Derbyshire and Derby Joint Minerals and Waste Plans
SA/SEA Scoping Report

July 2013
## Revision Schedule

### SA/SEA Scoping Report
July 2013

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<td>01</td>
<td>August 2011</td>
<td>First Draft</td>
<td>Sam Rosillo</td>
<td>Anita Longworth</td>
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<td>Lyndsey Regan</td>
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<td>Planner</td>
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<td>02</td>
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<td>Sam Rosillo</td>
<td>Anita Longworth</td>
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<td>Planner</td>
<td>Principal Planner</td>
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<td>03</td>
<td>July 2013</td>
<td>Third Draft</td>
<td>Matthew Stopforth</td>
<td>Sam Rosillo</td>
<td>Alan Houghton</td>
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<td></td>
<td></td>
<td></td>
<td>Graduate Planner</td>
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The methodology adopted and the sources of information used by URS in providing its services are outlined in this Report. The work described in this Report was undertaken between August 2011 and September 2012 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances.

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1 Introduction

1.1.1 Derbyshire County Council is the minerals and waste planning authority for Derbyshire excluding the Peak District National Park and the City of Derby. Derby City Council is the minerals and waste planning authority for the City of Derby administrative area. Since 1997 the City and County Councils have worked jointly on the production of mineral and waste planning policy documents for their areas. They have also jointly prepared the Structure Plan, the adopted Minerals and Waste Local Plans and the Trent Valley Supplementary Planning Guidance.

1.1.2 The two authorities are now jointly producing a Minerals Plan which will guide the production of minerals, and will replace the adopted Minerals Local Plan (2001) and a Waste Plan which will guide the future development of waste facilities and will replace the Waste Local Plan adopted in 2005.

1.1.3 In accordance with statutory requirements the authorities are undertaking Strategic Environmental Assessments (SEA) / Sustainability Appraisals (SA) of the Minerals and Waste Plans. This Scoping Report is for the Minerals and Waste Plans together. Further parts of the appraisal process will be undertaken on the two Core Strategies separately.

1.1.4 URS (formerly Scott Wilson) has been commissioned by Derbyshire County Council and Derby City Council to provide support services in relation to Sustainability Appraisal (SA) incorporating Strategic Environmental Assessment (SEA), including the preparation of an updated Scoping Report for the minerals and waste DPDs.

1.2 Purpose of this Report

1.2.1 It is a requirement that SA is undertaken in-line with the procedures prescribed by The Environmental Assessment of Plans and Programmes Regulations 2004 (which were prepared in order to transpose into national law the EU Strategic Environmental Assessment (SEA) Directive) (Directive 2001/42/EC).

1.2.2 The Regulations require that a report is published for consultation alongside the draft plan that ‘identifies, describes and evaluates’ the likely significant effects of implementing ‘the plan, and reasonable alternatives’. The report (which we call the ‘SA Report’) must then be taken into account by the plan-makers, alongside consultation responses, when finalising the plan.

1.2.3 The aim of the SEA Directive is “to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes, with a view to promoting sustainable development”.

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2 Regulation 12(2)
1.2.4 The Government’s approach is to incorporate the requirements of the SEA Directive into a broader SA process which covers the wider social and economic effects of plans, as well as the more environmentally-focused considerations in the Directive. The Town and Country Planning (Local Planning) (England) Regulations 2012 require an SA Report to be published for consultation alongside the ‘Proposed Submission’ Plan document.

1.3 SA explained

1.3.1 The 2004 Regulations prescribe the information that must be contained within the SA Report. Essentially, there is a need for the SA Report to answer the following four questions:

1. What’s the scope of the SA?
   - This is an opportunity to present a review of sustainability issues that exist in relation to the plan and identify those that should be a particular focus of the SA (given that issues are potentially numerous, and SA must be focused and concise)

2. What has Plan-making / SA involved up to this point?
   - Prior to preparing the draft plan there must be (as a minimum) one plan-making / SA iteration at which point alternative approaches to addressing key plan issues are subjected to SA and findings taken on-board by the plan-makers.

3. What are the appraisal findings at this current stage?
   - i.e. what are predicted to be the sustainability effects of the draft plan and what changes might be made to the plan in order to avoid or mitigate negative effects and enhance the positives.

4. What happens next?
   - In particular, there is a need to think about how the effects of the plan will be monitored once it is adopted and being implemented.

1.3.2 These questions are derived from Schedule 2 of the Regulations, which present the information to be provided within SA Reports under a list of ten points. Figure 1.1 makes the links between the ten Schedule 2 requirements and the four SA questions.
**Figure 1.1: Questions that must be answered (sequentially) within the SA Report**

<table>
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<tr>
<th>SA QUESTION</th>
<th>SA SUB-QUESTION</th>
<th>CORRESPONDING REQUIREMENT OF THE ENVIRONMENTAL ASSESSMENT REGULATIONS (THE REPORT MUST INCLUDE…)</th>
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<tr>
<td>What’s the scope of the SA?</td>
<td>What’s the Plan seeking to achieve?</td>
<td>• An outline of the contents and main objectives of the plan</td>
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| | What’s the sustainability ‘context’? | • The relationship of the plan with other relevant plans and programmes  
• The environmental protection objectives, established at international, Community or Member State level, relevant to the plan |
| | What’s the sustainability ‘baseline’ at the current time? | • The relevant aspects of the current state of the environment  
• The environmental characteristics of areas likely to be significantly affected |
| | How would the baseline evolve without the plan? | • The likely evolution of the current state of the environment without implementation of the plan |
| | What are the key issues that should be the focus of SA? | • Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance |
| What has Plan-making / SA involved up to this point? | What are the appraisal findings at this current stage? | • An outline of the reasons for selecting the alternatives dealt with  
• The likely significant effects on the environment associated with alternatives  
• An outline of the reasons for selecting preferred alternatives / a description of how environmental objectives and considerations are reflected in the draft plan. |
| | | • The likely significant effects on the environment associated with the draft plan  
• The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects of implementing the plan |
| | What happens next? | • A description of the measures envisaged concerning monitoring |

1.3.3 The Environmental Assessment Regulations require that: “when deciding on the scope and level of detail of the information that must be included in the report, the responsible authority shall consult the consultation bodies” In England, the
consultation bodies are Natural England, The Environment Agency and English Heritage. These authorities were consulted on the scope of this SA in July 2009. This consultation was achieved by providing a ‘Scoping Report’ for their comment.

1.3.4 This report has now been updated to reflect changes that have occurred since the publication of the initial Scoping Report. The update incorporates recommendations provided in a Scoping Report review by Scott Wilson for Derbyshire and Derby in April 2010, as well as comments received from statutory consultees and others in the July 2009 scoping stage consultation.

1.3.5 This report constitutes the Updated Draft Joint Scoping Report for Derbyshire and Derby Minerals and Waste Plans (2012). The Scoping Report answers the first of the four key questions (and related sub-questions) in the table above (and reproduced in Figure 1.2 below). Subsequent questions will be addressed in the SA Report which is prepared to accompany the Proposed Submission draft of the Joint Waste and Joint Minerals Plans.

1.3.6 The updated Scoping Report will be made available for consultation with statutory consultees and stakeholders, before being finalised. Copies of the Scoping Report can be obtained from the Council and will be made available on the Council’s website.

**Figure 1.2: Scoping steps undertaken to meet the requirements of the Environmental Assessment Regulations**

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<th>CORRESPONDING REQUIREMENT OF THE SEA DIRECTIVE MET (THE REPORT MUST INCLUDE...)</th>
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<td>What’s the plan seeking to achieve?</td>
<td>• An outline of the contents, main objectives of the plan’</td>
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<td>What’s the sustainability ‘context’?</td>
<td>• The relationship of the plan with other relevant plans and programmes’</td>
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<td>• The environmental protection objectives, established at international, Community or Member State level, relevant</td>
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<td>What’s the sustainability ‘baseline’?</td>
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<tr>
<td>How would the baseline evolve without implementation of the plan?</td>
<td>• The likely evolution of the current state of the environment without implementation of the plan’</td>
</tr>
<tr>
<td>What are the key sustainability issues that should be a particular focus of the appraisal?</td>
<td>• Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance</td>
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3 In-line with Article 6(3) of the SEA Directive, these consultation bodies were selected because ‘by reason of their specific environmental responsibilities, [they] are likely to be concerned by the environmental effects of implementing plans and programmes.’
The Scoping Report

1.3.7 As indicated above, this Scoping report is the first of two formal reports to be produced as part of the SA process. This Scoping Report establishes the context within which the Minerals and Waste Plans are being prepared and involves the following key tasks:

- Identify other relevant plans, programmes and sustainability objectives that will influence the Minerals and Waste Plans
- Collect relevant social, environmental and economic baseline information
- Identify key sustainability issues for the SA / Minerals and Waste Plans to address
- Develop the SA framework, consisting of the SA objectives and sub-objectives
- Produce a Scoping Report and consult relevant authorities, the public and other key stakeholders on the scope of the appraisal

1.3.8 This Scoping Report is for the Minerals and Waste Plans together. Further stages of the appraisal process will be separately reported, i.e. each Plan will be accompanied by its own SA/SEA assessment.

1.4 Introduction to Derby and Derbyshire

1.4.1 The City of Derby and the County of Derbyshire are located in the East Midlands region. The total population of the area in 2010 was 1,010,600. The area covers a total of 173644 hectares and incorporates nine local authority areas:

1. High Peak Borough Council
2. Derbyshire Dales District Council
3. Chesterfield Borough Council
4. North-East Derbyshire District Council
5. Bolsover District Council
6. Amber Valley Borough Council
7. Erewash Borough Council
8. South Derbyshire District Council
9. Derby City Council

1.4.2 The area is bounded by South Yorkshire, West Yorkshire and Greater Manchester to the north, Nottinghamshire to the east, Cheshire East and Staffordshire to the west and Leicestershire to the south.

1.4.3 The main built up areas are Derby, Chesterfield, Swadlincote, Long Eaton, Ilkeston, Ashbourne, Matlock, Buxton and Glossop. Out of all 326 local authority districts in the country, Bolsover and Chesterfield are ranked the most deprived of Derbyshire’s districts for each of the five local authority summary measures. Bolsover ranks as the
46th most deprived local authority district and Chesterfield as the 90th. Figure 1.3 below shows the locations of local authorities within Derby and Derbyshire. A number of Wards within Derby City are also amongst the most deprived nationally as discussed at paragraph 7.3.18 of this study.

1.5 The Derby and Derbyshire Joint Minerals and Waste Plans – what are these plans seeking to achieve?

1.5.1 Derbyshire County Council (the minerals and waste planning authority for Derbyshire, excluding the area administered by the Peak District National Park) and Derby City Council (the minerals and waste planning authority for the City of Derby administrative area) are jointly preparing minerals and waste planning documents for this area.

1.5.2 The Joint Minerals Plan will guide mineral related development, and will replace the adopted Minerals Local Plan (2001). The Joint Waste Plan will guide waste management related development and will replace the Waste Local Plan adopted in 2005.

1.5.3 These plans will be long term plans and address about 'spatial planning'; bringing together the aims and actions of the government, local councils, residents, businesses and voluntary groups, by managing land-use and development (in this case specifically for minerals and waste development) within spatial areas.
Figure 1.3: Local Authorities in Derby and Derbyshire
1.5.4 The Waste Plan will establish a spatial vision and objectives for waste planning until 2030, a spatial strategy for delivery of the objectives, core policies to guide development - both at the strategic level and in the assessment of planning applications; and the identification of key sites for waste development. The Minerals Plan will undertake a similar role, but for minerals planning.

1.6 Structure of this Scoping Report

1.6.1 This Scoping Report synthesises and presents the main messages emerging from the relevant evidence base. The report presents this evidence based on the following themes:

- Chapter 2: Biodiversity, Fauna and Flora;
- Chapter 3: Land and Water Resources (incorporating waste and minerals);
- Chapter 4: Air Quality and Transport;
- Chapter 5: Climatic Factors, Energy and Flooding;
- Chapter 6: Heritage and Landscape;
- Chapter 7: Communities and Health; and
- Chapter 8: Local Economy and Employment.

1.6.2 In accordance with the SEA Directive, the final chapters of the report summarise the overarching sustainability issues, set out the SA Framework and document the next stages in the process, including consultation on the draft report as follows:

- Chapter 9: Overarching Sustainability Issues
- Chapter 10: The Assessment Framework
- Chapter 11: Consultation undertaken to date and the Next Steps
2 Biodiversity, Fauna and Flora

2.1 Introduction

2.1.1 The following section provides baseline information on the current state of the Derby and Derbyshire environment with respect to Biodiversity, Flora and Fauna, summarising the environmental issues and where possible, identifying the likely future evolution of the baseline characteristics if the Core Strategies were not implemented. The latter is based on identified trends and predictions about the future which are widely accepted.

2.1.2 Biodiversity is the variety of life on earth at all levels, from genes to worldwide populations of the same species; from communities of species sharing the same small area of habitat to worldwide ecosystems. Biodiversity is key to supporting life on the planet and plays a vital role in adaptation to a rapidly changing environment. Maintaining biodiversity is essential to maintain clean water, fertile soil and clean air, thereby providing the basis for existence and indirect economic and social benefits.

2.1.3 Minerals and waste planning must give consideration to a wide range of potential pathways by which impacts on biodiversity may occur, both direct (e.g. land use change) and indirect (e.g. pollution). It is important to consider how minerals and waste planning can present opportunities as well as risks. Proposals can incorporate measures to protect and enhance biodiversity during later stages (remediation and restoration) of the project life-cycle. Strategic decisions can seek to maximise such opportunities.

2.2 Key Sustainability Objectives and Messages from the Context Review

2.2.1 The key objectives and messages which have been drawn out of the context review are as follows:

<table>
<thead>
<tr>
<th>Key Sustainability Objectives and Messages</th>
<th>Evidence Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take measures to maintain or restore to favourable conservation status, natural habitats and species of community importance. This includes Special Areas of Conservation, Special Protection Areas and Ramsar sites.</td>
<td>The Habitats Directive (92/43/EEC) 1992 Birds Directive (79/409/EEC)</td>
</tr>
<tr>
<td>The NPPF calls upon local authorities to set criteria based policies for the protection of internationally, nationally and locally designated sites, giving weight to their importance not just individually but as a part of a wider ecological network.</td>
<td>National Planning Policy Framework (NPPF) (2012)</td>
</tr>
<tr>
<td>To contribute to national and local targets on biodiversity, the NPPF states that planning policies should promote the</td>
<td></td>
</tr>
</tbody>
</table>


‘preservation, restoration and re-creation of priority habitats, ecological networks’ and the ‘protection and recovery of priority species’. Positive planning for ‘green infrastructure’ is recognised as part of planning for ecological networks.

The key objectives relating to biodiversity set out within the White Paper include:

- Halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks by 2020;
- To implement biodiversity offsetting across England – this is a new way for developers to ensure that wildlife sites are not lost and to ensure that existing sites are improved.
- To deliver New Nature Improvement Areas (NIAs), transforming rural and urban areas and providing bigger, connected sites for wildlife to live in and adapt to climate change.

The objectives of the Action Plan include:

- To ensure that construction, planning, development and regeneration have minimal adverse impacts on biodiversity and enhance it where possible;
- To ensure that biodiversity conservation is integral to sustainable urban communities, both in the built environment, and in parks and green spaces;
- To ensure that biodiversity conservation is integral to measures to improve the quality of people’s lives.

The key objectives of the strategy are to deliver:

- a more integrated large-scale approach to conservation on land and at sea;
- put people at the heart of biodiversity policy;
- reduce environmental pressures: and
- improve our knowledge of Biodiversity.

Relevant objectives within the East Midlands Biodiversity Strategy include:

- To manage effectively the remaining wildlife habitats and reduce fragmentation by extensive habitat creation;
- To conserve existing coastal and marine habitats and species;
- To increase the extent of coastal habitats, particularly through coastal management by natural processes and by managed retreat;
- To protect and conserve urban and post-industrial habitats of significant biodiversity value;
• To manage urban and post-industrial habitats to enhance their biodiversity value; and
• To ensure that economic regeneration initiatives, biodiversity projects and multi-functional GI delivery are developed in an integrated way.

Relevant objectives set out within the Lowlands Derbyshire Biodiversity Action Plan include the need to:
• Protect sites and species through the use of wildlife legislation;
• Provide appropriate protection to priority habitats and species through designating sites;
• Promote habitat and species conservation management and creation through the planning system;
• Provide conservation land management advise and support to landowners; and
• Promote agri-environmental schemes.

The key biodiversity related objective set out within the Waste Local Plan is to refuse development which would have other material and adverse impacts, including impacts on greenfield land, the best and most versatile agricultural land, the countryside, valued landscape and landscape character, biodiversity and nature conservation.

The key biodiversity related objective set out within the Minerals Local Plan is to protect the environment and communities from unacceptable damage as a result of mineral working and transportation.

The relevant local plans for each authority incorporate objectives to ensure that the key features of biodiversity value are protected within Derby and Derbyshire.

2.3 The Current Baseline

European Sites within and surrounding Derby and Derbyshire

2.3.1 In total, there are five designated European Sites for Nature Conservation identified within Derby and Derbyshire - four Special Areas of Conservation (SAC) and one Special Protection Area (SPA). In addition, there are a further four European sites located within 15km of the Derby and Derbyshire boundary, which have been identified to ensure any cross-boundary issues can be assessed. Details of these European

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4 Information relating to the European Sites within Derby and Derbyshire has been taken from the Derbyshire Local Transport Plan 3 SEA Scoping Report (June 2010)
Sites are set out in Table 2.1 below, along with a summary of the reasons for their designation.

