planning permissions is maintained to ensure steady supply of land won aggregates for a period of 7 years.

4.1.3 Regional figures are broken down or "apportioned" on a sub regional basis taking into account technical advice from the Yorkshire and Humber RAWP. The current sub - regional apportionment for West Yorkshire is 5.5 million tonnes of sand and gravel and 17.8 million tonnes of crushed rock for the specified period between 2001 to 2016[9]. This equates to a West Yorkshire apportionment of 0.34 million tonnes per annum of sand and gravel and 1.1 million tonnes per annum of crushed rock

4.1.4 Historically it has proved difficult to establish existing levels of sub-regional provision due to financial confidentiality constraints which are applied by the industry in West Yorkshire. However the Yorkshire and Humber RAWP Report indicates that total sales of primary aggregates in the region have been relatively consistent over the five year period to 2007, but fell in 2008 due to the downturn in economic conditions. The report identifies that in most areas within the region, including Leeds, the landbank for crushed rock remains well in excess of 10 years. With reserves of some 40 million tonnes identified at 31st December 2008. The landbank for crushed rock in West Yorkshire stands at 37 years.

4.1.5 In contrast, the landbank for sand and gravel is now below the required 7 year period. In West Yorkshire the landbank based on the sub regional apportionment of 0.34 million tonnes per annum, stood at 1.1 years at the end of 2008 and relied on the one active sand and gravel quarry in Leeds.

4.1.6 Enquiries made to other MPAs in West Yorkshire have revealed that although there are potential resources in the Upper and Lower Aire Valley and to the west and east of Ilkley in the Wharfe valley area of the Bradford District, these are heavily constrained and in Calderdale there are no sand and gravel resources remaining. In contrast Kirklees has five pockets of sand and gravel in the Calder Valley offering a potential yield of 6 million tonnes and Wakefield also has potentially several yielding sites.

4.1.7 Within Leeds there are areas within the Wharfe Valley between Otley and Boston Spa which could provide a yield in excess of 20 million tonnes although some of this area may well be constrained. There also a small resource at Rodley in the Aire Valley and a larger one at the confluence of the Aire and Calder valleys which could provide several million tonnes.

4.1.8 Consented reserves within the District are however relatively low with one active site at Methley where there is as little as 200 thousand tonnes remaining. There has been an expression of interest in extending this site, which could provide a significant contribution of over 2 million tonnes.

4.1.9 The Midgely Farm, site at Otley has formerly been identified as part of the Unitary Development Plan as an appropriate site for extraction of sand and gravel yielding some 1.6 million tonnes, However this allocation has not been taken up by industry.

Provision of recycled materials

4.1.10 The 2009 national and regional figures for the provision of aggregates were revised to take account of increased targets for the provision of alternative materials i.e. recycled materials and this is supported by the *Survey of Arisings and Use of Alternatives to Primary Aggregates in England*

[9] Yorkshire and Humber Region Aggregates Working Party Annual Report 2008 Aggregates Monitoring 2008

2005[10]*.* However, the report emphasises that although the national estimates appear reasonably robust, this is less true at local level because response rates were not high enough.

4.1.11 Regional and sub- regional figures are best estimates and there is considerable uncertainty attached to them. Leeds MPA is committed to reducing the amount of primary mineral used and recycling where possible mineral waste and other appropriate forms of waste such as Construction, Demolition and Excavation Wastes. This is addressed in detail in the Waste Topic Paper.[11]

4.2 Mineral Safeguarding Areas

4.2.1 Minerals can only be extracted where they occur. Once permanent structures are built on ground that is known to have minerals beneath it the mineral is sterilised because it can no longer be extracted. To prevent this, national planning policy requires areas with key mineral deposits to be identified as Mineral Safeguarding Areas (MSAs). This designation is designed to protect the mineral and alert non mineral developers to the presence of this potentially valuable resource. It does not preclude non - mineral development, set aside land solely for the use of minerals development, or imply that planning permission for minerals development will be granted.

4.2.2 In some circumstances where built development is proposed it may be appropriate to encourage prior extraction of any resources where this is practicable. The MPA will need to identify MSAs for key minerals. These are listed below in mineral types and identified in the NRWDPD Publication Document, Map Book (Map A3 Sand & Gravel). Taking into account all of the foregoing the following allocations would appear to be necessary in order to afford full protection to known resources.

4.2.3 Magnesian Limestone – There is a surplus landbank for crushed rock in West Yorkshire. In view of the absence of information from the industry identifying areas of proven deposit of interest to them it is not proposed to identify any areas for possible aggregate production. It is therefore not considered necessary to identify areas of the magnesian limestone for potential working, other than for building stone in the vicinity of proven deposits.

4.3 Mineral Preferred Areas and Sites

4.3.1 Where there are existing permitted sites these should be identified on the Minerals Site Map and sites which are considered to include proven deposits of limestone building stone such as High Moor Quarry and an area at Hook Moor should be identified as Preferred Areas for the extraction of this mineral. A third site near Thorner, which the owner requests should be identified for safeguarding, has not been shown to contain proven deposits and there is insufficient information to assess the location at this time.

4.3.2 Sandstone - With the exception of Howley Park Quarry, no requests have been made for allocations or resources to be identified in other ways by existing operators, or by those from outside of Leeds. It is therefore proposed to identify existing permitted sites on the Mineral Sites Map and identify Preferred Areas for stone and aggregate production at Moor Top Quarry Guiseley, Blackhill Quarry Bramhope, and Howley Park Quarry, Morley. At Hawksworth Quarry there is an extensive permission which will, if worked, extend beyond the plan period; Britannia Quarry already has

[10] Survey of Arisings and Use of Alternatives to Primary Aggregates in England 2005: Capita Symonds for CLG 2007
[11] Leeds CC Waste Topic Paper

consent for all the potential resource available and at Arthington Quarry the indication is that stone working will be concluded when the existing reserve is exhausted.

