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# Minerals and Waste Objectives and Policy Options

January 2011



**Calderdale Local Development Framework**



## How to use this document

At the time of writing this document there was considerable uncertainty as to the future of the Regional Spatial Strategy (RSS) with the incoming Coalition Government stating its intention to abolish RSSs. The time-scale for this is unclear, particularly given that a legal process must be followed. Clearly there are planning implications which would arise from the abolition of RSS, especially in relation to the district's housing requirement figure, employment figures and renewable energy targets. Until the position becomes clearer this document generally reads as if RSS remained although recent evidence is also taken into account. However, should RSS be abolished, then this will be reflected in subsequent consultations and particularly the Core Strategy Preferred Options Document.

This document builds upon the initial set of strategic objectives identified in the Issues and Options Consultation (November 2008); although waste issues and sub objectives were originally considered within the environmental issues and Climate Change objective, minerals were not specifically addressed. However, for the Refined Issues and Options stage, it was considered appropriate to establish a separate document concerning the Minerals and Waste topics, along with specific objectives in light of comments received during the Issues and Options consultation.

The following chapters discuss Minerals and Waste in detail, setting out the objectives, along with potential policy options and targets and indicators to measure progress in achieving them.

Throughout the document a number of policy options are contained in orange boxes. These provide details on possible policy approaches or options to cover each objective. In addition there are a number of questions throughout the document which are aimed at stimulating debate. Whilst responses to the questions are sought comments on other parts of the document are also welcome.

### Consultation arrangements

The Council welcome comments upon this document as well as the Core Strategy Refined Issues and Options and Objectives and Policy Options documents.

The consultation period runs for 9 weeks from 21 January 2011. All comments should be received by the Council by 5pm 25th March 2011. **It is recommended that comments are completed on-line by visiting the Council website at: <http://calderdale-consult.limehouse.co.uk/portal>**

### Comments can also be sent to:

The Spatial Planning Team - Planning Service  
Calderdale MBC - Northgate House, Northgate, Halifax, HX1 1UN

There will be a range of Core Strategy consultation events which you can get involved in. Details of these will be advertised in the local press and on our website or you can call the Council on 01422 392380.



*Yorkshire Planning Aid provides a free, independent and professional planning advice service to individuals and groups from within the Yorkshire and Humber region who cannot afford professional fees. The organisation may be able to assist groups and individuals who would like support and advice in order to get involved in this*

*consultation process. Contact our Planning Advice Helpline on 0870 850 9808 or Email [ykcw@planningaid.rtpi.org.uk](mailto:ykcw@planningaid.rtpi.org.uk)*

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## Minerals and Waste

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## 1 Minerals

**SO9 - To ensure a sufficient and sustainable supply of minerals, having regard to the need to encourage the efficient use and recycling of minerals, minimising the environmental and social impacts of mineral workings, and promote restoration of mineral sites that provide a beneficial after use.**

### Issues and Aims

- 1.1** No specific section dealt with Minerals in the initial Issues and Options Consultation paper. However, a number of comments relating to minerals were received and are summarised as follows:
- The issue of the Coal Mining Legacy is raised along with coal extraction and the protection of resources in accordance with Minerals Planning Statement 1;
  - The Core Strategy must make clear reference to minerals policy and ensure that Calderdale meets its obligations as a Minerals Planning Authority;
  - Reference to minerals workings are absent from the initial document;

### Introduction

- 1.2** Minerals are an important element in the national, regional, and local economy. Mineral workings can contribute significantly to the local economy but this must be done in accordance with the principles of sustainable development. As the Minerals Planning Authority (MPA), Calderdale Council is responsible for applying national, regional, and local policies to ensure there is a sufficient and sustainable supply of minerals to meet the needs of society, whilst protecting the environment and local communities. Minerals development is different to other types of development as they can only be worked where they naturally occur - this can result in conflict between the benefit extraction can bring and the impacts that can arise from mineral operations.
- 1.3** The planning framework for mineral extraction has to balance the impact on the local environment from extracting locally sourced materials, compared to the impact an increased amount of imported materials can have. Continued use of locally won minerals can reduce the district's CO<sub>2</sub> emissions, through a reduction in the importation of building materials, alongside providing employment opportunities. The Core Strategy will need to ensure that the approach to mineral extraction is balanced with other social, environmental and economic objectives through the sustainability appraisal process.
- 1.4** National and regional policy refers to the need to reduce reliance on primary extraction through an increased use of recycled and secondary aggregates. Recycled aggregates can consist of construction / demolition wastes and road planings; Secondary aggregates can include mineral waste or industrial wastes.

### Geology

- 1.5** The geology of Calderdale is typically made up of an ever changing succession of sandstones, gritstones, shales and mudstones. The sandstones and millstone grit continue to be extracted for building stone and crushed aggregate, contributing significantly to regional and national output. Shale, mudstones and clays have been extensively worked in Halifax, Elland, Hipperholme, Shelf and Todmorden, and although many of the workings no longer operate, some small workings continue.
- 1.6** In terms of other minerals, a small opencast coal operation exists in Shelf, some sites produce recycled aggregates, but there are no sand and gravel workings operating in Calderdale at present. Overall, apart from a small number of large mineral sites, the majority tend to be small operations, and worked to meet market demands.
- 1.7** Mineral workings in Calderdale have historically provided the local building stone that adds to the local identity and quality of the built environment, enhancing and conserving the overall environment. Stone from Calderdale is also important nationally, reflected in its use to maintain prominent heritage sites, such as St Johns College, Jesus College, and Corpus Christie College, Cambridge, the Royal Courts of Justice, the Monument, and St Pauls Cathedral, London. Minerals quarried in Calderdale are therefore

a vital source of materials when restoring historic buildings. Other end uses for minerals worked in Calderdale include brick and pipe manufacture, with pipe manufacturing continuing to take place in the district.

## National Minerals Policy

- 1.8** National minerals policy is set down in Minerals Planning Statements (MPS) and Minerals Planning Guidance (MPG) notes. MPS1: 'Planning and Minerals' sets out the national objectives for minerals planning in England, which are as follows:
- To ensure, so far as practicable, the prudent, efficient and sustainable use of minerals and recycling of suitable materials, thereby minimising the requirement for new primary extraction;
  - To conserve mineral resources through appropriate domestic provision and timing of supply;
  - To safeguard mineral resources as far as possible;
  - To prevent or minimise production of mineral waste;
  - To secure working practises which prevent or reduce as far as possible impacts on the environment and human health arising from the extraction, processing, management or transportation of minerals;
  - To protect internationally and nationally designated areas of landscape value and nature conservation importance from minerals development other than in exceptional circumstances;
  - To secure adequate and steady supplies of minerals needed by society and the economy within the limits set by the environment, assessed through sustainability appraisal without irreversible damage;
  - To maximise the benefits and minimise the impacts of minerals operations over their full life cycle;
  - To promote the sustainable transport of minerals by rail, sea, or inland waterways;
  - To protect and seek to enhance the overall quality of the environment once extraction has ceased, through high standards of restoration, and to safeguard the long term potential of land for a wide range of after uses;
  - To secure closer integration of minerals planning policy with national policy on sustainable construction and waste management and other applicable environmental protection legislation; and
  - To encourage the use of high quality materials for the purposes for which they are most suitable.
- 1.9** National minerals policy refers to the need to take into account advice contained in PPS9: 'Biodiversity and Geological Conservation', and the associated ODPM/Defra circular in relation to the protection of heritage and countryside. This will be of importance should any minerals development be proposed within, or likely to have a significant impact on, a Special Protection Area (SPA) or Special Area of Conservation (SAC). Similarly, any proposals likely to have a significant adverse effect on a Site of Special Scientific Interest (SSSI) are not normally to be granted planning permission.
- 1.10** Minerals Planning Statement 2: 'Controlling and Mitigating the Environmental Effects of Minerals Extraction in England' sets out the planning considerations for the preparation of Development Plans and decisions on individual planning applications (including associated planning conditions), Environmental Management Systems and Community Relations.
- 1.11** MPS2 requires Minerals Planning Authorities (MPA) to take into account the following when preparing Development Plans:
- The impacts of mineral working, including visual intrusion, dewatering, water pollution, noise, dust and fine particulates, blasting and traffic;
  - Impacts on landscape, agricultural land, soil resources, ecology, and wildlife, including severance of landscape and habitat loss, and impacts on sites of nature conservation, archaeological and cultural heritage value;
  - The benefits such as providing an adequate supply of minerals to the economy, and hence for society, creating job opportunities and the scope for landscape, biodiversity and amenity improvements through mineral working and subsequent restoration;
  - The methods of control through planning conditions or agreements to ensure that impacts are kept to an acceptable minimum.



- 1.12** MPS 2 requires the MPA to consider the impact of existing levels of activity, the duration and nature of proposals for new or further working, and the extent of impacts which a particular site, locality, community, environment or wider area of mineral working can reasonably be expected to tolerate over a particular or proposed period. All relevant impacts of an individual site should be considered objectively, and impacts that are acceptable on their own should not be considered unacceptable when combined with other impacts without a proper assessment. MPS2 also requires the MPA to have regard to the cumulative impacts of simultaneous or successive mineral workings.
- 1.13** Policies should also prevent non mineral development from encroaching on existing mineral operations, which could lead to unacceptable environmental impacts on the non mineral development. This in turn could lead to complaints about the inadequacy of the mineral planning conditions, which if amended could prevent further viable mineral extraction and also give rise to compensation issues.
- 1.14** Other National Mineral Planning Guidance are summarised below:
- MPG3: Coal mining and Colliery Soil Disposal;
  - MPG4: Revocation, Modification, Discontinuance, Prohibition and Suspension Orders – Town and Country Planning;
  - MPG5: Stability in Surface Mineral Workings and Tips;
  - MPG7: The Reclamation of Mineral Workings;
  - MPG8: Planning and Compensation Act 1991: Interim Development Order Permissions (IDOs) – Statutory Provisions and Procedures;
  - MPG9: Planning and Compensation Act 1991: Interim Development Order Permissions (IDOs) – Conditions;
  - MPG10: Provision of Raw Material for the Cement Industry;
  - MPG13: Guidelines for Peat Provision in England, including the place of alternative materials;
  - MPG14: Environment Act 1995: Review of Mineral Planning Permissions; and
  - MPG15: Provision of Silica Sand in England.

## Regional Policy

- 1.15** Minerals policy in the RSS is concerned with safeguarding resources from sterilisation from other forms of development, maximising the use of secondary and recycled aggregates, and providing sub regional level apportionments for both land won sand and gravel, and land won crushed rock. For West Yorkshire, these figures are 5.5 million tonnes and 17.8 million tonnes respectively during the period 2001-2016. Regional policy also encourages MPAs to “maximise the use of substitute and secondary materials wherever possible, and facilitate sites and operations (including those to blend secondary and primary aggregates, reprocessing and the transfer of materials) especially in West Yorkshire”.
- 1.16** The RSS identifies that a sub regional apportionment for West Yorkshire over the period 2001-2016 is 5.5 million tonnes of land won sand and gravel, and 17.8 million tonnes of land won crushed rock, although there are no individual MPA apportionments, each MPA is expected to contribute to the apportionments. The RSS does not refer to building, roofing or flag stone production, materials which are of particular importance in Calderdale, however, a national study being conducted by English Heritage will aid the planning process regarding the resources of natural building and roofing stone.

## Sub-Regional Apportionments for Aggregates Provision – West Yorkshire

- 1.17** A regional Sand & Gravel report was carried out by BGS <sup>(1)</sup> in response to a recommendation from a study in 2007 <sup>(2)</sup> that West Yorkshire increase its Sand and Gravel provision over and above the initial apportionments set out in the RSS in 2008 which are set out below:
- Land Won Sand & Gravel = 5.5mt
  - Land Won Crushed Rock = 17.8mt

1 West Yorkshire sand and gravel resources: Investigating the potential for an increased sub regional apportionment, BGS, 2009

2 Land Use Consultants Phase 2 Sand and gravel study for Yorkshire and the Humber: Appraisal of Apportionment Options, 2007

- 1.18** The 2007 report suggested that the West Yorkshire apportionment be increased from 5.5 mt , however, the BGS report indicated that industry representatives considered that the ‘preferred option’ put forward by the LUC report was unrealistic, and that a “continuation of the current situation, with the majority of the apportionment being met from North Yorkshire as the most realistic option”<sup>(3)</sup> In addition, the BGS report concluded that any increase in supply from West Yorkshire is likely to be minimal, because of the lack of large contiguous amounts of sand and gravel, and problems with ease of access to any sites.
- 1.19** Further work among MPAs at a sub regional level is therefore likely to be necessary in order to arrive at a sub regional apportionment.

## Mineral Resources in Calderdale

- 1.20** The following table lists those mineral resources which have been and continue to be extracted commercially in Calderdale;

**Table 1.1 Mineral Resources in Calderdale**

Mineral	BGS Classification Type
Sandstone	Elland Flags
	Rough Rock Flags
	Guiseley Grit
	Midgeley Grit
	Millstone Grit
	48 Yard Rock
Brick Clay	Pennine Lower Coal Measures
	Elland Flag
Gritstone	Pennine Lower Coal Measures
Gritstone	Lower Kinderscout Grit
Coal	-

Source: British Geological Survey

- 1.21** Mineral supplies which have a planning permission and are deemed commercially viable are referred to as 'Mineral Reserves', and these form a small part of the overall mineral resource. Within Calderdale, there are no specific tonnage figures available for the total reserves, therefore additional work is necessary to arrive at an estimate of reserves in Calderdale.

### Question MW 1

#### Mineral Reserves

Are you aware of any additional information that would assist in developing an estimate of permitted reserves in Calderdale?

## Sand and Gravel

- 1.22** The district does not appear to have any identified and viable sand and gravel resources, and has to import this type of material. There are no applications pending for this type of mineral extraction, and at present there is no evidence of any reserves that the industry consider viable. There remains uncertainty over the apportionments for the sub region, and given the lack of identified viable deposits within Calderdale, it is not proposed to safeguard any sand and gravel deposits in the LDF, unless consultation responses indicate otherwise. Further evidence is expected to be produced through a regional Sand and Gravel Resource Review and Update, due to be completed mid 2011.

## Building Stone

- 1.23** Building stone has and continues to be the primary mineral extracted in Calderdale, and as mentioned, is a valued product nationally. At present, of the 22 quarries actively operating in Calderdale, 18 of them extract sandstone. There is a single quarry operation in Todmorden that extracts Gritstone. According to the 2009 Annual Monitoring Report, the district produced approximately 100,000 tonnes of building stone in the period April 2008 to March 2009.
- 1.24** MPS1 recommends that important sources of historic stone are safeguarded as far as practicable. English Heritage in association with Local Government Yorkshire and Humber (LGYH) are carrying out an assessment of the building stone resources in the Yorkshire and Humber. This is a forerunner to the national Strategic Stone Study (BGS), and will identify those important building and roofing stone resources that are to be found within the region and identify the links from these resources to buildings or villages. The study is due to be completed in early 2011, and will aid the mineral safeguarding process, in conjunction with consultation with mineral operators and the public.

## Brick Clay

- 1.25** There are permitted reserves of Brick Clay in the district, with a small number of extraction sites. MPS1 recommends that brick clay resources are safeguarded, and refers to specific types of brick clay, including fireclay (quarried in Calderdale) which is a scarce commodity. Clay that is quarried in Calderdale is used to supply the pipe manufacturer within the district.

## Peat

- 1.26** Peat extraction does not occur within Calderdale, although there are deposits in the upland moorland areas. Since peat acts as a Carbon sink, any extraction is in conflict with the drive towards reducing Carbon emissions. In addition, as alternatives to peat as a growing media and soil improver in the horticultural market become accepted, the demand for extraction will decrease. The UK Biodiversity Action Plan actually set a target for soil improver's and growing media to be 90% peat free by 2010, although this target has proved to be challenging. As the majority of the peat resource is within the SPA and SAC designation, there is the potential for harmful impacts on biodiversity from extraction of this mineral. It is proposed therefore not to include any safeguarding areas for Peat, and instead include a strict criteria based policy should any proposals be received for peat extraction in Calderdale.

## Coal

- 1.27** At present, there is one small opencast coal mine in Calderdale, which is part of a site which also extracts clay, although the quantity of coal extracted has not been significant, and the site itself is worked infrequently. The extent of the surface coal reserves are illustrated in Appendix A.

## Recycled and Secondary Aggregates

- 1.28** The LDF can contribute to an increase in the use of recycled and secondary aggregates through sustainable construction policies and policies that support development of aggregate recycling facilities. According to the 2009 Annual Monitoring Report, covering the period April 2008 to March 2009 the estimated amount of recycled and secondary aggregates within Calderdale was approximately 50,000 tonnes.

Geological Maps

1.29 A set of simplified geological maps are presented in Appendix A, illustrating the unconstrained extent of the different resources.

Question MW 2

Mineral Types

Are there any other mineral types that should be considered?

Existing Mineral Sites

1.30 The table below provides a list of those mineral sites in Calderdale that are either 'Active', 'In Restoration', or 'Sites Not Operational At Present or Infrequently Worked'. This illustrates the vast majority of active mineral sites in Calderdale continue to extract sandstone, with a small number extracting clay and a lone gritstone working in Todmorden. According to the Coal Authority, in the period January to December 2009 the district produced 1,254 tonnes of coal from the surface mine at Shelf. It must be noted that these production figures are estimates.

Table 1.2 Existing Mineral Sites and Status

Site	Mineral Extracted	Status As At September 2009
Ashgrove Clay Works, Elland Park Wood and Binns Wood, Elland Road Elland	Clay	Active
Blackley Clay Pit, Former Atlas Works & Land to North of Blackley New Road, South Lane Elland	Clay	In Restoration
Spaniards Hall, Brighouse & Denholmegate Road, Shelf	Clay	Active
Strangstry Wood, Hanson Brickworks, Lower Edge Road, Elland	Clay	Active
Rock End Moor Delph, Staups Lane, Todmorden	Gritstone	Active
Beacon Lodge Quarry, Long Lane, Southowram, Halifax	Sandstone	Active
Clockface Quarry, Saddleworth Road, Barkisland	Sandstone	In Restoration
Cromwell Quarries, Brookfoot Lane, Southowram, Halifax	Sandstone	Active
Delph Hill & Gibb Lane Quarry, Moor End Road, Mount Tabor, Halifax	Sandstone	Active
Elland Edge , Lower Edge Road, Brighouse	Sandstone	Active

Site	Mineral Extracted	Status As At September 2009
Marsh Hill Quarry, Causeway Head, Burnley Road, Sowerby Bridge	Sandstone	Active
Northowram Hill Quarry, Howes Lane, Northowram, Halifax	Sandstone	Active
Only House Quarry, Forest Hill Road, Sowood, Stainland, Elland	Sandstone	In Restoration
Pasture House Farm, Church Lane, Southowram, Halifax	Sandstone	Active
Pinnar Lane Quarry, Coalpit Lane, Southowram, Halifax	Sandstone	Active
Pond Quarry, Halifax Road, Brighouse	Sandstone	Active
Pule Hill Quarry, Upper Pule Quarry, Swalesmoor Road, Halifax	Sandstone	Active
Ringby Quarry, Swalesmoor Road, Halifax	Sandstone	Active
Scout Quarry, Swalesmoor Road, Halifax	Sandstone	Active
Soil Hill Quarry, Coal Lane, Ogden	Sandstone	Restored (but not to agreed levels)
Spring Hill Quarry, Greetland Road, Barkisland, Halifax	Sandstone	Active
Squire Hill Quarry, Brookfoot Lane, Southowram, Halifax	Sandstone	Active
Sunnybank Mink Farm (Mytholm Quarry), Whitley lane, Southowram, Halifax	Sandstone	Active
Thumpus Quarry, Norcliffe Lane, Southowram, Halifax	Sandstone	Active
White Rock Quarry, Dean House Lane, Stainland, Elland	Sandstone	Active
Wood Top Quarry, Swalesmoor Road, Halifax	Sandstone	Active
Birks Royd Quarry, Church Lane, Southowram, Halifax	Sandstone	In Restoration
Cross Platts / Cromwell Quarries, Brookfoot Lane, Southowram	Sandstone	In Restoration
Soil Hill Pottery, Coal Lane, Ogden, Halifax	Clay	In Restoration

Site	Mineral Extracted	Status As At September 2009
West Lane, Southowram, Halifax	Sandstone	In Restoration
Corporal Lane Quarry, Lower Bowl Shaw Farm, Whinney Royd Lane, Shelf	Clay, Coal, Sandstone	Not operational at present / infrequently worked
Crowsnest Quarry, St Giles Road, Lightcliffe, Halifax	Sandstone	Not operational at present / infrequently worked
Fly Flatts Quarry, Ovenden Moor Halifax	Sandstone	Not operational at present / infrequently worked
Hunter Hill Quarry, Withens Road, Wainstalls, Halifax	Sandstone	Not operational at present / infrequently worked
Mt Tabor Quarry, Moor End Road, Mt Tabor, Halifax	Sandstone	Not operational at present / infrequently worked

## Role of the LDF

**1.31** The LDF will be required to identify various levels of Mineral allocations and designations. These are:

- Mineral Safeguarding Areas;
- Specific Sites;
- Preferred Areas;
- Areas of Search.

**1.32** In addition, the LDF will include policies on assessing Mineral Applications, and on the restoration of sites. Of the two LDF documents, the Core Strategy will be concentrating on identifying **Mineral Safeguarding Areas**, whilst Specific Sites, Preferred Areas, or Areas of Search designations will be dealt with in the Land Allocations and Designations DPD.

## Mineral Safeguarding Areas

**1.33** Care needs to be taken to protect existing and potential future resources of minerals, in order that non mineral development does not sterilise areas, either directly or adjacent to proven resources, and prevent mineral extraction taking place. This can be achieved through defining Mineral Safeguarding Areas (MSA), based on British Geological Survey (BGS) data and local mineral information provided by the industry. Designation of MSAs do not carry a presumption that any resources will be worked , nor do they preclude other forms of development taking place. MSAs are “intended to make sure that mineral resources are adequately and effectively considered in land use planning decisions” (BGS, 2007). The MSA designation will replace the Replacement Calderdale Unitary Development Plan (RCUDP) policy M4, 'Safeguarding Mineral Resources'.

**1.34** MPS1 also requires MPAs to safeguard existing, planned or potential sites for concrete batching, the manufacture of coated materials, other concrete products and the handling, processing and distribution of substitute, recycled and secondary aggregate material.

**1.35** The eventual MSA policy in the Core Strategy therefore is intended to both safeguard potentially valuable minerals from needless sterilisation and to alert potential applicants of non mineral development to the presence of the mineral resource, encouraging prior extraction if appropriate. The broad extent of the MSAs will be shown on the Key Diagram, with the more precise boundaries identified on the Land Allocations and Designations OS based map, along with specific sites, preferred areas or areas of search also identified.



## Specific Sites

- 1.36** MPS1 advises that specific sites are to be allocated generally where viable mineral resources are known to exist, with landowners supporting mineral extraction, and in a location that MPAs consider acceptable in planning terms.

## Preferred Areas

- 1.37** Preferred Areas are areas of known resources where planning permission 'might reasonably be anticipated'. They may also include essential operations associated with extraction such as tipping and processing. MPS1 states that it may not be necessary to make a distinction between specific sites and preferred areas, since they are very similar policies.

## Areas of Search

- 1.38** MPS 1 describes 'Areas of Search' as "broader areas, where knowledge of mineral resources may be less certain, but within which planning permissions for particular sites could be granted to meet any shortfall in supply if suitable applications are made". MPS1 instructs MPAs that it is not generally appropriate to identify only areas of search in a LDD such as a Core Strategy or Land Allocations & Designations because of the lack of certainty this designation provides when compared to specific sites or preferred areas.

### Question MW 3

#### Site Allocation Approach

Which of the following three approaches summarised above do you think the Council should follow when preparing the Land Allocations and Designations Development Plan Document:

- Specific Sites
- Preferred Areas
- Areas of Search

## Consulting on Mineral Safeguarding Areas

- 1.39** As a starting point, the main emphasis of this document will be to start the process of consulting on the designation of Mineral Safeguarding Areas (MSA). Guidance from the BGS suggests a six step approach to creating MSA, which is as follows:
- Assess what is the best geological and resource information available;
  - Decide which minerals are or may become of economic importance in the 'foreseeable future';
  - Decide how the physical extent of the MSA resource should be determined;
  - Incorporate steps 1-3 into a policy on MSAs;
  - Decide how MSAs can be used most effectively to safeguard mineral resources; and
  - Implement Mineral Consultation Areas (although these are not applicable to Unitary Council's like Calderdale).

- 1.40** For the purposes of this document, and for the initial consultation, the focus will be on steps 1-3.

### Step 1 – Assessing the Best Geological and Resource Information Available for the Authority Area

- 1.41** MPS1 requires MSAs to be based on the best geological and minerals resources information possible. GIS information produced by the BGS will be used, as well as any information received from the Minerals industry, in order to ensure that as much up to date accurate minerals resource information is established at the start of the plan making process. The minerals industry is therefore invited to forward any additional information they are willing to share that will assist in the process of identifying MSAs.