Table 2.1: Habitats and Species Protected by SACs and SPAs within and outside of Derby and Derbyshire and Buffer Zone (Source: Derbyshire Local Transport Plan 3 SEA Scoping Report – June 2010)

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Summary of Reasons for Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Within Derby and Derbyshire Boundary</strong></td>
<td></td>
</tr>
<tr>
<td>Bees Nest &amp; Green Clay Pits SAC.</td>
<td>This site is considered to be one of the best areas in the United Kingdom for great crested newts. Semi-natural dry grasslands and scrubland facies: on calcareous substrates for which the area is considered to support a significant presence.</td>
</tr>
<tr>
<td>Gang Mine SAC</td>
<td>An example of Calaminarian grasslands in an anthropogenic context in northern England. Natural limestone outcrops supporting species typical of calaminarian grasslands are rare and small. This site has been chosen to provide an example of the habitat type on sedimentary rocks.</td>
</tr>
<tr>
<td>Peak District Dales SAC</td>
<td>Site has been selected for number of habitats and species. Habitats are mainly related to calcareous areas – semi-natural dry grasslands and scrubland facies: on calcareous substrates; Tillio-Acerion forests of slopes, scree and ravines; European dry heaths; Calaminarian grasslands Violetalia calaminariae; Alkaline fens; Calcareous and calcishist scree of the montane to alpine levels; Calcareous rocky slopes with chasmophytic vegetation. Species are related to those living in the River Dove – White-clawed Crayfish; Brook Lamprey; and Bullhead.</td>
</tr>
<tr>
<td>River Mease SAC</td>
<td>Habitat is a watercourse of plain to montane levels with the Ranunculion fluitanis and Callitricho-Batrachion vegetation. Species are Spined Loach for which the river is one of only four known outstanding localities in the UK; Bullhead; White-clawed Crayfish; and Otter.</td>
</tr>
<tr>
<td>South Pennine Moors SAC</td>
<td>South Pennine Moors Has been selected for a number of habitat types – European dry heaths; Blanket Bogs which are a priority feature and is the most south-easterly occurrence in Europe; Old Sessile oak woods with Ilexand Blechnum around the fringes of upland heath and bogs; Northern Atlantic wet heaths with Erica tetralix; and Transition mires and quaking bogs.</td>
</tr>
</tbody>
</table>

Information originally taken from www.natureonthemap.org.uk and www.jncc.gov.uk (Joint Nature Conservation Committee)
South Pennine Moors SPA  
SPA Site is of importance for several upland breeding, including birds of prey and waders. During the breeding season the site is of importance for **Golden Plover, Merlin, Peregrine Falcon Short-eared owl** and **Dunlin**.

Outside of Derby and Derbyshire Boundary

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Selection Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birklands and Bilhaugh SAC</td>
<td>Selected for old <strong>acidophilous oak woods</strong>, noted for its rich invertebrate fauna.</td>
</tr>
<tr>
<td>Pasture Fields Salt Marsh SAC</td>
<td>This is the only known site in the UK of a natural salt spring with <strong>inland saltmarsh meadow</strong> vegetation.</td>
</tr>
<tr>
<td>Rochdale Canal SAC</td>
<td>This site has been selected for supporting a significant population of <strong>floating water-plantain</strong> in a botanically diverse water plant community.</td>
</tr>
<tr>
<td>West Midlands Mosses SAC/RAMSAR</td>
<td>Contains three pools which are examples of <strong>natural dystrophic lakes and ponds</strong> in the lowlands of England and Wales. Also <strong>Transition mires and quaking bogs</strong>.</td>
</tr>
</tbody>
</table>

Note: the bold text denotes the primary reason for selection of the site.

2.3.2 The location of the SACs, RAMSAR sites and SPAs set out in the table above are shown in Figures 2.1 and 2.2 below.
Figure 2.1: Special Protection Areas within and outside of Derby and Derbyshire
(Source: Derbyshire Local Transport Plan 3 SEA Scoping Report – June 2010)
Figure 2.2: Special Areas of Conservation within and outside of Derby and Derbyshire (Source: Derbyshire Local Transport Plan 3 SEA Scoping Report – June 2010)
SSSI, National Nature Reserves and Local Nature Reserves

2.3.3 There are over 4,000 Sites of Specific Scientific Importance (SSSI) in England, which covers around 7% of the country’s land area. SSSIs are recognised as the country’s very best wildlife and geological sites. In total, there are 86 SSSIs in Derbyshire and one within the City of Derby, which cover a total of 101,481 ha. Natural England collects data on the condition of SSSIs throughout the Country and Table 2.2 below sets out the condition of SSSIs in Derby and Derbyshire in comparison to the regional and English averages up until August 2012.

Table 2.2: SSSI condition (Source: Natural England)

<table>
<thead>
<tr>
<th>Area</th>
<th>% area meeting PSA target</th>
<th>% area favourable</th>
<th>% area unfavourable recovering</th>
<th>% area unfavourable no change</th>
<th>% area unfavourable declining</th>
<th>% area destroyed / part destroyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derby and Derbyshire</td>
<td>98.71</td>
<td>18.20</td>
<td>80.5</td>
<td>0.79</td>
<td>0.5</td>
<td>0</td>
</tr>
<tr>
<td>East Midlands</td>
<td>98.63</td>
<td>47.51</td>
<td>51.12</td>
<td>0.92</td>
<td>0.43</td>
<td>0.02</td>
</tr>
<tr>
<td>England</td>
<td>96.65</td>
<td>37.34</td>
<td>59.31</td>
<td>2.18</td>
<td>1.15</td>
<td>0.03</td>
</tr>
</tbody>
</table>

2.3.4 The table above shows that 98.71% of SSSIs in Derby and Derbyshire meet the Public Service Agreement (PSA) (over 95% in favourable or recovering condition) for the condition of SSSIs and this percentage achievement is higher than the East Midlands and England average. However, there is a much lower percentage of SSSIs in favourable condition (the SSSI is being adequately conserved and is meeting its conservation objectives) than the East Midland and England average and consequently a much higher percentage of sites in an unfavourable recovering condition (SSSI units are not yet fully conserved but all the necessary management measures are in place) than the East Midlands and England average. The locations of SSSIs in Derby and Derbyshire are shown on the maps in Appendix 3.

2.3.5 There are a total of 224 National Nature Reserves (NNRs) across England. Their purpose is to help manage habitats, species and significant geology. Most reserves also offer the opportunity for the public to experience England’s national heritage. Within Derby and Derbyshire, there is only one NNR, Calke Abbey estate, which is located towards the south of Derbyshire and is 79.7ha in size. The main habitat in the Reserve is the Wood Pasture, but there is also an ancient deer park and concentrations of large oak trees, limes and beeches.

2.3.6 It should be noted that three NNRs (Kinder Scout, Biggin Dale and Derbyshire Dales) are located in the Peak District National Park, which lies adjacent to Derbyshire.

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6Information in relation to the condition of SSSIs throughout the area has been taken from the Natural England website. Accessed on 19/09/12 from http://www.naturalengland.org.uk/ourwork/conservation/designatedareas/sssi/default.aspx
2.3.7 There are around 1400 Local Nature Reserves (LNR) located throughout the country. The purpose of LNRs are to provide the public with opportunities to study/learn about nature. To qualify for LNR status, a site must be of importance for wildlife, geology, education or public enjoyment. There are a total of 43 Local Nature Reserves (LNR) located across Derbyshire and Derby. Furthermore, there are in excess of 1,200 wildlife sites in Derbyshire, which are sites that contain important habitats or support BAP, locally uncommon or rare species. The locations of LNRs in Derby and Derbyshire are shown on the maps in Appendix 4.

Biodiversity Action Plan

2.3.8 The UK Biodiversity Action Plan (1994) set out priority habitats and species that require protection throughout the UK. At the local level, the Lowlands Derbyshire Biodiversity Action Plan 2011-2020\(^7\) sets out a series of actions for ensuring that areas of biodiversity value located within Derbyshire are maintained, managed and created. More specifically, it incorporates a series of Local Biodiversity Action Plans (LBAPs) for eight areas within Derbyshire. These areas are identified in Figure 2.3 below.

2.3.9 The primary and secondary habitats and the UK BAP species located in each LBAP area within Lowlands Derbyshire that require protection, are identified in Table 2.3 below. The locations of the primary habitats located within each of the LBAP areas are shown on the maps in Appendix 5.
### Table 2.3: Primary and secondary habitats located within LBAPs in Lowlands Derbyshire (Source: Lowlands Derbyshire Biodiversity Action Plan 2011-2020)

<table>
<thead>
<tr>
<th>LBAP area</th>
<th>UK BAP Habitat Primary Habitats</th>
<th>Secondary Habitats</th>
<th>UK BAP Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesian Limestone Area</td>
<td>Lowlands mixed deciduous woodland, lowland calcareous grassland, hedgerows and arable field margins.</td>
<td>Wood pastures and parkland, lowland meadow and ponds.</td>
<td>Great-crested newt, dingy skipper, grizzled skipper, water vole, flamingo moss and white-clawed crayfish.</td>
</tr>
<tr>
<td>Rother and Doe Lea Valleys</td>
<td>Lowland mixed deciduous woodland, lowland meadow, lakes, ponds, canals, hedgerows, wet woodland and floodplain grazing marsh.</td>
<td>Reedbed, field margins, localised habitats, lowland calcareous grassland, traditional orchard, heathland, wood-pastures and parkland, lowland dry acid grassland and green roofs.</td>
<td>Great-crested newt, dingy skipper, water vole, and white-clawed crayfish.</td>
</tr>
<tr>
<td>Peak Fringe</td>
<td>Lowland mixed deciduous woodland, lowland meadow, hedgerows, lowland dry acid grassland and floodplain grazing marsh.</td>
<td>Heathland, wood pastures and parkland, lakes and canals and ponds.</td>
<td>Great-crested newt, dingy skipper, water vole, dormouse and white-clawed crayfish.</td>
</tr>
<tr>
<td>Erewash</td>
<td>Floodplain grazing marsh, lakes and canals, lowland mixed deciduous woodland, lowland meadow, wet woodland and ponds.</td>
<td>Reedbed, wood pastures and parkland, arable field margins</td>
<td>Great-crested newt, otter, dingy skipper, water vole, grass-wrack pondweed and white-clawed crayfish.</td>
</tr>
<tr>
<td>Claylands</td>
<td>Lowland meadow, veteran trees, wood pastures and parkland, hedgerows and ponds.</td>
<td>Arable field margins, lowland mixed deciduous woodland, floodplain grazing marsh, wet woodland, lowland dry acid grassland, rush pasture, lakes and canals</td>
<td>Great-crested newt, otter, dingy skipper, water vole, oak polypore and white-clawed crayfish.</td>
</tr>
<tr>
<td>Derby</td>
<td>Rivers and streams, floodplain grazing marsh, lowland deciduous woodland, wood pastures and parkland and ponds.</td>
<td>Lowland meadow, hedgerows, swamp and wet woodland.</td>
<td>Great-crested newt, otter, water vole and white-clawed crayfish.</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Trent Valley</td>
<td>Lowland Meadow, arable field margins, reedbed, wet woodland, lakes and canals, ponds, rivers and streams and floodplain grazing marsh.</td>
<td>Hedgerow, lowland mixed deciduous woodland and lowland swamp.</td>
<td>Great-crested newt, otter and water vole.</td>
</tr>
<tr>
<td>National Forest</td>
<td>Lowland meadow, hedgerows, lowland mixed deciduous woodland, wet woodland, wood pastures and parkland, lakes and canals and ponds.</td>
<td>Arable field margins, lowland dry acid grassland, floodplain grazing marsh.</td>
<td>Great-crested newt, otter, dingy skipper, grizzled skipper, water vole, Oak Polypore and white-clawed crayfish.</td>
</tr>
</tbody>
</table>

2.3.10 There are also a number of local wildlife sites located throughout Derby and Derbyshire. The locations of these local wildlife sites are shown on the maps in Appendix 6.

2.4 Likely Future Trends in the Baseline

2.4.1 Table 2.2 above identified that 80.5% of SSSIs throughout Derby and Derbyshire were in an unfavourable recovering condition. This suggests that these sites, although not yet fully conserved, are likely to move to a favourable condition in the future as all the necessary management measures are in place. This will lead to an overall improvement in the condition of SSSIs throughout Derby and Derbyshire.

2.4.2 The maps above illustrate that the spatial distribution of sites within and surrounding Derby and Derbyshire provides a rich network of biodiversity sites covering many habitat types. Whilst there is diversity within the plan area in terms of habitat type, which will help to provide the necessary living conditions for a wide range of flora and fauna, there are a wide range of threats to this diversity, including those set out below:

- Atmospheric pollution (such as acid precipitation and nitrogen deposition) and increased flood risk that may arise as a result of climate change, could pose a risk to the habitats and species present within Derby and Derbyshire; and

- Increased development planned across the area (including for housing, business, leisure, transport infrastructure and employment land) will place increased pressure on areas of biodiversity value due to land take for development and an increase in population. An increase in population is likely to lead to an increase in leisure and recreational pressure and increased demand for natural resources such as water.
New development may lead to an increase in disturbance through human activity, loss of habitat, increased predation (e.g. from domestic pets), atmospheric, land and water based pollution.

2.4.3 If these threats are not managed appropriately in the future, then this could lead to a negative impact on the future biodiversity baseline in relation to the preservation and enhancement of key habitats and species throughout Derby and Derbyshire.

2.5 Sustainability Issues

2.5.1 Having considered the context review and current and likely trends in the future baseline, this section will now focus on the sustainability issues for Derby and Derbyshire in relation to biodiversity, flora and fauna - both on the broad spatial scale as well as specifically pertaining to waste and minerals planning.

- There are a number of European designated sites (SACs, SPAs and RAMSAR sites), SSSIs, NNRs and LNRs located within and surrounding Derby and Derbyshire, which support habitats and species. Threats to these sites include increased development planned in the area, increased leisure and recreation pressure, predation, flooding, and atmospheric pollution.

- Mineral working and the development of waste management sites could pose a threat to areas of biodiversity value within and surrounding Derby and Derbyshire through take up of land and increased carbon emissions through waste transportation requirements. There are also likely to be a series of localised issues relating to waste and minerals development, including:
  - Increased noise, vibration and visual disturbance, from activities such as blasting, and vehicle movements and the presence of people – depending on the volume, regularity, ‘percussiveness’ (e.g. gunshot as opposed to background hum) and habituation of the present species;
  - Spread of disease – some composting sites can harbour viruses that can infect surrounding plant populations for distances of up to 1km;
  - Increased predation, for example of chicks - non-inert landfill sites can harbour populations of gulls that can cause serious issues for nearby wildlife sites (up to 5km away) with nesting birds of vulnerable species
  - Air quality impacts – combustion will produce a range of pollutants including NOx (oxides of nitrogen). Many of the pollutants are already regulated (e.g. dioxins) but others like NOx are not regulated so strictly. Deposition of NOx fertilises the soil thus encouraging more competitive species which then outcompete the more sensitive species. Deposition can also result in changes to vegetation structure which can discourage bird species due to habitat changes. The distance at which such processes are relevant depends upon the source of emission - for vehicle exhausts it is only really an issue for habitats within 200m of the roadside, for large EfW incinerators it can affect sites up to 10km away.
- Dust - dust generating activities like quarries can result in the coating of vegetation several hundred metres from the source of dust unless dust controls are used – tolerance levels are generally unknown.

- Ambitious BAP targets have been set out within the Lowlands Derbyshire Biodiversity Action Plan for the maintenance, management and creation of habitats within Derby and Derbyshire. Minerals and waste planning can have a significant effect in terms of facilitating or hindering the achievement of BAP targets. It will be important that development does not lead to fragmentation or loss of important habitats and there may be potential to increase connectivity between important habitat patches by incorporating habitat creation and/or replacement as part of new development.

- There is a need to achieve maximum restoration of former minerals sites as they can contribute towards biodiversity-led restoration and habitat enhancement. Alternatively, the option of non-intervention to allow natural colonisation to occur should be considered in certain situations, where significant nature conservation interest has developed over time.

- Some brownfield sites have intrinsic environmental importance and are identified as a priority habitat within the UK Biodiversity Action Plan (Open mosaic habitats on Previously Developed Land)

2.6 Data Limitations

2.6.1 No limitations were recorded when obtaining information for this section of the Scoping Report.
3 Land and Water Resources (incorporating Waste and Minerals)

3.1 Introduction

3.1.1 This chapter sets out the baseline and context information relating to land and water resources present in Derby and Derbyshire. In this report the title ‘Land Resources’ includes information relating to geological features and waste. ‘Water resources’ includes information on the location and quality of important watercourses located throughout Derby and Derbyshire.

3.1.2 The use of land resources is a key component of sustainable development; the needs of urban development, agriculture, the protection of valued flora and fauna and the provision of open space must all be balanced with the protection of geodiversity. Geodiversity is the variety of rocks, fossils, minerals, landforms and soils, along with the natural processes that shape the landscape.

3.1.3 Water is an essential resource in supporting biodiversity, recreation, residential and economic development. Effective planning and management of water resources is essential now and in the future if sustainable development is to be ensured.

3.1.4 The sub topics of waste and minerals form a key component of this chapter. Waste has traditionally been seen as an unavoidable by-product of increased prosperity and economic activity. In more recent years the development of new products and materials and changes in the way they are used has led to a steady growth in the amount and a change in the nature of the waste produced. Subsequently, there has been a shift in thinking regarding how waste should be managed.