4.3.3 Local stone has been used to construct buildings in Leeds which now have a special character. There may be no quarry currently able to supply the correct stone to repair or refurbish these buildings, but it may be possible to supply stone from old closed quarries or new sites at locations where a large quarry would not be acceptable. Consideration has therefore been given to inclusion of a Special Stone Policy which will apply where the construction and repair of local buildings requires local stone of an identical or special character (such as colour, texture, porosity, durability etc.) and cannot be supplied from an existing approved quarry. In such cases the Council will give particular consideration to the desirability of allowing the extraction of such stone to take place.

4.3.4 Clay - It is not considered necessary to identify areas of clay for protection, other than in the vicinity of active or recently active sites. Existing permitted sites should be identified together with Preferred Areas for Clay working at Howley Park Quarry, Morley. At Swillington Quarry where working is suspended an application which the council has resolved to approve would secure sufficient reserves for the plan period.

4.3.5 Sand and Gravel – As stated above there are significant proven sand and gravel resources within the district. In order to protect these, the Plan should identify the whole of sand and gravel resource as an MSA. The existing permitted site at Methley should be identified on the Minerals Site Plan and an Area of Search around Methley should be designated to indicate where possible extension may take place. The previously approved site at Midgely Farm at Otley should be allocated on the Plan.

4.3.6 Surface Coal – The Leeds district is to a greater degree underlain by coal. The area proposed as a Coal MSA is shown in the NRWDPD Map Book (Map A3 - Coal). The economics of extracting coal will vary depending on such matters as the global price for coal, the thickness of the coal seam, how deep it is, the extent of the area over which it occurs and how necessary it is to provide support to adjoining land and property. Larger sites can be worked economically to a greater depth.

4.3.7 Development of open land could sterilise economically recoverable coal. Conversely, re-development of previously developed land might provide a second opportunity to remove coal which was not removed when the site was originally developed. Policies to ensure that surface coal will be safeguarded and the circumstances under which extraction will be considered will need to be included in the Development Plan Document.

5.0 Prudent use of resources

5.1 As mineral resources are finite their prudent and efficient use is important if the wider principles of sustainable development in planning which are central to this Development Plan Document are to be applied. The Minerals section of this DPD will therefore need to include a policy which sets out how proposals for the extraction of minerals will be assessed and managed. In Leeds, mineral production is limited to a small number of working sites. Production levels do not currently meet local consumption (with the exception of clay for brick making) due to both geographic constraints on production and the quality of the minerals produced. From the most up to date information available it is clear that Leeds will continue to rely on the importation of some types of minerals for the foreseeable future. Where possible cross boundary working with neighbouring MPAs will be considered to ensure that all minerals related decisions are taken with the benefit of full knowledge of prevailing conditions and trends.

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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.

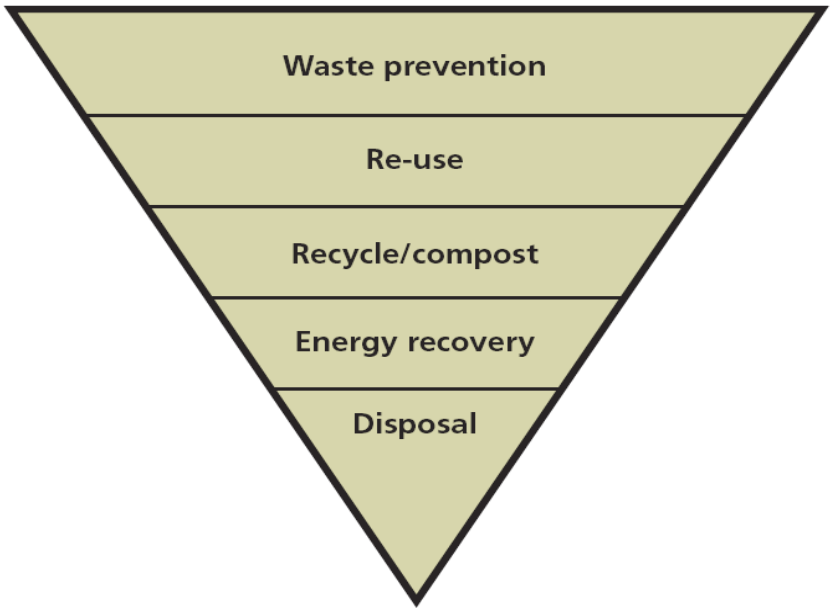
The UK is currently undergoing a period of rapid change in terms of the way waste is being managed. This is driven by changes in European Legislation, which have been transposed into UK legislation and Policy. The key policy drivers and a summary of how they are addressed in NRWDPD is set out in the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