**1.42** Prior to the English Heritage and LGYH study being completed, it is proposed the approach for defining MSAs is based on the BGS Guidance and MPS1, taking into account Calderdale’s local circumstances. A starting point is considered to be the RCUDP Policy M4, ‘Safeguarding Mineral Resources’. These areas are identified on the RCUDP proposals map (and also in Map 1.1) and the policy wording is as follows:

**Existing RCUDP Mineral Safeguarding Policy**

**Policy M 4**

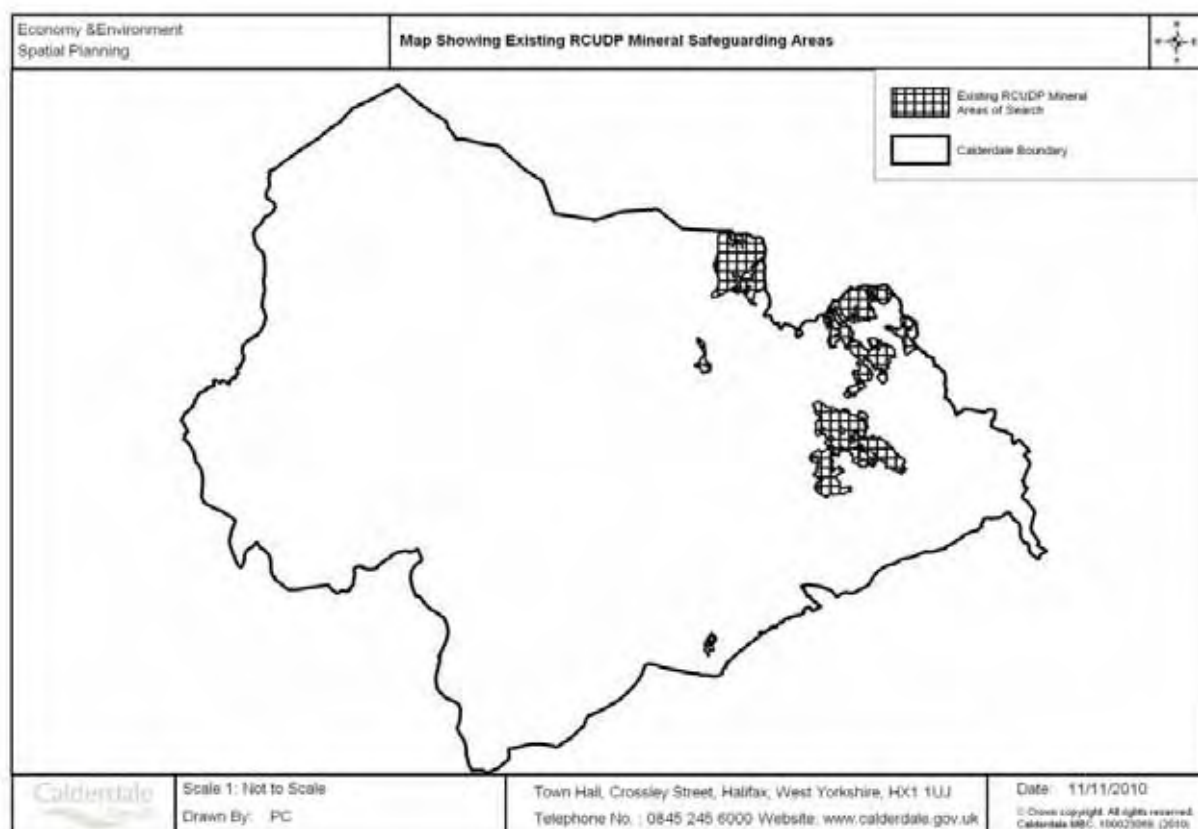
**Safeguarding Mineral Resources**

**Within ‘Areas of Search’ shown on the Proposals Map mineral resources will be safeguarded. Viable mineral resources will be protected from sterilisation by surface development. Any such proposals should make provision to ensure that the mineral is extracted so far as is environmentally and economically practicable before the surface development commences. Elsewhere, wherever proven mineral resources for surface extraction are found, their presence will be regarded as a material consideration in determining development proposals affecting those resources and their extraction. The identification of mineral resources will, in itself, not necessarily create a presumption that proposals for mineral extraction will be acceptable.**

**1.43** Although this designation provides a useful starting point for reviewing existing mineral data and creating a MSA, the policy was framed in line with the superseded Minerals Policy Guidance 1(MPG1), which has since been replaced by MPS1. Rather confusingly, the RCUDP policy refers to the safeguarded areas as 'Areas of Search', however these are not the same as the MPS1 ‘Areas of Search’. The safeguarded areas identified in the RCUDP are based on the location of the Lower Coal Measures and the Millstone Grit Series, from information provided by BGS. The new MSA policy will be drafted in line with the objectives for Minerals Planning as set out in MPS1.

**1.44** The map below shows the distribution of the RCUDP Minerals Area of search, based on information provided by BGS at the time of the RCUDP preparation. More detailed maps, showing the boundaries of these areas in greater detail overlain with BGS data are presented in Appendix B, in order to allow consultees to suggest amendments as appropriate, in order to draft the MSAs for the Core Strategy.

Map 1.1 Existing RCUDP Minerals Areas of Search



### Question MW 4

#### Geological and Resource Information

Alongside the British Geological Survey (BGS) data, is there any additional information on the different types of minerals that are, or may become, of economic importance to the area?

### Question MW 5

#### Amendments to the Existing Safeguarded Area

What amendments (if any) to the existing Mineral Safeguarding Areas (Appendix B) should be made?

### Step 2 – Deciding which minerals are or may become of economic importance in the ‘Foreseeable Future’.

- 1.45 Although the BGS resource maps form the basis of the MSA, some of the resources indicated will not be viable for quarrying due to the depth at which they occur, the actual presence of any suitable mineral, alongside other economic and environmental reasons. Therefore additional information from the minerals industry would allow a refinement of this data.
- 1.46 It is likely that not all of the mineral resource area identified through BGS data and consultation will be suitable for inclusion in a MSA. This may be as a result of prioritising those minerals which are likely to be of economic importance for the district, based on historic, local patterns of mineral extraction in

the area. For Calderdale, this is likely to mean Sandstone, Fireclay, Clay & Shale, and, to a certain extent, Coal. As mentioned, it is not intended to safeguard sand and gravel deposits unless evidence is forthcoming which suggests that viable deposits exist in Calderdale.

Question MW 6

Safeguarding Different Minerals

Do you agree with the proposal to safeguard the following mineral types: Building Stone (Sandstone / Gritstone), Brick clay (Fireclay, Clay and Shale), and Surface Coal?

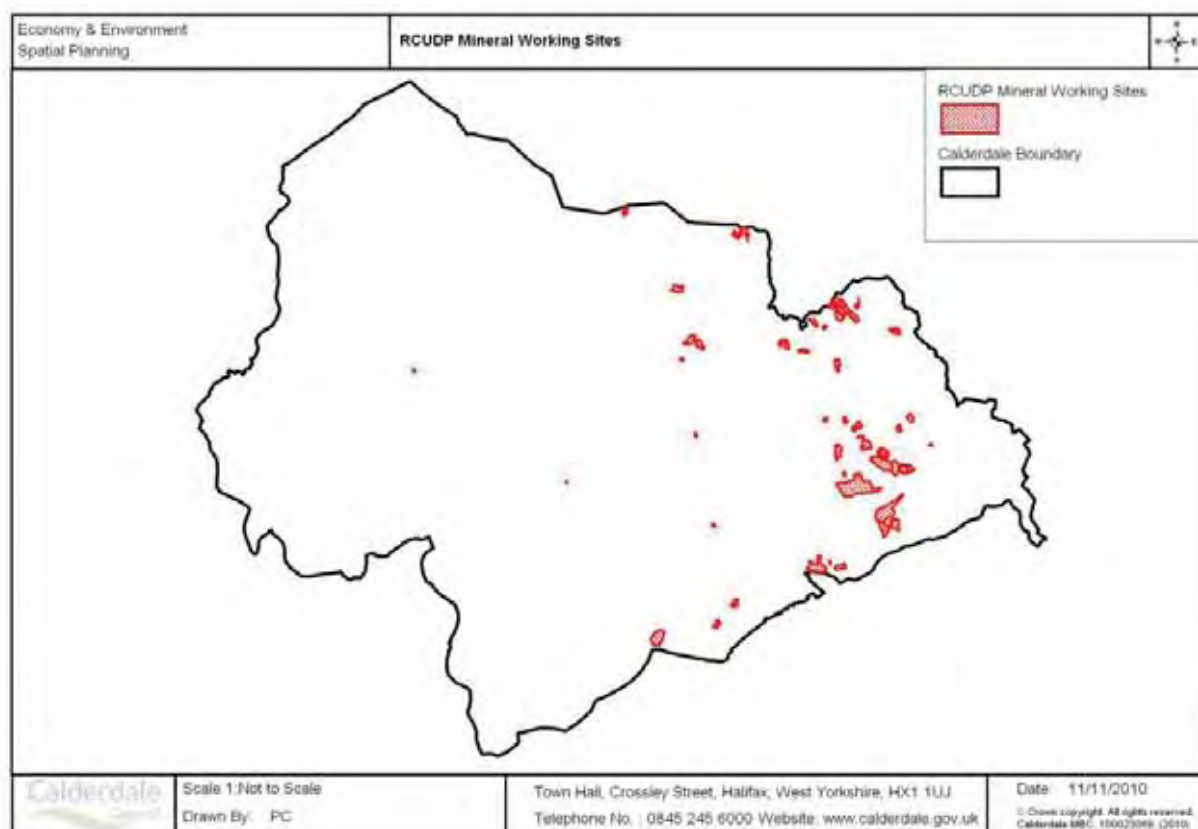
Question MW 7

Sand and Gravel Safeguarding

Do you agree with the proposal not to safeguard any Sand and Gravel deposits in Calderdale?

- 1.47 As part of this consultation, the minerals industry and local communities are invited to comment to ensure the best information is used when preparing the Core Strategy. The maps in Appendix B show the current extent of the Minerals Areas of Search at a greater detail, and comments are welcome concerning new areas or amendments to existing areas which could then go forward for consideration as a MSA.
- 1.48 As the map below demonstrates, minerals activity almost exclusively occurs in the east of the district, and the majority of large quarries exist in the Brighouse and Elland area, along with some sites surrounding Shelf. It is noted that not all the mineral working sites fall within a RCUDP Mineral Area of Search. One of the options for the new LDF MSA policy is to include all working mineral sites within the MSA.

Map 1.2 Distribution of RCUDP mineral working sites



1

**Step 3 – Decide how the physical extent of the MSA resource area should be determined.**

- 1.49** Guidance from the BGS suggests that issues concerning the designation of a MSA include the extent and formation of the mineral resource. For example, if the resource covers a large area it is unlikely that it will be realistic to safeguard the entire resource; alternatively, a judgement may have to be made as to the depth below the surface at which extraction will become uneconomic. Any such refinements of the physical extent of the MSA area should be determined through consultation with the minerals industry. Initially, it is proposed that resources under the urban areas have been discounted and are removed from any potential MSA.
- 1.50** In order to aid the consultation process, the maps presented in Appendix B indicating the current extent of the RCUDP Mineral Area of Search are proposed to be the starting point; however it is recognised they may require amendments, especially since a MSA may include areas beyond the extent of the resource, in the form of 'buffer zones' to allow for engineering works or to prevent incompatible development encroaching on a mineral resource (for example a residential development). The BGS guidance contains indicative guidelines as to placing buffer zones around the extent of the mineral resource, for example where the resource to be quarried is 'soft rock' (Sand and Gravel, Coal, Fire Clay Silica Sand, Cement Shale and Building Stone) that does not require blasting, the suggested buffer is 250m. It is also evident from the RCUDP safeguarding designation that not all working mineral sites lie within the safeguarded area; it is therefore necessary to decide if future MSAs should incorporate working mineral sites or not.

**Question MW 8****MSAs and Working Mineral Sites**

Should the working mineral sites be included in the Mineral Safeguarding Areas?

## Question MW 9

### MSAs and Buffer Zones

Should 'Buffer Zone's' be applied in relation to Mineral Safeguarding Areas? If so should the Buffer Zone be in line with BGS guidance?

### MSAs and Other Planning Designations

- 1.51** Whilst guidance states that Mineral safeguarding should not be curtailed by other planning designations, such as urban areas and environmental designations without sound justification, it is proposed that the urban areas of Calderdale are not included, since any deposits have already become sterilised by development.
- 1.52** Other planning designations to consider include the internationally designated Special Protection Areas (SPA) and Special Area of Conservation (SAC) in the upland areas of Calderdale, and the Sites of Special Scientific Interest (SSSI). The internationally designated SPA and SAC are already afforded high levels of protection, and because of this the likelihood of any development (either mineral or non mineral) being given permission is remote. In this instance, the MSA designation would not therefore add any further protection to a potential resource.
- 1.53** At this early stage it is realistic to consider a number of potential constraints, including the following:
- Sites of Special Scientific Interest (SSSI);
  - Scheduled Ancient Monument (SAM);
  - Potentially Unstable Land;
  - Conservation Areas;
  - Urban Areas; and
  - Flood Risk;
- 1.54** The above list is given only as a suggestion and is not meant to represent the list of potential constraints; these will be agreed on through the consultation process.
- 1.55** As well as minerals being sterilised by development immediately above them, future extraction can also be compromised by development adjacent to a potential resource.
- 1.56** Mineral resources and therefore safeguarding issues do not end at the district boundary. Consultation with neighbouring authorities will need to establish whether any joint safeguarding areas need to be established, as well as any potential buffer zones that cross boundaries.

## Question MW 10

### MSAs and Constraints

Which constraints should be considered when establishing the extent of the MSA?

## Question MW 11

### Cross Boundary Issues

Is there any specific cross boundary issues in relation to Mineral Safeguarding Areas in Calderdale and neighbouring authorities?



- 1.57** As well as MSA policies, MPS1 requires Local Development Documents to show “how a Minerals Planning Authority proposes to provide for the supply of minerals which can be worked economically”. It should also provide a clear guide to mineral operators and others the places where mineral extraction is likely to take place. These may take the form of ‘Specific Sites’, ‘Preferred Areas’, or rather confusingly, ‘Areas of Search’ – which as mentioned previously is different to that which currently exists in the RCUDP.

### Restoration of mineral sites

- 1.58** As evidenced by a number of former quarries, mineral extraction is a temporary land use. MPG 7 ‘Reclamation of Mineral Workings’ sets out the government’s policy concerning the reclamation and future uses of minerals sites. Although published in 1996, the guidance reflects current national policy, and remains relevant in this aspect of minerals planning, and promotes the benefits that restoration of mineral sites can bring to the local and wider community. The guidance highlights the opportunities that exist to enhance the recreational or nature conservation resource of an area, and recognises the role restored mineral workings have in contributing to nature conservation. It is often the case that a number of different uses are created following restoration.
- 1.59** Many of the area’s quarries are also designated as waste disposal sites; schemes that propose landfill as part of the restoration of sites will need to be strictly controlled through development management policies in the Land Allocations and Designations DPD, and be consistent with the waste policy approach towards landfill, to ensure that potential impacts from the restoration of sites are kept to a minimum.
- 1.60** A site’s final restoration use is often dependent on the site’s characteristics, such as the type of extraction that took place, the location, or the types of community benefit that are seen as a priority. From a biodiversity point of view, heather moorland, unimproved grassland, wetlands and woodlands are the kinds of habitats that are sought after as a general rule of thumb.
- 1.61** Mineral restoration must be seen in the wider objectives of the LDF and associated strategies or community objectives. For example, successful restoration can contribute to the Local Biodiversity Action Plan (LBAP) targets, green infrastructure and open space strategies, or alternatively may provide an opportunity to return the land back to agricultural use.
- 1.62** Since the restoration of mineral sites tend to result in a permanent type of land use, appropriate long term future management agreements may need to be in place in certain sites; future development management policies will therefore need to reflect this, through criteria based policies.

### Question MW 12

#### Restoration

What do you see as the priorities in terms of the restoration of Mineral sites?

### Site Boundaries and Call for Sites

- 1.63** The detailed boundaries of sites will be presented in the Land Allocations and Designations DPD. The Council commenced a ‘Call for Sites’ (for any type of development) in 2008 and will continue to accept site submissions during 2011. Although a number of sites have already been put forward, a ‘Call for Sites’ leaflet was issued specifically to Minerals operators reminding them that the Council was continuing to accept sites, and they are invited to continue to do so during 2011.

### Question MW 13

#### Suggested Sites

Are you aware of any potentially suitable sites for mineral extraction you wish the Council to consider? (Operators who have already submitted site submission forms need not re submit this information.)

## Potential Indicators / Targets

**Table 1.3 Minerals Supply - Potential Indicators and Targets**

Objective	Indicator	Target (Where applicable)	Indicator Type
To ensure a sufficient and sustainable supply of minerals, having regard to the need to encourage the efficient use and recycling of minerals, minimising the environmental and social impacts of mineral workings, and promote restoration of mineral sites that provide a beneficial after use.	Mineral Extraction Tonnage: Production of primary land won aggregates	Not Applicable	AMR Core Indicator (M1)
	Production of secondary and recycled aggregates	Not Applicable	AMR Core Indicator (M2) Regional (TH34B)

### Policy Option MW 1

#### Mineral Safeguarding Area (1)

1. Mineral Safeguarding Areas (MSA) should ensure that areas of proven resources are not sterilised through non minerals development. The extent of MSAs are to be identified on the key diagram.
2. Prior extraction should be encouraged where possible where non mineral development is permitted within MSAs.
3. MSAs should incorporate working mineral sites;
4. MSAs should incorporate facilities which are used for processing secondary and recycled aggregates;
5. Buffer zones should be drawn around the mineral resource to offer further protection to both mineral and non mineral development;

### Policy Option MW 2

#### Mineral Safeguarding Area (2)

1. Mineral Safeguarding Areas (MSA) should ensure that areas of proven resources are not sterilised through non minerals development. The extent of MSAs are to be identified on the key diagram.
2. Where non mineral development is permitted within MSAs, prior extraction should be encouraged where possible unless it is evident the resource is of no economic value.
3. Working mineral sites and facilities which are used for processing secondary and recycled aggregates are not required to fall within the designated MSA since the MSA would not add any protection to the working site;
4. The boundary of the MSA should reflect the extent of the mineral resource;

**Question MW 14****Policy Options - Mineral Safeguarding Areas**

Should the Minerals element of the Core Strategy develop Policy Option MW1, MW2 or an alternative (please suggest)?

1

- 1.64** Although the primary aim of this consultation is to develop the Mineral Safeguarding Areas (MSA), the following site allocation policy options are presented to encourage discussion ahead of the Land Allocations and Designations Development plan Document.

**Policy Option MW 3****Site Allocation Policy Options (1)**

1. Specific sites will be identified and any proposals for new or extended sites within these will be subjected to a criteria based policy, including conditions for a sites restoration and aftercare;
2. Preference will be given to the extension of existing operations as opposed to developing new sites;
3. Proposals involving the processing of secondary and recycled aggregates will be encouraged wherever possible in order to reduce reliance on primary extraction;
4. Within Calderdale, Minerals related transport should seek to make full use of sustainable forms of transport.

**Policy Option MW 4****Site Allocation Policy Options (2)**

1. Preferred areas will be identified and each proposal for new or extended sites within these will be subjected to a criteria based policy, including conditions for a sites restoration and aftercare;
2. Preference will be given to the extension of existing operations as opposed to developing new sites;
3. Proposals involving the processing of secondary and recycled aggregates will be encouraged wherever possible in order to reduce reliance on primary extraction;
4. Within Calderdale, Minerals related transport should seek to make full use of sustainable forms of transport.

**Policy Option MW 5****Site Allocation Policy Options (3)**

1. Areas of Search will be identified and any proposals for new or extended sites within these will be subjected to a criteria based policy, including conditions for a sites restoration and aftercare;
2. Preference will be given to the extension of existing operations as opposed to developing new sites;
3. Proposals involving the processing of secondary and recycled aggregates will be encouraged wherever possible in order to reduce reliance on primary extraction;
4. Within Calderdale, Minerals related transport should seek to make full use of sustainable forms of transport.

## Question MW 15

### Policy Options - Site Allocation Policies

Should the Minerals element of the Core Strategy develop Policy Option MW3, MW4, MW5 or an alternative (please suggest)?

## Policy Option MW 6

### Restoration Policy Options (1)

1. Restoration of sites should reflect the priorities within the Local Biodiversity Action Plan and other local biodiversity strategies.
2. Restoration plans should aim to be in accordance with any relevant landscape scale priorities;
3. Any agreements should secure at least 5 years aftercare management of the site.

## Policy Option MW 7

### Restoration Policy Options (2)

1. Restoration of sites should promote opportunities to enhance the overall environment and leisure opportunities.
2. Aftercare agreements should be agreed on a case by case basis dependent on the nature of the restoration scheme.

## Question MW 16

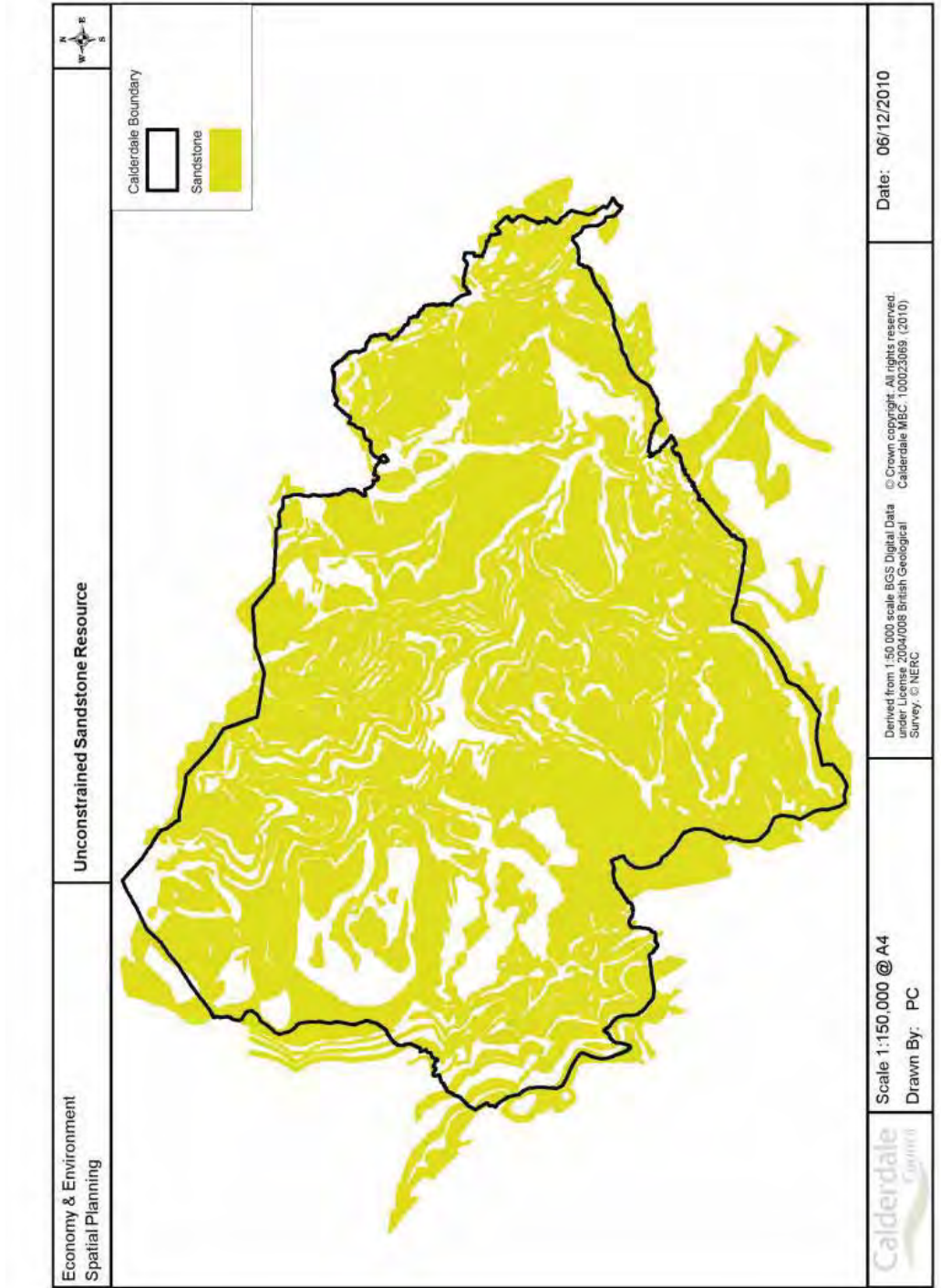
### Policy Options - Restoration of Mineral sites

Should the Minerals element of the Core Strategy develop Policy Option MW6, MW7 or an alternative (please suggest)?

1.1 Minerals Appendix A

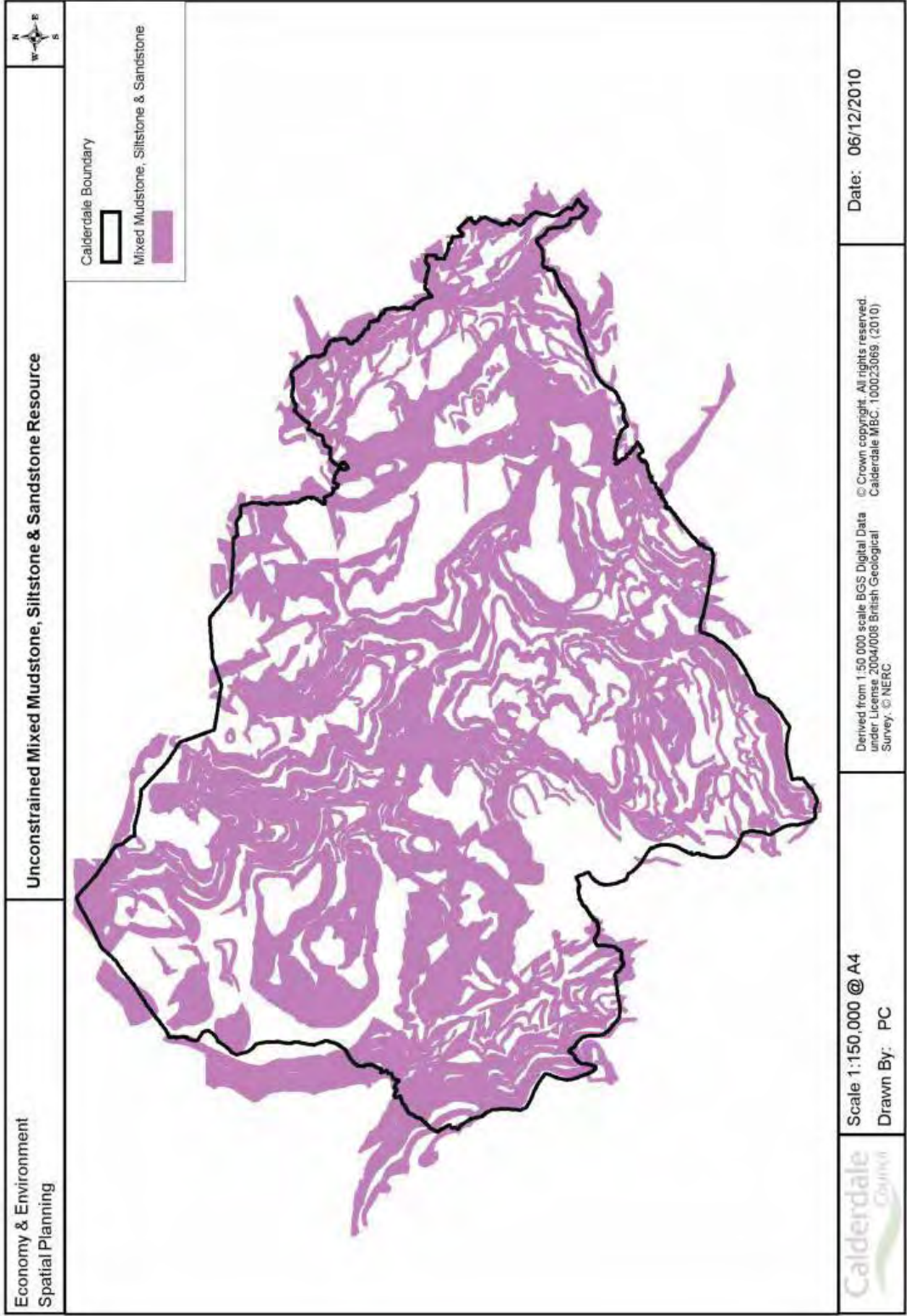
1.65 The following maps illustrate the entire unconstrained extent of the types of minerals that have been and continue to be of importance within Calderdale.