3.1.5 The “waste hierarchy” ranks waste management options according to what is best for the environment. It gives highest priority to the prevention of waste arising in the first place. If the generation of waste cannot be prevented, the consequential priority in descending order is: preparing it for re-use, recycling, other recovery, and disposal (e.g. landfill). The waste hierarchy is set out at Article 4 of the revised Waste Framework (Directive 2008/98/EC). Figure 3.1 below shows the various stages of the waste hierarchy.

3.1.6 The baseline related to current (and potential future) patterns of waste production and management will be examined, so that implications for the Derby and Derbyshire MWDF can be established. By planning for all levels of the waste hierarchy it will be possible for the MWDF to support integrated and sustainable waste management.
3.2 Key Sustainability Objectives and Messages from the Context Review

3.2.1 The key sustainability objectives and messages which have been drawn out of the context review are as follows:

<table>
<thead>
<tr>
<th>Key Sustainability Objectives and Messages</th>
<th>Evidence Source</th>
</tr>
</thead>
</table>

The key relevant objective of the Water Framework Directive is to

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establish a framework for the protection and improvement of inland surface waters, transitional waters, coastal waters and groundwater which increase the protection of soil and mitigate the effects of flooding and drought.

|----------------------------------|

Key objectives include:
- All surface water bodies to meet “good” ecological status and “good” chemical status by 2015;
- Water conservation is a priority and water abstraction/impoundment must not be done so in an unsustainable manner or one that contributes to the deterioration of water resources;
- The sustainable use of water and water conservation are key objectives.

|------------------|

A key objective of the Waste Strategy is to decouple waste growth from economic growth and put more emphasis upon waste prevention and re-use.

|-----------------------------------|

The draft Water Bill covers three broad policy areas:
- Market reform to increase competition in the water sector and deliver benefits to customers;
- Water resources; and
- Expansion of the Environmental Permitting Regulations

<table>
<thead>
<tr>
<th>DRAFT Water Bill (2012)</th>
</tr>
</thead>
</table>

The NPPF states that local planning authorities should produce strategic policies to deliver the provision of a variety of infrastructure, including that necessary for water supply.

In terms of land resources one of the core planning principles of the NPPF is to encourage the effective use of land by reusing land that has been previously developed (brownfield land).

The NPPF further aims to facilitate the sustainable use of minerals. This includes putting policies in place to ensure worked land is reclaimed at the earliest opportunity.

|-----------------------------------------------|

The Environment Agency highlights the importance of integrating development planning and water planning, including the need to adopt stringent water efficiency policies; take account of the findings of Water Cycle Studies; set policy relating to SuDS, contamination and ecological enhancement; and identify suitable development for groundwater sensitive areas.

<table>
<thead>
<tr>
<th>Code for Sustainable Homes (2010)</th>
</tr>
</thead>
</table>

Since 2010, all affordable housing is to be constructed to Code Level 3, which sets water consumption at 105 l/hd/d for internal use for an average year.
The overall objective of Government policy on Sustainable Waste Management is to protect human health and the environment by producing less waste and by using it as a resource wherever possible. Key planning objectives identified within PPS10 are to:

- 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 the needs of their communities;
- help implement the national waste strategy, and supporting targets, be 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 and, in determining planning applications, that these locational needs, together with the wider environmental and economic benefits of sustainable waste management, are material considerations that should be given significant weight in determining whether proposals should be given planning permission;
- ensure the design and layout of new development supports sustainable waste management.

The East Midlands region has guidelines for land-won aggregates between 2005-2020 to be:

- 174 million tonnes – sand and gravel
- 500 million tonnes – crushed rock

There is also the assumption to attain 110 million tonnes from alternative materials (secondary or recycled).


Relevant priority issues to address in the East Midlands include the need to:

- improve efficiency of resource use and reduce commercial and industrial waste;
- prevent and improve management of hazardous waste;
- prevent and improve management of municipal solid waste;
<table>
<thead>
<tr>
<th>Key objectives identified within the Regional Water Resources Strategy include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure the water environment is restored, protected and improved so that habitats and species can better adapt to climate change;</td>
</tr>
<tr>
<td>For supplies to be more resilient to the impact of climate change, including droughts and floods;</td>
</tr>
<tr>
<td>Water to be valued and used efficiently;</td>
</tr>
<tr>
<td>Water to be shared more effectively between abstractors; and</td>
</tr>
<tr>
<td>Improved water efficiency in new and existing buildings.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>The key objectives of the Waste Local Plan are as follows:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To permit waste development which is guided by the principles of sustainable waste management;</td>
</tr>
<tr>
<td>To permit development which contributes to the establishment of an integrated approach to waste management;</td>
</tr>
<tr>
<td>To permit development which is in locations which reduce the need to travel and enables the movement of freight by rail and water;</td>
</tr>
<tr>
<td>To refuse development which would have material, adverse impacts on people or communities, including impacts on their health and on their enjoyment of the amenities of their locality; and</td>
</tr>
<tr>
<td>To refuse development that would harm the open character of green belts.</td>
</tr>
</tbody>
</table>

**Derby and Derbyshire Waste Local Plan (Revised Deposit) (2005)**

<table>
<thead>
<tr>
<th>The key objectives set out within the Minerals Local Plan include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To identify sufficient land to enable Derbyshire to make an appropriate contribution to the likely local, regional and national demand for minerals to 2006, and beyond where appropriate;</td>
</tr>
<tr>
<td>To conserve and safeguard minerals as far as possible;</td>
</tr>
<tr>
<td>To encourage the efficient use of materials, including the appropriate use of high quality materials and, whenever possible, the use of secondary and recycled materials; and to minimise the production of waste;</td>
</tr>
<tr>
<td>To protect local communities, natural resources and features of landscape, wildlife and heritage importance from unacceptable damage or disturbance as a result of the working and transporting of minerals;</td>
</tr>
<tr>
<td>To provide a detailed policy framework for assessing and controlling mineral working and ancillary operations, which ensures their impact on the environment is acceptable; and</td>
</tr>
</tbody>
</table>

**Derby and Derbyshire Minerals Local Plan (2005)**
• To ensure that land used for mineral working is reclaimed at the earliest opportunity, and is restored to acceptable after-uses.

3.3 The Current Baseline

Water Resources

3.3.1 This section will focus first on issues relating to water resource availability and then consider the issue of water quality. In terms of water quality there is a clear need to examine the baseline closely due to the role of the Minerals and Waste Plans in managing sewage effluent discharges, as well as the possibility of other minerals and waste operations resulting in water pollution. Furthermore, public water supply is of relevance to waste planning because it will be correlated with the volume of wastewater that requires treatment.

Watercourses in Derby and Derbyshire

3.3.2 Within Derby and Derbyshire, there are three principal rivers: the Derwent; Trent; and Dove. These all form part of the River Humber river basin district as they all eventually discharge into the North Sea via the River Humber. The largest tributaries are the rivers Wye, Amber and Erewash. There are three catchment areas in Derby and Derbyshire: the Derbyshire Derwent; the Dove; and the Lower Trent and Erewash.

3.3.3 There are a number of man-made reservoirs located across Derbyshire, which act as major features and visitor attractions. These include Ladybower, Derwent and Carsington. There are also four navigable or partially navigable canals; Peak Forest; Erewash; Chesterfield; and Trent and Mersey canal. There are other sections of disused canals such as Cromford Canal and Derby Canal which contain sections in water.

3.3.4 The location of these main watercourses in Derby and Derbyshire are shown in Figures 3.2 and 3.3 below.

Water Supply

3.3.5 The amount of water available for the environment and for abstractions is determined through a Catchment Abstraction Management Strategy (CAMS), which considers the amount of freshwater available, the amount the environment needs and the amount of water already licensed for abstraction. These strategies can be used to classify catchments as having water available, no water available, over-licensed or over-abstracted at low flows.

---

9 Information relating to the watercourses within Derbyshire has been taken from the Derbyshire Local Transport Plan 3 SEA Scoping Report (June 2010). Information relating to watercourses in Derby has been taken from the Derby Housing Markey Area Water Cycle Study (January 2010).
3.3.6 Figure 3.4 is taken from the Water Resources Strategy Regional Action Plan for the Midlands Region (prepared by the Environment Agency and published in December 2009). It shows the water available for abstraction at low flows in the Midlands. Most of the region has issues with water availability, with either no water available or over licensed resources; and some catchments are already over abstracted at low flows. Compared to the national average, the Midlands Region has fewer catchments with water available and more catchments classified as over-abstracted and no water available, which highlights that the region’s water resources are already under pressure.

3.3.7 Figure 3.5 also shows that water availability varies across Derby and Derbyshire. Towards the north of the area, water availability is either over licensed or no water is available and the area towards the west is over abstracted. Water is available towards the south of Derby and Derbyshire. The location of ground water protection zones located throughout Derby and Derbyshire are shown on the maps in Appendix 7.

3.3.8 Severn Trent Water is the main water supplier for Derby and Derbyshire. The use of water metering is a method that can be used for reducing demand of water. Figure 3.4 below shows the actual and forecasted households with water meters within the Midlands. It shows that the percentage of Severn Trent Water customers using water meters has increased since 2000-01. However, this percentage is lower than England & Wales average.
Figure 3.2: Derbyshire Water Resources (Source: Derbyshire Local Transport Plan 3 SEA Scoping Report – June 2010)
Figure 3.3: Derby Water Resources (Source: Derby Housing Market Area Water Cycle Study – January 2010)

Figure 3.4: Water Available for Abstraction at Low Flows – surface water and groundwater combined (Source: Water Resources Strategy Regional Action Plan for the Midlands Region – December 2009)
Figure 3.5: Actual and Forecasted Households with water meters in the Midlands (Source: Water Resources Strategy Regional Action Plan for the Midlands Region – December 2009)

Water Quality

3.3.9 Many human activities and their by-products have the potential to pollute water. Large and small industrial enterprises, the water industry, urban infrastructure, agriculture, horticulture, transport, discharges from abandoned mines, and deliberate or accidental pollution incidents, all affect water quality. Pollutants from these and many other activities may enter surface or groundwater directly. Pollution may arise as point sources, such as discharges through pipes, or may be more dispersed and diffuse. Both point source and diffuse water pollution may be exacerbated by adverse weather conditions.

3.3.10 The River Basin Management Plan for the Humber River Basin District (prepared by the EA in December 2009) includes information in relation to key characteristics and the water quality of the three river catchment areas within the Derby and Derbyshire area. The catchment for the River Derwent covers an area of 1,194km², covering much of the county of Derbyshire. There are 41 river water bodies and six lakes within the River Derwent catchment. The Dove catchment incorporates an area of South Derbyshire. There are 37 river water bodies and four lakes within the Dove catchment. The Lower Trent and Erewash catchment covers an area of 2,045km², extending from the River Dove confluence with the River Trent, south west of the city of Derby, to the Humber Estuary. There are 76 river water bodies and nine lakes in the Lower Trent and Erewash catchment. The table below sets out the key river and lake
water body quality indicators associated with each of the river catchment areas at present; and the target for 2015.

**Table 3.1: River and lake water bodies quality indicators for river catchments in Derby and Derbyshire (Source: The River Basin Management Plan for the Humber River Basin District - prepared by the EA in December 2009)**

<table>
<thead>
<tr>
<th></th>
<th>Derbyshire and Derwent Catchment</th>
<th>Dove Catchment</th>
<th>Lower Trent and Erewash Catchment</th>
<th>Average for Humber River Basin District</th>
</tr>
</thead>
<tbody>
<tr>
<td>% at good ecological status or potential</td>
<td>Now 2015</td>
<td>Now 2015</td>
<td>Now 2015</td>
<td>Now 2015</td>
</tr>
<tr>
<td>% assessed at good or high biological status</td>
<td>28 30</td>
<td>39 41</td>
<td>5 5</td>
<td>18 19</td>
</tr>
<tr>
<td>% assessed at good chemical status</td>
<td>40 43</td>
<td>65 74</td>
<td>17 17</td>
<td>22 27</td>
</tr>
<tr>
<td>% improving for one or more elements in rivers</td>
<td>88 88</td>
<td>100 100</td>
<td>86 86</td>
<td>- -</td>
</tr>
<tr>
<td>% at good status overall (chemical and ecological)</td>
<td>28 30</td>
<td>39 41</td>
<td>5 5</td>
<td>- -</td>
</tr>
</tbody>
</table>

3.3.11 Within the Humber River Basin District, 18% of water bodies are at good ecological status or potential. The percentages for both the Derbyshire and Derwent Catchment and the Dove Catchment are both higher than this average (28% and 39% respectively). However, the percentage for the Lower Trent and Erewash Catchment is significantly lower (5%). In addition, 27% of water bodies are at a good biological status or potential in the Humber River Basin District. The percentages for higher for both the Derbyshire and Derwent Catchment and the Dove Catchment but lower for the Lower Trent and Erewash Catchment.
Land Resources

3.3.12 The location of minerals and waste development sites is related to the extent and quality of land resources within a particular area. The baseline that should be considered under this topic includes: soil type; geodiversity; and land covered by Green Belt and Locally Important Geological Sites (LIGs).

Soil

3.3.13 Soils are the visible product of weathering and one of the key factors in contributing to, in particular the agricultural landscape, where they affect the types of agriculture possible and landscape variety and seasonal changes. Information relating to the soil types throughout Derby and Derbyshire is set out in the ‘Landscape Character of Derbyshire’ study prepared in 2003 by Derbyshire County Council. The table in Appendix 8 of this report shows the soil types that are located within each of the landscape character areas in Derby and Derbyshire.

Geodiversity

3.3.14 Geodiversity provides the basis for all our landscapes through underlying geology (structure, composition and history on earth) and geomorphology (landforms and the processes that create them). The geology and landscape of Derbyshire (including Derby) is dominated by carboniferous rocks that form the central terrain of the Peak District. However, the carboniferous limestone is predominantly located within the Peak District National Park boundary. Towards the east of the area (between Chesterfield and Ilkeston), the key geodiversity type is carboniferous coal measures. The north eastern section of the plan area (around Bolsover) is composed predominantly of magnesian limestone. The south of Derbyshire is predominantly composed of sandstone with small areas of coal measures, alluvium, gritstone and shale. The maps in appendix 9 shows the geology types located in Derby and Derbyshire.

3.3.15 Table 3.3 below sets out a condition assessment of sites with geological interest located throughout the East Midlands. It shows that over half of the total area of these sites is located within Derbyshire. The percentage of those sites in a favourable condition is slightly lower than the regional average and a higher percentage is in an unfavourable recovering condition. However, this could be attributed to the high number of sites located in Derbyshire in comparison to other areas of the East Midlands.

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Table 3.2: East Midlands Geological Sites Condition Assessment (Source: The State of the Natural Environment in the East Midlands - 2009)

<table>
<thead>
<tr>
<th>Site with Geological Interest</th>
<th>Condition Assessment (% area)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>No Area (ha)</td>
</tr>
<tr>
<td>Derbyshire</td>
<td>43 1,394</td>
</tr>
<tr>
<td>Leicestershire &amp; Rutland</td>
<td>22 413</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>16 161</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>9 46</td>
</tr>
<tr>
<td>Nottinghamshire</td>
<td>4 11</td>
</tr>
<tr>
<td>East Midlands</td>
<td>94 2,025</td>
</tr>
<tr>
<td></td>
<td>Favourable (%)</td>
</tr>
<tr>
<td>Derbyshire</td>
<td>84.6 14.6</td>
</tr>
<tr>
<td>Leicestershire &amp; Rutland</td>
<td>90.5 5.8</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>91.4 0.0</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>52.4 33.1</td>
</tr>
<tr>
<td>Nottinghamshire</td>
<td>52.4 47.6</td>
</tr>
<tr>
<td>East Midlands</td>
<td>85.4 12.2</td>
</tr>
</tbody>
</table>

Locally Important Geological Sites

3.3.16 LIGs are designated by locally developed criteria and are currently the most important designated sites for geology and geomorphology outside statutorily protected areas such as SSSIs. In total, there are 119 LIGs in the Derby and Derbyshire area, excluding the Peak District National park. The number of LIGs within each local authority area are shown in Table 3.4 below. The location of the LIGs within Derbyshire are shown in Figure 3.6 above (please note that LIGs located in the Peak District National Park are also included on this map).

Table 3.3: Derby and Derbyshire Locally Important Geological Sites (Source: Derbyshire County Council)

<table>
<thead>
<tr>
<th>Local Authority Area</th>
<th>Number of LIGs</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Peak Borough Council</td>
<td>11 (4 of which are caves)</td>
</tr>
<tr>
<td>Chesterfield Borough Council</td>
<td>None</td>
</tr>
<tr>
<td>Derbyshire Dales District Council</td>
<td>47</td>
</tr>
<tr>
<td>North East Derbyshire District Council</td>
<td>7</td>
</tr>
<tr>
<td>Bolsover Borough Council</td>
<td>15</td>
</tr>
<tr>
<td>Amber Valley Borough Council</td>
<td>13</td>
</tr>
<tr>
<td>Derby City Council</td>
<td>11</td>
</tr>
<tr>
<td>Erewash Borough Council</td>
<td>8</td>
</tr>
<tr>
<td>South Derbyshire District Council</td>
<td>7</td>
</tr>
</tbody>
</table>

Green Belt and Previously Developed Land

3.3.17 There are three areas of Green Belt located within the Derby and Derbyshire area. The Nottingham-Derby Green Belt covers an area of 60,189 ha, which is a total of 0.5% of the land area of England. The Burton-upon-Trent and Swadlincote Green Belt, which is 714 hectares in size (0.005% of the total land area of England). The South and West Yorkshire Greenbelt is 248,241ha (1.9% of the total land area of England) separates Chesterfield from Sheffield. Figures 3.6 – 3.8 below show the location of the three Green Belts.
Figure 3.6: Nottingham-Derby Green Belt (Source: Derbyshire Green Belts: A Greener Future – a joint report by CPRE and Natural England – 2010)

Figure 3.7: Burton-upon-Trent and Swadlincote Green Belt (Source: Derbyshire Green Belts: A Greener Future – a joint report by CPRE and Natural England – 2010)
3.3.18 The most recent statistics available in relation to previously developed land are set out in the document ‘Previously developed land that may be available for development: England’ prepared by CLG in 2007. The document identifies a total of 1,734 hectares of previously developed land in Derby and Derbyshire that is unused and may be available for redevelopment. Of this land, 224 hectares are located within the City of Derby.