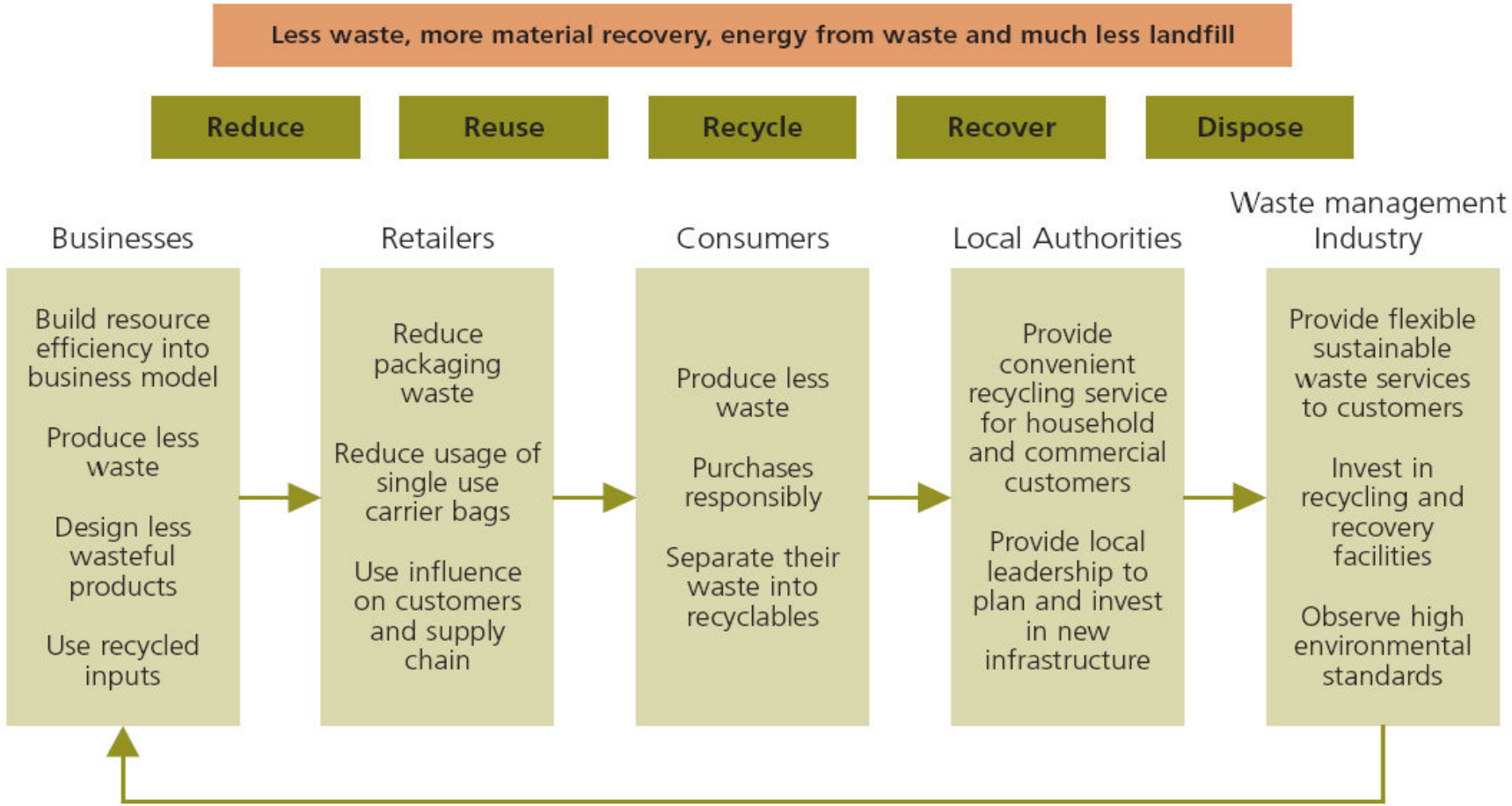
Preventing Waste

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
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	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

Leeds Local Development Framework

Natural Resources and Waste Development Plan Document

Energy Topic Paper

Final

October 2010

SUMMARY

This paper summarises the key aspects of future energy generation and management that will inform and shape future planning policy development in Leeds.

At all levels of governance there is an imperative to act by planning to develop lower carbon energy systems that will reduce our contribution to climate change (by reducing greenhouse gas emissions such as carbon dioxide), whilst safeguarding the security and diversity of the energy supply.

This can be achieved through the objectives of:

- Reducing energy demand from development and the amount of carbon produced in its generation;
- Developing local solutions that minimise resource and energy use; and
- Safeguard future opportunities for flexibility in energy generation technology.

It is estimated that Leeds can provide up to 80MW of electricity from renewable and low carbon energy sources during the plan period through:

- **Larger scale wind energy which has the potential to contribute 20MW;**
- **Solar, photo-voltaics and other micro-generation has the potential to provide up to 10MW of electricity.**
- **Small scale hydro power schemes, which could provide upto 2MW.**
- **Energy recovery from waste facilities, through energy from waste and organic treatment. This could contribute up to 37MW.**
- **Supporting the future development of Combined Heat and Power and investigate the potential for a heat distribution network to serve parts of the City.**
- **A continuation of using landfill gas.**

1. INTRODUCTION

1.1 Energy is encountered in many forms. In terms of our everyday energy use, as related to planning policy, the main considerations are heat (typically for space heating and hot water) and electricity (also referred to as power). There are two dimensions to energy that planning policy can influence – demand (also called consumption) and supply (also called production). It is finding the right balance between the energy consumption and production that will help support a sustainable society, economy and environment. In this, the Leeds Planning Policy is in full alignment with the Government's Energy Statement (July 2010)[1].

1.2 The demand for energy has increased over time, although buildings have become increasingly energy efficient. Building Regulations set minimum standards for the energy performance of buildings, but local planning policy can help set the context for energy efficient communities.

1.3 In terms of the supply of energy, heat is typically produced locally and electricity is typically generated centrally, and then supplied to local use through the national grid and local high and low voltage networks. Heat is usually produced by the burning of fossil fuels (modern facilities are often gas, although some other fuels such as oil, coal, and even non fossil fuels, such as wood) are used. Some buildings and industrial processes use electrical energy to provide heat. Data compiled by the Department of Energy and Climate Change (DECC) on an ongoing basis shows that the majority of Britain's electricity is generated through the combustion of fossil fuels (gas and coal) in large power stations. Nuclear energy and large scale renewable installations (wind and hydro electricity) provide the remainder.