Map 1.3 Unconstrained Sandstone Resource



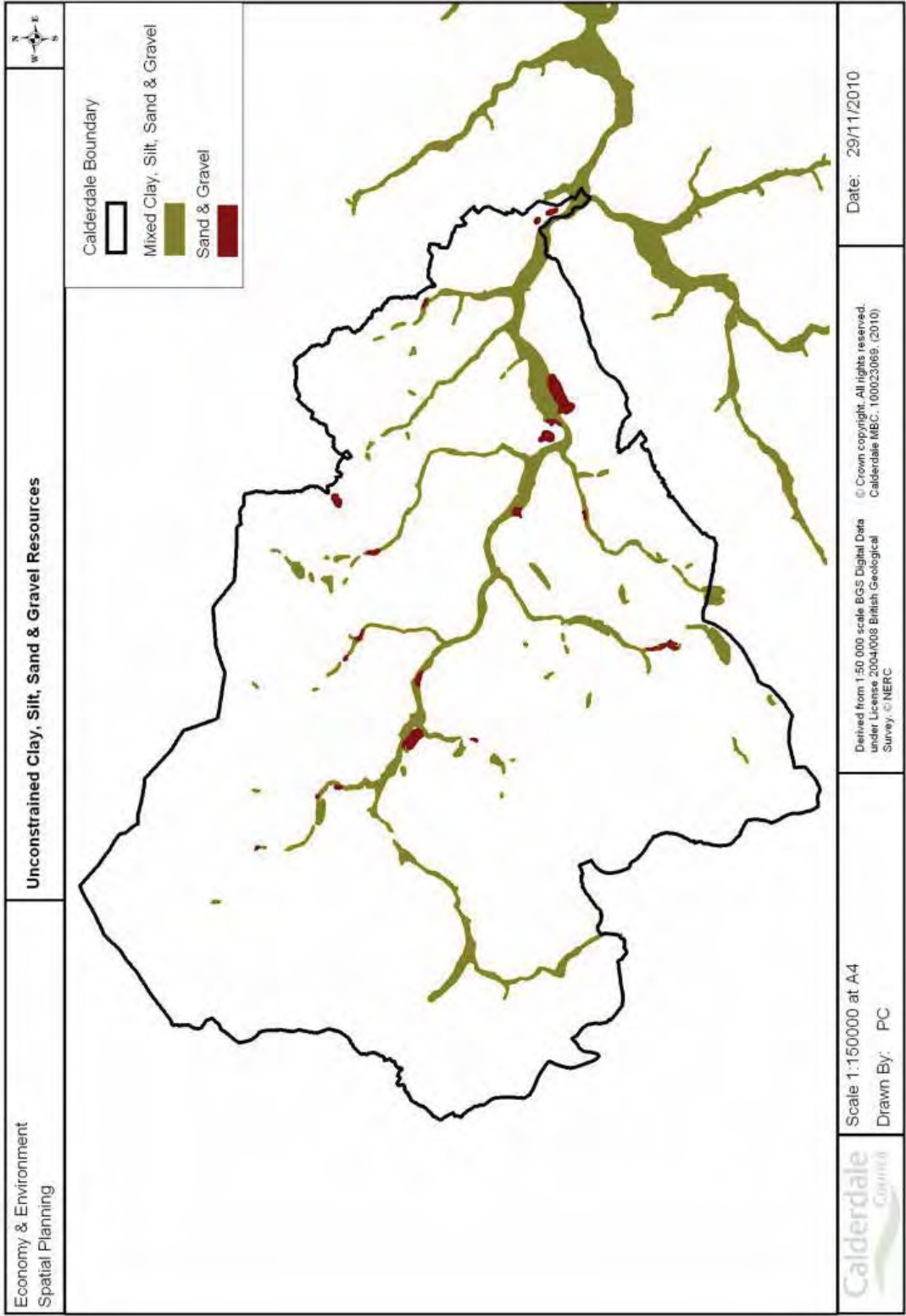


Map 1.4 Unconstrained Mixed Mudstone, Siltstone and Sandstone Resource

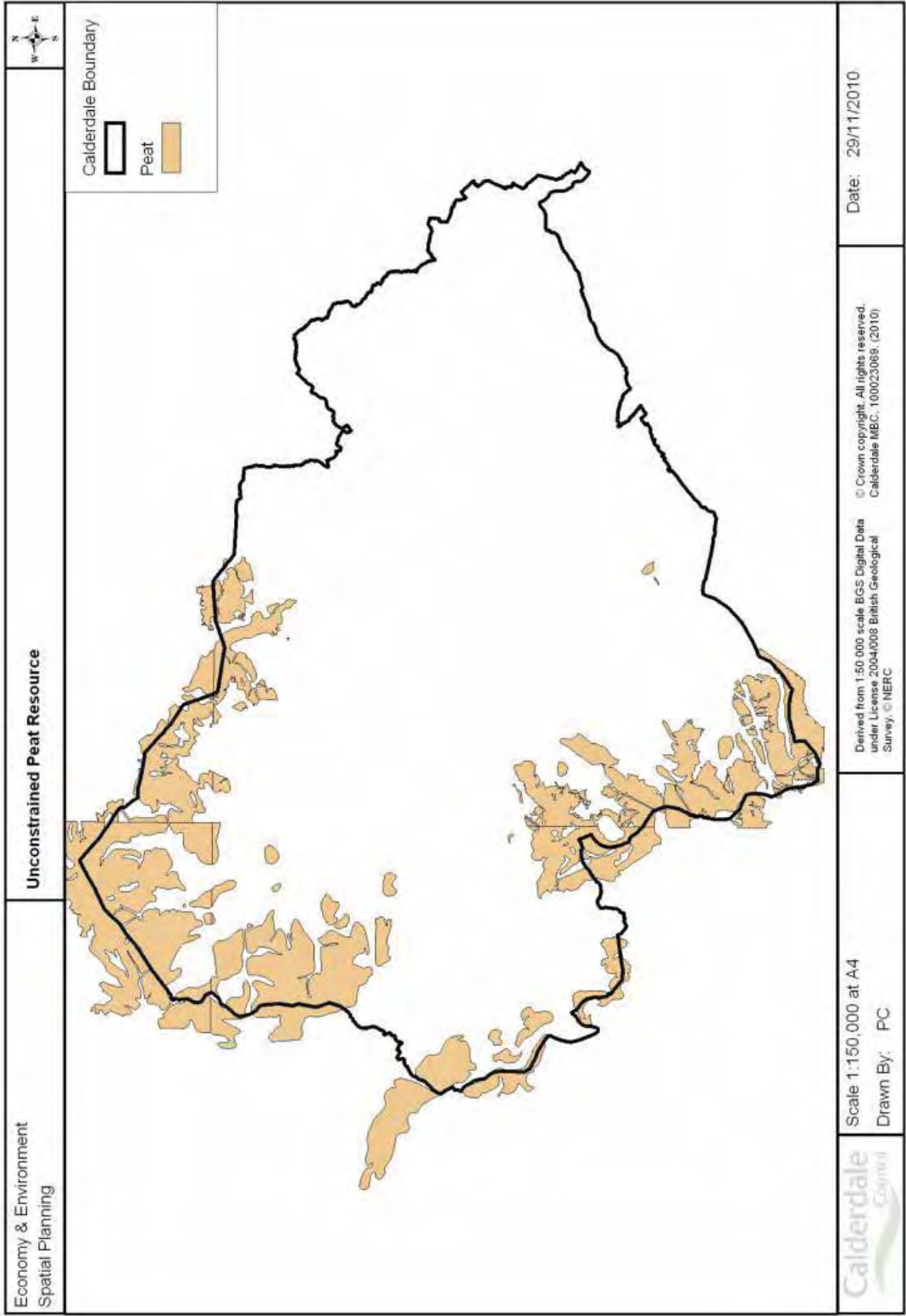




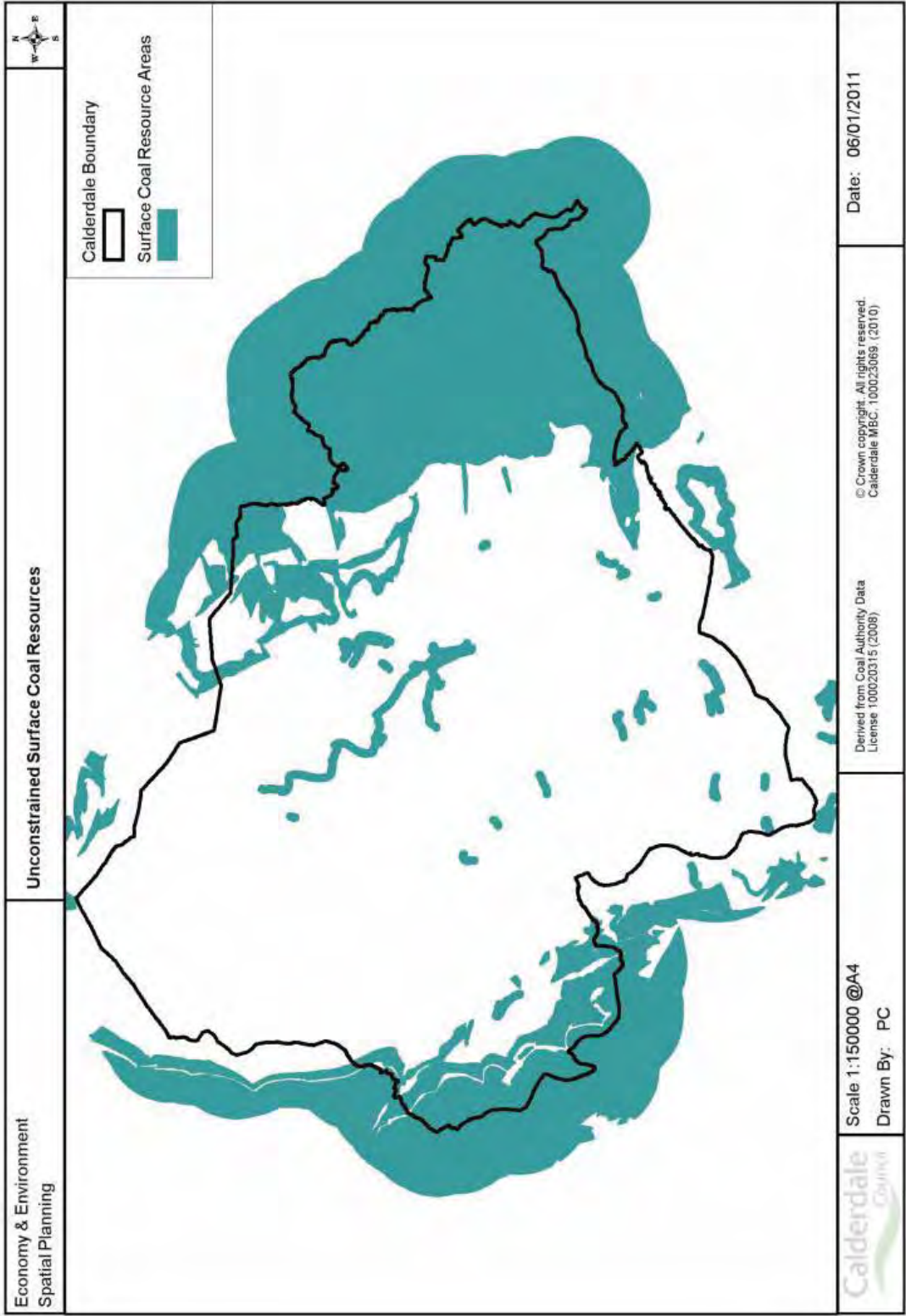
Map 1.5 Unconstrained Clay, Silt, Sand & Gravel Resource



Map 1.6 Unconstrained Peat Resource



Map 1.7 Unconstrained Surface Coal Resources

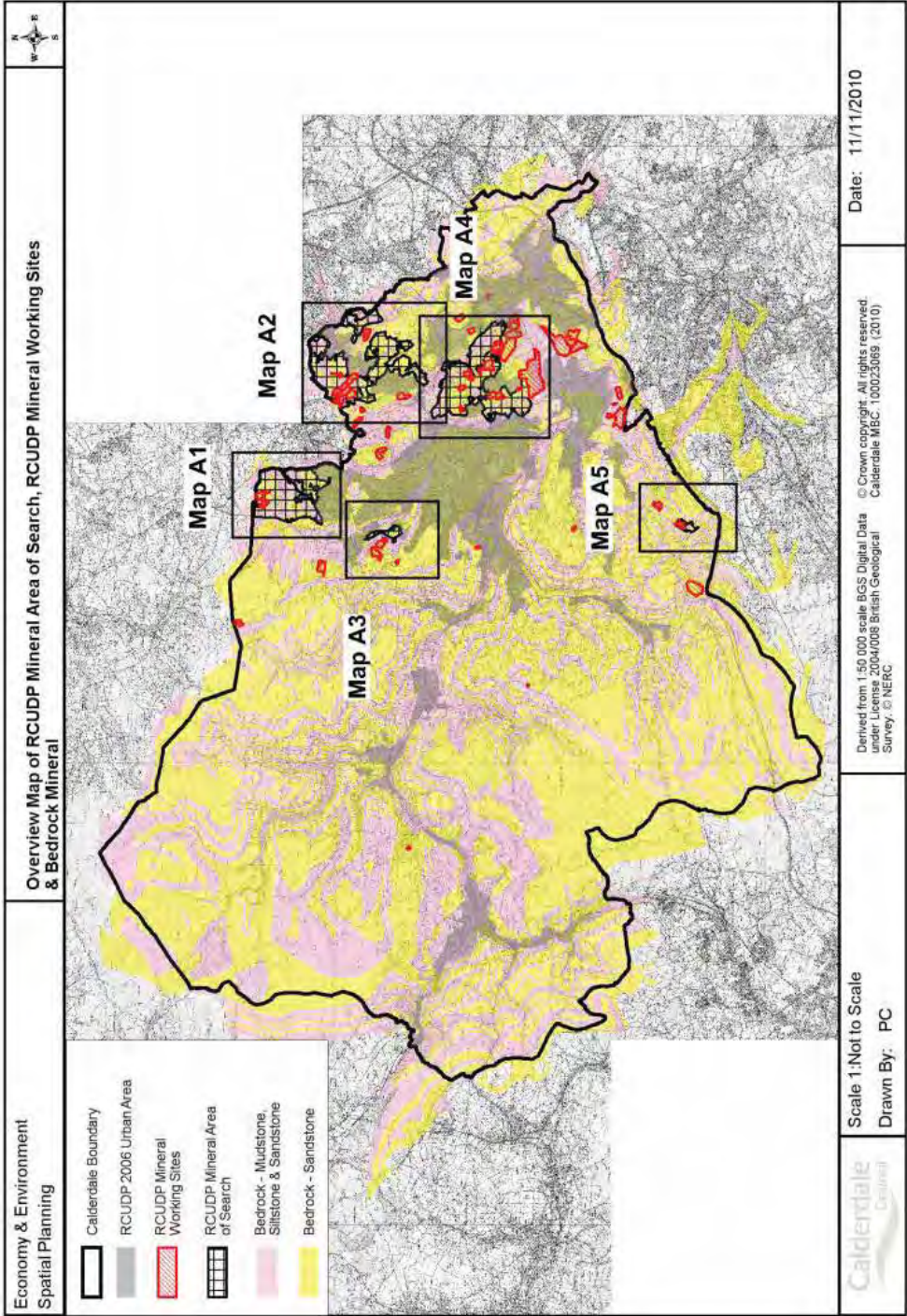




1.2 Minerals Appendix B

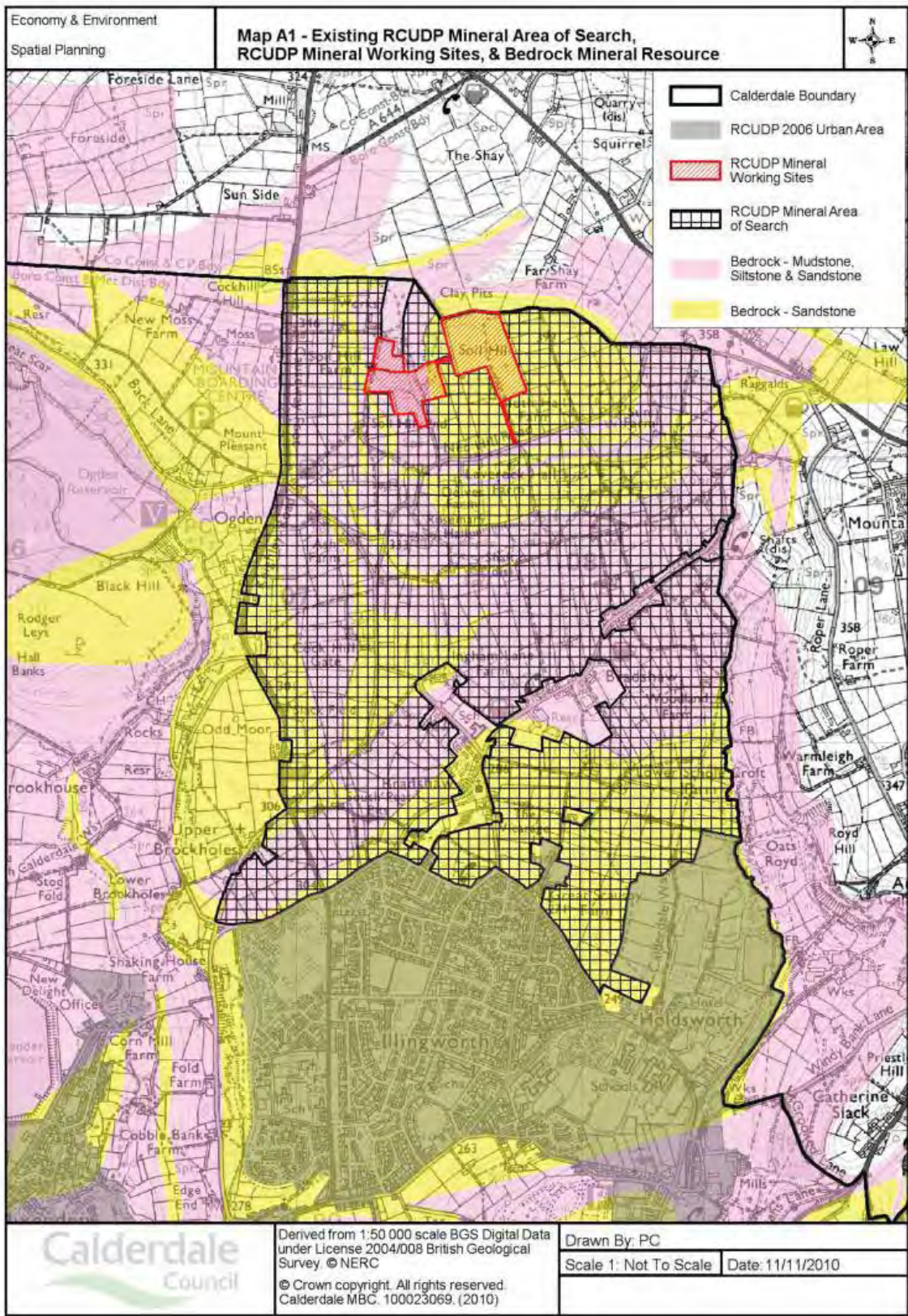
The following maps illustrate the current distribution and extent of the RCUDP Mineral Areas of Search. These are intended to be a starting point for the consultation on the designation of Mineral Safeguarding Areas for the LDF.