Waste

3.3.19 There is a wealth of evidence base relating to the collection and disposal of household waste in Derbyshire and Derby, which is presented below. The eight district authorities are the collection authorities for Derbyshire and the disposal authority is Derbyshire County Council. As Derby City Council is a unitary authority, it is the collection and disposal authority for the City of Derby. It should be noted that High Peak Borough Council, Derbyshire Dales District Council and North-East Derbyshire are responsible for collection of waste in a part of the Peak District National Park and Derbyshire County Council is responsible for waste disposal in the National Park.

3.3.20 Municipal Solid Waste (MSW) is mostly collected from households, but can also include waste generated from some commercial and retail premises, waste from
schools and some other public institutions. Combined together, Derby and Derbyshire produced a total of 520,530 tonnes of MSW in 2008/09.

3.3.21 Table 3.4 on the following page shows the annual amount of residual household waste generated per person (National Indicator 191) for each local authority in the area between April 2006 and December 2011. It shows that across Derby and Derbyshire, the amount of waste collected per head has decreased over the last five years. However, the average figure for Derby and Derbyshire has been consistently higher than the East Midlands average between this same time period (April 2006 to December 2011).

3.3.22 For the most recently reported annual time period (April 2010 – March 2011) High Peak Borough Council produced the least of the Derby and Derbyshire local authorities in terms of the amount of residual household waste generated per household. The statistics for Bolsover District Council show that during the most recent full year time period, the amount of residual household waste generated per household was significantly higher than the East Midlands average.

---

Table 3.4: Residual Household Waste per Household in Derbyshire and Derby between 2006 and 2011 (Source: Waste Data Flow website\textsuperscript{12})

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Residual Household Waste per Household (kg per household)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Apr 06 – Mar 07</td>
</tr>
<tr>
<td>Amber Valley Borough Council</td>
<td>580.72</td>
</tr>
<tr>
<td>Bolsover District Council</td>
<td>873.79</td>
</tr>
<tr>
<td>Chesterfield Borough Council</td>
<td>622.92</td>
</tr>
<tr>
<td>Derby City Council</td>
<td>798.66</td>
</tr>
<tr>
<td>Derbyshire Dales District Council</td>
<td>658.03</td>
</tr>
<tr>
<td>Erewash Borough Council</td>
<td>562.35</td>
</tr>
<tr>
<td>High Peak Borough Council</td>
<td>787.24</td>
</tr>
<tr>
<td>North East Derbyshire District Council</td>
<td>699.95</td>
</tr>
<tr>
<td>South Derbyshire District Council</td>
<td>786.70</td>
</tr>
<tr>
<td><strong>Derby and Derbyshire Average</strong></td>
<td><strong>707.82</strong></td>
</tr>
<tr>
<td><strong>East Midlands Average</strong></td>
<td><strong>639.17</strong></td>
</tr>
</tbody>
</table>

3.3.23 Table 3.5 below sets out the percentage of household waste sent for reuse, recycling and composting (National Indicator 192) by each local authority in the Derby and Derbyshire area. It shows that the average percentage of waste arising in Derby and Derbyshire sent for recycling increased between April 2006 and December 2011, although it is still consistently lower than the East Midlands average. The table also shows that Derby City Council and South Derbyshire District Council have the highest levels of waste sent for recycling.

\textsuperscript{12} Accessed on 19/09/2012 from \url{http://www.wastedataflow.org}
\textsuperscript{13} December 2011 is the latest data available.
\textsuperscript{14} Calculated using statistics for the District and Unitary authorities located within Derby and Derbyshire
\textsuperscript{15} Calculated using statistics for all District and Unitary authorities in the East Midlands.
Table 3.5: Percentage of Household Waste send for Reuse, Recycling or Composting in Derby and Derbyshire between 2006 and 2011 (Source: Waste Data Flow website\footnote{16})

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Percentage of Household Waste Sent for reuses, recycling or composting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Apr 06 – Mar 07</td>
</tr>
<tr>
<td>Amber Valley Borough Council</td>
<td>25.85%</td>
</tr>
<tr>
<td>Bolsover District Council</td>
<td>19.90%</td>
</tr>
<tr>
<td>Chesterfield Borough Council</td>
<td>32.20%</td>
</tr>
<tr>
<td>Derby City Council</td>
<td>32.87%</td>
</tr>
<tr>
<td>Derbyshire Dales District Council</td>
<td>36.43%</td>
</tr>
<tr>
<td>Erewash Borough Council</td>
<td>40.59%</td>
</tr>
<tr>
<td>High Peak Borough Council</td>
<td>20.66%</td>
</tr>
<tr>
<td>North East Derbyshire District Council</td>
<td>29.73%</td>
</tr>
<tr>
<td>South Derbyshire District Council</td>
<td>27.49%</td>
</tr>
<tr>
<td><strong>Derby and Derbyshire Average</strong>\footnote{18}</td>
<td>29.52%</td>
</tr>
<tr>
<td><strong>East Midlands Average</strong>\footnote{19}</td>
<td>33.58%</td>
</tr>
</tbody>
</table>

3.3.24 The percentage of municipal waste in Derby and Derbyshire sent to landfill (National Indicator 193) between April 2006 and December 2011 is set out in Table 3.6 below. It shows that the percentage of household waste sent to landfill has decreased in both Derby and Derbyshire during this time period. The percentage of household waste sent to landfill in Derby and Derbyshire is higher than the East Midlands average. However, the East Midlands average is slightly distorted due to the significant amount

\footnote{16} Accessed on 19/09/2012 from \url{http://www.wastedataflow.org}
\footnote{17} December 2011 is the latest data available.
\footnote{18} Calculated using statistics for the District and Unitary authorities located within Derby and Derbyshire
\footnote{19} Calculated using statistics for all District and Unitary authorities in the East Midlands.
of waste used for energy recovery in the Nottingham City Council area (due to the presence of a large energy from waste facility in Nottingham).

Table 3.6: Percentage of Municipal Waste sent to Landfill in Derby and Derbyshire between 2006 and 2011 (Source: Waste Data Flow website\textsuperscript{20})

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Apr 06 – Mar 07</th>
<th>Apr 07 – Mar 08</th>
<th>Apr 08 – Mar 09</th>
<th>Apr 09 – Mar 10</th>
<th>Apr 10 – Mar 11</th>
<th>Apr 11 – Dec 11\textsuperscript{21}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derby City Council</td>
<td>66.34%</td>
<td>59.32%</td>
<td>60.24%</td>
<td>53.90%</td>
<td>52.08%</td>
<td>53.65%</td>
</tr>
<tr>
<td>Derbyshire County Council</td>
<td>69.63%</td>
<td>63.57%</td>
<td>60.89%</td>
<td>59.54%</td>
<td>55.71%</td>
<td>51.84%</td>
</tr>
<tr>
<td>Derby and Derbyshire</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average\textsuperscript{22}</td>
<td>67.99%</td>
<td>61.45%</td>
<td>60.57%</td>
<td>56.72%</td>
<td>53.90%</td>
<td>52.75%</td>
</tr>
<tr>
<td>East Midlands Average\textsuperscript{23}</td>
<td>59.12%</td>
<td>53.14%</td>
<td>49.01%</td>
<td>47.16%</td>
<td>43.60%</td>
<td>38.46%</td>
</tr>
</tbody>
</table>

3.3.25 The most recent statistics available in relation to the level of commercial and industrial waste produced by commercial premises (including shops, warehouses, offices, entertainment and catering businesses) and industrial premises (including factories and industrial plants) is taken from 2002/03. The total commercial waste arisings in Derby and Derbyshire in this time period was 464,400 tonnes and industrial waste arisings were 1,211,910, a total of some 1,522,400 tonnes. The level of industrial waste arisings was the second highest amongst the five waste planning authority areas in the East Midlands, Nottinghamshire was the highest with 2,966,950\textsuperscript{24}.

3.3.26 Hazardous waste is material that poses the greatest risk to human health or the environment, and includes materials such as asbestos, oils, solvents and chemical wastes. The East Midlands Regional Waste Strategy\textsuperscript{25} states that hazardous waste arisings in 2002/03 in Derbyshire were 117,878, 44% of the regional total.

3.3.27 Information in relation to the waste deposit and incineration capacity of Derby and Derbyshire (as of 2005) is held by the Environment Agency. Table 3.7 below shows that the landfill capacity available in Derby and Derbyshire contributes a fairly large

\textsuperscript{20} Accessed on 19/09/2012 from [http://www.wastedataflow.org](http://www.wastedataflow.org)
\textsuperscript{21} December 2011 is the latest data available.
\textsuperscript{22} Calculated using statistics for the Derby and Derbyshire average
\textsuperscript{23} Calculated using statistics for all County and Unitary authorities in the East Midlands.
proportion to the East Midlands total. It also shows that the area has capacity for waste treatment, waste transfer and metal recycling.

Table 3.7: Waste Deposit and Incineration Capacity in Derby and Derbyshire in 2005 (Source: Environment Agency26)

<table>
<thead>
<tr>
<th></th>
<th>Derby and Derbyshire (000s tonnes)</th>
<th>East Midlands Total (000s tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill Capacity</td>
<td>1,168</td>
<td>6,767</td>
</tr>
<tr>
<td>Incineration Capacity</td>
<td>105</td>
<td>672</td>
</tr>
<tr>
<td>Waste Transfer Capacity</td>
<td>605</td>
<td>3,196</td>
</tr>
<tr>
<td>Waste Treatment Capacity</td>
<td>355</td>
<td>1,539</td>
</tr>
<tr>
<td>Metal Recycling Capacity</td>
<td>375</td>
<td>1,026</td>
</tr>
</tbody>
</table>

3.3.28 In total, there are nine household recycling centres located within the area (eight in Derbyshire and one in Derby). Figure 3.9 below shows the location of these household recycling centres. The maps in Appendix 10 show the location of additional Environment Agency Permitted Waste Management sites located throughout Derby and Derbyshire.

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3.3.29 In terms of the spatial distribution of waste facilities, communities in some remoter western areas of Derbyshire have comparatively limited access to waste processing facilities and services, due to the relatively low population density and associated infrastructure in this area. The issue is finding ways of balancing the implications for economies of scale of certain waste developments versus the proximity principle - both here and in other small settlements.

Minerals

3.3.30 Derbyshire is one of the richest counties in the country in terms of the variety of mineral resources. The County (excluding the Peak National Park) produces around 12 million tonnes of minerals each year, of which sand and gravel and crushed rock for both aggregate and industrial uses (limestone and sandstone) are the most prevalent. Key minerals located within Derbyshire are set out below:
- **Limestone:** Derbyshire produces the second highest output of limestone in the UK. The main workings are concentrated in the carboniferous limestone around Buxton and Wirksworth, as well as other sites in the Permian Limestone in the north east of the county around Whitwell and Bolsover.

**Aggregates**

- **Sand and Gravel:** Approximately 14.5% of the country’s permitted sand and gravel reserves are in the East Midlands, and the region is the second most important in terms of extraction. Large amounts of these deposits are concentrated in the river valleys of the River Trent and adjoining Derwent and Dove Valleys to the south of Derby.

- **Crushed Rock:** The majority of crushed rock for aggregate use comes from limestone and is mainly used in the production of concrete, as roadstone and filling material.

**Non - Aggregates**

- **Coal:** The production of coal in Derbyshire has historically formed an important part of the economy. Most production took place in the North Derbyshire and the South Derbyshire coalfields. However, the coal mining industry has declined significantly since the 1980s and 1990s, and the last three remaining British Coal collieries at Bolsover, Markham and Shirebrook closed in 1993. The county retains a small number of operational opencast coal mines and Derbyshire remains a potential important source of coal. There are still significant reserves of coal in the county and, although some shallow coal seam deposits of commercial quality have been exhausted, there are deposits that have the potential to be mined economically. With changes in coal price and technology previously worked areas may contain economic deposits at greater depths, particularly given the proximity to coal fire power stations in Notts/ Yorks.

**Other minerals**

Other non-aggregate minerals of importance in the county include clay, vein minerals, building stone and oil and gas.

3.3.31 The locations of the principal mineral resources within Derbyshire are shown in Figure 3.10 below.

3.3.32 The East Midlands Regional Aggregates Working Party (RAWP) survey (prepared in 2009)\(^27\) sets out the most recent baseline evidence in relation to mineral production in Derby and Derbyshire. Information on the aggregate sales trends in the East Midlands between 2004 and 2008 is set out in Table 3.8 below. The table shows that Derbyshire has contributed a significant amount of the total limestone/dolomite that has been sold for aggregate purposes between 2004 and 2008 by East Midlands authorities. It also shows that the amount of sand and gravel that comes from Derbyshire and is sold for aggregate purposes decreased between 2004 and 2008.

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Figure 3.10: Derbyshire Principal Mineral Resources (Source: Lowland Derbyshire Biodiversity Partnership and Natural England)²⁸

Table 3.8: Sales for Aggregate Purposes 2004-2008 (statistics represent million tonnes) (Source: East Midlands RAWP)

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limestone/Dolomite</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Derbyshire</td>
<td>6.95</td>
<td>6.886</td>
<td>7.511</td>
<td>9.076</td>
<td>6.907</td>
</tr>
<tr>
<td>Peak District National Park (PDNP)</td>
<td>4.58</td>
<td>4.846</td>
<td>4.364</td>
<td>3.807</td>
<td>4.123</td>
</tr>
<tr>
<td>Leicestershire/Rutland</td>
<td>1.617</td>
<td>1.576</td>
<td>1.698</td>
<td>1.556</td>
<td>1.432</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>0.96</td>
<td>0.709</td>
<td>0.81</td>
<td>0.99</td>
<td>0.519</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>0.425</td>
<td>0.386</td>
<td>0.318</td>
<td>0.378</td>
<td>0.208</td>
</tr>
<tr>
<td>Nottinghamshire</td>
<td>0.166</td>
<td>0.142</td>
<td>0.142</td>
<td>0.034</td>
<td>0.002</td>
</tr>
</tbody>
</table>

| **Igneous Rock/Sandstone** |        |        |        |        |        |
| Derbyshire and PDNP    | 0.158  | 0.23   | 0.096  | Confidential | 0.087 |

| **Sand and Gravel** |        |        |        |        |        |
| Derbyshire            | 1.367  | 1.336  | 1.194  | 1.22   | 1.11   |
| Leicestershire/Rutland | 1.422  | 1.36   | 1.267  | 1.332  | 1.089  |
| Lincolnshire          | 2.995  | 3.196  | 3.371  | 2.472  | 2.273  |
| Northamptonshire      | 0.618  | 0.581  | 0.425  | 0.36   | 0.25   |
| Nottinghamshire       | 3.886  | 3.598  | 3.653  | 3.521  | 2.82   |
| **Total Sand and Gravel** | 10.288 | 10.071 | 9.91   | 8.905  | 7.542  |

3.4 Likely Future Trends in the Baseline

Water Resources

3.4.1 The Water Resources Strategy for the East Midlands (prepared by the Environment Agency in 2009) highlights that under the worst case scenario, a further 1,025 mega litres of water per day may be required in the Severn (England) and Humber (south) River Basins by 2050 to meet the additional needs of the public, industry and agriculture. The Humber River Basin incorporates the whole of Derby and Derbyshire. Furthermore, by 2050 climate change could reduce river flow by 10 to 15 per cent on an annual average basis, and could reduce summer river flows by 50 to 80 per cent.

3.4.2 Information in relation to the predicted future water quality of rivers and lakes within the river catchments in Derby and Derbyshire is set out within Table 3.1 above. The table demonstrates that the percentage of water courses in the Derbyshire and Derwent and the Dove Catchment at good ecological status, good or high biological status and good overall status is predicted to increase up to 2015. However, the
quality of water courses in the Lower Trent and Erewash Catchment are predicted to remain the same up to 2015.

3.4.3 Figure 3.5 above demonstrates that overall, the number of households with water meters in the Midlands region is predicted to increase up to 2034-35. Severn Trent Water is the main water supplier for Derby and Derbyshire. However, the table shows that the forecast rate of increase for Severn Trent is the lower than for the other water supplier for the area (South Staffs Water) and the England and Wales average.

Waste

3.4.4 The predicted growth in the population of Derby and Derbyshire have traditionally meant an increase in the amount of waste produced within the area which must be met by sufficient waste management facilities in the future. Figure 3.11 below is taken from the now revoked East Midlands Regional Plan and demonstrates the likely increase in MSW arisings in the East Midlands area up to 2020. It also demonstrates how the proportion of recycling and composting in the region is predicted to increase and how the proportion of waste sent to landfill is expected to decrease.