1.4 It is clear that in the short to medium term fossil fuels will continue to be used as a primary energy source. National energy policy is aimed at reducing the carbon burden of the UK energy supply, and increasing the resilience of UK energy infrastructure. These are both key sustainability objectives. Reducing the carbon burden of energy use is central to the UK Climate Change commitments of reducing the country's CO2 emissions to 20% of 1990 levels by 2050[2]. Energy resilience ensures social and economic life is not adversely affected by reliance on uncertain energy supplies and price variations.

Purpose of Paper

1.5 This paper provides an overview of energy generation and management issues for Leeds both currently and in the future, aiming to:

- Explore issues associated with planning for energy efficiency and meeting energy needs in a sustainable manner, providing background information for NRWDPD;
- Explain the targets that Leeds needs to meet – legislative requirements to reduce greenhouse gas emissions, provide energy from renewable sources; and

[1] "Annual Energy Statement, DECC Departmental Memorandum", Department of Energy and Climate Change, 27 July 2010
[2] The Climate Change Act 2008

- Set out the challenges for Leeds in trying to meet these targets – increasing energy efficiency and reducing carbon production, develop renewable energy supplies, and safeguard future opportunities for flexibility of energy supply.

Key Policy Drivers

1.6 National legislation and planning policy establishes sustainability principles as central within the planning system and sets the context for a rapid transition towards renewable and low-carbon energy generation. Key policy drivers relating to energy are:

- The UK Climate Change Act (2008) sets a legally binding target for the United Kingdom to reduce greenhouse gas emissions by 80% compared to 1990 levels by 2050, with an interim target of 26% by 2020 (subsequently increased to 34%)[3];

- The Government is committed to meeting these targets through both lower carbon energy generation and more efficient energy use. The Energy Act 2010 requires regular reporting on progress in 'decarbonsing' energy generation and tightening of energy performance standards (3.1 below) will require significant shifts in performance during the next decade;

1.7 The UK has a target to generate 10% of its electricity from renewables by 2010. Further to this, Policy ENV5 of the revoked Yorkshire & Humber Plan (Regional Spatial Strategy) established specific targets for Leeds to generate 11MW from renewables by 2010 and 75MW by 2021. This includes energy produced through renewable technologies and as a result of other processes such as energy from waste. Although the RSS has now been revoked, the evidence base which supported it remains valid. As such, Leeds has adopted this as its target to be achieved. Leeds currently produces around 9MW (with permission for another 2MW), all from landfill gas (see below for a more detailed breakdown) and therefore a further 64 MW is required if this target is to be met.

1.8 A number of national Policy Planning Statements (PPS) provide relevant direction for local energy and renewable planning. PPS1 (Delivering Sustainable Development) establishes principles for delivering sustainability in the planning system, and a further amendment (PPS1a) directs local authorities to address climate change by establishing low carbon policies for energy generation and sustainable construction in their development plans.

1.9 PPS22 (Renewable Energy)[4] also established an expectation for local planning authorities to develop local policies that support the incorporation of renewable energy technologies in developments. Subsequent to this, the Planning and Energy Act 2008 reinforces the ability for Local Planning Authorities to introduce a policy setting out renewable energy generation in their development plans. It also enables authorities to exceed targets set out at the national level through building regulations, if such targets can be justified and are achievable.

[3] The Carbon Budgets Order 2009
[4] Office of the Deputy Prime Minister (now Department for Communities and Local Government) 2004

1.10 At local planning level, UDP Saved Policy N54 (Development of Renewable Energy)[5] states that proposals for the development of Renewable Energy Resources will in general be supported in accordance with the principles of the Green Strategy and the securing of Sustainable Development. They will be assessed against Saved Policy GP5 and national planning guidance.

Local Priorities and Objectives for Leeds

1.11 The City is highly reliant on imported energy from outside the Leeds area and most of this energy is produced from fossil fuels. If it is to meet targets for production of renewable energy, much more emphasis on local sources of energy production will be required and a significant expansion of renewable energy generation.

1.12 Planning for energy should not be viewed in isolation from other aspects of the NRWDPD, in particular there are strong linkages with waste (creation of energy supply from waste sources), water (energy efficiency), and land (reducing land take and encouraging tree planting).

1.13 Emerging Core Strategy are aiming to exceed the buildings energy performance targets set out in Part L of the Building Regulations (currently under revision and proposed to be subject to progressive tightening in the future). This would mean carbon reductions on new developments are achieved earlier than required by these regulations.

Evidence Base

1.14 The evidence base for energy management, low carbon development and responding to climate change has been collated from various sources. These comprise:

- Natural Resource Flow Analysis[6]
- State of the Environment Report[7]
- Leeds Climate Change Strategy 2009[8]
- Climate Change Action Plan for Yorkshire and Humber 2005[9]
- Leeds 2050 Study[10]
- Appendices Figure 9 Wind Speeds[11]
- CO_2 Performance of Issues & Alternative Options Spatial Scenarios[12]

1.15 The evidence generally highlights the need to address climate change and energy in mainstream planning in order to reduce the rising emissions associated with growth whilst significantly increasing the levels of renewable or low carbon energy currently generated. Opportunities and constraints are identified across the district for developing low carbon management, and are summarised in this paper. From this evidence, the main opportunities in Leeds which can be supported by the NRWDPD are identified as:

[5] Leeds Unitary Development Plan, Leeds City Council, 2001
[6] Leeds City Council, Natural Resource Flow Analysis, January 2008
[7] Environment Leeds, State of the Environment Report August 2003
[8] Environment Leeds, Leeds Climate Change Strategy 2009
[9] Yorkshire and Humber Asembly, Your Climate: Yorkshire & Humber's Climate Change Action Plan 2005
[10] Yorkshire Forward and Leeds City Council, Leeds 2050 Study July 2007
[11] Leeds City Council NRWDPD Appendices
[12] Leeds Initiative, Issues and Alternative Options Spatial Scenarios

- Wind energy in parts of the City where wind speeds are at least 45m per second and where development can be provided without causing significant harm to the amenity of the City;
- Supporting biomass at a scale which is appropriate to its overall sustainability (for example larger scale biomass which relies on importing fuel sources may not be as sustainable);
- Energy generated from small hydro-electric projects, particularly along the River Aire;
- Smaller scale micro-generation projects which can be retrofitted to existing buildings;
- Applying high levels of carbon reduction and energy efficiency in the future design of buildings;
- Energy from waste, through new residual waste treatment projects, which are already planned;
- Treating organic wastes to provide fuel which can then be used as an energy source.

1.16 The NRWDPD also supports the preparation of additional research work to support policies on Combined Heat and Power (CHP) and heat distribution networks. This could include mapping existing and potential sources and recipients of heat. This exercise has not been completed to date as it is considered that in order to provide a comprehensive study the locations of new development proposed through the Local Development Framework process need to be defined. This exercise will also require significant engagement with the private sector to obtain data on heat generation and user requirements.

1.17 Combined Heat and Power (CHP) where energy is transferred directly from where it is generated to an end user. More work is required to investigate the infrastructure required to deliver such a network in the City and where this is most appropriate. For example, the City Centre and the main industrial areas, such as the Aire Valley, may represent the best opportunities.

1.18 CHP also requires a dedicated heating network to link the energy source with the end user. CHP works best where the heat users need a constant source of energy and where they use energy on a large scale e.g. schools, hospitals and factories.

Consultation

1.19 The consultation held on both the Issues and Options report and the Policy Position report[13] sought views on future direction for energy management and renewable generation in the district.

1.20 The majority of respondents supported the desire to increase energy generation from renewable sources in the City. Respondents also supported a reduction in the demand for energy through increased energy efficiency.

[13] Consultation report refs

2. CONTEXT AND CHARACTERISTICS OF LEEDS

Existing renewable energy generation

1.21 Installed grid-connected capacity in Leeds currently stands at 9.37 MW comprising the following sites:

Installed Grid-connected Renewable Energy Capacity (MW) in Leeds (July 2009)	
Location	**Capacity (MW)**
Skelton Grange Landfill	3.00
Peckfield Quarry & Landfill	3.09
Howden Clough Landfill	1.82
Gamblethorpe Landfill (Swillington)	1.00
Morley former Sewage Works	0.46
Total Installed Capacity	**9.37**

1.22 Permission has been given for two more gas engines at Skelton and it is likely that Peckfield will also increase.

1.23 Landfill gas qualifies to be included in renewable energy targets because the targets include energy generated from both renewable sources and low-carbon sources.

1.24 The total installed capacity for Leeds shows that by the end of 2009, the 2010 target has almost been met and is likely to be exceeded with the production of an additional 2MW at Skelton Grange and 1MW at Peckfield landfill sites. However, it should be recognised that landfill gas generation will decrease with time as the resource becomes exhausted. A reasonable assumption would be that come 2021 the output from landfill gas would peak at say 12MW but will tail off thereafter, depending on commercial factors as well as gas yield.

1.25 Leeds is also reliant on landfill gas for its existing provision. This means other types of renewable energy installations and micro-generation schemes will be required to deliver a significant increase in provision.

Potential Sources of Renewable Energy

1.26 As a major urban centre with significant residential, commercial and industrial uses, energy demand is high and primarily supplied through fossil fuel sources. The energy demand profile of these sectors has varied in recent years as a result of energy efficiency improvements and differential growth, with the recession having a further short term impact.

1.27 As a major regional growth centre Leeds has substantial planned new development in the period to 2026 consequently overall emissions are likely to rise. Its role as a major employment provider, including the services, research and industrial sectors, also gives rise to significant potential.

1.28 In terms of environmental and climatic characteristics studies have been undertaken to evaluate the potential application of renewable energy through solar, wind and water power. These indicate some potential, as highlighted in this paper, as well as constraints associated with the city's location and topography.

1.29 In common with other urban centres the potential for utilising household, commercial and industrial waste for energy generation has also been examined. The characteristics of Leeds mean that certain forms of renewable energy are more appropriate than others and offer greater generation potential:

- Wind speeds of over 45m per second are required for wind energy to be viable subject to topography and mast height;
- Leeds is not a coastal or mountainous location so the potential contribution from hydro energy is not considered to be significant. There are opportunities along the three main rivers although as these are slow moving they do not offer an ideal environment for such uses;
- The urban nature of Leeds means south facing roofs have the potential for on-site energy production. This can be achieved both through retro-fitting existing buildings and providing for solar energy in new buildings;
- Biomass can provide a useful contribution but has to be weighted against its overall life cycle impact. There are likely to be local sources of fuel which can be used to support smaller scale biomass schemes, but larger scale projects which rely on the importation of fuel sources from a long distance away are not always sustainable;
- The population size and commerce of the City means it is a major producer of waste which is a significant resource in its own right. The right balance between re-use and recycling and using waste as a source of energy is required to achieve sustainability;
- The size and functions of the City also means there is significant demand for all forms of energy. This means there is an enormous amount of untapped potential for new forms of renewable and low carbon energy;