Map 1.8 Overview of Existing RCUDP Mineral Areas of Search



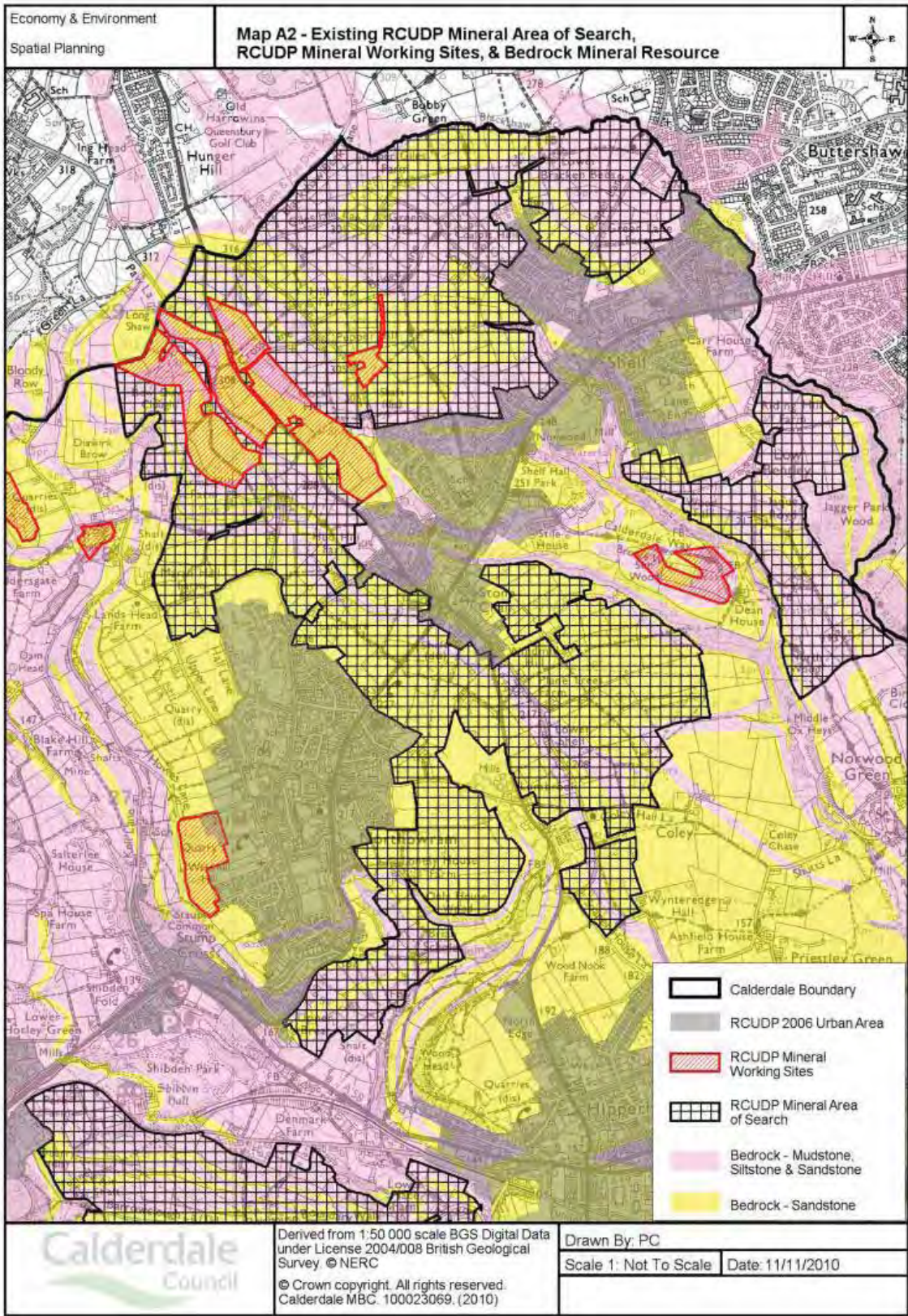


Map 1.9 Existing RCUDP Mineral Area of Search - Map A1



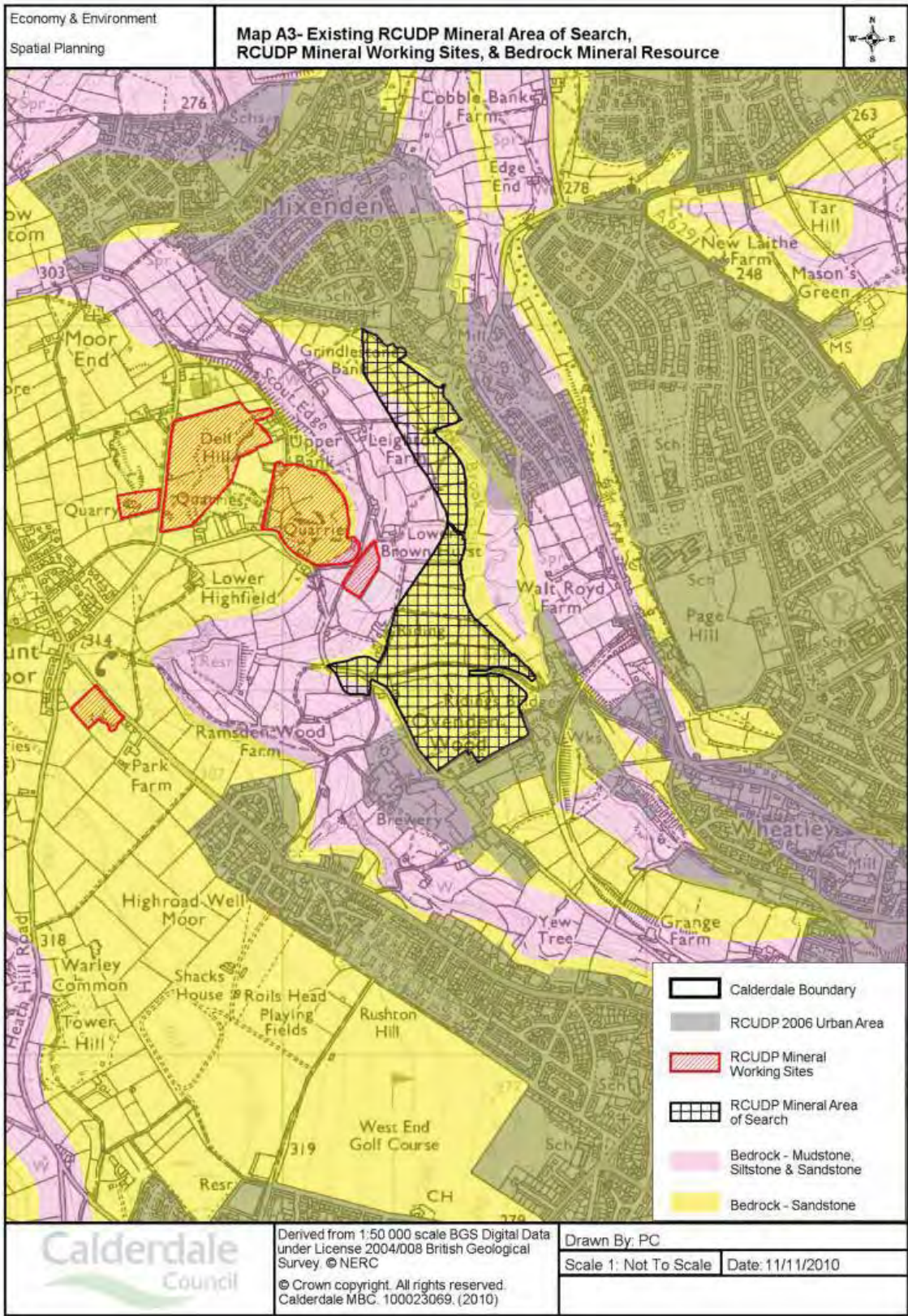


Map 1.10 Existing RCUDP Mineral Area of Search - Map A2



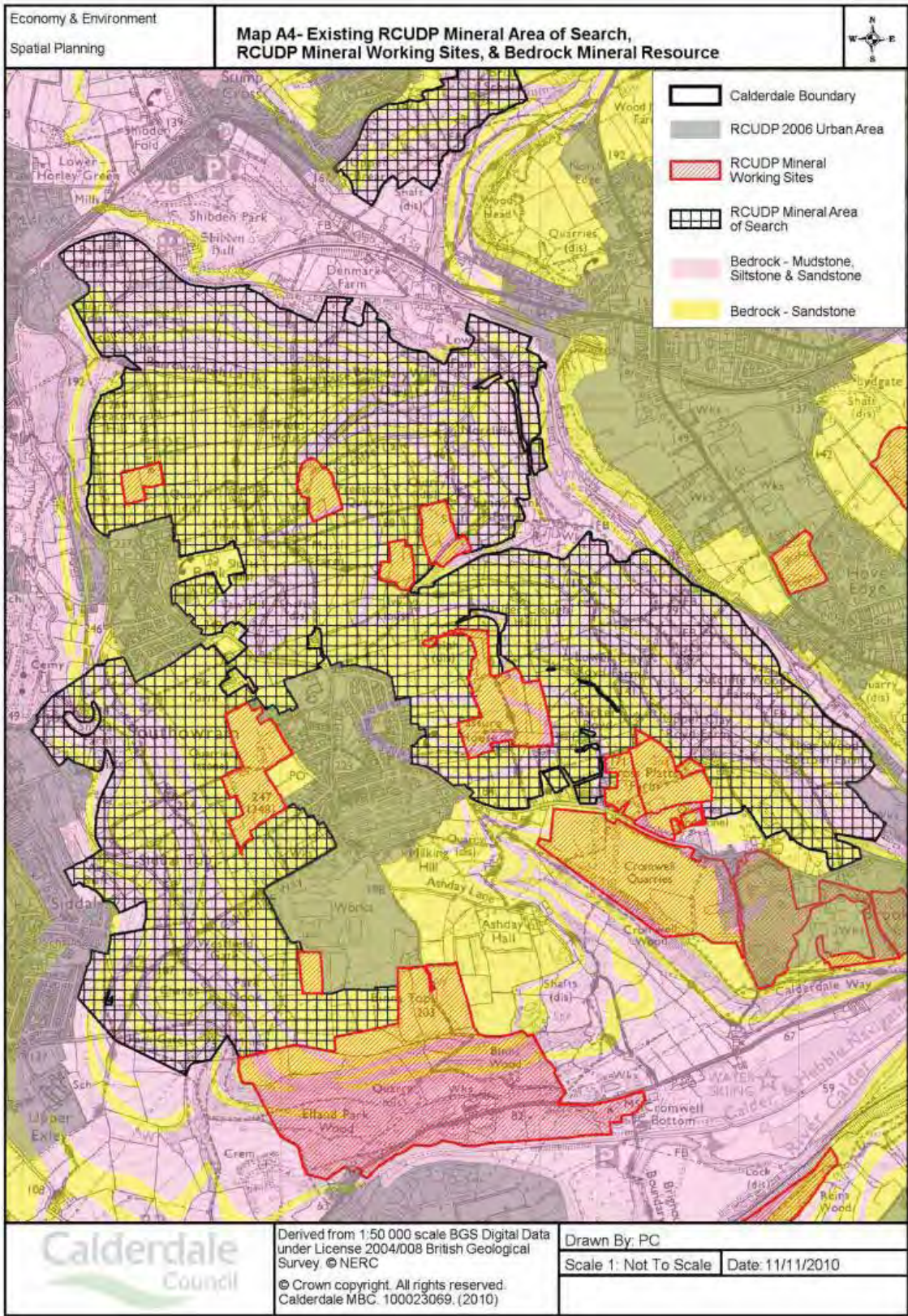


Map 1.11 Existing RCUDP Mineral Area of Search - Map A3



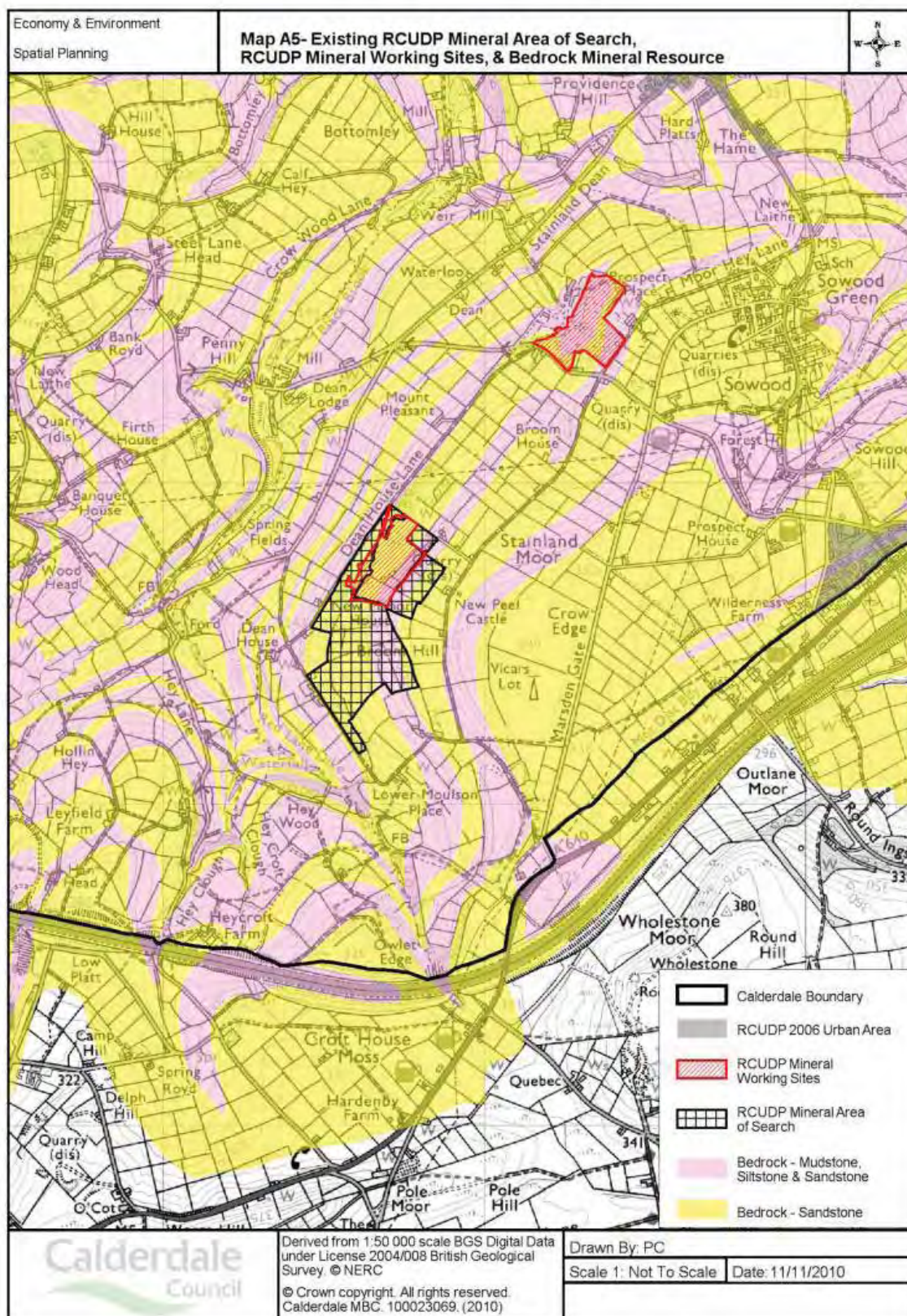


Map 1.12 Existing RCUDP Mineral Area of Search - Map A4





Minerals and Waste Objectives and Policy Options - January 2011 Calderdale MBC



## 2 Waste

### SO10 - To plan for sufficient waste management facilities in sustainable locations, managing waste as a resource in order to minimise the amount sent to Landfill.

- 2.1** The waste element of the Core Strategy will deal only with planning the use of land for waste management in the District. It will not set out policy on how to reduce the amount of waste produced, or deal with waste management and disposal strategies, or waste collection services. Guidance from the Planning Inspectorate <sup>(4)</sup> states "the Core Strategy should indicate **what** waste management developments and facilities are required; **where** they are to be located; **when** they are to be provided; and **how** they will be delivered".

#### Issues and Options Feedback

- 2.2** Various comments during the Issues and Options consultation (2008/9) were received concerning the waste hierarchy (figure 2.1), largely in support of the need to reduce the levels of waste ending up at Landfill sites. A number of different suggestions were made in terms of how non landfill waste should be treated, with recycling and recovering energy from the waste the most popular suggestions. The techniques to recover energy or value from waste included incineration (using the heat to power district heating systems) and composting. Opposition to incineration and energy recovery facilities was also received. Other comments supported the commitment to sustainability, waste minimisation and recycling, and considering waste as a resource. Some consultees felt the preferred methods for dealing with waste could only be decided after full cost/benefit analysis.
- 2.3** In terms of the spatial issues in planning for waste facilities, the Issues and Options consultation suggested three potential types of locations:
- Existing / Proposed Industrial Sites;
  - Brownfield Sites (i.e. mineral / landfill sites);
  - Redundant farm buildings.
- 2.4** Responses were largely split equally over all three locations, although only the 'Redundant farm buildings' option attracted opposition. Other issues raised included the support for co-locating waste facilities, and locating new waste facilities where complementary activities existed. Some consultees wished to see waste facilities remain on existing sites, whilst there was reference of the need to have a robust assessment of the likely impact of new waste treatment facilities on the water environment, and other environmental assets of the district, including the historic environment. It was felt important that any new facilities should be located so as to minimise traffic. There was also support for the identification of Broad Areas of Search and criteria based policies.
- 2.5** Some consultees felt waste facilities should give priority to waste generated in Calderdale, whilst others felt it was impractical to have waste facilities that only serve Calderdale. Because of the nature of waste, comment was made that it required a regional approach, and it was considered sensible to have area to area co-operation in waste management. In line with this, comments suggested the Council considered joint working with neighbouring authorities.
- 2.6** Other comments expressed the wish to ensure the design of development should include areas for the separation, segregation and storage of waste; specific comments were made as to how sorting waste is a major difficulty. The need to adhere to Planning Policy Statement 10: Planning for Sustainable Waste Management and Regional guidance was expressed, and the Council should explore 'Waste to Work' strategies.

#### Waste Policy

- 2.7** The way we currently dispose of the majority of our waste may cause problems in the near future. Not only will landfill space eventually run out, environmental concerns relating to the generating of methane

4 Examining Development Plan Documents Key Points: Learning from Experience, Planning Inspectorate, 2009



gas (which represents 3% of all UK greenhouse gas emissions according to Defra) and the potential pollution of ground and surface waters exist. The National Waste Strategy (2007) sets out targets for the recycling and composting of household waste. These are for at least 40 % by 2010, 45% by 2015, and 50% by 2020. In terms of recovering value from municipal <sup>(5)</sup> waste, the targets are set at 53% by 2010, 67% by 2015, and 75% by 2020.

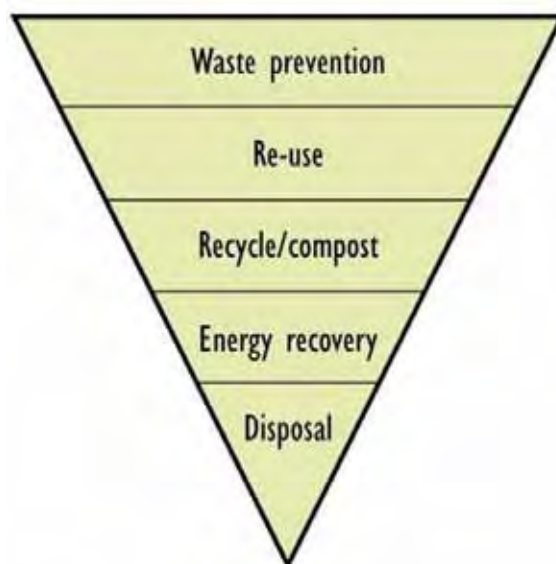
**2.8** European legislation means that the costs of sending waste to landfill will increase, therefore the government has introduced the Landfill Tax Escalator, increasing the costs of each tonne of waste sent to landfill by £8 per year until at least 2010/2011. An aggregates levy is also in place to encourage the use of recycled construction materials. In addition to the Landfill Tax Escalator, the Landfill Allowances Trading Scheme has been implemented by government in response to the EU Landfill Directive. Mandatory UK targets for reducing the amounts of Biodegradable Municipal Waste <sup>(6)</sup> (BMW) landfilled have been set as follows:

- By 2010 to reduce BMW landfilled to 75% of that in 1995;
- By 2013 to reduce BMW landfilled to 50% of that in 1995;
- By 2020 to reduce BMW landfilled to 35% of that in 1995.

**2.9** Each local authority is allocated an annual landfill allowance up until 2020, although it is recognised that some local authorities with existing waste management plants (such as incinerators or energy from waste plants) will not require all of their allowance. Where this is the case, authorities will be able to trade permits between each other. Although this may help reduce the huge costs that would fall on a local authority that continued to send the majority of BMW (and other waste streams) to landfill, traded permits will still increase the costs of this method of disposal.

**2.10** With this in mind, steps are required to not only reduce the amount of waste we generate in the first place, but to gain value from the waste that we do produce (for example by reusing, recycling, or gaining energy from it), in essence considering waste as a resource rather than an end by product, in line with the waste hierarchy illustrated below. A description of the various waste management technologies are provided at the end of this chapter.

**Figure 2.1 Waste Hierarchy**



<sup>5</sup> Includes all waste under the control of local authorities. It includes all household waste, street litter, waste delivered to Council recycling points, Council office waste, HWRS site waste and some commercial waste from shops and smaller trading estates where local authority waste collection agreements are in place. Calderdale MBC Waste Strategy, 2006.

<sup>6</sup> Waste collected by the Waste Collection Authority, including trade wastes and Civic Amenity wastes. Material that can be broken down usually by micro-organisms into basic elements. The Government has declared that municipal waste is 68% biodegradable. Calderdale MBC Waste Strategy, 2006.

## Waste Planning Policy

- 2.11** National Planning Policy concerning Waste is set out in Planning Policy Statement 10: Planning for Sustainable Waste Management (CLG, 2005). This repeats the overall Government policy on waste, in protecting human health and reducing the amount of waste produced, and viewing waste as a resource. The key planning objectives are listed below:
- Help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for;
  - Provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet their needs;
  - Help implement the national waste strategy and supporting targets, are consistent with obligations required under European legislation and support and complement other guidance and legal controls such as those set out in the Waste Management Licensing Regulations 1994;
  - Help secure the recovery or disposal of waste without endangering human health and without harming the environment, and enable waste to be disposed of in one of the nearest appropriate installations;
  - Reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business, and encourage competitiveness;
  - Protect green belts but recognise the particular locational needs of some types of waste management facilities when defining detailed green belt boundaries; these locational needs, should be given significant weight in determining whether proposals should be given planning permission; and
  - Ensure the design and layout of new development supports sustainable waste management.
- 2.12** In meeting the governments requirements, the Core Strategy should both inform, and in turn be informed, by the Council's Municipal Waste Management Strategy. In terms of setting out future requirements, it should look ahead at least 10 years from adoption.
- 2.13** The LDF is required to identify sites and areas suitable for new or enhanced waste management facilities. The role of the core strategy is proposed to identify areas, whereas the Land Allocations & Designations DPD will identify specific sites. When identifying land, the DPD should :
- Be in conformity with the RSS;
  - Allocate sufficient sites / areas;
  - Demonstrate the way in which sufficient capacity equivalent to at least 10 years of the RSS projections will be provided;
  - Identify the types of facilities;
  - Avoid unrealistic assumptions on the deliverability of sites.
- 2.14** PPS10 also encourages policy to explore the potential of resource recovery parks, through locating complementary facilities together, and managing waste on-site. Whatever approach is used, national policy requires the waste planning authority to assess the suitability for development against a set of criteria:
- The extent to which they support the policies in PPS10;
  - The physical and environmental constraints;
  - The cumulative effect of previous waste disposal facilities on the well being of the local community;
  - Capacity of existing and potential transport infrastructure to support the sustainable transport of waste;
  - Prioritise the use of previously developed land, and redundant agricultural and forestry buildings and their curtilages.
- 2.15** Other National Policy Statements that refer to Waste include PPS1: Delivering Sustainable Development. This requires Development Plan Policies to take account of environmental issues such as:
- The management of waste in ways that protect the environment and human health, including producing less waste and using it as a resource wherever possible;



and in a general approach to delivering sustainable development, the local authority should seek to:

- Bring forward sufficient land of suitable quality in appropriate locations to meet the expected needs for housing, for industrial development, for the exploitation of raw materials such as minerals, for retail and commercial development, and for leisure and recreation - taking into account issues such as accessibility and sustainable transport needs, the provision of essential infrastructure, including for sustainable waste management.

## 2.1 Waste Types

**2.16** The main waste types that are to be considered as part of the LDF are set out in the table below.

**Table 2.1 Waste Types**

Waste Type	Description
Municipal Solid Waste (MSW)	Includes all household wastes, street litter, waste delivered to Council recycling points, Council office waste, Household Waste Recycling Site waste, and some commercial waste from shops and smaller trading estates where local authority waste collection agreements are in place.
Commercial & Industrial (C&I)	Commercial - Waste arising from premises that are used wholly or mainly for trade, business, sport, recreation or entertainment. (Note - If a local authority has waste collection agreements in place it will be classed as MSW). Industrial - Waste arising from factories and industrial plants.
Construction, Demolition & Excavation (CD&E)	Waste arising from construction, maintenance, and demolitions of buildings, roads and other structures.
Hazardous	Previously known also as 'Special waste', Hazardous wastes pose a greater risk to the environment and human health and are therefore subject to a strict control regime.

**2.17** Accurate data on waste types other than Municipal Wastes continues to be difficult to collect, although the Environment Agency's 'Waste Data Interrogator' (WDI) has improved the situation greatly. For the purposes of the Core Strategy, using the WDI has allowed an indication of Calderdale's total waste imports and export patterns, as well as the methods of dealing with waste that is either received into, or shipped out of, the district. It is important to point out that all data in the WDI is based on information on returns from Permitted Sites, and therefore does not include wastes that went to exempt facilities, wastes that were disposed of illegally, or wastes that went directly for recycling, recovery or export.

**2.18** According to the WDI, in 2008 Calderdale's total home waste arisings (all wastes originating in Calderdale and either deposited in the district or exported) stood at 380,884 tonnes (196,868 home arisings + 184,016 tonnes exported). The total waste **deposited** in Calderdale (Home arisings deposited in the district and imports) stood at 305,604 tonnes, of which some 108,736 <sup>(7)</sup> tonnes were imports. The total waste **exported** from Calderdale was 184,016 tonnes, therefore Calderdale could be classed as a net exporter of waste, exports accounting for 75,280 more tonnes of waste compared to imports.

**2.19** There is no accurate breakdown available into the main waste types; however, the table below provides an estimate of the proportions from the data that is available. It is acknowledged that the figures below are different to those totals provided by the WDI; however it is included to provide an estimated breakdown of the overall waste arisings.

7 38,869 tonnes of which were deposited at transfer facilities therefore this proportion on imports may be sent on again to be dealt with outside the district but there is no definitive method of establishing if this was the case

Table 2.2 Estimated Breakdown of Waste Arisings by Type

Waste Type	Calderdale Arisings 2008 (tonnes)
Municipal Solid Waste	89,578 <sup>(8)</sup>
Commercial & Industrial	254,571 <sup>(9)</sup>
Hazardous Waste	10,289 <sup>(10)</sup>
	<b>West Yorkshire Arisings</b>
Construction, Demolition, & Excavation	3,463,198 tonnes <sup>(11)</sup>

### Types of Waste Input to Permitted Facilities in Calderdale

**2.20** The following table presents the amounts of waste input to permitted facilities in Calderdale - different to total arisings since the figures below relate to both waste that originated in Calderdale (home deposits) and deposited in the district, along with total imports. As the table demonstrates, by far the largest is the Household / Industrial / Commercial category

Table 2.3 Types of Waste Deposited in Calderdale

Basic Waste Category	Tonnes Input
Hazardous*	4,712
Household / Industrial / Commercial	204,769
Inert / Construction & Demolition	96,123
<b>Total</b>	<b>305,604</b>

\*Hazardous waste in this instance is information provided by operators of permitted sites - the data on the EAs Hazardous Waste Interrogator is from consignment notes of Hazardous Waste Producers.

**2.21** The chart below illustrates the majority of waste dealt with in 2008 were classed as 'Mineral Wastes' and 'Mixed Ordinary Wastes', which mirrors the situation at the regional level. Mineral Wastes can include 'Asbestos Wastes', 'Combustion Wastes', 'Construction & Demolition Wastes', 'Contaminated Soils' and 'Other Mineral Wastes'. Mixed Ordinary Wastes can include 'Household and Similar Wastes', 'Mixed and Undifferentiated Materials' and 'Sorting Residues'.

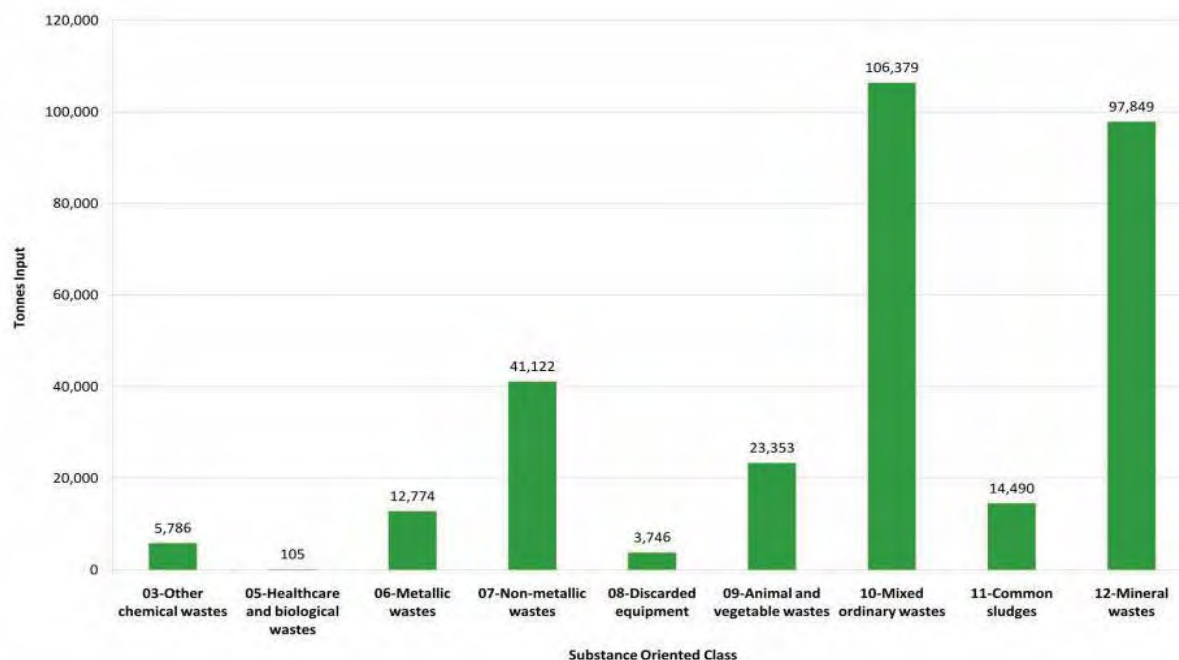
8 Figures from Waste Data Flow Web Site, for calendar year 2008.

9 Figure from Urban Mines Yorkshire & Humber Commercial & Industrial Waste Projections 2006 -2026.

10 Figures from Environment Agency Hazardous Waste Data Interrogator 2008

11 No data available for this waste stream at a local authority level. The West Yorkshire figure is taken from Survey of Arisings and Use of Alternatives to Primary Aggregates in England 2005, Construction Demolition & Excavation Waste. CLG

Figure 2.2 Waste Inputs by Substance Oriented Classification



Source : Environment Agency Waste Data Interrogator, 2008.

## 2.2 Waste Flows

**2.22** In terms of waste arisings and deposits, the tables below represent the proportions of waste arisings that different site categories dealt with, and the fate of the outputs from permitted sites in Calderdale. These show that Landfill remains the most popular destination for waste outputs from the total arisings. It is important to emphasise that this type of waste flow analysis deals with the fate of waste, in terms of how it is dealt with, rather than geographically.