Figure 3.11: MSW management requirements (Source: East Midlands Regional Plan)

3.4.5 Information relating to the likely future trends in the baseline relating to waste is presented in the ‘Assessment of Need for Waste Facilities’ prepared by Derbyshire County Council. Figure 3.12 below shows that the level of MSW is predicted to increase to around 620,000 tonnes per annum in 2019/20. Figure 3.13 shows that the amount of MSW sent to landfill is predicted to decrease consistently in the future to a low of just over 150,000 tonnes per annum in 2019/20. Overall, the combined level of commercial and industrial waste arisings is predicted to decrease up to 2019/20 (see

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However, the amount of commercial waste produced is set to increase up to 2019/20.

**Figure 3.12: MSW waste growth prediction for Derby and Derbyshire (Source: Derbyshire County Council)**

**Figure 3.13: Maximum amount of MSW sent to landfill in Derby and Derbyshire (Source: Derbyshire County Council)**
3.4.6 Information in relation to the aggregates landbank within Derby and Derbyshire is set out within the East Midlands RAWP survey. Aggregates landbanks are indicators that MPAs are required to consider when considering whether new permissions should be granted in the MPA area. The landbank comprises all permitted reserves with valid planning permissions at a specified time. It is conventionally expressed in years.

3.4.7 The East Midlands RAWP survey shows that permitted reserves of sand and gravel are sufficient to meet the seven year nationally stipulated landbank, based on average annual sales in all MPA areas in the East Midlands. However, based on the approved sub-regional apportionment, the landbank for sand and gravel is slightly below 7 years in Derbyshire (6.35 years). There is a significant aggregate landbank of limestone/dolomite in Derbyshire (86 years) which will easily meet the crushed rock land bank requirements (MPS 1 recommends a land bank of at least 10 years).

3.4.8 As aggregate mineral developments take place, opportunities will continue to arise to optimise the after use of these sites. Potential after uses include habitat creation, agricultural use, forestry or land fill. The option of non-intervention to allow natural colonisation to occur may be appropriate in certain situations, where significant nature conservation interest has developed over time.
3.5 **Sustainability Issues**

3.5.1 Having considered the context review and current and likely trends in the future baseline, this section will now focus on the sustainability issues arising within Derby and Derbyshire in relation to land and water resources (including waste and minerals). Broad sustainability issues relating to the area are identified below, along with specific issues relating to minerals and waste planning.

**Water Resources**

- The ecological and biological status of river and lake water bodies in the Lower Trent and Erewash catchment is below the average for the Wider Humber River Basin District.

- A combination of low annual rainfall, low water storage capability and high water abstraction has caused some pressure on water supplies in the East Midlands. More specifically, there are issues relating to water abstraction within Derby and Derbyshire, particularly as water sources towards the north and the west of the area have been over-abstracted. There is a need to reduce water use and identify sustainable locations for both waste and mineral processing sites (particularly given the prominence of flood risk in some areas of the county, which restricts available sites).

**Land Resources**

- There is a need to avoid the loss of the best and most versatile agricultural land, greenfield land and protect the openness of Green Belt land in Derby and Derbyshire when locating new waste management facilities and undertaking mineral workings. Where appropriate, waste facilities should be developed on previously developed land.

**Waste**

- The amount of residual household waste generated per household in Derby and Derbyshire is higher than the East Midlands average. Furthermore, the amount of residual household waste sent for reuse, recycling or composting is lower than the East Midlands average. Therefore, there is a need to divert waste from landfill to achieve more sustainable waste management.

- Waste arisings in Derby and Derbyshire are expected to continue to rise. While there is slowly increasing capacity for waste management locally this is not enough to drive waste up the waste hierarchy.

- Waste management facilities and infrastructure is required throughout Derby and Derbyshire that will facilitate waste management in accordance with the proximity principle and in the most appropriate locations.

- Locational decisions should be taken to ensure that any potential negative impacts associated with waste management facilities are avoided.
• Communities in some remoter western areas of Derbyshire have comparatively limited access to waste processing facilities and services due to the relatively low population density and associated infrastructure.

**Minerals**

• The negative effects of minerals operations should be minimised through careful location and the positive effects should be maximised. The proximity of mineral operations to internationally and nationally designated areas of landscape value and nature conservation, sensitive receptors and pathways should be considered and the benefits of restoration of mineral sites should be maximised.

• The landbank for sand and gravel is below the recommended 7 year land bank, which indicates that additional reserves will need to be permitted.

• The prudent, efficient and sustainable use of minerals should be ensured, as far as practicable. This will ensure that the requirement for new primary extraction is minimised.

• It is important that mineral resources within Derbyshire are safeguarded as far as possible in the future and the production of mineral waste is prevented or minimised.

• There is a need to protect and enhance the overall quality of the environment once extraction has ceased, through the highest standards of restoration and aftercare. This includes safeguarding the long-term potential of land for a wide range of after-uses and addressing potential adverse effects on communities’ quality of life, including impacts arising from land stability and other public safety risks. Alternatively, non-intervention may be appropriate where significant nature conservation interest has developed over time.

### 3.6 Data Limitations

3.6.1 Up to date statistics in relation to the level of commercial and industrial waste and hazardous waste produced in Derby and Derbyshire were not available at the time of writing (the latest statistics available relate to 2002/03). This has impacted on the accuracy of the reported current baseline in relation to commercial and industrial and hazardous waste.

3.6.2 There is no map available that shows the location of LIGs within the City of Derby.
4 Air Quality and Transport

4.1 Introduction

4.1.1 Transportation networks play a critically important role in the sustainable development of an area, enabling people and goods to move around. Ensuring that residents, employees and visitors have a choice of sustainable modes of travel, including public transport, walking and cycling, helps to increase accessibility to key employment, education, training and leisure opportunities as well as improving health and well-being through more active lifestyles.

4.1.2 Similarly, many businesses require an efficient local transport network, so ensuring that new development is located centrally or is accessible by a variety of transport modes helps to increase accessibility to goods, services and amenities and to secure the viability of their operations.

4.1.3 Therefore, it is important to ensure that transport infrastructure is able to safely and efficiently cope with demand and provide choice of transportation, thereby reducing the impact of congestion on the road network.

4.1.4 The effects on health of transport-related air pollution are among the leading concerns about transport. The increased intensity of private motorised transport has led to greater emissions of air pollutants and greater exposure of people to hazardous emissions that causes serious health problems. In addition it is recognised that waste processing developments can cause some degree of air pollution in addition to that caused by vehicle movements associated with the development. However these are very strictly controlled and monitored, largely by the Environment Agency through their Permit licensing of premises.

4.1.5 In recent years there has been a growing body of evidence to suggest that poor air quality may have a cumulative effect, which may be chronic for sensitive individuals.

4.1.6 When air pollution is present in high concentrations it can cause various health effects ranging from irritation of the eyes, nose and throat, to the worsening of lung and heart diseases. In addition to impacts on human health, annual levels of nitrogen dioxide (mainly from traffic) and sulphur dioxide (mainly from industry) can impact on vegetation and ecosystems. Air pollutants can also lead to the soiling and corrosion of buildings.

4.1.7 Actions to reduce air pollution are also often actions to tackle climate change, for example through reducing local emissions from transportation, tackling outputs of local pollutants as well as greenhouse gases. Therefore, there is some overlap between this topic and climatic factors and flooding (Chapter 5).
4.2 **Key Sustainability Objectives and Messages from the Context Review**

4.2.1 The key objectives and messages which have been drawn out of the context review are as follows:

<table>
<thead>
<tr>
<th>Key Sustainability Objectives and Messages</th>
<th>Evidence Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Air Quality Framework Directive sets European-wide limit values for air pollutants. These include: sulphur dioxide, nitrogen dioxide, particulate matter, lead, ozone, benzene, carbon monoxide, poly-aromatic hydrocarbons, cadmium, arsenic, nickel and mercury. The Directive aims to: avoid, prevent or reduce harmful effects on human health and the environment; make information on ambient air quality available to the public; maintain air quality where good and improve it in other cases.</td>
<td>Air Quality Framework Directive (96/62/EC) and daughter Directives: 1999/30/EC; 2000/69/EC; 2002/3/EC; 2004/107/EC.</td>
</tr>
<tr>
<td>The National Air Quality Strategy sets objective values for eight key pollutants, as a tool to help local authorities manage local air quality improvements in accordance with the EU Air Quality Directive and associated Regulations. The key pollutants are:</td>
<td>National Air Quality Strategy for England, Scotland, Wales and Northern Ireland. (July 2007)</td>
</tr>
<tr>
<td>- Particles - PM10 and PM2.5; - Nitrogen dioxide (<em>for nitrogen oxides); - Ozone</em>; - Sulphur dioxide*; - Polycyclic aromatic hydrocarbons; - Benzene; - 1, 3 butadiene; - Carbon monoxide; and - Lead.</td>
<td></td>
</tr>
<tr>
<td>Air Quality Management is a key statutory function of local authorities and all sustainability objectives and targets should be made in light of these reviews and assessments.</td>
<td>The Environment Act 1995</td>
</tr>
<tr>
<td>The NPPF identifies as ‘core planning principles’ the need to ‘support the transition to a low carbon future in a changing climate.’ A key role for planning in securing radical reductions in GHG emissions is envisioned, with specific reference made to meeting the targets set out in the Climate Change Act 2008. The NPPF states that new and existing developments should be</td>
<td>National Planning Policy Framework (NPPF) (2012)</td>
</tr>
</tbody>
</table>
prevented from contributing to, or being put at unacceptable risk from, or being adversely affected by unacceptable levels of air pollution. More specifically, it makes clear that planning policies should be compliant with and contribute towards EU limit values and national objectives for pollutants. This includes taking into account the presence of Air Quality Management Areas (AQMAs) and cumulative impacts on air quality.

The NPPF also calls for the transport system to be balanced ‘in favour of sustainable transport’, with developments to be located and designed to facilitate these modes of travel.

Key objectives are:

- To support national economic competitiveness and growth, by delivering reliable and efficient transport networks;
- To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change;
- To contribute to better safety, security and health and longer life-expectancy by reducing the risk of death, injury or illness arising from transport and by promoting travel modes that are beneficial to health;
- To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society; and
- To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

The document indicates a number of Public Service Agreement objectives. Those of relevance include:

- Reduce greenhouse gas emissions to 12.5% below 1990 levels in line with the Kyoto commitment and move below 1990 levels by 2010, through measures including energy efficiency and renewables; and
- Improve air quality by meeting the Air Quality Strategy targets for carbon monoxide, lead, nitrogen dioxide, particles, sulphur dioxide, benzene and 1,3 butadiene.

The Strategy affirms the absolute importance to the Region and its economy of freight transport. Within this, road transport is, and will continue to be, the key mode for freight in the East Midlands, and the Strategy reflects this through measures to support road freight efficiencies. It also strongly promotes measures to encourage modal shift to other more sustainable modes – rail, pipeline and water, where it is feasible to do so.

To enable this to happen, the Strategy includes proposals to improve the provision of intermodal freight terminals in the heart of the Region, particularly in the Three Cities area. It also

| Delivering a Sustainable Transport Strategy (2008) |
| East Midlands Regional Freight Strategy (2005) |
supports calls for vital investment in an extension of the rail network in the Region able to carry 9’6” containers.

A set of challenges for Derbyshire in relation to achieving transport goals are established:

- Supporting a resilient local economy;
- Tackling climate change;
- Contributing to better safety, security and health;
- Promoting equality of opportunity; and
- Improving quality of life and promoting a healthy natural environment.

Derbyshire LTP3 (2011)

Transport goals include:

- To support growth and economic competitiveness, by delivering reliable and efficient transport networks;
- To contribute to tackling climate change by developing and promoting low-carbon travel choices;
- To contribute to better safety, security and health for all people in Derby by improving road safety, improving security on transport networks and promoting active travel;
- To provide and promote greater choice and equality of opportunity for all through the delivery and promotion of accessible walking, cycling and public transport networks, whilst maintaining appropriate access for car users; and
- To improve the quality of life for all people living, working in or visiting Derby by promoting investment in transport that enhances the urban and natural environment and sense of place.

Derby LTP3 (2011)

The five main elements of the Strategy are:

- Raise education and awareness of freight issues;
- Reduce the environmental impact of freight movements;
- Increase the amount of freight moved by rail;
- Manage the movement of freight by road; and
- Influence land use planning.

Derby and Derbyshire Freight Quality Partnership Strategy (2003)

The plan establishes a number of transport principles upon which new waste development proposals will be assessed. The Plan states that:

“waste development which would be likely to result in an overall significant increase in the number or distance of waste-related journeys for people, materials or waste or would not provide or utilise a choice of transport modes for people, materials or waste will not be permitted if there is a practicable, environmentally better alternative.”

Derby and Derbyshire Waste Local Plan (Revised Deposit) (2005)
Seeks to ensure that the environmental impact of mineral
development is acceptable having regard to:
“the transport implications, and in particular the scale and nature
of traffic likely to be generated, and its implications for site
access, highway capacity, road safety, and the environment
generally.”

### 4.3 The Current Baseline

#### Highway Network

**Derbyshire**

4.3.1 Several important transport corridors run through Derbyshire with heavy industry
concentrated towards the northern end of the north-south corridor. The M1 motorway,
A38, A617 and A50 dual carriageways are the key north-south and east-west links
running through the County. The rail network in Derby and Derbyshire is fragmented,
with five different train operators and three Network Rail zones. Rail services cover
most of the County, and are accessible to most Derbyshire residents. Main lines serve
the Sheffield, Chesterfield, Derby, Leicester, London (Midland Main Line) and Sheffield,
Chesterfield, Derby, Birmingham (Cross Country). The majority of rail routes carry
freight.

4.3.2 Derbyshire’s bus network is comprehensive, reflecting the settlement pattern, location
of large cities just outside the County boundary, and some very rural areas.

4.3.3 East Midlands Airport, on the border of South Derbyshire just off Junction 24 of the M1,
is an important travel hub and employment centre for Derby and Derbyshire.

4.3.4 The County is also served by Doncaster/Sheffield, Nottingham and Manchester
Airports.

4.3.5 61% of Derbyshire’s boundary adjoins neighbouring regions and the County is greatly
influenced by conurbations just outside its boundaries. There are relatively frequent
short-distance movements of minerals and waste across these boundaries which are
likely to continue in the future. Derbyshire has borders with the following authorities:

- The Peak District National Park;
- West Cheshire Council;
- Leicestershire County Council;
- Nottinghamshire County Council;
- Staffordshire County Council;
- Sheffield City Council;
• Tameside MBC;
• Oldham MBC;
• Rotherham MBC;
• Barnsley MBC;
• Kirklees MBC.

4.3.6 Some areas of Derbyshire are also quite remote, lacking in transport alternatives to the car, and have poor access to facilities. Parts of north western Derbyshire also suffer from problems associated with high visitor numbers during the peak season.

4.3.7 There are 5,656km (3,515 miles) of roads in Derbyshire. 5,528km are controlled by the County Council, the remainder, the M1 Motorway and Trunk Roads, are controlled by the Highways Agency. County Council roads are classified using the national system:-

• A roads – 618km total length. 83% of which are located in rural areas (509km);
• B Roads – 471km total length. 80% of which are located in rural areas (378km);
• C Roads – 1,327km total length. 85% of which are located in rural areas (1130km); and
• Unclassified – 3,112km total length. A more even urban and rural split with 59% in rural areas and 41% urban. 8.8% of unclassified roads are unsealed i.e. they generally do not have a tarmacadam surface and because of their general rural location they are known as green lanes.

4.3.8 The SEA Scoping Report for Derbyshire LTP3 (2010) indicates that during the last ten years, the condition of all Derbyshire roads has got better. In 2009, only 4% of A Roads were found to be requiring structural maintenance, which is around the optimum annual maintenance level from a cost-efficiency point of view (compared to around a fifth requiring structural maintenance in 2001 – but the figures are not wholly comparable as different survey techniques were used). The current condition is comparable to the national average of 4.6%. B and C roads are generally in a good condition too and have also improved, although 11% were assessed as requiring structural maintenance in 2009. This is slightly worse than the national average of 8.3%. 14% of unclassified roads require structural maintenance.

4.3.9 Derbyshire County Council has undertaken a project to produce a separate County Road Hierarchy to prioritise different routes depending on the role they perform for the County; the hierarchy is shown in Figure 4.1 overleaf.

Derby

4.3.10 Derby is a compact city with excellent links to the regional and national transport networks. It is well served by rail connections and has a comprehensive local bus network. There is also an expanding network of cycle routes and footpaths providing
healthy, sustainable travel choices. Key road infrastructure includes the A38 (T), A50 (T), A6 (T) and A5111 (T) Trunk Road Routes.

4.3.11 The perceived high cost of public transport and the impacts of congestion on reliability of bus services is a threat to continued high levels of accessibility. In the wider area, delay and congestion on the strategic road network, especially the A38, has a severe impact upon not only strategic traffic using the trunk road routes but also local traffic crossing the routes.
Figure 4.1: Derbyshire Road and Rail Network (Source: Derby and Derbyshire Freight Quality Partnership Strategy 2003)
Figure 4.2: Derby Road, Rail and Cycle Network (Source: Derby Core Strategy Options: Topic Paper 4: Transport 2010)
Figure 4.3: Derbyshire Road Hierarchy (Source: Derbyshire LTP3 SEA Scoping Report 2010)
**Derbyshire Traffic Flow and Growth**

4.3.12 Figure 4.4 below illustrates annual traffic flow for 2008 across Derbyshire. The figure illustrates that all market towns in Derbyshire experience at least one road in their community with more than 5,000 vehicles a day. Smaller communities and other urban local centres in the east of the County are also likely to be subject to a road(s) hosting over 5,000 vehicles a day.