1.30 The contribution which these energy sources can provide is discussed in more detail below.

3. KEY ISSUES

THE ENERGY HIERARCHY

1.31 In the same way as the commonly recognised waste hierarchy (reduce, re-use, recycle), successful energy planning follows a hierarchy of actions. The energy hierarchy prioritises efforts to reduce energy use by avoiding consumption at the highest tier of the hierarchy, and at the lowest tier tries to reduce ways of using fuels with the highest carbon footprint. The version of the Energy Hierarchy informing this plan is derived from that articulated by both the Institute of Engineering Technology Energy Principles (August 2009) and the Institute of Mechanical Engineers Energy policy statement 09/03:

- Avoid energy use – change design to eliminate unnecessary use
- Reduce energy use – using technology to improve energy efficiency
- Replace energy sources – use renewable, low carbon energy generation
- Exploit non-sustainable energy sources – using e.g. Combined Heat and Power

AVOIDING ENERGY USE AND ENERGY EFFICIENCY

1.32 It is important to support the efficient use of energy in new development. The Core Strategy includes policies that aim to avoid energy demand, support sustainable construction methods to increase energy efficiency in new development, and exceed the national minimum standards set by Building Regulations Part L.

ENERGY EFFICIENCY

Government Strategy

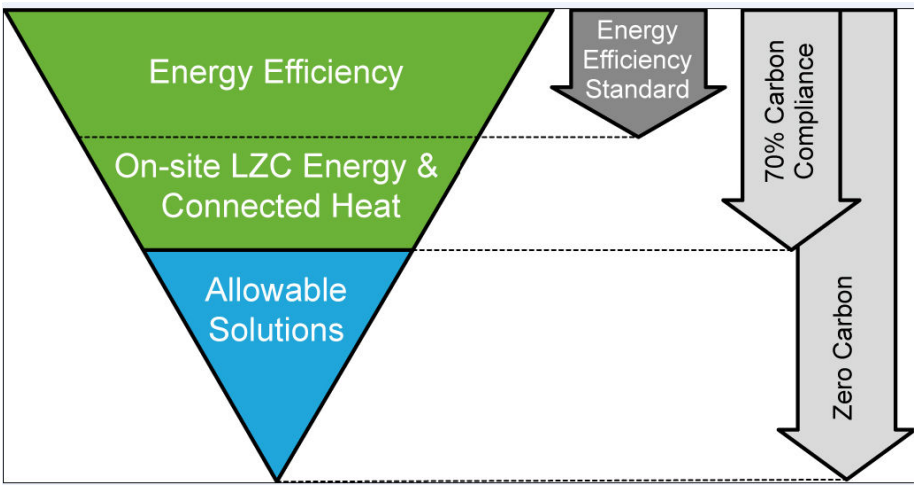
1.33 A key element of the Government's strategy for reducing carbon emissions is improving energy efficiency performance of buildings and infrastructure – both for new and existing development.

1.34 For new development the intention is to progressively move towards 'zero carbon' buildings, a principle originally established in the Government's 'Building a Greener Future: Towards Zero Carbon Development' (2006). Through this approach energy efficiency of the fabric and systems of the building are improved and low carbon energy is utilised to reduce overall net energy demand. This will be achieved by staged increases in the energy performance standards required for buildings, measure in relation to the Building Regulations Part L (2006).

1.35 Current Government intentions, outlined in the recent 'Definition of Zero Carbon Homes and Non-Domestic Buildings: Consultation' (2008) are for residential developments to be zero carbon by 2016, public buildings by 2018 and other commercial and industrial development to achieve these standards by 2019.

1.36 To deliver this strategy, energy efficiency standards for building design will be increased under the Building Regulations, with the performance 'gap' that cannot be achieved through further energy efficiency gains being delivered through a flexible combination of on- and off-site generation options. Establishing the most appropriate and flexible approach for future generation options is therefore a key consideration for local development planning.

Proposed Zero Carbon Hierarchy (Building a Greener Future)[14]



1.37 Improving energy performance is also an important component of sustainability construction standards that are now commonly applied in local planning policies. These standards include the Code for Sustainable Homes for new residential dwellings, BREEAM for public, commercial and industrial buildings and CEEQUAL for civil engineering projects. As sustainable construction techniques and materials improve there are increasing expectations that high sustainability standards can be met and hence further benchmarks may be developed over time.

1.38 For existing development, there is general recognition that the energy efficiency performance of current housing stock is a major issue in the UK, accounting for a high proportion of overall emissions. Hence schemes are emerging at community level, through local authorities, energy providers and other partnerships to promote energy efficiency improvements such as roof and wall insulation, low energy fittings and energy monitoring.

Energy Infrastructure

1.39 In order to meet these increasingly stringent energy performance standards for building construction there is a need to explore opportunities for joint energy solutions that could efficiently distribute heat and/or power across communities in Leeds. Connection of buildings to 'district' energy networks utilising lower carbon energy could also significantly reduce baseline carbon demand for the city.

Heat Distribution

1.40 Heat distribution networks have been successfully adopted in similar UK Cities, including Birmingham, Southampton and Sheffield. This shows such networks are viable and deliverable. They deliver heat from a central generation source to a district via hot water or steam. They can utilise heat from local industry that would otherwise be wasted or can be linked to power generation technology such as Combined Heat and Power (CHP). Central generation technology can also combine heat, power and cooling (trigeneration) to allow response to seasonal demands of heat.

[14] CLG, Building a Greener Future – Towards Low Carbon Development, July 2007

1.41 By comparison with the traditional methods of distributing fuel, heat distribution is safe, clean and efficient and also removes the need for individual space heaters or boilers within buildings. Networks can be flexibly applied to individual buildings, larger commercial and industrial complexes and districts of housing.