**2.23** There are a number of different site categories, Metal Recycling Sites (MRS), Treatment Facilities, Transfer Facilities, and Landfill. Within these categories, there are a number of individual types of site:

- Metal Recycling Sites (MRS)
  - These include sites dealing with cars ('Car Breakers', 'End of Life Vehicle Sites') and other Metal Recycling sites (scrap yards etc);
- Treatment facilities
  - These can include Composting, Physical-Chemical (facilities that treat waste by physical or chemical means in order to prepare for disposal or recovery, e.g. photographic chemicals processing, waste water treatment etc.), and Material Recycling Facilities (MRF), where recyclable wastes is separated and sorted prior to reprocessing.
- Transfer Facilities
  - These can include Civic Amenity Sites, Household Waste Recycling sites, it mainly refers to sites which bulk waste up prior to shipping elsewhere for disposal or treatment.
- Landfill
  - Disposal of waste into land. Can include inert wastes, such as soils and rubble, as well as Household and commercial wastes.

**2.24** Transfer inputs form the largest proportion of waste inputs to Calderdale Permitted facilities, and the facility which accepts the largest amount of waste is the Halifax Bulk Transfer Station. It is here where MSW is bulked up prior to landfill, which would go some way to explaining the high % of waste outputs from Transfer stations in Calderdale that has landfill as its final destination.

Table 2.4 Inputs to Permitted Sites 2008

Site Category	Tonnes Input
MRS	16,064
Treatment	96,346
Transfer	171,351
Landfill	21,842
Total	305,604 (rounded up)

Source: Environment Agency Waste Data Interrogator 2008

Total Inputs By Facility Type

**2.25** Within each site category, there are a number of different types of facility, and the next table represents the levels of waste that each different type of facility dealt with, apart from Landfill, as this type of disposal has no outputs.

Table 2.5 Inputs into Facility Types 2008

Site Category	Facility Type	Facility Type	Facility Type	Facility Type	Totals (tonnes)
Metal Recycling Site (MRS)	Car Breaker	End of Life Vehicle (ELV) Facility	Metal Recycling		
tonnes	1,766	50	14,248		16,064
Treatment	Composting	Physical- Chemical Treatment	Material Recycling Facility (MRF)		
tonnes	19,167	73,296	3,883		96,346
Transfer	Civic Amenity Site	Hazardous Transfer	Inert Transfer Station	Non Hazardous Transfer Station	
tonnes	19,329	25	2,523	149,474	171,351
Landfill	Inert Landfill	Non Hazardous Landfill			
tonnes	1,530	20,312			21,842

Site Category	Facility Type	Facility Type	Facility Type	Facility Type	Totals (tonnes)
			Total MRS, Treatment & Transfer Inputs (tonnes)		<b>283,761</b>

Source: Environment Agency Waste Data Interrogator 2008

## Outputs

### Metal Recycling Sites (MRS) Outputs

**2.26** Outputs from MRS facilities have the largest percentage of recycling levels (72%), possibly reflecting the value of materials dealt with and the markets that are in place. The fate of 22% of outputs from MRS facilities is however unknown.

**Table 2.6 MRS Outputs 2008**

	Incinerator	Landfill	Recycling	Reprocessing	Transfer	Treatment	Unknown	Total (tonnes)
<b>Tonnes</b>	<b>0</b>	<b>0</b>	<b>11,365</b>	<b>1,049</b>	<b>16</b>	<b>0</b>	<b>3,416</b>	<b>15,847</b>
<b>% of MRS Outputs</b>	<b>0</b>	<b>0</b>	<b>72%</b>	<b>7%</b>	<b>&lt;1%</b>	<b>0</b>	<b>22%</b>	

Source: Environment Agency Waste Data Interrogator. All figures rounded up

### Treatment Outputs

**2.27** Treatment outputs account for the second highest % of recycling in terms of overall proportion (42%), but are the highest outputs in terms of weight. A significant percentage (21%) of outputs from treatment plants continue to be deposited in Landfill.

**Table 2.7 Treatment Outputs 2008**

	Incinerator	Landfill	Recycling	Reprocessing	Transfer	Treatment	Unknown	Total (tonnes)
<b>Tonnes</b>	<b>6,426</b>	<b>12,373</b>	<b>24,674</b>	<b>9,934</b>	<b>398</b>	<b>674</b>	<b>4,025</b>	<b>58,505</b>
<b>% of Treatment Outputs</b>	<b>11%</b>	<b>21%</b>	<b>42%</b>	<b>17%</b>	<b>1%</b>	<b>1%</b>	<b>7%</b>	

Source: Environment Agency Waste Data Interrogator. All figures rounded up

## Transfer Outputs

- 2.28** Landfill remains the most popular destination for outputs from transfer facilities within Calderdale, although this percentage figure is likely to reduce substantially following the implementation of the new household waste collection methods since April 2009, and further reduce on completion of the Bradford / Calderdale Waste Partnership facility in 2015. The output data from Transfer facilities appears to be the most complete; only 2% of the total inputs have an output category of 'unknown'.

**Table 2.8 Transfer Outputs 2008**

	Incinerator	Landfill	Recycling	Reprocessing	Transfer	Treatment	Unknown	Total (tonnes)
<b>Tonnes</b>	<b>4,651</b>	<b>84,429</b>	<b>30,452</b>	<b>32,770</b>	<b>11,044</b>	<b>3,725</b>	<b>4,071</b>	<b>171,143</b>
<b>% of Transfer outputs</b>	<b>3%</b>	<b>49%</b>	<b>18%</b>	<b>19%</b>	<b>6%</b>	<b>2%</b>	<b>2%</b>	

Source: Environment Agency Waste Data Interrogator. All figures rounded up

**Table 2.9 Total Outputs**

Final Destination of Outputs	Incinerator	Landfill	Recycling	Reprocessing	Transfer	Treatment	Unknown	Total (tonnes)
<b>Tonnes</b>	<b>11,077</b>	<b>96,802</b>	<b>66,491</b>	<b>43,754</b>	<b>11,458</b>	<b>4,399</b>	<b>11,512</b>	<b>245,494</b>
<b>% of Total Outputs</b>	<b>5%</b>	<b>39%</b>	<b>27%</b>	<b>18%</b>	<b>5%</b>	<b>2%</b>	<b>5%</b>	

Source: Environment Agency Waste Data Interrogator. All figures rounded up

- 2.29** As can be seen from the tables above, the largest amounts of outputs from permitted waste facilities in Calderdale are from Transfer Stations, and the main final destination for outputs remains landfill. By far the largest contributor to Landfill output by both proportion and weight are Transfer facilities, accounting for 87% of outputs to Landfill. The recycling figure stood at 27% in 2008; however, as already mentioned, this is likely to increase following the new household waste collection arrangements introduced in April 2009.
- 2.30** In all, the difference between total waste inputs to permitted waste facilities in Calderdale and outputs from them stood at 38,267 tonnes overall, with the largest difference between waste input and output occurring (37,841 tonnes) in Treatment facilities (although this excludes waste outputs where the fate is unknown but the tonnages are recorded).
- 2.31** The flow of waste from MRS facilities is largely confined to recycling outputs (72%), treatment facilities also have a relatively high recycling rate (42% of outputs).



### Calderdale Waste Facilities - Inputs and Outputs

In summary, the main points concerning the inputs to and outputs from Calderdale's permitted waste facilities in 2008 were as follows:

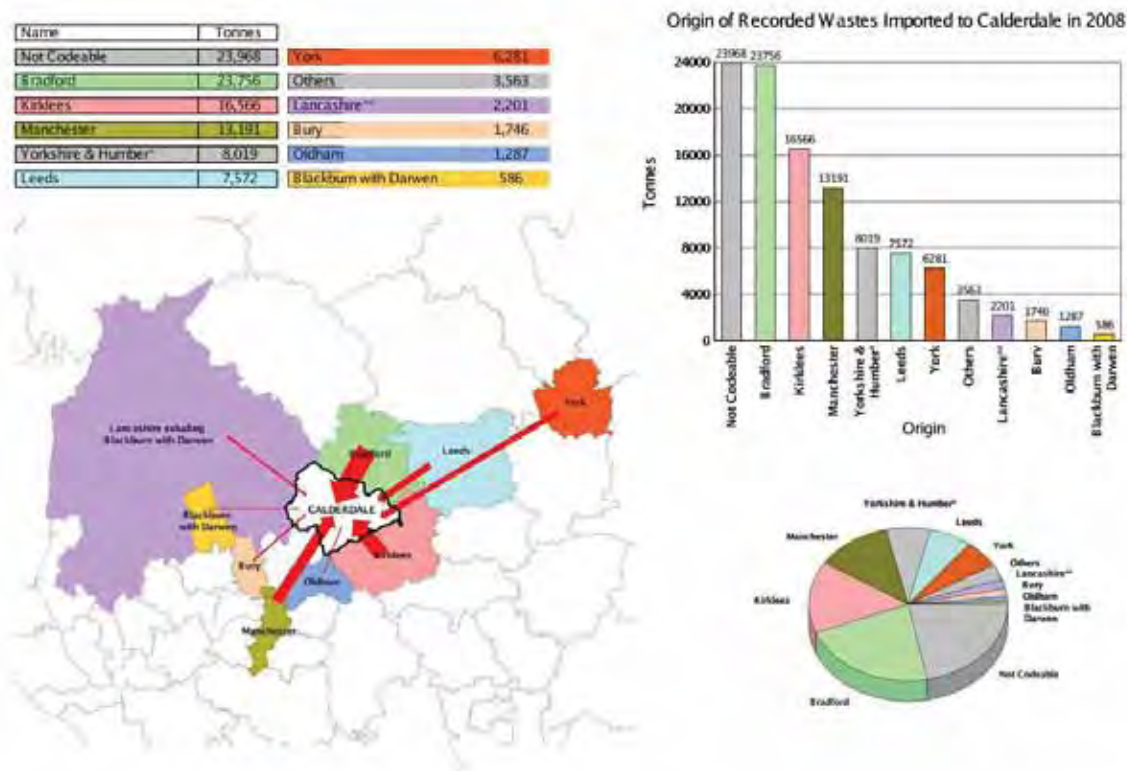
- Total inputs to permitted waste facilities in 2008 were 305,604 tonnes.
- Landfill remains the most popular output fate;
- Transfer facilities accept the highest level of inputs;
- Nearly all inputs to Transfer facilities have an output recorded;
- The largest difference in terms of input and output amounts occur in Treatment facilities<sup>(12)</sup>;
- MRS and Treatment facilities have the highest levels of recycling;
- Recycling levels are expected to increase following the new household waste collection service.

2

### Waste Imports

**2.32** The total recorded waste arisings imported into permitted sites from outside the district in 2008 stood at 108,736 tonnes, although 20,767 tonnes of this amount were classed as 'not codeable' (the place of origin was unknown). Since the amounts of waste of unknown origin imported into Calderdale represents nearly 30% of the entire import data available, this makes it difficult to establish a pattern with any degree of confidence. Of the origins that are known, the areas exporting the highest tonnages to Calderdale were Bradford, Manchester, and 'Yorkshire & Humber' (not classified down to district level). The Lancashire total excludes imports from Blackburn and Darwen, since amounts from this district are recorded by the WDI.

**Figure 2.3 Origins of imported recorded wastes 2008**



Source: Environment Agency Waste Data Interrogator 2008

12 According to the Environment Agency this may be due to the treatment processes involved; for instance, Composting typically reduces volumes of inputs by 25%.

Waste Imports - Types and Fate

2.33 The types of waste imported to the district in 2008 mainly consisted of the following:

- Construction & Demolition wastes - 28%
- Paper & Cardboard wastes - 20%;
- Household & Similar wastes - 12%;
- Green wastes - 10%

The table below shows the methods for dealing with the imported waste in Calderdale:

Table 2.10 Deposit Fate of Imported Wastes 2008

Site type	Tonnes	% of total imports
Landfill	21,032	19
MRS	6,419	6
Transfer	38,869	36
Treatment	42,416	39
Total	108,736	

Source: Environment Agency Waste Data Interrogator

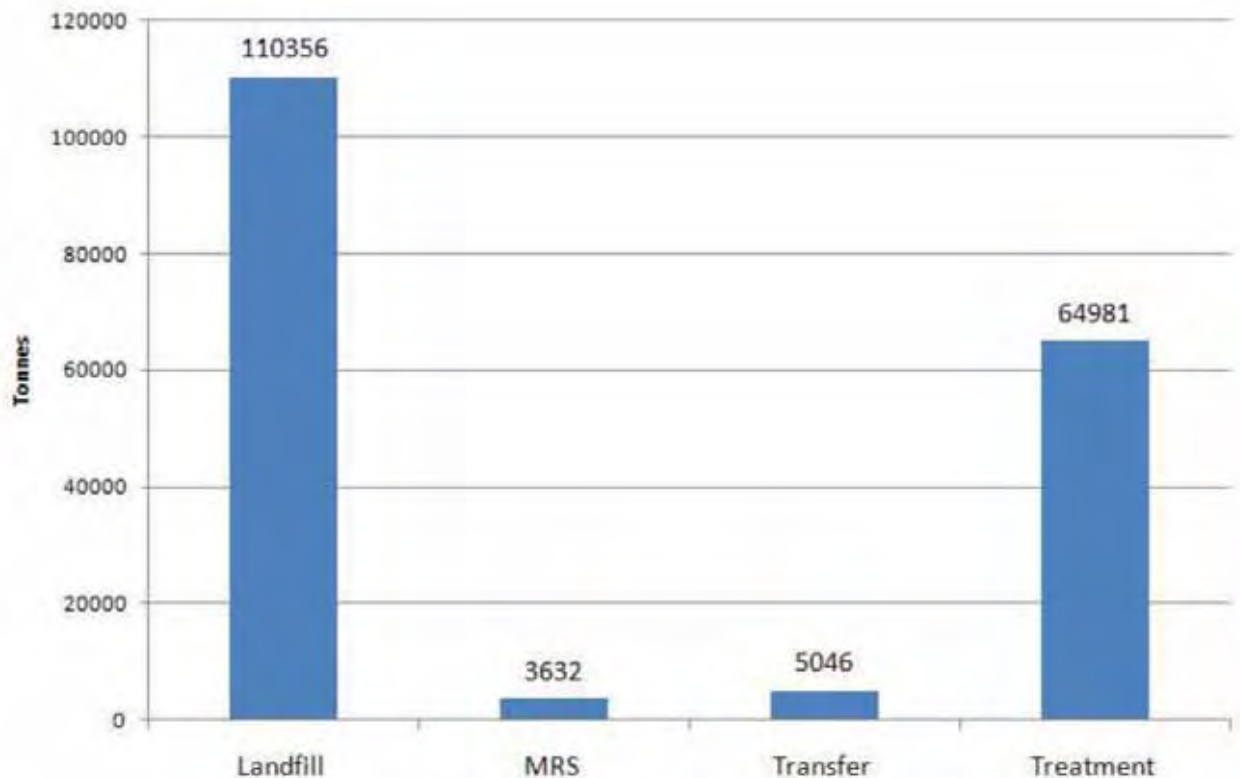
2.34 Of the 21,032 tonnes imported to landfill, nearly three quarters were classed as Construction & Demolition wastes (54%), Various Mineral wastes (12%), and Naturally Occurring Mineral Waste (7%). As expected, the 6,419 tonnes imported to MRS facilities were made up of discarded vehicles (20%), Ferrous Metal Waste & Scrap (58%) and Non Ferrous metal Waste & Scrap (16%). The 38,869 tonnes of wastes imported to transfer facilities were made up mainly of Paper & Cardboard Wastes (41%), Household & Similar Wastes (23%), Construction & Demolition wastes (19%) and Naturally Occurring Mineral wastes (13%). In terms of the 42,416 tonnes imported to Treatment facilities, Construction & Demolition made up 28% of the total, 26% were Green Wastes, and 17% were food preparation and product wastes.

Waste Exports

2.35 The following section looks at the exports of all waste from Calderdale, the main destinations, and the fates of the waste that is exported. Whilst it is appreciated the WDI only provides details on the recorded totals of waste arisings and fates, it is considered helpful in presenting a pattern of the current waste management in Calderdale based on the information we do have.

2.36 The chart below illustrates the fate of waste that is exported from Calderdale to permitted waste sites. This shows that for the majority of all waste types that are sent to permitted waste sites, Landfill remains the primary method of disposal.

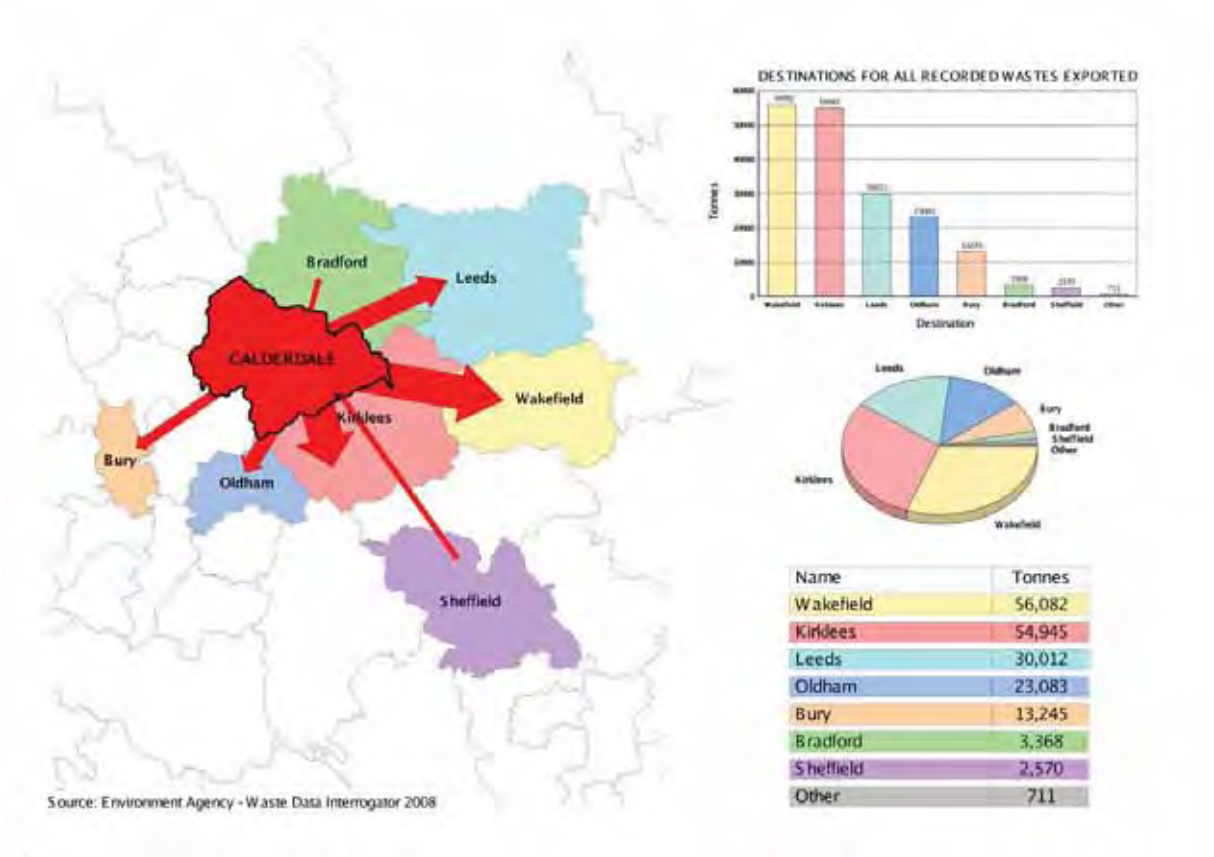
Figure 2.4 Fate of Waste Exported from Calderdale



Source: Environment Agency Waste Data Interrogator 2008

**2.37** Figure 2.5 illustrates the main destinations of all recorded wastes exported from Calderdale in 2008. This indicates that the majority of Calderdale's wastes are exported to either Kirklees or Wakefield, with significant tonnages also transported to Leeds, Oldham, and Bury. In 2008, the total recorded waste arisings exported to permitted Landfill, Metal Recycling Sites (MRS), Waste Treatment Sites, or Transfer Sites from Calderdale stood at 184,016 tonnes. The figures also reveal that Bradford receives comparatively little of Calderdale's waste, however this will change once the Bradford & Calderdale Waste Partnership facility is operational. The main impact of this is likely to result in a significant fall in the amounts of waste exported to Oldham and Bury.

Figure 2.5 Destinations of All Recorded Wastes Exported



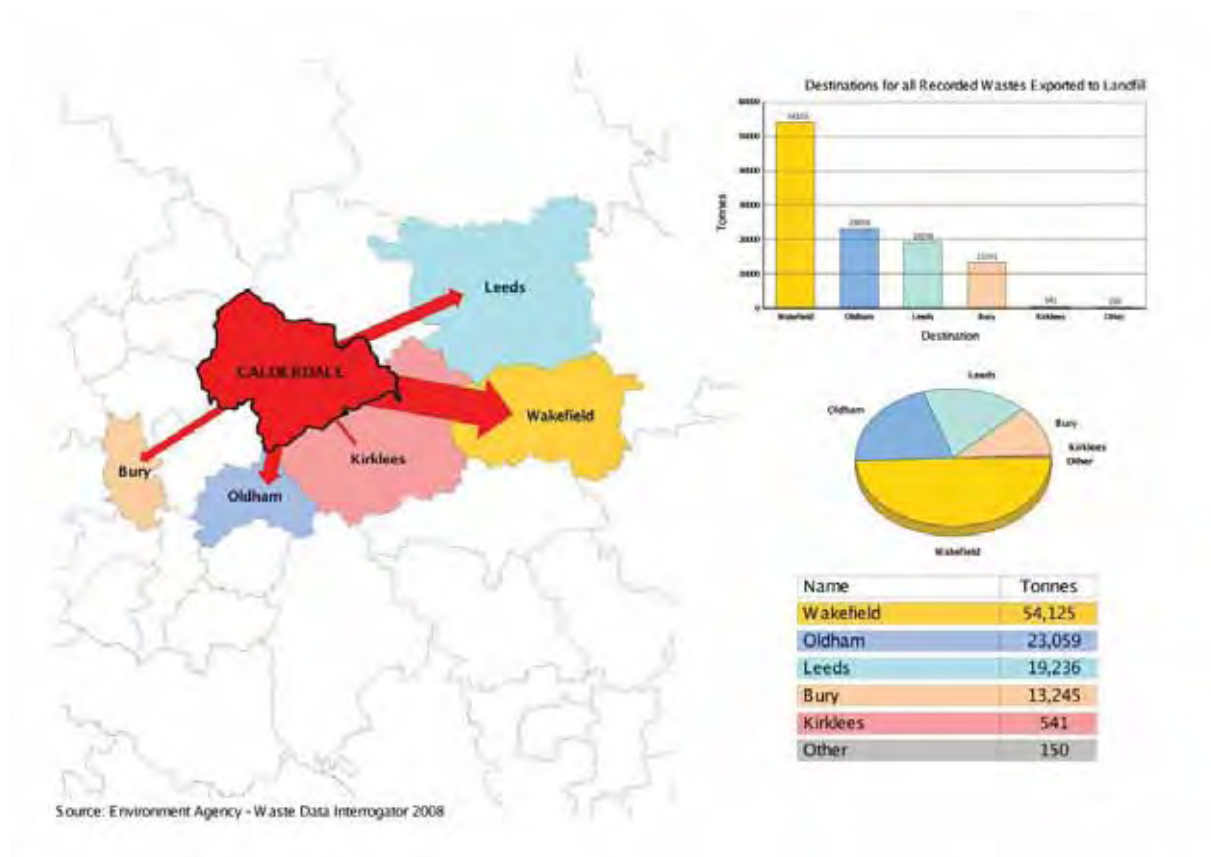
Types of Waste Exported

- 2.38 In terms of the types of waste that Calderdale exported in 2008, this was made up of the following:
- Kirklees - 95% of exported waste to Kirklees was waste water treatment sludges;
  - Wakefield - 70% of exported waste to Wakefield was classed as Household & Similar wastes, 26% was Sorting Residues;
  - Leeds - 42% consisted of Household & Similar wastes, with small amounts of Wood Waste, Acid, Alkalies& Salt, Sorting Residues, Construction & Demolition, and Various Mineral Wastes making up the majority of the remainder;
  - Oldham - 82% of waste exported was Household & Similar wastes;
  - Bury - 95% Consisted of Household & Similar wastes;
  - Bradford - 68% was Metal Waste and Scrap, 31% was Wood Waste;
  - Sheffield - No one particular waste type made up a majority, exports were split between Acid, Alkalies & Salt, 39%, and Metal wastes & Scrap, 34%, as well as Used Oils, 21%.

Exports to Landfill

- 2.39 As previously mentioned, landfill is the least preferred method of disposal, with environmental, social, and economic costs. Wakefield, Oldham, Leeds and Bury are the main destinations. When comparing the total amounts exported, it suggests the vast majority of waste sent to Bury, Oldham and Wakefield ends up in landfill.