**Figure 4.4: Derbyshire: Annual Average Traffic Flows (Source: Derbyshire LTP3 SEA Scoping Report 2010)**
4.3.13 Growth in traffic levels in Derbyshire has slowed somewhat in recent years to levels of between 1.5% and 3% per annum.\(^{30}\)

4.3.14 A significant problem in Derby and Derbyshire in relation to transport is the impact of heavy lorries, particularly pertaining to the mining and quarrying industry. There has been a significant increase in the number of heavy goods vehicles using the road network in the County, particularly the larger 40 and 44 tonne lorries introduced in 2001. In some areas heavy goods vehicles can account for up to 25% of traffic\(^{31}\).

**Transportation of minerals and waste in Derbyshire and the East Midlands**

4.3.15 Although much sand and gravel aggregate is used within 10-15 miles of the pits, significant interregional imports and exports between the East Midlands and its neighbours still take place. The greatest proportion of this flow goes north into Yorkshire and the Humber. The region is also a major interregional exporter of crushed rock aggregates, exporting around 5 million tonnes each per annum into the North West, the West Midlands, and the East of England.\(^{32}\) This can generate large quantities of heavy lorry traffic, causing damage to the environment and road network due to noise, dust, dirt, vibrations and emissions, as well as being a potential safety hazard when passing through settlements. Dowlow Quarry near Buxton which produces limestone has access to a rail terminal. It is noted that the exposed coalfield in Derbyshire is well served by existing transport infrastructure including the M1.

4.3.16 An estimated 80-90% of the County’s waste output, including that from minerals sites, travels by road.\(^{33}\) The vast majority of the waste that travels by other means is minerals and industrial waste transported via the rail network. Roughly 27% of the County’s Municipal Solid Waste (MSW) originates in the north eastern sub area, which disposes of almost all of its waste arisings locally. This is partly due to as its status as a geologically exposed coalfield, which has historically been utilised for its landfill potential.\(^{34}\) However, the south eastern sub area produces over half of the County’s MSW arisings, and most of this is exported outside the area for processing and disposal. Some major facilities located outside the County, such as Sutton-in-Ashfield in Nottinghamshire, are currently receiving waste generated in Derbyshire and other facilities in north east and North West Derbyshire have the potential to attract waste from Sheffield and Greater Manchester\(^{35}\).

**Geographical Constraints**

4.3.17 The transportation network is limited in the western part of the County, restricting regular waste collection services and increasing costs in certain areas.\(^{36}\) This is especially apparent in the more isolated towns and villages of the High Peak and

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\(^{30}\) Derby City Council and Derbyshire County Council (2003) Local Transport Plan 2001-2006

\(^{31}\) Derby City Council and Derbyshire County Council (2003) Local Transport Plan 2001-2006


\(^{33}\) Derby City Council and Derbyshire County Council (2000) Derby and Derbyshire Minerals Local Plan, p17

\(^{34}\) Derbyshire County Council and Derby City Council (2005) Looking After Derbyshire’s Waste: Strategy Document, Draft for Public Consultation

\(^{35}\) Derby City Council and Derbyshire County Council (2005) Derby and Derbyshire Waste Local Plan, p21

\(^{36}\) Derbyshire County Council and Derby City Council (2005) Looking After Derbyshire’s Waste: Strategy Document, Draft for Public Consultation
Derbyshire Dales. In parts of High Peak District Council area, MSW is usually exported to adjacent Waste Disposal Authorities (WDAs) to make up for the shortfall in localised waste management facilities.

Derby Traffic Growth

4.3.18 Traffic growth in Derby increased 5.1% between 2000 and 2007, exceeding that experienced in Leicester (3.8%) and Nottingham (1.9%). Although lower than the regional (11.3%) and the national average (9.2%), traffic growth is considered a significant problem in Derby. In addition, associated congestion is considered to be a considerable problem in the City centre and near schools.  

4.3.19 Due to traffic growth, significant parts of the highway network within Derby are either at or close to capacity during the weekday morning (0800-0900) and evening (1700-1800) peaks, limiting the amount of additional traffic growth that could occur during these periods. Rising travel demand, traffic growth and congestion are causing serious strain on the system.

Derby Road Casualties

4.3.20 The number of pedestrians killed or seriously injured on all roads in the LTP area has reduced by 36% and the number of people killed or seriously injured in road traffic accidents has reduced by 35% (reduction in 2006-07 from 1995-98 annual average). However, in 2008, 110 people were killed and/or seriously injured on Derby’s roads and that number was above the 2008-2009 Local Area Agreement (LAA) reduction target (106 people)  

Derbyshire Road Casualties

4.3.21 The Derbyshire Crash Figures Report 2012 indicates that during 2012 414 people were killed or seriously injured on Derbyshire’s roads, 36 of these casualties were children. In addition there were 3,134 slight casualties recorded on Derbyshire’s roads in 2012. However, since the 2005-2009 average, the amount of people killed or seriously injured has reduced in Derbyshire by 28%. Figure 4.5 overleaf illustrates 3-Year Personal Injury Accidents per 100 Million Vehicle KMs across Derbyshire, with the most accidents occurring close to the rural settlements of Staveley, Bakewell, Buxton and Ashbourne.

37 Source: Derby Local Transport Plan SEA Scoping Report 2010  
38 Source: Derby Local Transport Plan SEA Scoping Report 2010  
39 http://www.saferroadsderbyshire.org.uk/crash_figures/default.asp
Figure 4.5: Three Year Personal Injury Accidents per 100 Million Vehicle KMs (01/05/06-30/04/09) (Source: Derbyshire LTP3 SEA Scoping Report 2010)
Cycle Network

4.3.22 The SEA Scoping Report for Derbyshire LTP3 (2010) indicates that in April 2009, there were 388km of off-road routes available for cyclists to use - see Figure 4.6 below. 289km of these are multi-user routes available for walking and horse riding, as well as cycling. These networks have increased significantly over the last ten years – in 2001 there were just 135km of off-road cycle routes. It is estimated that there are 53km of on-road cycle routes in Derbyshire.

**Figure 4.6: Derbyshire Cycle Network (Source: Derbyshire LTP3 SEA Scoping Report 2010)**
Bus Network

4.3.23 The SEA Scoping Report for Derbyshire LTP3 (2010) indicates that over 260 separate bus services operate across Derbyshire during each week. During 2008/09 29.5 million passengers were carried, which has increased from 26.8 million in 2003/2004. Around 90% of bus services are provided on a commercial basis, the remaining 10% are supported by the County Council and are usually evening, recreational or health related services.

Rail Network

4.3.24 Derbyshire is well served by rail services to all the nearby conurbations. Much of the rail network in Derbyshire is managed by Network Rail, although there are a number of privately owned heritage railways. There are 34 rail stations which are managed by the relevant train operating companies; the largest is Chesterfield railway station.

4.3.25 There are also a number of freight lines and terminals in Derbyshire. The majority of these are located in proximity to the limestone quarries in High Peak. The majority of crushed rock for aggregate use comes from limestone and is mainly used in the production of concrete, as road stone, or filling material. This material is transported by a mixture of both road and rail, particularly within the East Midlands and Yorkshire and the Humber, but also to the North West, West Midlands and the East of England.

Traffic Noise

4.3.26 The Department for Environment, Food and Rural Affairs (DEFRA) is currently mapping road noise under the terms of the Environmental Noise (England) Regulations 2006.

Derbyshire

4.3.27 Most of Derbyshire has not yet been assessed, but the likely most important areas for consideration have been identified by DEFRA as First Priority Locations (see Figure 4.7). These are locations where noise level thresholds exceed 76dBA, which can be described as being at a level that more than 50% of people in that location are likely to regard noise as bothering them ‘very much’ or ‘quite a lot’. There are currently five roads within Derbyshire with First Priority Locations identified upon them, these are:

- A617;
- A6096;
- A6;
- A61; and
- A511.

4.3.28 The SEA Scoping Report for Derbyshire LTP3 (2010) supplements the DEFRA information by using the formula from the Noise Regulations, LA10 18h, to estimate traffic noise levels. The Scoping Report suggests that noise levels are lower than 76dBA on County roads.
Figure 4.7: Derbyshire Estimated Traffic Noise Levels/ DEFRA Noise Action Planning First Priority Locations (Source: Derbyshire LTP3 SEA Scoping Report 2010)
Derby

4.3.29 There is currently no noise monitoring in the Derby area. Derby is a second round agglomeration and noise modelling (all roads and railways) in Derby are due to be mapped by DEFRA in 2012. There are some First Priority Locations for major roads in Derby (see Figure 4.8). These locations are where more than 1% of the population is affected with an LA10, 18 hours > 76 dB.

Figure 4.8: Derby Estimated Traffic Noise Levels/ DEFRA Noise Action Planning First Priority Locations (Source: Derbyshire LTP3 SEA Scoping Report 2010)

Air Quality

Derbyshire

4.3.30 Local authorities have statutory duties for local air quality management (LAQM) under the Environment Act 1995. The Act requires the UK Government and devolved administrations for Scotland and Wales to produce a National Air Quality Strategy (NAQS) containing standards, objectives, and measures for improving ambient air
quality; and to keep these policies under review. The first Air Quality Strategy for the UK was adopted in 1997, this was replaced in 2000 and an addendum followed in 2003. A review then led to the most recent strategy: The Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007.40

4.3.31 Since December 1997 each local authority in the UK has been carrying out a review and assessment of air quality in their area. This involves measuring air pollution and trying to predict how it will change in the next few years. The aim of the review is to make sure that the national air quality objectives will be achieved throughout the UK by the relevant deadlines. If a local authority finds any areas where the objectives are not likely to be achieved, it must declare an Air Quality Management Area (AQMA) there.

4.3.32 There are five AQMAs currently declared in Derbyshire as shown on Figure 4.9. All of these have been declared due to nitrogen dioxide:

- **A619/ A616 Treble Bob Roundabout, Barlborough AQMA** – was declared in August 2005, relating to a single dwelling. In March 2009 the Department for Environment, Food and Rural Affairs (DEFRA) approved that the AQMA could be revoked following an improved level of air quality. However further 2009 monitoring suggested that the problem may still exist with nitrogen dioxide levels of 39.6µ/m3 measured against a threshold of 40µ/m3. Therefore at this stage Bolsover District Council have not revoked the AQMA;

- **M1 North of Junction 28, South Normanton** – 12 properties alongside the M1 motorway;

- **Orchard Close, Barlborough** – 5 dwellings alongside the M1 motorway;

- **M1 North of Junction 25, Sandiacre** – 5 dwellings alongside the M1 motorway; and

- **M1 South of Junction 25, Long Eaton** – 130 dwellings alongside the M1 motorway.

4.3.33 In addition to the declared AQMAs, Chesterfield Borough Council has been monitoring a number of locations along the major arterial routes through Chesterfield and the town centre, where the annual mean air quality objective for NO2 have been exceeded in recent years. As a consequence a widespread consultation was conducted in 2008. A formal declaration of the AQMA has not yet been made.

4.3.34 There are also concerns about the A444 in Overseal (junction with B5004) which is close to guideline threshold values and is most likely to be as a result of traffic-borne NO.

4.3.35 The Combined Air Quality Indicator (2003)\textsuperscript{41} published by DCLG indicated that the percentage of the population in Derbyshire living in the worst 30% of areas for air quality in England was 7.8%.

**Figure 4.9: Derbyshire Traffic Related Air Quality Monitoring Areas**

\textsuperscript{41} The indicator represents a modelled measure of the concentration of four pollutants (Nitrogen Dioxide, Particulates, Sulphur Dioxide and Benzene).
Derby

4.3.36 Overall air quality in Derby is considered to be poor. The existing AQMAs within Derby are closely associated with congestion that occurs mainly around the inner and outer ring roads and a section of the A52 in Spondon. There are two NO$_2$ related AQMAs in Derby, one which follows the routes of Derby’s Inner and Outer Ring-Roads and one in Spondon.

4.3.37 There is an existing industrial-related PM10 AQMA on Victory Road. Monitoring is continuing to determine whether this AQMA can be revoked.

**Figure 4.10: Air Quality Management Areas Derby (Source: Derby LTP3 SEA Scoping Report 2010)**
Derbyshire CO₂ Emissions from Transport

4.3.38 A study of Local and Regional CO₂ Emissions Estimates for 2005-2008 by AEA for Department of Energy and Climate Change published in 2010\(^4\)\(^2\) indicates that CO₂ emissions from transport in Derby and across Derbyshire reduced between 2005-2008. Figure 4.11 below highlights that the highest emissions from transport are in Derby and Bolsover, although both experienced a significant reduction between 2005-2008.

Figure 4.11: Derby and Derbyshire CO₂ Emissions from Transport 2005-2008 (Data source: DECC 2010\(^4\)\(^3\))

Travel to Work Areas\(^4\)\(^4\)

4.3.39 The Derbyshire Local Economic Assessment 2011 indicates that the Nottingham and Sheffield Travel to work areas cover a significant number of Derbyshire residents on the eastern and northern fringe. On the western side of the County, East Staffordshire, Manchester, Stockport, Tameside and Macclesfield are also strong commuting influences. North West Leicestershire and Birmingham also draw many commuters. The Derby City Growth Strategy (2009) indicates that Derby has a population of 1.5 million in the travel to work area.

4.3.40 The 2001 Census found that long distance commuting is less common in Derbyshire with only 8.1% of the working age population travelling 20 kilometres or more to work, compared with the East Midlands (10.7%) and England (12.6%) averages.

\(^4\)\(^4\) Travel to works areas show the patterns of people travelling from their place of residence to their place of work
Car Ownership

4.3.41 The 2001 Census indicates that 23% of households in Derbyshire did not have access to a car, 44.3% had access to 1 car and 32.7% had 2 or more cars. In Derby 30.64% of households did not have access to a car, whilst 45.49% had access to 1 car and 19.94% had 2 or more cars.

4.4 Likely Future Baseline

CO₂ emissions from transport in Derby and Derbyshire

4.4.1 In both Derby and Derbyshire CO₂ emissions are predicted to reduce over the plan period through a targeted approach across all sectors that contribute to CO₂ emissions and the implementation of LTP3s. However, this is very difficult to predict as the implementation of LTP3 is likely to result in a reduction in the rate of increase in CO₂ emissions from transport but it may not contribute to an overall reduction in emissions from transport due to additional transport schemes and traffic growth. This is due to a number of factors including population growth, increased car ownership and the falling cost of motoring when compared with rising public transport costs.

Road Safety in Derbyshire

4.4.2 The SEA Scoping Report for Derbyshire LTP3 (2010) indicates that should casualty levels continue to reduce at current trends, that by 2026 road safety will be much less of an issue than currently. The implementation of LTP3s could continue to help tackle road casualties through engineering, education and enforcement.

Traffic Flow in Derbyshire

4.4.3 The SEA Scoping Report for Derbyshire LTP3 (2010) uses high traffic growth forecasts to project the general pattern of traffic flow to 2026. The projections indicate that traffic flow would generally remain the same in the County, but some rural areas, particularly in High Peak would become more vulnerable.

Air Quality in Derby and Derbyshire

4.4.4 In the short to medium term it is likely that air quality will continue to be an issue in the declared AQMAs and potential Chesterfield AQMA.

4.4.5 In terms of the air quality impacts of road traffic, pollution ‘per km’ is set to decrease as regulations on engines and efficiency are tightened. However, the levels of development planned for Derby and Derbyshire may lead to significant increases in car journeys along some routes, and so there will be the potential for air quality to worsen in some areas.

4.4.6 Minerals extraction and processing can create dust and other particulates which can have an affect on air quality. In Derbyshire this is mostly associated with the production of open cast coal and aggregate. The development of new mineral related facilities in
the future and redevelopment of existing facilities could have a detrimental impact on air quality if not addressed and mitigated thoroughly at the planning application stage.

4.4.7 Air pollution from thermal treatment, as well as being a material planning consideration, is also likely to be the most significant public concern associated with such treatment of waste in the County. The development of new waste facilities in the future and redevelopment of existing facilities could have a detrimental impact on air quality if not addressed and fully mitigated at the planning application stage.

**Noise Quality in Derbyshire**

4.4.8 The SEA Scoping Report for Derbyshire LTP3 (2010) uses the formula from the Noise Regulations, LA10 18h, to estimate traffic noise levels. The report projected these estimates forward to 2026 and these suggest that only the A617 may exceed 76dBA.

**Derby and Derbyshire LTP3s**

4.4.9 The implementation of the LTP3s will help to reduce CO\(_2\) emissions from transport through the delivery of sustainable transport measures in Derby and Derbyshire. It will also promote equality of opportunity through improvements in public transport, thereby improving quality of life and it will support economic growth and competiveness through the delivery of key transport infrastructure.

4.5 **Sustainability Issues**

4.5.1 The key sustainability issues arising from the baseline assessment for Transportation and Air Quality in Derby and Derbyshire are:

- There are significant cross-regional movements of waste especially around the large conurbations and adjacent to the borders of Derbyshire which create negative environmental and social impacts. This may be exacerbated by demands for aggregate minerals generated by the Government’s growth agenda, particularly around Milton Keynes, South Midlands, Peterborough and Cambridge.

- Certain areas of Derby and Derbyshire already suffer from unacceptable levels of air pollution; especially those covered by AQMAs related to high traffic flows and associated congestion. The need to improve air quality in these areas should form a key consideration in the preparation of the MWDF. There is a need to take account of nearby sensitive receptors and existing congestion and pollution hotspots in towns such as Spondon and on and close to the M1 north and south.

- The need to mitigate potential negative impacts on air pollution from new and redeveloped minerals and waste facilities through the MWDF and at the planning application stage.