1.42 However the cost effectiveness of implementing such networks will be determined by a range of factors, including:

- The scale and density of development, influencing the energy demand and thus the financial viability of a district network;
- The need for heat, when tightening energy efficiency standards may reduce heat demand;
- The ability to design in such systems for new developments. Laying the necessary pipe work is a more cost effective exercise than retro-fitting; and
- Establishing cost effective network energy management arrangements.

1.43 Mapping the opportunities for implementing district energy networks across Leeds will allow stakeholders to consider options and plan to achieve a more integrated energy network. This exercise is supported through the NRWDPD. It will require significant consultation with the private sector to identify existing and potential opportunities. It is considered that carrying out such an exercise in advance of the site allocations for new housing, employment and other built development being brought forward through other relevant DPDs would be premature as an understanding of future spatial development is necessary.

Optimising the Grid

1.44 Although energy demand management and decentralised energy opportunities can reduce the reliance on grid supplies, conventional grid supplies of both gas and electricity will continue to be the main ways in which energy is conveyed to us. Therefore it is important that developments take due regard of energy (and more broadly utility) infrastructure requirements such as gas supply pipes, high voltage supplies and sub-stations. Given the increasing expectations on smart metering and smart grid supply, provision should be made for associated energy for more effective control of energy distribution through electronic monitoring and management.

Low Carbon Energy Generation

1.45 Whilst improving the efficiency of how energy is both delivered and used are fundamental priorities of an overall energy strategy, a further imperative is to address how this energy is generated, aiming to reduce emissions by utilising low or zero carbon technologies.

1.46 A range of technologies such as wind, solar and biomass are being adopted or developed in the UK and worldwide that may be viable in Leeds, subject to both technical and financial considerations. Their application can be either at site level on a small scale (microgeneration) to generate energy for a particular facility or process or at a wider community level. This range of potential technologies are summarised below, with indications of their likely contribution towards meeting the renewable energy generation target for Leeds.

Wind Power Generation

1.47 Large-scale installed grid-connected onshore wind energy development could significantly contribute to meeting Leeds' (and the UK's) targets. However, being low lying and away from the coast, Leeds is not a particularly favourable location and is also subject to other constraints, largely due to the predominantly urban nature of the district.

1.48 Some of the windiest parts of Leeds fall within nationally recognised designations (Sites of Special Scientific Interest, Scheduled Monuments, Conservation Areas, Listed Buildings, Registered Historic Battlefields and Registered Parks and Gardens). Requirements of local airports (Leeds Bradford Airport and Church Fenton Airfield) and potential interference with their activities are also constraints. Appropriate impact assessment for wind power developments will be required, ensuring that impacts on the local environment and community are identified and addressed. These constraints are shown on Figure xx

1.49 One turbine has been granted planning permission (2.5 MW) and there are current applications or pre application enquiries for approx 12MW of capacity. It is estimated that, subject to these constraints, if potential wind power sites were to be utilised across the district to maximum potential effect, this could contribute approximately 20 MW of power by 2021, which is a significant proportion of the overall 75 MW target.

1.50 Micro and small scale wind may also be viable, but there are some basic principles of physics that severely limit the power generation potential of such technologies. Therefore, it is anticipated that smaller-scale wind energy development and individual wind turbines will only make a limited contribution.

Solar Thermal and Photovoltaic

1.51 Solar thermal systems heat domestic hot water through capturing the sun's heat energy. System sizes are limited by available collection area and hot water storage. Performance is also strongly influenced by seasonal climatic variation, meaning that this technology is usually adopted in conjunction with conventional heating.

1.52 Solar Photovoltaic (PV) systems generate power through the effect of sunlight falling on semiconductors within a panel. Domestic solar micro-generation technology no longer requires planning permission, subject to certain conditions being met. With the introduction of Feed In tariffs that provide a financial return for electricity generated back to the grid, this technology is becoming a more cost-effective option.

1.53 In common with other urban areas, Leeds has a significant proportion of facades and roofs which are southerly facing and have the potential to contribute several MW of low carbon electricity if retrofitted

with solar technology. New houses are planned for Leeds in the plan period although the number has yet to be determined. If half of the houses given planning permission are required to generate 1kW of electricity (as they may have to under the Code for Sustainable Homes), there is the potential to contribute between 1 and 2MW capacity of low carbon electricity generation by 2021.

Biomass

1.54 Biomass heating systems can make a significant contribution to low carbon energy generation because the fuel is effectively carbon neutral, as it releases on combustion the carbon dioxide that it has absorbed during its growth.

1.55 There are various sources of biomass including wood chips, wood pellets and energy crops such as miscanthus (elephant grass). Leeds land use is dominated by urban area, green belt and high quality agricultural land (see Figure 7 Appendices). Lower quality agricultural land that may be more viable for biomass crop production is localised, however land of high flood risk or contaminated land can provide local opportunities for crops such as Willow. Whilst beneficial, or at least neutral, in carbon terms, emissions from such systems can have air quality impacts and fuel delivery, storage and handling will need to be considered carefully in the planning process.

1.56 There is the potential to increase the amount of energy produced from organic materials, such as surplus food, garden waste, agricultural waste and even sewage waste. The waste policies allow for new technologies, such as Anaerobic Digestion or In-Vessel Composting to be developed in Leeds particular at the strategic sites highlighted in the waste section. These technologies have the potential to treat organic wastes into liquid or solid form which can then be used to provide a source of fuel. Based on practice elsewhere, 50,000 tonnes of organic waste can generate between 1.5 and 2MW of energy (enough to fully power approximately 2000 homes)[15].