Figure 2.6 Destinations of All Recorded Wastes Exported to Landfill



### Types of Waste Exported to Landfill

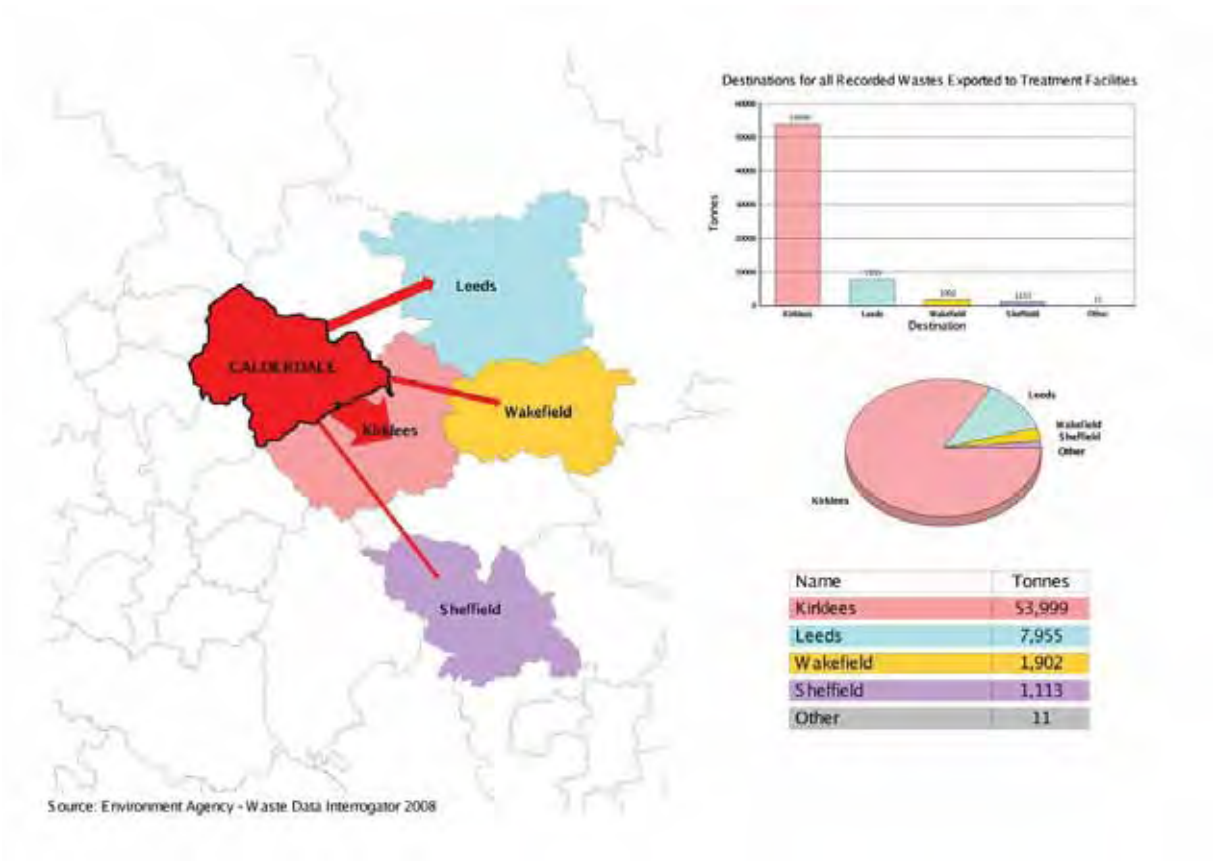
- 2.40** In terms of the types of waste that Calderdale exported to landfill in 2008, this was made up of the following:
- Wakefield - 72% of wastes exported to Landfill in Wakefield was classed as Household & Similar Wastes;
  - Oldham - 82% of wastes exported to Landfill in Oldham was classed as Household & Similar Wastes;
  - Leeds - 65% of wastes exported to Landfill in Leeds was classed as Household & Similar Wastes;
  - Bury - 95% of wastes exported to Landfill in Bury was classed as Household & Similar Wastes;
  - Kirklees - 51% of wastes exported to Landfill in Kirklees was classed as Naturally Occurring Minerals, 49% was Asbestos wastes.
- 2.41** Since the majority of MSW 'black bag/wheelie bin' landfill wastes are transported to Oldham or Bury, it can be assumed that the majority of wastes ending up in Wakefield and Leeds are Commercial and Industrial Waste, with a small amount of construction and demolition wastes being landfilled in Kirklees.

### Exports to Treatment Facilities

- 2.42** The amounts that are recorded as waste exported to treatment facilities are shown below. This demonstrates that the vast majority of all waste sent to Kirklees is destined for treatment (53,999 tonnes out of a total of 54,945), and is by far and away the main destination for Calderdale's waste exported for treatment.



Figure 2.7 Destinations of All Recorded Wastes Sent to Treatment Facilities



Types of Waste Exported to Treatment Facilities

- 2.43 The types of Waste Exported from Calderdale to Treatment Facilities in 2008 consisted of the following:
- Kirklees - 97% of wastes exported to treatment facilities in Kirklees were classed as Waste Water Treatment Sludges;
  - Leeds - 42% of wastes exported to treatment facilities in Leeds were Wood wastes, 37% were classed as Acid, Alkalies or Salts;
  - Wakefield - 100% of wastes exported to treatment facilities in Wakefield were Glass Wastes;
  - Sheffield - 91% of wastes exported to treatment facilities in Sheffield were classed as Acid, Alkalies, or Salts.

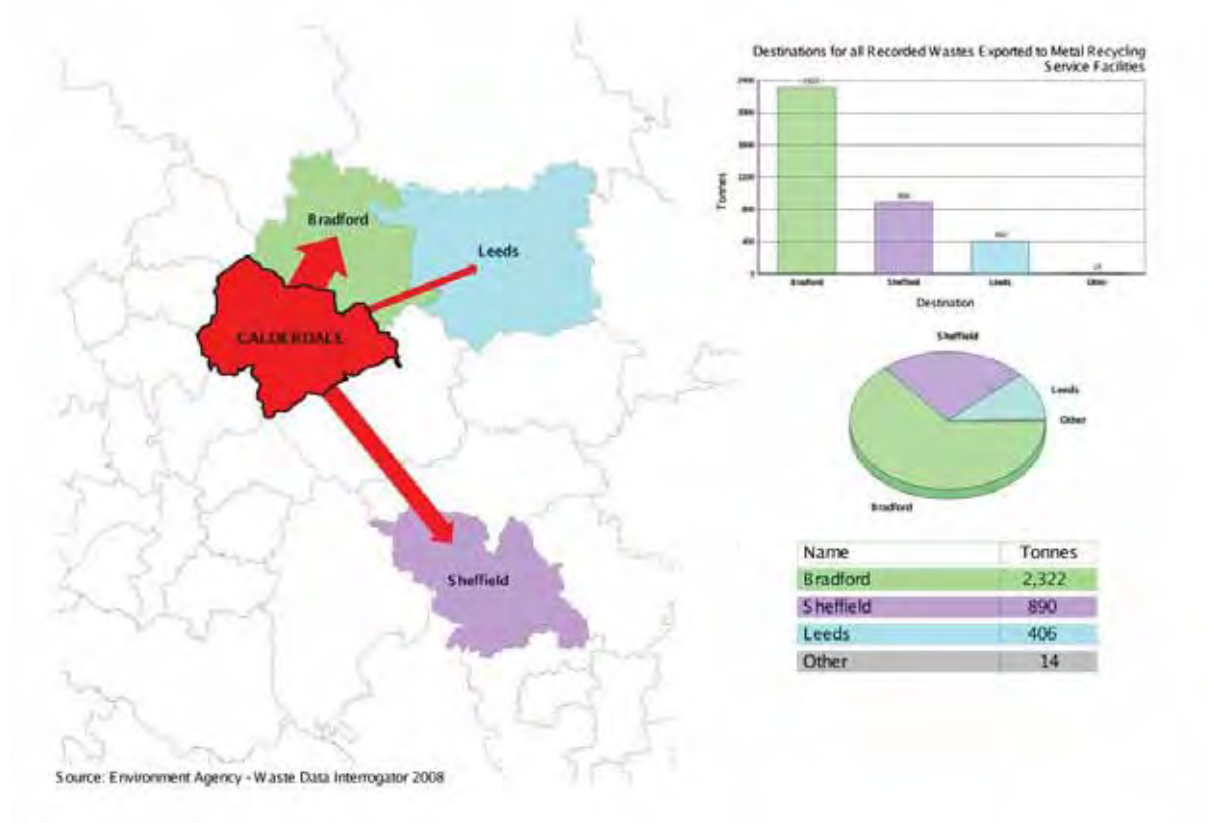
2.44 If the waste water treatment sludges sent to Kirklees are excluded, it is noticeable how little waste is exported for treatment from Calderdale - 10982 tonnes out of the total exports of 184016, which is just 6% of the overall total.

Exports to Metal Recycling Sites (MRS)

2.45 The following chart illustrates the amounts of waste exported from Calderdale to Metal Recycling Sites, or MRS. When compared to the other amounts, these levels are much lower than the previous amounts sent to other types of facilities.



Figure 2.8 Destinations of All Recorded Wastes Exported to Metal Recycling Sites 2008



### Types of Waste Exported to Metal Recycling Sites

**2.46** The types of waste exported to Metal Recycling Sites from Calderdale in 2008 were made up largely of the following:

- Bradford - 98% of wastes exported to MRS facilities in Bradford were classed as 'Ferrous Metal Waste and Scrap';
- Sheffield - 68% of wastes exported to MRS facilities in Sheffield were classed as Mixed Metal Wastes, 32% were classed as Ferrous Metal Waste and Scrap;
- Leeds - 78% of wastes exported to MRS facilities in Leeds were classed as Ferrous Metal Wastes and Scrap.

### Summary of Exports

In summary therefore, the available information on waste exports from Calderdale allows the following assumptions:

- The majority of waste exported is destined for Landfill;
- The main destination for waste destined for Landfill is Wakefield;
- The main destination for waste destined for treatment is Kirklees;
- The main destination for waste destined for MRS facilities is Bradford.

The main types of wastes exported from Calderdale are:

- Household and Similar Wastes - 45%;
- Waste Water Treatment Sludges - 28%;
- Sorting Residues - 12%.

**2.47** The remainder of exports are made up of a large number of different waste types, although none of these are significant amounts, each generally amounting to less than 2% of the overall export total.

## 2.3 Waste Arisings and Projections

**2.48** The following section looks at the individual types of waste the LDF will need to consider when planning future waste management facilities. Municipal Solid Waste (MSW), Commercial & Industrial Waste (C&I), Construction, Demolition & Excavation Waste (C,D&E), and Hazardous Waste. MSW and C&I Waste types both have available data in terms of future projected levels and these have been used as a basis to estimate the additional capacity that will be required in the district during the lifetime of the LDF.

### Municipal Solid Waste (MSW) Arisings

**2.49** In 2008, the total amount of Municipal Solid Waste (MSW) managed in Calderdale was 89,578 tonnes. Of this, 58,492 tonnes went to Landfill, 26,466 tonnes were recycled or composted, and 4,619 tonnes were used for energy recovery. The following table presents a comparison with previous years. This shows that in the period 2006/7 to 2008 there has been a reduction in the amounts of MSW disposed of in landfills, whilst an increase in the amount recycled and the amount of MSW sent for energy recovery.

**Table 2.11 Municipal Waste (MSW) Arisings**

Year	Municipal Waste Collected for Recycling, Composting and Reuse (Includes Collection Rejects)	Municipal Waste sent directly for Energy Recovery	Municipal Waste sent to Landfill	Municipal Waste sent to Other Disposal routes	Total Municipal Waste Arisings (based on residual waste sent for disposal)
Apr 06-Mar 07	23,064	680	69,299	49	93,093
Apr 07-Mar 08	26,224	399	65,867	37	92,527
2008	26,466	4,619	58,492	0	89,578

Source : Waste Data Flow Web Site, 2010

**2.50** With the recent introduction of the new collection service, the levels of recycling are expected to increase. For example, the levels of municipal waste sent for Recycling, Composting, and Reuse in the first two quarters of the municipal year 2009/10 have already reached 40% <sup>(13)</sup>, when compared with the same period of 2008/9 which stood at 31%.

**2.51** At present, the residual MSW that is not recycled or treated (i.e. black bag / wheelie bin waste) is dealt with by bulking up the waste at two transfer stations (Halifax and Eastwood) prior to being shipped out of the district to landfill. This arrangement is due to come to an end in 2015, following which an agreement is in place with Bradford Council to deal with the residual MSW.

**2.52** The MSW recyclable waste that is collected (apart from food waste which is composted in Calderdale) is bulked up at Halifax and Todmorden before being transported out of the district to merchants or reprocessors. This arrangement is in place until at least 2015. Since the exact arrangements for dealing with MSW recyclables after 2015 are not yet in place, it is considered appropriate to plan for additional capacity within Calderdale to deal with the MSW that is diverted from landfill.

## MSW Predicted Arisings

**2.53** Calderdale's Waste Management section have updated the forecasts for MSW arisings set out within the Waste Management Strategy, and these are presented in the table below. The updated set of projections assume a 1% decrease of MSW from 2009-2012, no rise or fall 2013 - 2015, a 1% rise 2015 -2020, and flattening out again after 2020. These forecasts have been used in developing the Bradford Calderdale PFI waste partnership, and therefore have been included in place of the 2006 Calderdale Waste Management Strategy forecasts. Using these figures, by 2021 it is estimated that 40,626 tonnes will need to be recycled / recovered, and a minimum of 20,313 tonnes will need to be treated.

**Table 2.12 Predicted Arisings - Municipal Solid Waste - Calderdale Waste Management Figures**

Year	Waste Stream	Predicted Arisings (Tonnes Per Annum)	Overall MSW Recycling/ Recovery / Treatment Capacity Required (% of total*)	Minimum Recycling / Recovery Capacity Required Per Annum (% of total*)	Minimum Treatment Capacity Required Per Annum (% of total*)
2010 / 2011	Municipal Solid Waste	82,895	41,284 (53%)	33,495 (43%)	7,790 (10%)
2015 / 2016	Municipal Solid Waste	82,866	52,184 (67%)	35,828 (46%)	16,356 (21%)
2020 / 2021	Municipal Solid Waste	86,252	60,939 (75%)	40,626 (50%)	20,313 (25%)
2025 / 2026	Municipal Solid Waste	86,252	60,939 (75%)	40,626 (50%)	20,313 (25%)

Source: Calderdale Council Waste Management Section. (\* % is calculated after removing 5000 tonnes of inert material from the predicted arisings total)

### Question MW 17

Do you have any comments on the predicted Municipal Solid Waste arisings?

## Commercial and Industrial (C&I) Waste Arisings

**2.54** The LDF will also need to focus on the other waste streams, which are Commercial and Industrial (C&I), Construction, Demolition and Excavation (CD&E), Hazardous, and Agricultural. There is a need to find sufficient land that could accommodate waste management facilities that recover value from or treat these different waste streams, along with a need to find additional landfill capacity. It is important to note that as the amount of non MSW waste diverted from landfill increases, so the current spare treatment / recovery capacity available to other waste streams reduces.

**2.55** Commercial and Industrial <sup>(14)</sup> (C&I) waste accounts for the vast majority of waste arisings, although collection of accurate data remains difficult. Using the information we have about MSW and the Waste Data Interrogator does help in estimating C&I arisings, whilst regional level studies provide future projections.

<sup>14</sup> Waste arising from premises that are used wholly or mainly for trade, business, sport, recreation or entertainment, or waste that arises from factories and industrial plants, Calderdale MBC Waste Strategy, 2006.

- 2.56** By running a report in the WDI on the total Household, Industrial and Commercial waste (which will include MSW) exported for landfill and subtracting this from the amounts of MSW landfilled it is possible to arrive at an estimate of C&I arisings that are exported to landfill, as all the MSW destined for landfill is exported from Calderdale. According to the Waste Data Flow web site, in 2008 Calderdale sent 58,483 tonnes of MSW to landfill. Figures from the WDI estimate that the total Household, Industrial and Commercial waste exported for landfill to permitted sites in 2008 stood at 109,217 tonnes. This leaves a residual amount of 50,734 tonnes (Household, Commercial and Industrial 109,217 - MSW 58,483), which it is assumed was the amount of C&I waste exported from Calderdale to permitted Landfill sites in 2008. However, this does not take into account C&I wastes that are not recorded, and therefore needs to be treated with caution.
- 2.57** Data on other C&I disposal methods from the WDI are also limited to estimates. In Calderdale, in 2008 all Household, Industrial & Commercial wastes that were exported to permitted treatment facilities amounted to 59,929 tonnes. Of this figure, the majority (52,421 tonnes) was classed as sewage waste.

### Commercial and Industrial Predicted Arisings

- 2.58** Data from the 2009 Yorkshire & Humber Waste Data Statistics Digest <sup>(15)</sup> suggested that by 2026, the C&I waste arisings in Calderdale will be 203,065 tonnes p.a., of which the majority will need to be diverted away from landfill. There are currently no statutory targets concerning the reduction of C&I waste arisings, although the economic impacts of a landfill tax mean that the increased diversion of C&I waste away from landfill is the main priority. Unlike MSW, there is no agreed recycling / recovery and treatment split of C&I, therefore, it is proposed to apply the same ratio to C&I waste as those used for MSW, from the UK National Waste Strategy. For example, in 2026, the MSW target is 75%, 50% of which is recycling and the remaining 25% is for treatment. Applying these figures to the overall tonnage requiring diversion from landfill allows a split to be estimated.
- 2.59** By 2026, of the estimated 203,065 tonnes of C&I, the overall recycling / recovery / treatment capacity required will be approximately 152,299 tonnes p.a., a figure which is based on the 75% diversion rate. Even if this diversion rate is achieved, it would still leave around 50,766 tonnes p.a. of C&I waste requiring landfill. Although the predicted arisings show a decrease overall of C&I between 2010 to 2026, the amount of waste that will require treatment and diverting away from landfill is considerable, and a major issue for the Local Development Framework.

**Table 2.13 Predicted Arisings - Commercial and Industrial**

Year	Waste Stream	Predicted Arisings (Tonnes p.a.)	Overall C&I Recycling/ Recovery / Treatment Capacity Required (% same as MSW) tonnes p.a.	C&I Recycling / Recovery capacity required (% of total) tonnes p.a.	C&I Treatment Capacity Required (% of total) tonnes p.a.	Landfill Capacity Required tonnes p.a.
2010	Commercial & Industrial	220,059	116,631 (53%)	94,625 (43%)	22,006 (10%)	103,428
2015	Commercial & Industrial	207,445	138,988 (67%)	138,988 (46%)	43,563 (21%)	68,457
2021	Commercial & Industrial	205,818	154,364 (75%)	102,909 (50%)	51,455 (25%)	51,455
2026	Commercial & Industrial	203,065	152,299 (75%)	101,533 (50%)	50,766 (25%)	50,766

Source : Urban Mines Yorkshire & Humber Commercial & Industrial Waste Projections 2006-2026 (2009)

## Question MW 18

Do you have any comments on the predicted Commercial and Industrial Waste arisings?

2

## Waste Arisings - Construction, Demolition and Excavation

- 2.60** Data on Commercial, Demolition & Excavation (CD&E) waste arisings or forecasts are not readily available at a local authority level. A recent study by the Environment Agency shows that <sup>(16)</sup> the total inputs to permitted facilities in the Yorkshire & Humber region stood at 4,702,297 tonnes in 2007. At a West Yorkshire level, studies carried out by CLG estimated that in 2005 the CDE arisings in West Yorkshire totalled 3,463,198 tonnes.
- 2.61** Using the WDI as a comparison, and using the same C,D&E waste type categories as in the recent study by the Environment Agency <sup>(17)</sup> the estimated total Construction & Demolition waste arisings in West Yorkshire recorded at permitted sites in 2008 was 888,587 tonnes. The difference between the CLG (2005) study and the WDI emphasise the difficulty in predicting an approximate capacity requirement for this particular waste stream. What can be established from the WDI though is the relatively small amount of CD&E waste exported from West Yorkshire compared to the total arisings; of West Yorkshire's 888,587 tonnes, only 40,172 tonnes were exported from the sub region.
- 2.62** With uncertainty and difficulty in arriving at local level estimates, and the absence of any previous Calderdale estimates, any WDI estimate for Calderdale needs to be treated as very approximate. According to the WDI (again using the same CD&E waste categories as the recent study), Calderdale generated approximately 61,679 tonnes of Construction & Demolition arisings in 2008 that were deposited in permitted waste facilities, of which 57,956 tonnes were dealt with in the district. When compared to the CLG study in 2005 (3,463,198 tonnes), alongside WDI estimates (888,587 tonnes) for West Yorkshire as a whole, this is an extremely small proportion of the overall amount (whichever of the West Yorkshire totals are used). Given the differences between the urbanised and rural parts of the sub region, any estimates for each local authority derived from the West Yorkshire figures are difficult to arrive at with any degree of confidence.
- 2.63** In 2005, the Enviro report used in the preparation of the RSS indicated that 93% of CD&E Waste is 'either recycled or put to beneficial use', therefore 7% of this waste stream will require to be landfilled, a ratio that the Environment Agency expects to continue in the near future'. Applying this ratio to the estimates above, taking the 2005 CLG study, this would suggest that 242,424 tonnes of CD&E waste would be deposited in landfill, although not all of this would automatically be deposited in landfill sites within West Yorkshire. Applying the same ratio to the WDI figures for West Yorkshire, gives a figure of 62,201 tonnes, which is approximately a quarter of the CLG total. At a local level, of Calderdale's estimated arisings, 4,317 tonnes would require landfill disposal.
- 2.64** A more recent study by the Environment Agency suggested that a high proportion of CD&E waste does not find its way to permitted waste management sites, and that a significant amount is used to fill, reclaim or improve sites under a waste management exemption, which according to the study accounted for nearly as much CD&E waste as went to permitted landfills. Materials that are classed as CD&E waste can often be reused on site, taken for reclamation, used as secondary aggregates, or used as cover and engineering works on landfill sites <sup>(18)</sup>. The difficulties in establishing an accurate requirement for additional CD&E waste facilities is illustrated by the fact that in this report the Environment Agency have suggested approximately 44% of Yorkshire & Humber's total CD&E deposits ended up going to landfill, which alters the capacity required substantially. Applying this ratio to the West Yorkshire figures would mean approximately 390,978 tonnes landfill capacity; in terms of Calderdale this figure would be approximately 27,139 tonnes, significantly different to the figures based on the 2005 report.

16 Draft Waste Data Modelling Project, Yorkshire & Humber Region, Environment Agency, February 2010

17 Asbestos Wastes; Concrete, Bricks & Gypsum; Mixed Construction; Polluted Soils & Rubble; Hydrocarbonised Road Surfacing Material; and Waste of Naturally Occurring Minerals

18 Draft Waste Data Modelling Project, Yorkshire & Humber Region, Environment Agency, February 2010



## Waste Arisings - Construction, Demolition and Excavation Waste

- 2.65** The Environment Agency suggest that as a region, in 2007 the Yorkshire & Humber had approximately 12 years landfill capacity for non hazardous and inert CD&E waste, although there is very limited landfill capacity to deal with hazardous CD&E wastes. The National Waste Strategy (2007) proposes a target to halve the amount of C,D&E waste going to landfill by 2012, although a firm target has yet to be set.
- 2.66** The limited data that is available shows relatively low level of exports from the region (and from Calderdale), and when compared to West Yorkshire and the Region as a whole, Calderdale produces lower levels of this waste stream. At present, there is no agreed estimate of future C,D&E arisings, nor any identified need for additional landfill or treatment facilities for inert and non hazardous CD&E waste. Given the limited information and lack of identified need, it is not proposed to recommend any future capacity for specific CD&E waste facilities at this stage in the consultation process. As the amount of C,D& E information increases through consultation, additional need may be identified in future documents.

### Question MW 19

Do you agree with the proposal not to recommend additional waste facilities for Construction, Demolition, and Excavation Waste?

## Waste Arisings - Hazardous Wastes

- 2.67** According to the regional figures, the district generated approximately 10,289 tonnes of hazardous wastes<sup>(19)</sup> arisings in 2008, although only 25 tonnes of hazardous wastes were actually treated within the district. The new controls on Hazardous Wastes in 2005 replaced the former 'Special waste' regulations, which resulted in wastes that were previously classed as 'Special Waste' being classed as 'hazardous'. Hazardous wastes now include everyday items such as televisions and fluorescent light tubes<sup>(20)</sup>
- 2.68** The table below presents the fate of Calderdale's total arisings according to the Hazardous WDI for 2007 and 2008. This illustrates that in 2008 there was a reduction of almost 1,000 tonnes of Hazardous Waste, with an increase in the amount going to recycling or for reuse, and a reduction in the amount going to landfill, which may be as a result of the reduction in the number of landfill sites being licenced to accept hazardous waste and a movement to a treatment based system. The Region reports that overall there has been a reduction in the amount of hazardous wastes produced since 2005.
- 2.69** Estimates in 2005 concerning the future capacity requirements for hazardous wastes predicted there would be a continuation of the current landfill / treatment ratios, which stood at 35% landfill and 65% being dealt with through treatment. Because of the specialist nature of treatment for hazardous wastes, this type of waste tends to be transported to specialist landfill and treatment facilities over longer distances than is often the case with other waste streams. According to the Regional Waste Data Statistics Digest, West Yorkshire exports significant amounts of Hazardous Wastes to the former Humberside area, although this does not appear to be the case with the majority of Calderdale's exported waste in either 2007 or 2008, with the largest amounts being dealt with in Leeds and Kirklees.

19 Controlled waste that is considered so dangerous or difficult to keep, treat or dispose of that special provision needs to be made by regulations, Calderdale Waste Management Strategy, Calderdale MBC, 2006.