- Derbyshire and Derby experience traffic congestion on the strategic road network (especially the A38) as well as congestion associated with access to the strategic road network and urban congestion. There is a need to increase the number of minerals and waste transport movements in Derby and Derbyshire made by rail and
provide sensitive routing for lorry movements which avoid residential areas and minor roads.

- The need to continue to reduce C02 emissions from transport, despite the level of growth planned in Derbyshire and Derby and increased car ownership and rising public transport costs. Co-location of waste and or / mineral sites within the MWDF may help reduce the amount of waste transported via road.

- The need to ensure that local waste facilities have sustainable transport links and are therefore accessible to those who do not have access to a car across the County and in Derby.

### 4.6 Data Limitations

4.6.1 There is a lack of up-to-date information in relation to traffic flow and traffic growth across Derby and Derbyshire. The following have also been identified as data gaps:

- up-to-date statistics on road safety;
- levels of noise mapping across Derby and Derbyshire; and
- areas of sensitivity to road freight across Derby and Derbyshire.
5 Climatic Factors, Energy and Flooding

5.1 Introduction

5.1.1 This chapter will consider the potential for strategic decisions relating to minerals and waste development to impact on objectives relating to both mitigation of and adaptation to climate change. Planning in such a way as to minimise unsustainable transport patterns is clearly one key mechanism through which the Derby and Derbyshire Minerals and Waste Plans can influence climate change mitigation objectives. These aspects are more fully considered in the Transportation and Air Quality chapter. However, the Derby and Derbyshire Minerals and Waste Plans can also influence climate change mitigation objectives in other ways, including through reducing the amount of biodegradable waste sent to landfill and promoting the generation of energy from waste.

5.1.2 The Derby and Derbyshire Minerals and Waste Plans must also ensure that development occurs in such a way that resilience to the adverse effects of climate change is improved. Of primary importance for the Derby and Derbyshire Minerals and Waste Plans will be ensuring that the spatial approach to development minimises flood-risk. Government guidance on flood risk emphasises that, although flooding cannot be wholly prevented, its impacts can be avoided and reduced through good planning and management. It is the accepted view of Government that, as a consequence of climate change, flood risk is here to stay.45

5.1.3 This chapter sets out the sustainability context and baseline with respect to climatic factors. This will include emissions, effects and adaptation, where data is identified. This chapter also includes information on energy consumption and flood risk in Derby and Derbyshire.

5.2 Key Sustainability Objectives and Messages from the Context Review

5.2.1 The key objectives and messages which have been drawn out of the context review are as follows:

<table>
<thead>
<tr>
<th>Key Sustainability Objectives and Messages</th>
<th>Evidence Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Act allows local Councils in England and Wales to set reasonable requirements in their development plan documents for:</td>
<td>Planning and Energy Act (2008)</td>
</tr>
</tbody>
</table>

45 In August 2007, Sir Michael Pitt was asked by Ministers to conduct an independent review of the flooding emergency that took place in June and July 2007. His interim report Learning lessons from the 2007 floods is available at: [http://archive.cabinetoffice.gov.uk/pittreview/thepittreview.html](http://archive.cabinetoffice.gov.uk/pittreview/thepittreview.html) (accessed 02/09)
• A proportion of energy used in development in their area to be energy from renewable sources in the locality of the development;
• A proportion of energy used in development in their area to be low-carbon energy from sources in the locality of the development;
• Development in their area to comply with energy-efficiency standards that exceed the energy requirements of building regulations.

Two key aims underpin the Act:
• To improve carbon management and help the transition towards a low carbon economy in the UK;
• To demonstrate strong UK leadership internationally, signalling that we are committed to taking our share of responsibility for reducing global emissions in the context of developing negotiations on a post-2012 global agreement at Copenhagen next year.

The Government’s 2009 Renewable Energy Strategy requires 15% of UK energy consumption to be from renewable sources by 2020. The Strategy highlights that a key issue in helping to hit the target will be reducing energy demand and the amount of energy required overall.

One of the twelve core planning principles set out within the NPPF is to “support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change…”

The NPPF requires Local Plans to take account of the effects of climate change in the long term. New developments should be planned so that they avoid increased vulnerability to the impacts of climate change. Where new development is at risk to such impacts, this should be managed through adaptation measures.

Local authorities are to play a big part in delivering emission reductions. The NPPF outlines ways in which they can be achieved;
• Enforce energy efficiency standards in new buildings and extensions;
• Reduce transport emissions by concentrating new developments in existing cities and large towns and/or ensuring they are well served by public transport;
• Work with developers to make renewable energy projects acceptable to local communities;
• Plan for infrastructure such as low-carbon district heating networks, green infrastructure and sustainable drainage systems; and
• Avoid increasing the area’s risk to climate change impacts by locating new development in areas of lowest flood risk.

The key sustainability objectives outlined within the Regional Energy Strategy are to ensure:

• The need for energy is reduced;
• Energy is used more efficiently;
• Energy is used from renewable sources; and
• Clean and efficient use of fossil fuels.

The key target set out within the Derbyshire Climate Change Strategy is to reduce greenhouse gas emissions in Derbyshire to the levels set out in the Government’s Climate Change Act – a 60% reduction by 2050 against 1990 levels.

### 5.3 The Current Baseline

#### Climatic Factors

5.3.1 This section takes a snap-shot of the current sustainability ‘baseline’ as it relates to climate change and flood risk in Derby and Derbyshire. There is also an emphasis on comparing the situation in Derby and Derbyshire with other geographical areas, as well as considering how the baseline varies at the local authority level.

5.3.2 Table 5.1 below sets out data in relation to the carbon dioxide (CO₂) emissions from industry and commercial activity in Derby and Derbyshire between 2005 and 2010. CO₂ emissions from industry and commercial activity comprise gas and electricity emissions from industrial and commercial activity and emissions from large industrial installations, agricultural combustion and diesel railways.
Table 5.1: Industry and Commercial CO₂ Emissions (Per Capita) in Derby and Derbyshire between 2005 and 2010 (Source: Department of Energy and Climate Change⁴⁶)

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
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<td>Derby</td>
<td>3.3</td>
<td>3.1</td>
<td>2.9</td>
<td>3.2</td>
<td>3.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Amber Valley</td>
<td>4.2</td>
<td>4.0</td>
<td>3.7</td>
<td>3.5</td>
<td>3.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Bolsover</td>
<td>8.6</td>
<td>8.9</td>
<td>8.8</td>
<td>8.1</td>
<td>5.6</td>
<td>7.1</td>
</tr>
<tr>
<td>Chesterfield</td>
<td>3.3</td>
<td>3.2</td>
<td>2.9</td>
<td>2.8</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Derbyshire Dales</td>
<td>5.1</td>
<td>5.1</td>
<td>5.0</td>
<td>4.8</td>
<td>4.3</td>
<td>4.4</td>
</tr>
<tr>
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<td>2.8</td>
<td>2.9</td>
<td>2.7</td>
<td>2.5</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>High Peak</td>
<td>31.6</td>
<td>32.3</td>
<td>30.8</td>
<td>28.1</td>
<td>24.8</td>
<td>26.4</td>
</tr>
<tr>
<td>North East Derbyshire</td>
<td>3.0</td>
<td>3.1</td>
<td>2.6</td>
<td>2.5</td>
<td>2.3</td>
<td>2.5</td>
</tr>
<tr>
<td>South Derbyshire</td>
<td>3.8</td>
<td>4.0</td>
<td>3.7</td>
<td>3.9</td>
<td>3.5</td>
<td>3.7</td>
</tr>
<tr>
<td><strong>Derby and Derbyshire Average</strong></td>
<td>7.5</td>
<td>7.6</td>
<td>7.2</td>
<td>6.7</td>
<td>5.9</td>
<td>6.3</td>
</tr>
<tr>
<td><strong>East Midlands Average</strong></td>
<td>4.3</td>
<td>4.2</td>
<td>4.0</td>
<td>3.8</td>
<td>3.4</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>England Average</strong></td>
<td>3.8</td>
<td>3.8</td>
<td>3.6</td>
<td>3.5</td>
<td>3.0</td>
<td>3.1</td>
</tr>
</tbody>
</table>

5.3.3 Between 2005 and 2010, the level of CO₂ emissions from industry and commercial activity per capita decreased amongst local authorities in Derby and Derbyshire. The largest contributing authority to CO₂ emissions from industry and commercial activity in Derby and Derbyshire is High Peak Borough Council by a significant margin. The majority of these emissions originate from large industrial installations present in the area, in particular the Hope Valley cement works⁴⁷. In turn, these emissions have an impact on the average emission rates for unitary and district authorities in Derby and Derbyshire, which are significantly higher than both the East Midlands and England Average. There are four authorities in the area (Derby City Council, Chesterfield Borough Council, Erewash Borough Council and North-East Derbyshire District Council) that recorded lower CO₂ emissions from industry and commercial activity per capita than the England average.

5.3.4 Figure 5.1 below sets out data in relation to the CO₂ emissions from domestic activity in Derby and Derbyshire between 2005 and 2008. CO₂ emissions from domestic activity are comprised from consumption of gas and electricity. It shows that the average level of CO₂ emissions per capita from domestic activity in Derby and Derbyshire between 2005 and 2008 remained the same or lower than the England average over the same period. The 2008 statistics show that five authorities (Derby


⁴⁷ A significant amount of CO₂ is released from the Hope Valley cement works as limestone is heated up to create cement. This generates a large amount of CO₂.
5.3.5 Energy from the incineration of waste and from landfill gas can contribute to the region’s targets for renewable energy. Within Derby and Derbyshire, there are four existing landfill gas sites, which produce around 8 MW of electricity. The location of these are detailed below:

- Staveley Power Site, Chesterfield;
- Glapwell Power Site, Bolsover;
- Erin Landfill Site, Chesterfield; and
- Bretby Power, Newhall.

Figure 5.1: Domestic CO\textsubscript{2} Emissions (Per Capita) in Derby and Derbyshire between 2005 and 2010 (Source: Department of Energy and Climate Change\textsuperscript{48})

\textsuperscript{48} Information in relation to carbon emissions is available on the Department of Energy and Climate Change website. Accessed on 09/07/13 from http://www.decc.gov.uk/
5.3.6 The current baseline in relation to energy generation through renewable energy is fragmented for the local authorities that are located within the Derby and Derbyshire area. In late 2010, a study entitled the 'Cleaner, Greener Energy Study' was prepared for South Derbyshire District Council, Amber Valley Borough Council, Derby City Council and Erewash Borough Council. The study aimed to establish the potential for the decentralised and renewable or low-carbon sources of energy in these areas. The table below is taken from the study and details the current installed or planned renewable energy capacity within the four local authority areas.

Table 5.2: The Total Current Installed or Planned Renewable Energy Capacity in South Derbyshire, Amber Valley, Derby and Erewash (Source: Cleaner, Greener Energy Study, 2010)

<table>
<thead>
<tr>
<th></th>
<th>Installed (kW)</th>
<th>Planned (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Wind</td>
<td>94</td>
<td>96</td>
</tr>
<tr>
<td>Large Wind</td>
<td>0</td>
<td>4,500</td>
</tr>
<tr>
<td>Solar Photo Voltacs</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>Landfill Gas</td>
<td>1,550</td>
<td>0</td>
</tr>
<tr>
<td>Biomass Heat</td>
<td>11,072</td>
<td>0</td>
</tr>
<tr>
<td>Hydro</td>
<td>370</td>
<td>952</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13,086</strong></td>
<td><strong>5,579</strong></td>
</tr>
</tbody>
</table>

5.3.7 Table 5.2 shows that there is a total of 13,086 kW of renewable energy capacity installed within South Derbyshire, Amber Valley, Derby and Erewash. A large proportion of this capacity comes from biomass heat and landfill gas. A further 5,579 kW is planned for the future.

5.3.8 Bolsover District Council undertook a Renewable Energy and Low Carbon Study in 2009, which highlighted that there was limited renewable energy generation in the area. Landfill/methane gas capacity in the district represents around 4% of the Council’s local contribution, pro-rata to the population. There is currently no existing major renewable energy capacity within the district. The only noteworthy contributors that are identified in the study are three small wind turbines adding up to 8.5 kW in capacity.

5.3.9 Information relating to renewable energy capacity in the other local authorities in Derby and Derbyshire is taken from the Annual Monitoring Reports (AMR) prepared by each of these councils. The statistics from the AMRs are set out below:

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• **Chesterfield Borough Council** – The 2008/09, 2009/10 and 2010/11 AMRs for the council stated that no new renewable energy developments had taken place over these time periods. However, the 2007/08 AMR stated that use of solar panels over this time period had contributed 75,000kwh per annum in the Borough.

• **High Peak Borough Council** – The 2007/08, 2008/09, 2009/10 and 2010/11 AMRs do not present any information in relation to renewable energy capacity in the Borough.

• **Derbyshire Dales Borough Council** – The 2007/08, 2008/09, 2009/10 and 2010/11 AMRs state that there were no major renewable energy developments in the Derbyshire Dales over these time periods.

• **North-East Derbyshire District Council** – No data is available in the 2009/10 AMR. However in the 2010/11 AMR there were 9 permissions granted for renewable energy sources.

**Flood Risk**

The effects of climatic change are a concern for Derby and Derbyshire, in particular flood risk. Over recent years across the Country, and in Derbyshire, significant flooding incidences appear to have been more prevalent. In Derbyshire the last significant floods were in June 2007. A number of areas within Derby and Derbyshire are at risk of flooding and those within Flood Zones 2 and 3 are identified within Figure 5.2 and 5.3 below. The areas at most risk to flooding are located towards the south of Derbyshire, along the lower Dove, Derwent and the River Trent corridor. Figures 5.2 and 5.3 show that the main settlements that are at risk of flooding are Derby, Long Eaton, Bakewell and Belper. Appendix 11 provides more detail on the location of areas at risk of flooding within Derby and Derbyshire.
Figure 5.2: Areas at risk of flooding in Derbyshire (Source: Derbyshire County Council)
5.3.10 Information is presented in the East Midlands Regional Flood Risk Appraisal (prepared by the East Midlands Regional Assembly in October 2009) in relation to the number of properties at risk from flooding within the local authorities in Derby and Derbyshire. Table 5.3 below re-presents this information. It shows that the authorities located towards the south of the Derby and Derbyshire area (Derby City, Erewash and South Derbyshire) have the highest number of properties that are at risk from flooding. Bolsover, Chesterfield and High Peak have the lowest number of properties that are at risk from flooding.

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51 This map has been taken from the Derby Local Economic Assessment and Economic Strategy Evidence Bas (2011). Accessed on 19/07/11 from http://www.derby.gov.uk/CouncilGovernmentDemocracy/finance/lea.htm
Table 5.3: Properties at risk from flooding located in Derby and Derbyshire
(Source: Cleaner, Greener Energy Study, 2010)

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Properties at Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>North East Derbyshire</td>
<td>810</td>
</tr>
<tr>
<td>Chesterfield</td>
<td>244</td>
</tr>
<tr>
<td>Bolsover</td>
<td>194</td>
</tr>
<tr>
<td>High Peak</td>
<td>313</td>
</tr>
<tr>
<td>Derbyshire Dales</td>
<td>663</td>
</tr>
<tr>
<td>Amber Valley</td>
<td>855</td>
</tr>
<tr>
<td>Derby City</td>
<td>2159</td>
</tr>
<tr>
<td>Erewash</td>
<td>2159</td>
</tr>
<tr>
<td>S Derbyshire</td>
<td>3125</td>
</tr>
</tbody>
</table>

5.3.11 Each local authority gathers information on the number of planning applications that have been granted in their area contrary to the advice of the Environment Agency on flood risk grounds. In the last monitoring year (2009/10), only Derbyshire Dales District Council (2 planning applications) and South Derbyshire District Council (2 planning applications) have granted planning permission for development contrary to advice provided by the Environment Agency.

5.4 Likely Future Baseline

Climate Change

5.4.1 Climate change projections for the United Kingdom published as part of the UKCP09\(^{52}\) programme provide detailed probabilistic projections of climate change. Although there is uncertainty in climate change predictions the following changes are likely to have taken place in the East Midlands by 2080. The changes mentioned below relate to the medium emissions scenario\(^{53}\):

- The central estimate of increase in winter mean temperature is 3ºC; it is very unlikely to be less than 1.6ºC and is very unlikely to be more than 4.6ºC.
- The central estimate of increase in summer mean temperature is 3.5ºC; it is very unlikely to be less than 1.8ºC and is very unlikely to be more than 5.8ºC.

\(^{52}\) Further information on the UKCP09 programme are available from: [http://ukclimateprojections.defra.gov.uk/content/view/868/531/](http://ukclimateprojections.defra.gov.uk/content/view/868/531/). All of the information in relation to climate change projections was obtained from the UKCP09 website.

\(^{53}\) Projections are set out within the UKCP09 programme, which correspond to three emissions scenarios (Low, Medium and High). The key characteristics of each of these scenarios are:

- **Medium emissions Scenario** - describes a world that has rapid economic growth, quick spreading of new and efficient technologies, and a global population that reaches 9 billion mid-century and then gradually declines. It also relies on a balance between different energy sources.
- **High emissions Scenario** - similar economic and population trends as the Medium emission scenario but more emphasis on power generation from fossil fuels.
- **Low emissions scenario** - represents a more integrated ecologically friendly world, characterised by clean and resource efficient technologies, and lower global greenhouse gas emissions.
• The central estimate of change in **winter mean precipitation** is 19%; it is very unlikely to be less than 3% and is very unlikely to be more than 41%.

• The central estimate of change in **summer mean precipitation** is –20%; it is very unlikely to be less than –43% and is very unlikely to be more than 6%.