Heat Pumps

1.57 Heat Pumps work in the same way as a domestic fridge in reverse, using the compression and expansion of fluids to transfer heat from one place to another. Ground source heat pumps are quite well known, and use the fact that the ground temperature in the UK below the frost line is at a standard temperature of between 10 and 12 degrees C. Low grade heat energy from the ground is then upgraded to 45 to 50 degrees C and used in underfloor heating or oversized radiators. Water and Air Source Heat Pumps are similar, but obviously use different sources of low grade heat. Different installations will have different planning implications and it is difficult to estimate what potential this may provide. Heat pumps are supported in the NRWDPD as part of an overall drive to increase micro-generation.

Hydro-electricity

1.58 Hydro-power utilises water flow or fall to generate electricity and it can be used for individual properties, or a local set of properties.

1.59 Water power has previously been harnessed in Leeds to power numerous mills. In all cases a weir was constructed across the river and water diverted either directly into the mill to turn a large wheel or fed along a goit to a mill constructed nearby along the river bank. Many of these mills are historic sites and

[15] GWE Biogas facility, Driffield, East Yorkshire. See P30 of Defining Municipal Site Requirements: Final Report, September 2009.

are now listed buildings, including Armley Mills, now Leeds Industrial Museum. The rivers Wharfe, Aire and Calder which cross Leeds from west to east are generally slow moving and therefore offer limited generating potential.

1.60 An initial assessment by Leeds City Council indicates, that the rivers have potential to physically accept up to 10 small scale water power devices such as archimedes screws. If all were to go ahead the total capacity is unlikely to exceed 2 MW.

Combined Heat and Power (CHP)

1.61 CHP, also known as cogeneration, is the production of heat and power at the same time. Conventional power stations typically emit heat when generating electricity that may otherwise be wasted; however CHP captures this heat that can then be utilised for domestic or industrial purposes on various scales. Overall energy efficiency is greatly increased as a result, however such systems need to operate for a significant amount of time during the year and are dependent on the need for consistent heat demand to be viable. One way of ensuring a year round heat load is to include absorption chilling.which uses heat energy to provide cooling. This is known as trigeneration, or Combined Cooling Heat and Power (CCHP).

1.62 CHP is increasingly regarded in the UK as an important component of energy plans, with opportunities to implement systems at all scales from single units to district schemes and the flexibility to drive CHP units through conventional fuels such as gas or low carbon alternatives such as biomass.

1.63 Leeds has not yet commissioned a detailed study of the potential for CHP within the City. Therefore, this will need to be commissioned early in the plan period to consider where in the City such a network is most appropriate and also to identify where the potential users of energy are located.

Energy from Waste

1.64 Energy from Waste (EfW) processes are being increasingly planned and adopted across the UK as a means of both reducing waste volumes to landfill and delivering sustainable energy generation. Leeds City Council is working to reduce the amount of waste produced and to fulfil the ambition for a zero waste city by regarding waste as a resource.

1.65 Depending on the waste stream, different technologies can be adopted, including a range of incineration processes, mechanical biological treatment (MBT), anaerobic digestion (AD) and pyrolisis. EfW can contribute to reducing carbon emissions by both generating energy and reducing the impact of landfill biodegradation caused by release of greenhouse gases such as methane.

1.66 There are a number of proposed facilities for Leeds which are currently in the early planning stages. If commissioned, these are anticipated to provide generation capacity of approximately 35 MW based on similar scale facilities elsewhere in the Country. The NRWDPD supports the provision of such facilities at three strategic locations within the Aire Valley Leeds, particularly where they are close to grid connections and potential sources of energy (see the waste section).

1.67 Additionally, a significant amount of energy is being obtained from existing landfills in Leeds through capture of landfill gas that is then utilised to generate electricity. This is currently providing approximately 9MW, a level that should continue until the volume of landfill gas produced eventually declines.

POTENTIAL CONTRIBUTION FROM RENEWABLE AND LOW CARBON ENERGY SOURCES IN LEEDS

1.68 The table below summarises the potential contribution from renewable and low carbon energy in Leeds:

Potential Renewable and Low Carbon Energy Contribution in Leeds

Energy Source	Potential Contribution
Landfill Gas	12
Wind Power	20
Micro-generation including solar power, heat pumps	10
Energy from Waste	35
Hydro-power	<2
Energy from biomass	2
Total	**80**

Delivery Mechanisms

1.69 The implementation of lower carbon energy management plans requires partnership working that includes major roles for both the public and private sectors to work together to establish the most effective long term energy solutions.

1.70 Local stakeholders need to be engaged as participants where joint energy solutions are proposed, to maximise uptake and future viability. Specialist infrastructure development and management skills may also be necessary, often provided through Energy Service Companies (ESCOs).

1.71 Within this context Leeds is liaising with neighbouring authorities and is currently exploring the formation of a strategic body ('Energy Leeds') that will encourage all major new developments in the sub-region to investigate the potential for renewable energy technologies. This body will employ delivery vehicles such as ESCOs which are tailored to meet the needs of specific projects or initiatives in order to deliver low carbon projects.

1.72 The Council will also need to work with energy providers in advance of planning applications for new facilities being received.

1.73 Small-scale domestic micro generation technologies, such as biomass, CHP, solar and ground source heat pumps do not require planning permission under Part 40 of the General Permitted Development Order but some others, such as micro wind energy, do require permission. There are also circumstances where planning permission may still be required on domestic properties, for example where it is a listed building and where other exceptions outlined in the GDPO are not met. The

coalition Government set to relax further the types and scale of technologies where planning permission will not be required subject to further legislation being passed[16].

[16] See the planning portal.gov.uk for updates on the most recent guidance on micro-generation as the planning rules are likely to change during the plan period.