20 Government Office for Yorkshire & The Humber, Waste Arisings Forecasting, Enviros Consulting, 2007.

Table 2.14 Fate of Hazardous Waste generated in Calderdale 2007&amp; 2008

Waste Fate	2007 (Tonnes)	% of total		2008 (Tonnes)	% of total
Incineration Without Energy Recovery	299	2.7		228	2.2
Incineration With Energy Recovery	8	0.1		32	0.3
Landfill	1,101	9.8		668	6.5
Recycling / Reuse	1,793	15.9		2,250	21.9
Transfer - Disposal	787	7		780	7.6
Transfer - Recovery	903	8		901	8.8
Treatment	6,366	56.6		5,430	52.8
<b>Total</b>	<b>11,257</b>			<b>10,289</b>	

Source: Environment Agency Hazardous Waste Data Interrogator 2007

Figure 2.9 Main Destinations of Hazardous Waste Exported from Calderdale 2007

Source: Environment Agency 2007

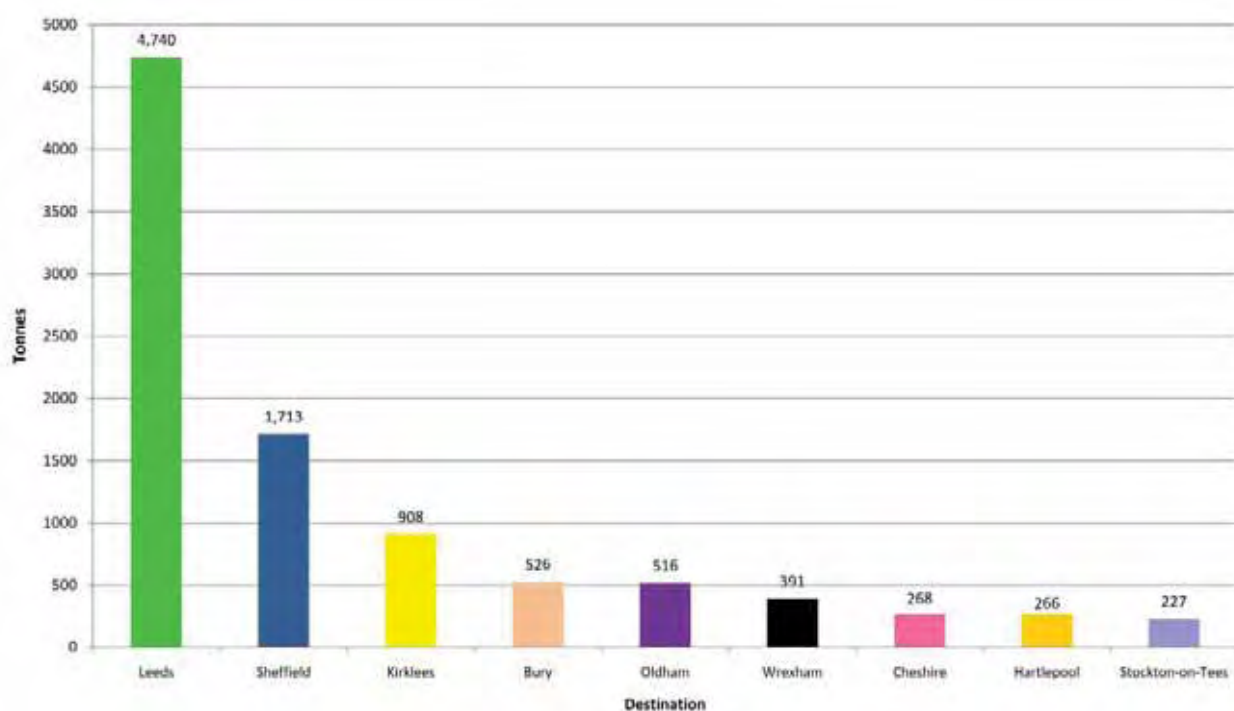
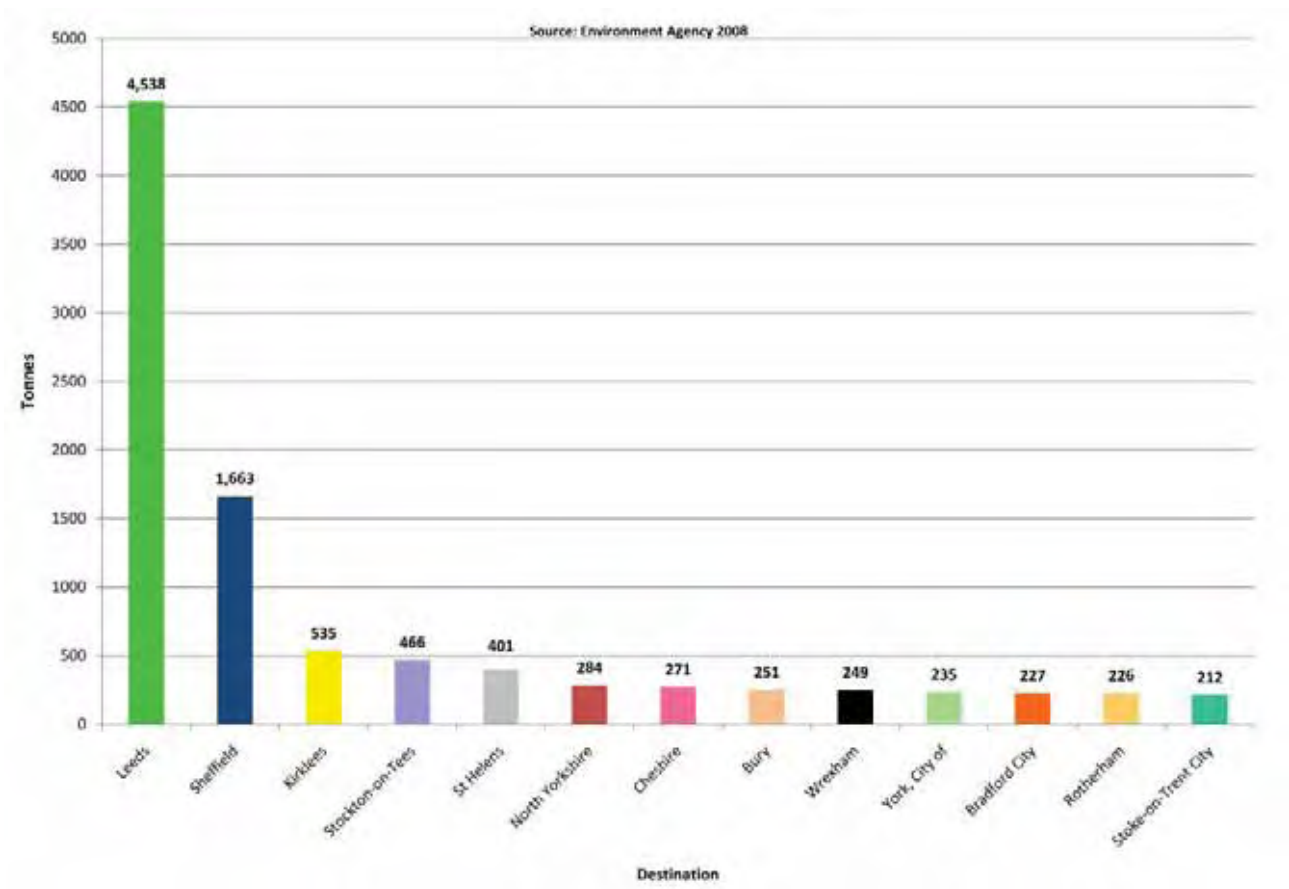


Figure 2.10 Main Destinations of Hazardous Waste Exported from Calderdale 2008



Hazardous Wastes - Predicted Arisings

2.70 At present there are no future projections for the levels of Hazardous wastes, and because of the specialist nature of treatment for this type of waste, consignments tend to be transported to specialist landfill and treatment facilities over longer distances than is often the case with other waste streams. Whilst facilities of this kind are of a regional / sub regional nature, the LDF will need to develop policies concerning the development of any such waste facility.

Question MW 20

If you are aware of any further information on the future Hazardous Waste arisings please provide details.

Agricultural Wastes - Arisings & Predicted Arisings

2.71 The majority of Agricultural wastes tend to be dealt with on site, or are accounted for within the Commercial and Industrial wastes stream, and as there is no identified need for additional facilities, it is not considered necessary to plan to provide allocations for this type of waste.

Question MW 21

Do you agree with the proposal not to provide specific allocations for Agricultural Wastes?

## Sewage Sludge

- 2.72** Figures from the EA state the waste water treatment works at Copley dealt with 14,490 tonnes in 2008, at present there are no forecasts for sewage sludge arisings over the lifetime of the plan. Through consultation with the water companies any further need for facilities will be established.

### Question MW 22

If you are aware of any further information on future need for sewage sludge facilities please provide details.

## Summary of Predicted Waste Arisings and Capacity Requirements

### Summary of Predicted Waste Arisings and Capacity Requirements

In summary therefore, the predicted waste arisings in 2026 are as follows:

**MSW 86,252 tonnes**

- Minimum Tonnage to be Recycled/Recovered: 40,626 tonnes (50% of total) <sup>(21)</sup>
  - Minimum Treatment Capacity Required: 20,313 tonnes (25% of total) <sup>(22)</sup>

**C&I 203,065 tonnes**

- Landfill Capacity required : 50,766 tonnes (25% of total)
  - Recycling/Recovery Capacity required: 101,533 tonnes (50% of total)
  - Treatment Capacity required: 50,766 tonnes (25% of total)

**Table 2.15 Overall MSW & C&I Recycling / Recovery Capacities Required**

Year	MSW Recycling / Recovery Capacity Required (tonnes)	C&I Recycling / Recovery Capacity Required (tonnes)	Overall MSW and C&I Recycling / Recovery Capacity Required (tonnes)
2010	33,495	94,625	128,120
2015	35,828	95,425	131,253
2021	40,626	102,909	143,535
2026	40,626	101,533	142,159

**Table 2.16 Overall MSW & C&I Treatment Capacities Required**

Year	MSW Treatment Capacity Required (tonnes)	C&I Treatment Capacity Required (tonnes)	Overall MSW and C&I Treatment Capacity Required (tonnes)
2010	7,790	22,006	29,796

21 % is calculated after removing 5,000 tonnes of inert material from the predicted arisings total

22 % is calculated after removing 5,000 tonnes of inert material from the predicted arisings total

Year	MSW Treatment Capacity Required (tonnes)	C&I Treatment Capacity Required (tonnes)	Overall MSW and C&I Treatment Capacity Required (tonnes)
2015	16,356	43,563	59,919
2021	20,313	51,455	71,768
2026	20,313	50,766	71,079

Question MW 23

Do you have any comments on the overall Recycling / Recovery / Treatment Capacities required?

2.4 Waste Capacity

Landfill Capacity

- 2.73

Regional evidence suggested that at the end of 2005, there was 840,000 m<sup>3</sup> landfill capacity in Calderdale, although as stated previously, all MSW Landfill waste is currently transported out of the district, and in theory this leaves the remaining capacity available to the other waste streams. The regional evidence used a conversion factor of 1.2 (convert tonnes to cubic metres), which would mean a total capacity of 700,000 tonnes, based on 2005 figures, equating to approximately 10 years spare capacity as at 2005.
- 2.74

With the drive to reduce reliance on landfill and increased costs associated with this form of disposal, market forces will begin to drive an increasing amount of waste away from landfill during the lifetime of the plan, shifting the emphasis on to treatment and recycling capacity. A 'zero landfill' approach for MSW and C&I waste is presented to illustrate the capacity of treatment and recycling facilities that would be required to accommodate such a situation.
- 2.75

Increasing the amount of waste diverted from landfill will lengthen the lifetime of any spare landfill capacity. However, landfill will remain an option for part of the overall waste arisings, as some waste will still require disposal following treatment and recycling.

Question MW 24

Do you have any comments or additional information that would assist in developing the evidence of Landfill capacity?

Transfer Capacities

- 2.76

In order to provide as complete a picture as possible, the following table provides an indication of the spare capacity in terms of the district's main bulking up transfer stations, at Lee Bank, Halifax and Eastwood, Todmorden. The figures indicate that the Halifax transfer station is operating in excess of 80% of the maximum permitted capacity, whereas the Eastwood site has a significant amount of spare capacity. There is the potential for tonnages to increase at waste transfer stations as more and more waste is diverted from landfill. Although the transfer capacity is not part of the calculations for the future recycling/ recovery / treatment capacity requirements, it remains part of the overall solution. Since the inputs to the main site in Halifax are a significant proportion of the maximum permitted capacity, it is considered realistic to propose additional capacity during the lifetime of the LDF.



Table 2.17 Capacity of Transfer Stations

Site	Maximum Permitted Capacity 2010 (tonnes)	80% of Maximum Permitted Capacity (tonnes)	Operational Inputs 2007 (tonnes)	Operational Inputs 2008 (tonnes)
Halifax , Lee Bank	75,000	60,000	69,903	64,956
Todmorden, Eastwood	75,000	60,000	12,637	9,637
<b>Totals</b>	<b>150,000</b>	<b>120,000</b>	<b>82,540</b>	<b>74,593</b>

Source : Environment Agency Waste Data Interrogator 2007 & Environment Agency Permitting Information

### Question MW 25

Do you have any comments or additional information that would assist in developing the evidence of Transfer capacity?

## Recycling, Recovery, and Treatment Capacity

- 2.77** Estimating the current capacity of Calderdale's permitted waste facilities is complex. The EA provide detail on the total maximum permitted capacity per annum for registered sites, however, the data for waste deposits into these facilities in Calderdale show that the maximum capacity is rarely threatened. This can lead to a number of assumptions. Firstly, the maximum permitted capacity is unlikely ever to be achieved, and the theoretical capacity actually lies somewhere at 80% of the maximum permitted figure, based on the EA calculation for incinerators. Secondly, due to circumstances such as market forces, lack of suitable infrastructure, or the physical constraints of the plant, an average of the recorded inputs into the facilities represent close to the maximum actual operating capacity.

### Capacity Scenarios

In the absence of any nationally or regionally agreed estimates, it is proposed to apply the following two scenario's when estimating the future capacity surplus or shortfalls:

#### Scenario 1

- The maximum operational capacity is 80% of the maximum permitted capacity;

#### Scenario 2

- The average of the 2007 and 2008 recorded inputs to facilities represent the maximum operational capacity <sup>(23)</sup>.

### Question MW 26

Which of the capacity scenarios do you consider to be most appropriate, or do you feel an alternative would be more accurate? Please provide details of an alternative scenario.

23 As data becomes available for 2009 this will be added to the calculations

**Table 2.18 Capacities of Permitted Waste Recycling/Recover/Treatment Facilities in Calderdale - April 2010**

Site Description	Number of sites (2010)	Total Maximum Permitted Capacity Per Annum (tonnes)	Recorded Inputs 2007 (tonnes)	Recorded Inputs 2008 (tonnes)
A15 - Material Recycling Facility	1	25,000	4,455	3,883
A16 - Physical Treatment Facility	1	25,000	0	0
A17 - Physico - Chemical Treatment	1	75,000	55,881	58,806
A19 - Metal Recycling Site (Vehicle Dismantler) (Includes 1 Vehicle depollution facility, code S0820)	13	67,500	14,173	11,472
A19a - End of life vehicles	4	12,500	113	50
A20 - Metal Recycling Site (mixed, includes 1 S0821 site)	5	25,000	3,176	4,542
A22 - Composting Facility	1	75,000	12,208	19,167
<b>Total Waste Treatment capacities</b>	<b>26</b>	<b>305,000</b>	<b>90,005</b>	<b>97,920</b>

Source of Capacity and Input Information: Environment Agency - Permit Information and Waste Data Interrogator 2007&amp; 2008

**Future Recycling / Recovery / Treatment Capacity Analysis**

**2.78** The overall maximum capacity of permitted facilities in Calderdale as at April 2010 stood at 305,000 tonnes, which at first glance would suggest there is sufficient capacity within the district to deal with the projected waste arisings. The following table illustrates the level of spare capacity that exists when assessing the average inputs from 2007/2008 against the 2010 maximum permitted capacities of both the recycling and treatment facilities, which totals 211,037 tonnes (Max Permitted Capacity - Average of 2007/2008 Inputs). However, further analysis shows that in 2010, of the 26 permitted treatment sites, 22 are classed as Metal Recycling Sites (MRS). This is an important issue, since inputs to sites dealing with metals represented just 5% of recorded inputs both in 2007 (17,461 out of 360,623 tonnes) and in 2008 (16,064 out of 305,604 tonnes). Additionally, these facilities are not expected to be suitable to accommodate the bulk of waste arisings within Calderdale. It is therefore proposed to remove the MRS facilities from the capacity analysis.

**Question MW 27**

Do you agree with the proposal to remove the Metal Recycling Sites from the available capacity for MSW and C&I waste?

**Table 2.19 Maximum Permitted Capacities, Inputs and Spare Capacity per Site Categories**

Site Category	Number of Sites	Total Maximum Permitted Capacity 2010 (tonnes)	Average of 2007/2008 Inputs (tonnes)	Capacity Surplus (+) or Shortfall (-) against Maximum Permitted Capacity (tonnes)
A15 - Material Recycling Facility	1	25,000	4,169	+20,831

Site Category	Number of Sites	Total Maximum Permitted Capacity 2010 (tonnes)	Average of 2007/2008 Inputs (tonnes)	Capacity Surplus (+) or Shortfall (-) against Maximum Permitted Capacity (tonnes)
A16 - Physical Treatment Facility	1	25,000	0	+25,000
A17 - Physico - Chemical Treatment	1	75,000	57,343	+17,657
A19 - Metal Recycling Site (Vehicle Dismantler) (Includes 1 Vehicle depollution facility, code S0820)	13	67,500	12,823	+54,678
A19a - End of life vehicles	4	12,500	82	+12,419
A20 - Metal Recycling Site (mixed, includes 1 S0821 site)	5	25,000	3,859	+21,141
A22 - Composting	1	75,000	15,688	+ 59,313
<b>Totals</b>	<b>26</b>	<b>305,000</b>	<b>93,963</b>	<b>+211,037</b>

Source of Capacity and Input information : Environment Agency Permit Information and Waste Data Interrogator 2007&2008

**2.79** In line with both the National Waste Strategy and local targets, the capacities have been split into two distinct categories, Recycling / Recovery, and Treatment. This allows analysis of the types of capacity that are both currently available and the capacity that may be required in the future. For example, a treatment facility could have a large amount of spare capacity, which when compared against the overall projected arisings, may indicate sufficient capacity, however, this type of capacity would not be suitable to deal with recyclables. Similarly, a composting facility may have sufficient capacity, but due to the nature of the operation, would not be able to deal with the different kinds of waste that will arise.

### Recycling / Recovery Capacities

**2.80** The following table shows the capacities when discounting the MRS facilities from the available recycling and recovery capacity. After removing the MRS capacity from the table, this shows there is a maximum permitted capacity of 100,000 tonnes, against which an average of 19,857 tonnes per annum were input in 2007/2008. When applying both capacity scenarios, the capacity per annum ranges from 80,000 to 19,875 tonnes.

**Table 2.20 Capacity of Recycling / Recovery Facilities**

Site Category	No. Of sites	Max Permitted Capacity 2010 (tonnes p.a.)	Scenario 1: 80% of Max Permitted Capacity (tonnes p.a.)	Scenario 2: Average of 2007/2008 Inputs (tonnes p.a.)
A15 - Material Recycling Facility	1	25,000	20,000	4,169
A22 - Composting	1	75,000	60,000	15,687
<b>Totals</b>	<b>2</b>	<b>100,000</b>	<b>80,000</b>	<b>19,857</b>

Source of Capacity Information: Environment Agency Permitting Information

Treatment Capacities

**2.81** The next table shows the treatment capacities in the district. This illustrates that the maximum permitted capacity is 100,000 tonnes, and the average inputs for 2007/ 2008 stood at 57,343 tonnes. Therefore when applying the two capacity scenarios, the treatment capacity range is between 80,000 and 57,343 tonnes per annum.

Table 2.21 Capacity of Treatment Facilities

Site Category	Number of Sites	Total Maximum Permitted Capacity 2010 (tonnes p.a.)	Scenario 1:80% of Max Permitted Capacity (tonnes p.a.)	Scenario 2: Average of 2007/2008 Inputs (tonnes p.a.)
A16 - Physical Treatment Facility	1	25,000	20,000	0
A17 - Physico - Chemical Treatment	1	75,000	60,000	57,343
Totals	2	100,000	80,000	57,343

Source of Capacity Information: Environment Agency Permitting Information

Summary of Capacity Scenarios (excluding MRS):

Scenario 1 - 80% of Maximum Permitted Capacity

- Overall, 160,000 tonnes p.a.
- Recycle / Recovery Capacity is 80,000 tonnes p.a.
- Treatment Capacity is 80,000 tonnes p.a.

Scenario 2 - Average of 2007/2008 Inputs

- Overall, 77,200 tonnes;
- Recycle / Recovery Capacity is 19,857 tonnes;
- Treatment Capacity is 57,343 tonnes.

Question MW 28

Do you agree with the figures presented in each capacity scenario? If you consider an alternative scenario would be more appropriate please give details.



## Future MSW and C & I Recycling / Recovery Capacity Shortfall / Surplus

**2.82** Because of detailed MSW projections, it is possible to separate out the projected food waste from the rest of the MSW projections, which allows a detailed analysis of the different kinds of Recycling / Recovery capacities. For example, the table below shows that in 2026, based on a recycling / recovery rate of 50%, overall, 40,626 tonnes of MSW will need to be recycled or recovered. According to the Calderdale's waste management section, food waste will amount to 6,738 tonnes, leaving 33,888 tonnes of non food waste. When assessing the 2026 food waste projection against the two capacity scenario's, this results in a capacity surplus of between 53,262 tonnes (scenario 1) and 8,949 tonnes p.a. (scenario 2). However, it is necessary to bear in mind the composting facility also receives waste from other sources as well.

**2.83** In terms of the remaining non food MSW waste projections, the potential capacity of the Material Recycling Facility (MRF) ranges from 20,000 to 4,169 tonnes p.a. Even before adding the C&I recycling / recovery requirement to the figures, this leaves a capacity shortfall of between 13,888 (Scenario 1) and 29,719 tonnes p.a.(Scenario 2) by 2026.

**Table 2.22 MSW Recycling / Recovery Capacity Shortfall / Surplus**

Site Category	No. Of Sites	Scenario 1: 80% of Maximum Permitted Recycling / Recovery Capacity Excluding MRS (tonnes p.a.)	Scenario 2:Average of 2007/2008 Inputs (tonnes p.a.)	Future MSW Recycling / Recovery Projected requirements (tonnes p.a.)		Capacity Shortfall / Surplus against Scenario 1 (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 2 (tonnes p.a.)
Overall Recycling / Recovery Capacity	2	80,000	19,857	2010 (43%)	33,495	+46,505	-13,638
				2015 (46%)	35,828	+44,172	-15,971
				2021 (50%)	40,626	+39,374	-20,769
				2026 (50%)	40,626	+39,374	-20,769
A15 - Material Recycling Facility (MRF)	1	20,000	4,169	2010	27,334	-7,334	-23,165
				2015	29,353	-9,353	-25,184
				2021	33,888	-13,888	-29,719
				2026	33,888	-13,888	-29,719
A22 - Composting Facility	1	60,000	15,687	2010	6,100	+53,900	+9,587
				2015	6,475	+53,525	+9,212
				2021	6,738	+53,262	+8,949
				2026	6,738	+53,262	+8,949

**2.84** Since there is no available projection of C&I food / green wastes, the next table compares both capacity scenarios against the combined projected MSW and C&I recycling / recovery requirements. Analysis shows that a potential capacity shortfall of between 62,159 and 122,302 tonnes p.a. will exist by 2026, depending on which scenario is applied. Although the previous table indicated the composting facility may have sufficient capacity, the impact of the new waste collection service is already evident at this particular site, with MSW inputs to this facility doubling in just one year, the 2009 figure according to Defra stood at 12,027 tonnes, which is likely to reduce the spare capacity at the facility. The overall picture indicates that the district faces a capacity shortfall in terms of recycling / recovery facilities.

**Table 2.23 Capacity Shortfall / Surplus - Recycling Recovery Facilities**

Year	MSW Recycling / Recovery Capacity Required (tonnes p.a.)	C&I Recycling / Recovery Capacity Required (tonnes p.a.)	Total (tonnes)	Scenario 1 80% of Maximum Permitted Recycling / Recovery Capacity Excluding MRS (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 1 (tonnes p.a.)	Scenario 2: Average of 2007/2008 Inputs (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 2 (tonnes p.a.)
2010	33,495	94,625	128,120	80,000	-48,120	19,857	-108,264
2015	35,828	95,425	131,253	80,000	-51,253	19,857	-111,396
2021	40,626	102,909	143,535	80,000	-63,535	19,857	-123,678
2026	40,626	101,533	142,159	80,000	- 62,159	19,857	-122,302

**2.85** The next table presents the potential capacity surplus or shortfall when comparing the MSW and C&I waste that requires treatment against the capacity scenarios. Depending on the scenario applied, the district could have a surplus of 8,921 tonnes or a shortfall of 13,736 tonnes p.a. by 2026.

**Table 2.24 Capacity Shortfall / Surplus - Treatment Facilities**

Year	MSW Treatment Capacity Required (tonnes p.a.)	C&I Treatment Capacity Required (tonnes p.a.)	Total (tonnes)	Scenario 1: 80% of Maximum Permitted Treatment Capacity (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 1 (tonnes p.a.)	Scenario 2: Average of 2007/2008 Inputs (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 2 (tonnes p.a.)
2010	7,790	22,006	29,796	80,000	50,204	57,343	+27,547
2015	16,356	43,563	59,919	80,000	20,081	57,343	-2,576
2021	20,313	51,455	71,768	80,000	8,232	57,343	-14,425
2026	20,313	50,766	71,079	80,000	8,921	57,343	-13,736

**2.86** Although simply combining the MSW and C&I waste requiring recycling, recovery or treatment does not allow a comparison against the various UK and local targets, it is included to provide some context to the overall tonnages of this type of waste that will require diverting from landfill throughout the lifetime of the LDF.

Table 2.25 Capacity Shortfall / Surplus - Overall

Year	MSW and C&I Waste for Recycling / Recovery / Treatment Combined (tonnes p.a.)	Scenario 1:80% of Maximum Permitted Recycling / Recovery / Treatment Facilities (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 1 (tonnes p.a.)	Scenario 2:Average of 2007/2008 Inputs (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 2 (tonnes p.a.)
2010	157,916	160,000	2,084	77,200	-80,717
2015	191,172	160,000	-31,172	77,200	-113,972
2021	215,303	160,000	-55,303	77,200	-138,103
2026	213,238	160,000	-53,238	77,200	-136,038

### Applying a Zero Landfill approach to MSW and C&I Waste

- 2.87** Alongside the 50% recycling and 25% treatment calculation used against the two capacity scenarios presented, it is also intended to present a 'zero landfill' approach, which assumes that market forces will drive the non recyclable MSW and C&I waste away from landfill due to costs. In essence, by 2026 this would only affect the treatment capacity, increasing this from 25% to 50%, of MSW and C&I wastes, since a 50% requirement is already applied to recycling and recovery by 2026.
- 2.88** It is important to remember that Landfill will still be required to play a part in the disposal of waste, for example through restoration of mineral sites from inert wastes (including Construction, Demolition, and Excavation wastes) or through residual wastes that are produced following treatment or recycling processes.
- 2.89** The following tables set out the total amounts of MSW and C&I wastes that require recycling/ recovery or treatment, based on a 50/50 split, and the levels of capacity shortfalls a zero landfill policy would result in based on current capacities. Only the plan period from 2015 onward is presented, due to the existing contracts and markets that are in place.

Table 2.26 MSW Arisings and Recycling / Recovery / Treatment Amounts based on a 50/50 split

Year	MSW Predicted Arisings (tonnes p.a.)	MSW requiring Recycling / Recovery (50%) (tonnes p.a.)	MSW requiring Treatment (50%) (tonnes p.a.)
2015	77,066	38,533	38,533
2021	81,252	40,626	40,626
2026	81,252	40,626	40,626

Table 2.27 C&amp;I Arisings and Recycling / Recovery / Treatment Amounts based on a 50/50 split

Year	C&I Predicted Arisings (tonnes p.a.)	C&I Requiring Recycling / Recovery (50%) (tonnes p.a.)	C&I Requiring Treatment (50%) (tonnes p.a.)
2015	207,445	103,723	103,723
2021	205,818	102,909	102,909

Year	C&I Predicted Arisings (tonnes p.a.)	C&I Requiring Recycling / Recovery (50%) (tonnes p.a.)	C&I Requiring Treatment (50%) (tonnes p.a.)
2026	203,065	101,533	101,533

**Table 2.28 Recycling / Recovery Capacity Shortfalls Against Scenario 1**

Year	MSW Requiring Recycling / Recovery (50%), (tonnes p.a.)	C&I Requiring Recycling / Recovery (50%) (tonnes p.a.)	Total MSW and C&I Requiring Recycling / Recovery (tonnes p.a.)	Scenario 1 80% of Maximum Permitted Recycling / Recovery Capacity Excluding MRS (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 1 (tonnes p.a.)
2015	38,533	103,723	142,256	80,000	-62,256
2021	40,626	102,909	143,535	80,000	-63,535
2026	40,626	101,533	142,159	80,000	-62,159

**Table 2.29 Recycling / Recovery Capacity Shortfalls Against Scenario 2**

Year	MSW Requiring Recycling / Recovery (50%) (tonnes p.a.)	C&I Requiring Recycling / Recovery (50%) (tonnes p.a.)	Total MSW and C&I Requiring Recycling / Recovery (tonnes p.a.)	Scenario 2: Average of 2007/2008 Inputs (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 2 (tonnes p.a.)
2015	38,533	103,723	142,256	19,857	-122,399
2021	40,626	102,909	143,535	19,857	-123,678
2026	40,626	101,533	142,159	19,857	-122,302

**2.90** When assuming a zero landfill policy, by 2026 the recycling / recovery capacity shortfall is some 62,159 tonnes p.a. against scenario 1, which increases to 122,302 tonnes p.a. when applying scenario 2.

**Table 2.30 Treatment Capacity Shortfalls Against Scenario 1**

Year	MSW Requiring Treatment (50%) (tonnes p.a.)	C&I Requiring Treatment (50%) (tonnes p.a.)	Total MSW and C&I Requiring Treatment (tonnes p.a.)	Scenario 1: 80% of Maximum Permitted Treatment Capacity Excluding MRS (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 1 (tonnes p.a.)
2015	38,533	103,723	142,256	80,000	-62,256
2021	40,626	102,909	143,535	80,000	-63,535
2026	40,626	101,533	142,159	80,000	-62,159



Table 2.31 Treatment Capacity Shortfalls Against Scenario 2

Year	MSW Requiring Treatment (50%) (tonnes p.a.)	C&I Requiring Treatment (50%) (tonnes p.a.)	Total MSW and C&I Requiring Treatment (tonnes p.a.)	Scenario 2: Average of 2007/2008 Inputs (tonnes p.a.)	Capacity Shortfall / Surplus against Scenario 2 (tonnes p.a.)
2015	38,533	103,723	142,256	57,343	-84,913
2021	40,626	102,909	143,535	57,343	-86,192
2026	40,626	101,533	142,159	57,343	-84,816

- 2.91** In terms of treatment capacity shortfalls, by 2026 a zero landfill policy would result in a shortfall of 62,159 tonnes p.a. when applying scenario 1, compared to the shortfall against scenario 2, which totals 84,816 tonnes p.a. Because the recycling target by 2026 is 50% anyway, (whether applying a zero landfill policy or not), the impact of a zero landfill policy is on the treatment capacity, since applying a 50/50 split doubles the treatment capacity required compared to the 25% treatment figure as used in the other calculations.

**In summary therefore, applying a zero landfill policy, the following capacity shortfalls would potentially occur:**

- Applying a Zero Landfill approach results in a capacity shortfall of Non MRS Recycling / Recovery capacity in 2026 of 62,159 tonnes p.a. against scenario 1 and 122,302 tonnes p.a. against scenario 2;
- Applying a Zero Landfill approach results in a shortfall of Treatment Capacity by 2026 of 62,159 tonnes p.a. against scenario 1, and 84,816 tonnes p.a. Against scenario 2;
- The Zero Landfill approach would result in a combined MSW and C&I shortfall of 124,317 tonnes p.a. against scenario 1, and 207,117 tonnes against scenario 2 by 2026.

### Question MW 29

Do you consider a 'zero landfill' approach for MSW and C&I waste is achievable within the lifetime of the plan (up to 2026)?

### 2.92 Waste Water and Sludges

- 2.93** The District has a permitted Incineration facility run by Yorkshire Water at Brighouse, and the permitted capacities and inputs are detailed below. It is apparently operating relatively near the 80% maximum, with a small surplus of 2 158 tonnes.

Table 2.32 Waste Water Treatment Plant Brighouse - Capacity and Inputs

Site Description	Number of Sites	Total Maximum Permitted Capacity 2010	Inputs 2008	Capacity Shortfall / Surplus
A18 - Incineration	1	25,000*	17,842	7158 ( 2,158*)
* The EA state that for operational reasons, dedicated incinerators have a nominal maximum intake of around 80% maximum throughput capacity, which in this case would equal a 20000 tonne capacity.				Shortfall / Surplus at 80% of Maximum

Source of Capacity and Input Information: Environment Agency - Permit Information and Waste Data Interrogator 2008

2.94 There is also Waste Water Treatment Works at Copley, which is licenced by the EA, and has a maximum permitted treatment capacity of 499,000 tonnes, although as the figures below indicate, its current usage is nowhere near the operational scale of the facility.

Table 2.33 Waste Water Treatment Plant Copley - Capacity and Inputs

Site Description	Number of Sites	Total Maximum Permitted Capacity 2010	Inputs 2008	Capacity Shortfall / Surplus
A17 - Physical - Chemical	1	499,000	14,490	485,510

Source of Capacity and Input Information: Environment Agency - Permit Information and Waste Data Interrogator 2008

2.95 The need or otherwise for additional waste water treatment facilities will be established through dialogue with the Utility providers.

Question MW 30

Do you have any comments concerning the need or otherwise for additional waste water treatment plants?

Summary of Capacity Needs

2.96 In summary therefore, using the projections in the Municipal Waste Strategy, the RSS, the regional C&I study the following issues emerge in terms of future capacity needs:

Recycling / Recovery / Treatment facilities:

- The Maximum capacity of permitted Recycling / Recovery / Treatment facilities in Calderdale stands at 305000 tonnes;
- If all permitted facilities had the ability to operate at their maximum capacity there is a capacity surplus of 207,080 tonnes against 2008 inputs;
- Removing the Metal Recycling Sites (they only accounted for 5% of total inputs in 2007 & 2008) from the capacity changes the maximum permitted capacity to 200,000 tonnes;
- Dependent on the capacity scenario applied, by 2026 the Treatment capacity ranges from a surplus of 8,921 tonnes p.a. against Scenario 1 and a shortfall of 13,736 tonnes against Scenario 2;
- The estimated capacity shortfall for Non MRS Recycling / Recovery facilities by 2026 ranges from 62,159 tonnes p.a. against Scenario 1 and 122,302 tonnes p.a. against Scenario 2;
- Combined, the district would require additional capacity of 53,328 tonnes p.a. against scenario 1 and 136,038 tonnes p.a. against scenario 2;
- Applying a Zero Landfill approach for MSW and C&I waste results in a capacity shortfall of Non MRS Recycling / Recovery capacity in 2026 of 62,159 tonnes against scenario 1 and 122,302 tonnes p.a. against scenario 2;
- Applying a Zero Landfill approach results in a shortfall of Treatment Capacity by 2026 of 62,159 tonnes against scenario 1, and 84,816 tonnes p.a. against scenario 2;
- By 2026 The Zero Landfill approach would result in a combined shortfall of 124,317 tonnes p.a. against scenario 1, and 207,117 tonnes p.a. against scenario 2;
- The Composting facility does have spare capacity but increased tonnage through the new collection arrangements may reduce spare capacity;
- Incineration Capacity estimated to be 20000 tonnes, but with only a 2158 tonne surplus;
- The spare capacity that does exist does not appear to be suitable for treating or recycling MSW or other wastes that are exported at present to landfill;

**Question MW 31**

Do you have any comments on the summary of Recycling / Recovery / Treatment Capacity Needs?

2

**Landfill**

- The present disposal arrangements for MSW and the future Bradford / Calderdale waste facility mean that additional MSW landfill capacity is unlikely to be required;
- Based on landfill capacity as at 2005, the district had 10 years capacity remaining based on C&I waste projections and diversion targets, although this may be increased due to a reduction in the levels of waste deposited at Landfill sites;
- The majority of Landfill capacity within the district is made up of quarries that accept inert waste;
- Of West Yorkshire's CD&E waste arisings, 242,423 tonnes will require to be landfilled;
- Regional evidence identified West Yorkshire as an area that may require new landfill capacity (for any waste stream) before 2020; However, market forces are likely to dictate the diversion of non recyclable wastes to treatment facilities.

**Question MW 32**

Do you have any comments on the summary of Landfill Capacity Needs?

**Transfer**

- The main Halifax transfer station operates at over 80% of the maximum permitted capacity
- Due to increased waste diverted from landfill inputs to transfer stations likely to increase;
- Considered appropriate to accommodate additional capacity during the lifetime of the LDF;

**Question MW 33**

Do you have any comments on the summary of Transfer Capacity Needs?

**2.5 Household Waste Recycling Sites and Transfer Stations**

**2.97** As well as commercial scale waste management facilities, the LDF will need to ensure sufficient Household Waste Recycling Sites (Civic Amenity Sites) are allocated to deal with additional waste delivered direct by the public, generally consisting of bulky items that are unsuitable for doorstep collections. At present there are 5 of these sites operating in the district, which are as follows:

- Ainley Depot, Huddersfield Road, Elland;
- Atlas Mill Depot, Brighouse;
- Milner Royd Depot, Sowerby Bridge;
- Lee Bank, Halifax;
- Eastwood Household Waste Site, Todmorden.

**2.98** As already mentioned, Lee Bank and Eastwood also double up as Transfer Stations, where waste is bulked up prior to being transported for recycling, treatment or disposal. Some commercial wastes are

dealt with at the Transfer Stations but this is separate from the Council's operations. There are a number of other private transfer stations in the district, and 19 Local Recycling Sites, which are located in such places as Supermarket Car Parks, Community Centre Car Parks and other public spaces.

- 2.99 Policies will need to be developed that continue to support a network of Local Recycling Sites and Household Waste Recycling Sites, alongside policies to ensure suitable storage and separation facilities are provided in all types of new developments, including residential, commercial, leisure, community buildings etc.

Question MW 34

Do you have any comments on Household Waste Recycling Sites and Transfer Stations?

2.6 Additional Facilities

- 2.100 Taking the estimates of capacity shortfalls set out in the previous section, using Scenario 1 the district has a surplus capacity of 8,921 tonnes p.a. of Treatment Capacity and a shortfall of 62,159 tonnes p.a. of Recycling/Recovery Capacity. When applying Scenario 2 it is suggested the district has a shortfall of 13,736 tonnes p.a. of Treatment capacity by 2026, and a shortfall of 122,302 tonnes p.a. Recycling / Recovery capacity.
- 2.101 When applying a zero landfill approach, the recycling / recovery facilities requirement remains the same, since the recycling/recovery part of zero landfill is based on 50% recycling, the same figure as used in the other calculations; however the main difference is the increase in treatment capacity shortfall to 62,159 tonnes against scenario 1 and 84,816 tonnes p.a. against scenario 2. Using the approximate capacity and land requirements set out in the table below (which gives a very approximate indication of land take for different kinds of waste facility; the actual land take of new facilities will vary from site to site). provides two options in terms of allocating sufficient land:

Applying **Scenario 1** the following facilities are required (based on a 50,000 tonnes per annum facility):

- Additional Recycling / Recovery capacity to accommodate approximately **62,159** tonnes per annum, equivalent to **2** Recycling / Recovery facilities; and
- Additional Treatment capacity to accommodate approximately **62,159** tonnes per annum if applying a Zero Landfill policy, equivalent to 2 treatment facilities.

Applying **Scenario 2** the following facilities are required (based on a 50,000 tonnes per annum facility):

- Additional Treatment capacity to accommodate approximately **13,736** tonnes per annum, equivalent to 1 Treatment facility; or
- Additional Treatment capacity to accommodate approximately **84,816** tonnes per annum if applying a Zero Landfill policy, equivalent to 2 facilities;
- Additional Recycling / Recovery capacity to accommodate approximately **122,302** tonnes per annum, equivalent to **3** Recycling / Recovery facilities.



**Table 2.34 Capacity and Estimated Land Requirement of Waste Facilities**

Site Description	Annual Tonnage per Annum	Approximate Land Requirement
In vessel Composting	25,000	2-3 hectares
Materials Recovery Facility (MRF)	50,000	1-2 hectares
Mechanical Biological Treatment Plant	50,000	<1-2 hectares
Advanced Thermal Treatment (Pyrolysis / Gasification)	50,000	1-2 hectares
Small Scale Thermal Treatment	50,000	<1-2 hectares

Source: CLG - Planning for Waste Management Facilities : A Research Study (2004)

### Question MW 35

Which of the 2 scenarios for the number of additional facilities do you consider to be most appropriate? If you don't agree with either, please suggest an alternative.

### Landfill Facilities

- 2.102** Although landfill is the least favoured option and market forces will divert more and more waste away from this type of disposal, there will remain a need for some landfill capacity to dispose of residual waste that remains following recycling and treatment processes. At the moment, the RCUDP has a number of waste disposal allocations, which mainly consist of old quarries. As part of the initial work on the Land Allocations and Designations DPD, all the RCUDP waste disposal sites will be assessed as to their suitability for inclusion in the LDF.
- 2.103** It is proposed that the LDF will include development management policies that limit additional landfill sites in line with the waste hierarchy, as well as policies that include strict criteria against which any proposals for landfill operations, including where the proposal is for the restoration of an old quarry through landfill, will be assessed.

### Question MW 36

Do you have any comments on the approach towards considering additional landfill capacity within Calderdale?

### Location of New Facilities

- 2.104** 'Broad Areas of Search' for waste management facilities will be identified in accordance with the criteria set out in PPS10, which is as follows:
- The extent to which they support national waste planning policy;
  - Physical and environmental constraints;
  - The cumulative effect of previous waste disposal facilities;
  - The capacity of existing and potential transport infrastructure to support the sustainable movement of waste and products arising from resource recovery.
- 2.105** In order to ensure that all reasonable, relevant and realistic options for new waste management sites are assessed, the Council will start with a broad area of search, which will be gradually refined through

the consultation process. As a starting point, the search is proposed to adhere to those principles set out in PPS10, and the RSS for Yorkshire & the Humber to 2016.

**2.106** The search intends to give consideration to the following types of locations;

- Industrial Areas - especially those containing heavy or specialised industrial uses;
- Degraded, contaminated or derelict land;
- Existing waste / landfill sites;
- Existing or redundant sites or buildings;
- Sites currently occupied by other types of waste management facilities.

**2.107** Within these types of locations, the preferred locations could be:

- Vacant, derelict and previously used buildings (details accessed from The National Land Use Database);
- Existing (significant) industrial estates;
- RCUDP employment allocations;
- RCUDP employment areas;
- RCUDP Waste sites;

### Question MW 37

Do you agree with the types of locations suggested above to identify where new waste facilities should be located?

### Safeguarding Existing Sites and Allocations

**2.108** Another suggested option is to remove the existing operational waste sites and the RCUDP waste allocations from the Broad Areas of Search, in effect giving an additional type of potential location, 'Safeguarded Sites'. This would retain those sites which may not fit into a 'Broad Area of Search', such as old mineral quarries which stand in the green belt isolated from the urban areas, but requires the importation of inert waste in order to be restored to an agreed level and state. Including these types of sites would basically result in a specific operational site or allocation being designated as a 'Broad Area of Search'.

**2.109** As part of the future work on the Waste element of the Core Strategy further work will be carried out on proposing Broad Areas of Search and existing waste sites, along with appropriate RCUDP Waste allocations.

### Question MW 38

Would you prefer to include existing Waste Facilities and RCUDP Allocations within the 'Broad Areas of Search' or propose an additional designation which safeguards these two types of sites?

### Planning Constraints

**2.110** In order to exclude inappropriate areas when searching the most appropriate areas to consider for the 'Broad Areas of Search', the following planning constraints are suggested;

- Special Areas of Conservation (SAC);
- Special Protection Areas (SPA);
- Sites of Special Scientific Interest (SSSIs);
- Scheduled Ancient Monuments (SAM);
- Listed Buildings (grades I and II\*);
- Ancient Woodland.

- Primary Housing Area;
- Flood Risk Zone 3;
- Potentially Unstable Land;
- Conservation Areas;
- New Housing Allocations;
- Sites with Planning Permission for Housing;
- Archaeological Sites (Class 1 & 2);
- Locally & Nationally Important Parks and Gardens;
- Sites proposed for retail use;

### Question MW 39

Do you agree with the list of planning constraints suggested?

- 2.111** Alongside these constraints, it is proposed to apply a site size threshold of 1 hectare for additional waste facilities.

### Question MW 40

Do you agree with the site size threshold proposed?

## 2.7 Potential Indicators/Targets

**Table 2.35 Waste Management Facilities - Potential Targets and Indicators**

Objective	Indicator	Target (where applicable)	Indicator Type
To plan for sufficient waste management facilities in sustainable locations, managing waste as a resource in order to minimise the amount sent to Landfill.	Levels of waste arisings	Not applicable	National Indicator (NI191) AMR Core Indicator (W2)
	Method of treatment / disposal	Recycling and composting of household waste:  40 % by 2010, 45% by 2015, and 50% by 2020.  Recovering value from Municipal Solid Waste:  53% by 2010, 67% by 2015, and 75% by 2020.  67% of C&I waste diverted from landfill	National Waste Strategy 2007 National Indicator (NI192 & NI193) AMR Core Indicator (W2)
	Capacity of new waste	Not applicable	AMR Core Indicator (W1)

Objective	Indicator	Target (where applicable)	Indicator Type
	management facilities		

## 2.8 Waste Management Technologies

**2.112** The following table presents a description of the various waste management technologies (Taken from Planning for Waste Management Facilities, ODPM, 2004). In line with the waste hierarchy, and in order to reduce potential landfill costs, the technologies that allow waste to be re-used, recycled, composted, or those which provide Energy from Waste (EfW) (including Anaerobic Digestion, Mechanical Biological Treatment, Pyrolysis, Gasification, and Thermal Treatment) will be the likely focus of any future waste facility developments within Calderdale.

**Table 2.36 Types of Waste Management Technologies**

Technology	Key Features
Windrow Composting	The aerobic decomposition of shredded and mixed organic waste using linear heaps known as windrows. The waste waste is mechanically turned until the desired temperature and residence times are achieved to enable effective degradation, resulting in a bulk reduced, stabilised residue known as compost. The process can take place outdoors or in a large building and takes around 3 months.
In-vessel Composting	Differs from windrow composting as the process is carried out in an enclosed container, where the control systems for material degradation are fully automated. Moisture temperature and odour can be regulated and this process produces a stable compost much quicker than outdoor windrow composting.
Anaerobic Digestion	Biodegradable material is encouraged to break down in the absence of oxygen. Waste is broken down in an enclosed vessel under controlled conditions, resulting in the production of digestate and biogas.
Materials Recycling Facility (MRF)	Facilities where dry recyclables are taken for secondary sorting and processing prior to being exported to specialist processing facilities.
Mechanical Biological Treatment (MBT)	Designed to recover valuable components from unsorted MSW, for recycling, and deliver a stabilised residue for final landfilling or processed to form a refuse derived fuel combustion, co-combustion or another thermal or biological treatment process. A number of standard waste separation operations are used to remove recycled materials such as glass, metals and plastics, followed by composting or anaerobic digestion of the remaining organic materials. Such facilities are known as Mechanical Biological Treatment (MBT) plant, as they commonly include an element of composting to partially stabilise the residual waste. Similar processes, excluding the biological stabilisation process have previously been described as 'dirty MRFs'.
Pyrolysis	Organic waste is heated in the absence of air to produce a mixture of gaseous and liquid fuels and a solid inert residue (mainly carbon). This technology generally requires a consistent waste stream such as tyres or plastics to produce a usable fuel product.
Gasification	Carbon based wastes are heated in the presence of air or steam to produce fuel rich gases. The technology is based on the reforming process to produce town gas from coal.



Technology	Key Features
Small Scale Thermal Treatment	Include moving grate systems of less than 100,000 tonnes per annum and rotating kilns, as well as other proprietary combustion processes. Suitable for small scale urban applications and centralised Local Authority facilities.
Large Scale Thermal Treatment	Include large centralised urban facilities, typically receiving between 150,000 to 400,000 tonnes of waste per annum. Techniques used include various moving grate systems and fluidised bed processes.
Landfill	Controlled deposit of waste to land. Often minerals workings and extraction sites are used as landfills, providing a means to restore land. Where such 'holes in the ground are not available' it is possible to deposit waste onto the ground surface and build up a waste disposal site, known as 'landraising'.
Waste Transfer Station	Facility to which waste is delivered for bulking/handling/sorting prior to transfer to another place for recycling, treatment or disposal.

## 2.9 Possible Policy Approaches

### Policy Option MW 8

#### Broad Areas of Search (1)

1. The Core Strategy will identify 'Broad Areas of Search' in order to direct applicants to the most appropriate areas the Council would expect to see proposals for new waste management facilities.
2. The 'Broad Areas of Search' will include existing Allocated and operational sites.

### Policy Option MW 9

#### Broad Areas of Search (2)

1. The Core Strategy will identify 'Broad Areas of Search' and 'Safeguarded Sites' in order to direct applicants to the most appropriate areas the Council would expect to see proposals for new waste management facilities.
2. 'Safeguarded Sites' will apply to existing operational and those RCUDP sites that continue to be suitable.

### Question MW 41

Should the waste element of the Core Strategy develop Policy Option MW 8, MW 9, or an alternative (please suggest)?

Policy Option MW 10

Location of New Waste Facilities (1):

- 1. Proposals for new waste management facilities will be required to lie within the 'Broad Areas of Search' (which include Operational Waste Sites or Existing Allocations);
- 2. Priority should be given to brownfield industrial land within the 'Broad Area of Search';
- 3. Proposals that seek to complement existing activities will be encouraged;
- 4. Any proposals for waste management facilities outside the 'Broad Areas of Search' will be required to show why the site is suitable compared to others within the Broad Area of Search;

Policy Option MW 11

Location of New Waste Facilities (2):

- 1. Proposals for new waste management facilities will be required to lie within the 'Broad Areas of Search' or within the 'Safeguarded Sites' (Operational Waste Sites or Existing Allocations);
- 2. Priority should be given to existing waste allocations or brownfield industrial urban land within the 'Broad Area of Search' and 'Safeguarded Sites';
- 3. Proposals that seek to complement existing activities will be encouraged;
- 4. Any proposals for waste management facilities outside the 'Broad Areas of Search' or 'Safeguarded Sites' will be required to show why the site is suitable compared to others within the alternative designations;

Question MW 42

Should the waste element of the Core Strategy develop Policy Option MW 10, MW 11, or an alternative (please suggest)?

Policy Option MW 12

Scale of New Waste Facilities (1)

- 1. The Core Strategy will identify Broad Areas of Search that could accommodate a small number of larger scale facilities within or adjacent to the main urban areas.

Policy Option MW 13

Scale of New Waste Facilities (2)

- 1. The Core Strategy will identify Broad Areas of Search that are dispersed throughout the district and could accommodate a range of different sized facilities.

**Question MW 43**

Should the waste element of the Core Strategy develop Policy Option MW 12, MW 13, or an alternative (please suggest)?

2

**Policy Option MW 14****Protection of Environmental Resources (1)**

Proposals for new waste facilities will be subjected to a list of criteria as follows:

- Protecting Water Resources;
- Land Instability;
- Visual Intrusion;
- Nature Conservation;
- Historic Environment and Built Heritage;
- Traffic and Access;
- Air Emissions;
- Odours;
- Vermin and Birds;
- Noise and Vibration;
- Litter;
- Potential Land Use Conflicts;

**Policy Option MW 15****Protection of Environmental Resources (2)**

Proposals for new waste facilities will be subjected to a list of criteria that ensure Locally and Nationally statutorily protected sites are not affected by any proposed development. A number of criteria which include these (and others) are suggested below:

- Protection of Calderdale's Rivers and Canals;
- Potentially Unstable Land;
- Conservation Areas, Listed Buildings, and Scheduled Ancient Monuments;
- Highway Capacity;
- Air Quality Management Areas;
- Pest control;
- Protection of local biodiversity, flora and fauna;
- Potential Land Use Conflicts;

**Question MW 44**

Should the Waste Element of the Core Strategy develop Policy Option MW 14, MW 15, or an alternative (please suggest)?

## Policy Option MW 16

### Transportation of Waste (1)

1. The Core Strategy will ensure that new waste facilities are located within a short distance of the main highway network, in order to minimise the localised impact of waste transportation.
2. Whilst acknowledging the constraints to the sustainable transport of waste within Calderdale, any innovative approaches to the Sustainable transport of waste will be welcomed;

## Policy Option MW 17

### Transportation of Waste (2)

1. The Core Strategy will ensure that new waste facilities are located in order to minimise the traffic impacts of waste transportation;
2. Whilst acknowledging the constraints to the sustainable transport of waste within Calderdale, any innovative approaches to the Sustainable transport of waste will be welcomed;

## Question MW 45

Should the Waste Element of the Core Strategy develop Policy Option MW 16, MW 17, or an alternative (please suggest)?

## Policy Option MW 18

### New Housing and Commercial Developments (1)

1. All new and converted residential, commercial and community developments should be designed with the increasing requirements for waste separation and segregation and storage in mind.

## Policy Option MW 19

### New Housing and Commercial Developments (2)

1. All major\* new and converted residential, commercial and community developments are required to be designed with the increasing requirements for waste separation and segregation and storage in mind.

(\* Major in this case could be considered to mean 10 or more dwellings, 1000sq metres gross of commercial floor space.)

## Question MW 46

Should the Waste Element of the Core Strategy develop policy Option MW 18, MW 19, or an alternative (please suggest)?







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