5.4.2 This means that the East Midlands is likely to experience, in the future, a warmer climate, with drier summers and wetter winters, which means that extreme events such as floods and droughts are likely to become less predictable and possibly more frequent. More specifically, development pressures for minerals and waste facilities will be likely to increase CO\text{2} emissions in the future. This will contribute towards the impacts of climate change.

**Flooding**

5.4.3 It is widely expected that winter floods will happen more often and rainfalls will be of higher intensity as a result of climate change. Within urban areas, the frequency and severity of flooding from these high intensity events is expected to increase due to limitations of existing surface water drainage systems.

5.4.4 It is likely that there will be an increase in the need to deliver new development on land located within flood zones as land available for development decreases in the future.

**Energy**

5.4.5 Coal is likely to remain an important part of the energy mix, so emerging clean coal technology will be an important aspect of energy generation capacity.

**5.5 Sustainability Issues**

5.5.1 The key sustainability issues that have arisen from the scoping analysis in relation to climatic factors, energy and flooding are set out below.

• Greenhouse gas emissions, associated with minerals and waste activities, including transport and methane produced from landfill sites, contribute to global warming.

• Some Local Authorities in Derby and Derbyshire (particularly High Peak and Bolsover) are not performing well in terms of CO\text{2} emissions from industrial and commercial activity. There is the potential to promote energy from waste options, and also other technologies that increase the energy efficiency of minerals and waste operations (for example, wastewater treatment is an energy intensive process).

• A number of areas towards the south of Derby and Derbyshire are at significant risk of flooding, and this situation is likely to worsen with climate change. Patterns of fluvial flood risk are likely to change as a result of sea level rise, changing rainfall patterns and also development and changing land use. Mineral reclamation (e.g. gravel extraction) may offer positive benefits by reducing flood risk in certain locations.
The majority of energy generation in Derby and Derbyshire is from fossil fuels. There is a lack of existing and planned renewable energy capacity in Derby and Derbyshire. There is potentially scope for co-location of renewable energy facilities on sites that are developed for waste management in the future. Coal is likely to remain an important part of the energy mix, so emerging clean coal technology will be an important aspect of energy generation capacity. Use of indigenous coal offsets to some extent carbon emissions caused by transportation of coal from long distances.

5.6 Data Limitations

5.6.1 The data available in relation to existing and planned renewable energy capacity is fragmented. Therefore, the data relating to the different local authority areas is inconsistent as it has been extracted from a variety of sources.
6 Heritage and Landscape

6.1 Introduction

6.1.1 The historic environment includes the physical evidence of past human activity. It is all around us as part of everyday life, and it is therefore dynamic and continually subject to change. It is not limited to the built environment and archaeological sites, but includes landscapes, both urban and rural and as an example of its great diversity, marine heritage sites around the coast. These environments are fragile and require protection, but also have enormous potential to contribute to a sense of place and identity and add to the quality of our daily lives through understanding and appropriate management and access. Landscape is more than just a visual backdrop; it is a framework within which we can better understand the links between environmental and socio-economic systems, and is an invaluable natural, economic and cultural resource that helps us define our sense of place and who we are. Nationally, the most valued landscapes might be found in the countryside, where semi-natural landscapes result from a long interaction of natural and socio-economic factors. However, landscape is a subjective concept that can be used in different situations and at a range of scales.

6.2 Key Sustainability Objectives and Messages from the Context Review

6.2.1 The key objectives and messages which have been drawn out of the context review are as follows:

<table>
<thead>
<tr>
<th>Key Sustainability Objectives and Messages</th>
<th>Evidence Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>The objectives of the Landscape Convention are to promote European landscape protection, management and planning, and to organise European cooperation on landscape issues.</td>
<td>The European Landscape Convention (2000)</td>
</tr>
<tr>
<td>• The need to develop a unified approach to the historic environment;</td>
<td></td>
</tr>
<tr>
<td>• Maximising opportunities for inclusion and involvement; and</td>
<td></td>
</tr>
<tr>
<td>• Supporting sustainable communities by putting the historic environment at the heart of an effective planning system.</td>
<td></td>
</tr>
<tr>
<td>Two of the twelve core planning principles set out in the NPPF emphasise the need to conserve the natural and historic environment. They should:</td>
<td>National Planning Policy Framework (NPPF) (2012)</td>
</tr>
</tbody>
</table>
6.3 The Current Baseline

Heritage

This section takes a snapshot of the current sustainability 'baseline' as it relates to heritage in Derby and Derbyshire. Detailed information relating to heritage within the East Midlands in 2011 is presented on the 'Heritage Counts' website\(^{54}\). 'Heritage Counts 2011' is the tenth annual survey of the state of the East Midlands's historic environment. It provides a summary of research into the economic impact of historic environment regeneration, key policy updates from the region and an overview of the 'Heritage Counts' indicators. It is one of nine regional reports and has been prepared

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\(^{54}\) The 'Heritage Counts' website was accessed on 25/09/2012 and can be accessed from http://hc.english-heritage.org.uk/HC-regional-summaries/HC-East-Midlands/
by English Heritage on behalf of the East Midlands Heritage Forum. Key findings for 2010/11 in the East Midlands include:

- 1,512 scheduled monuments, 1,101 conservation areas and 138 registered parks and gardens; and
- 1.7 million visitors to Historic Houses Association properties.

**Heritage Assets in the East Midlands**

6.3.2 Table 6.1 below shows the number of heritage assets located within the East Midlands region. The only World Heritage site located in the region is the Derwent Valley Mills, which spans across three local authority areas (Amber Valley, Derbyshire Dales and the City of Derby). The primary importance and value of the Derwent Valley Mills relates to developments in technology in the 18th century that introduced the mechanically powered factory system within the textile industry. The site covers an area that represents 6% of the total area covered by English World Heritage sites.

**Table 6.1: Heritage Assets in the East Midlands (Source: Heritage Counts 2011)**

<table>
<thead>
<tr>
<th>East Midlands</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Heritage Sites</td>
<td>1</td>
</tr>
<tr>
<td>Scheduled Monuments</td>
<td>1,518</td>
</tr>
<tr>
<td>Listed Buildings Grade I</td>
<td>996</td>
</tr>
<tr>
<td>Listed Buildings Grade II*</td>
<td>1,870</td>
</tr>
<tr>
<td>Listed Buildings Grade II</td>
<td>26,798</td>
</tr>
<tr>
<td>Registered Parks and Gardens</td>
<td>138</td>
</tr>
<tr>
<td>Registered Battlefields</td>
<td>5</td>
</tr>
<tr>
<td>Protected Ship Wrecks</td>
<td>0</td>
</tr>
<tr>
<td>Conservation Areas</td>
<td>1,103</td>
</tr>
<tr>
<td>Designated Collections</td>
<td>7</td>
</tr>
<tr>
<td>Accredited Museums</td>
<td>103</td>
</tr>
</tbody>
</table>

**Listed Buildings**

6.3.3 The number of Listed Buildings located throughout Derby and Derbyshire is set out in Table 6.2 below. In 2003/04, there were a total of 5,841 listed buildings in Derby and Derbyshire. This figure increased to 5960 in 2010. The greatest number of Listed Buildings are located in the Derbyshire Dales administrative area, with the lowest in the City of Derby. The table shows that the Listed Buildings located in Derby and Derbyshire make up a large proportion (20%) of the total number located in the East Midlands. The majority of listed buildings in Derby and Derbyshire and the East Midlands are Grade II Listed.
Table 6.2: Listed Buildings in Derby and Derbyshire (Source: Heritage Counts 2010)

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Grade I</th>
<th>Grade II*</th>
<th>Grade II</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Grade Not Classified</th>
<th>Total Listed buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Peak</td>
<td>3</td>
<td>18</td>
<td>618</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>640</td>
</tr>
<tr>
<td>Derbyshire Dales</td>
<td>45</td>
<td>133</td>
<td>2120</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2305</td>
</tr>
<tr>
<td>North East Derbyshire</td>
<td>8</td>
<td>23</td>
<td>458</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>489</td>
</tr>
<tr>
<td>Chesterfield</td>
<td>1</td>
<td>16</td>
<td>222</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>245</td>
</tr>
<tr>
<td>Bolsover</td>
<td>7</td>
<td>23</td>
<td>160</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>190</td>
</tr>
<tr>
<td>Erewash</td>
<td>10</td>
<td>21</td>
<td>201</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>232</td>
</tr>
<tr>
<td>Amber Valley</td>
<td>16</td>
<td>44</td>
<td>699</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>761</td>
</tr>
<tr>
<td>South Derbyshire</td>
<td>48</td>
<td>48</td>
<td>616</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>712</td>
</tr>
<tr>
<td>Derby</td>
<td>9</td>
<td>35</td>
<td>326</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>376</td>
</tr>
<tr>
<td>Derby and Derbyshire total</td>
<td>147</td>
<td>361</td>
<td>5420</td>
<td>0</td>
<td>7</td>
<td>11</td>
<td>4 (50%)</td>
<td>5950 (20%)</td>
</tr>
<tr>
<td>(proportion of East Midlands</td>
<td>(15%)</td>
<td>(20%)</td>
<td>(20%)</td>
<td>(0%)</td>
<td>(29%)</td>
<td>(58%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Midlands Total</td>
<td>980</td>
<td>1842</td>
<td>26758</td>
<td>10</td>
<td>24</td>
<td>19</td>
<td>8</td>
<td>29641</td>
</tr>
</tbody>
</table>

Scheduled Monuments

6.3.4 A Scheduled Monument is a ‘nationally important’ archaeological site or historic building, which is given protection against unauthorised change. The number of Scheduled Monuments located throughout Derby and Derbyshire are shown in Table 6.3 below. The number of Scheduled Monuments in Derby and Derbyshire has increased from 476 in 2006 to 484 in 2010. The greatest number of Scheduled Monuments are located in the Derbyshire Dales administrative area (292) with the lowest number located in Chesterfield (2). Almost a third of the Scheduled Monuments in the East Midlands are located in Derby and Derbyshire.

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55 Listed buildings are buildings of special architectural or historic interest and are legally protected. There are three broad levels of protection:

- Grade I - those of particular great importance to the nation’s built heritage
- Grade II* - particularly important buildings of more than special interest
- Grade II - those of special interest
- A, B, C - Refer to an older listing system which relate mainly to places of worship. Broadly equivalent to Grade I, Grade II* and Grade II
Table 6.3: Scheduled Monuments in Derby and Derbyshire (Source: Heritage Counts 2010)

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Total Amount of Scheduled Monuments</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Peak</td>
<td>94</td>
</tr>
<tr>
<td>Derbyshire Dales</td>
<td>292</td>
</tr>
<tr>
<td>North East Derbyshire</td>
<td>32</td>
</tr>
<tr>
<td>Chesterfield</td>
<td>2</td>
</tr>
<tr>
<td>Bolsover</td>
<td>13</td>
</tr>
<tr>
<td>Erewash</td>
<td>7</td>
</tr>
<tr>
<td>Amber Valley</td>
<td>16</td>
</tr>
<tr>
<td>South Derbyshire</td>
<td>21</td>
</tr>
<tr>
<td>Derby</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total in Derby and Derbyshire</strong> (proportion of East Midlands Total)</td>
<td><strong>484 (32%)</strong></td>
</tr>
<tr>
<td><strong>Total in East Midlands</strong></td>
<td><strong>1510</strong></td>
</tr>
</tbody>
</table>

Registered Parks and Gardens and Conservation Areas

6.3.5 In England, the Register of Historic Parks and Gardens of special historic interest in England provides a listing and classification system for historic parks and gardens similar to that used for Listed Buildings. Over 1,600 sites are listed, ranging from the grounds of large stately homes to small domestic gardens, as well other designed landscapes such as town squares, public parks and cemeteries.

6.3.6 Table 6.4 shows the number of Registered Parks and Gardens located in each of the local authorities within Derby and Derbyshire. The number of Registered Parks and Gardens in the area has increased from 30 in 2006 to 33 in 2010. The highest number of Registered Parks and Gardens are located in the Derbyshire Dales administrative area (12). The table shows that 24% of the total Registered Parks and Gardens within the East Midlands are located in Derby and Derbyshire. Furthermore, a large proportion (40%) of the highest grade parks and gardens (Grade 1) within the East Midlands are located within Derby and Derbyshire.
### Table 6.4: Registered Parks and Gardens in Derby and Derbyshire (Source: Heritage Counts 2010)\(^6\)

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Grade I</th>
<th>Grade II*</th>
<th>Grade II</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Peak</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Derbyshire Dales</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>North East Derbyshire</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Chesterfield</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bolsover</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Erewash</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Amber Valley</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>South Derbyshire</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Derby</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Derby and Derbyshire Total</strong></td>
<td><strong>6 (40%)</strong></td>
<td><strong>9 (26%)</strong></td>
<td><strong>18 (21%)</strong></td>
<td><strong>33 (24%)</strong></td>
</tr>
<tr>
<td><strong>East Midlands Total</strong></td>
<td><strong>15</strong></td>
<td><strong>34</strong></td>
<td><strong>87</strong></td>
<td><strong>136</strong></td>
</tr>
</tbody>
</table>

6.3.7 Conservation Areas are designated by local authorities and are areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance. Within the East Midlands, the number of Conservation Areas has increased from 994 in 2002 to 1,075 in 2010. There are a total of 272 Conservation Areas located in Derbyshire and 14 within the City of Derby.

**Heritage at Risk**

6.3.8 The Heritage at Risk Register identifies whether heritage assets located in England are at risk. The East Midland’s Heritage at Risk Register shows that 4.6% of the region’s Grade I and II* Listed Buildings are ‘at risk’ (a total of 132) compared to a national average of 3.1%. Of its Scheduled Monuments 7.7% are at risk. This figure is less than half the national average of 17.2%, and is the lowest of any English region.

6.3.9 Table 6.5 below shows that a total of 58 heritage assets are on the Heritage at Risk Register in Derby and Derbyshire. This represents 18% of the total heritage assets on the Heritage at Risk Register in the East Midlands. Amber Valley and South Derbyshire have the highest number of heritage assets (13 each) on the Heritage at Risk Register.

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\(^6\) There are three broad levels of protection for registered parks and gardens:
- Grade I - Parks and gardens of international importance
- Grade II* - Parks and gardens of exceptional historical interest
- Grade II - Designated parks and gardens
Table 6.5: Heritage at Risk Register – Derby and Derbyshire (Source: Heritage Counts 2010)

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Number of heritage assets on the heritage at risk register</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Peak</td>
<td>6</td>
</tr>
<tr>
<td>Derbyshire Dales</td>
<td>9</td>
</tr>
<tr>
<td>North East Derbyshire</td>
<td>4</td>
</tr>
<tr>
<td>Chesterfield</td>
<td>3</td>
</tr>
<tr>
<td>Bolsover</td>
<td>4</td>
</tr>
<tr>
<td>Erewash</td>
<td>0</td>
</tr>
<tr>
<td>Amber Valley</td>
<td>13</td>
</tr>
<tr>
<td>South Derbyshire</td>
<td>13</td>
</tr>
<tr>
<td>Derby</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total in Derby and Derbyshire</strong></td>
<td><strong>58 (18%)</strong></td>
</tr>
<tr>
<td><strong>Total in East Midlands</strong></td>
<td><strong>318</strong></td>
</tr>
</tbody>
</table>

Landscape

6.3.10 Having reviewed the baseline relating to heritage in Derby and Derbyshire, the following section focuses on key baseline information relating to the landscapes located within the area.

**Agricultural Land Classifications**

6.3.11 The agricultural land classifications associated with different areas throughout Derby and Derbyshire are summarised in Table 6.6 below. The majority of land is classified as Grade 3 or 4 and there is also a substantial area of Grade 2 agricultural land. There is no Grade 1 agricultural land located within the area.

Table 6.6: Derby and Derbyshire Agricultural Land Classifications (Source: Derbyshire County Council)

<table>
<thead>
<tr>
<th>Agricultural Land Classification</th>
<th>Area (Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>17073</td>
</tr>
<tr>
<td>3</td>
<td>58239</td>
</tr>
<tr>
<td>4</td>
<td>75846</td>
</tr>
<tr>
<td>5</td>
<td>4134</td>
</tr>
<tr>
<td>Non agricultural Land</td>
<td>2131</td>
</tr>
<tr>
<td>Urban Land</td>
<td>16222</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>173644</strong></td>
</tr>
</tbody>
</table>

57 Agricultural land classified into five grades. Grade one is best quality and grade five is poorest quality. A number of consistent criteria are used for assessment which include climate (temperature, rainfall, aspect, exposure, frost risk), site (gradient, micro-relief, flood risk) and soil (depth, texture, stoniness).
6.3.12 Figure 6.1 below shows the spatial distribution of agricultural land within Derby and Derbyshire. Grade 2 agricultural land is located towards the North West and South of the City of Derby. Land towards the north of the area is predominantly Grade 4 and 5.

**Figure 6.1: Derby and Derbyshire Agricultural Land Classifications (Source: MAGIC\(^{58}\))**

6.3.13 Derbyshire has a varied and diverse landscape, from the open moors of the Peak District to the flat floodplains of the Trent valley. There are 159 national Landscape Character Areas, of which 11 cover Derbyshire. These areas were examined in the ‘Landscape Character of Derbyshire’ study prepared in 2003. The key landscape and townscape characteristics relating to each area in Derbyshire are presented in Table 6.7 below. The location of the different landscape character areas are shown in figure 6.1.

---

\(^{58}\) The Magic website was accessed on 20/07/2011 from: [www.magic.gov.uk](http://www.magic.gov.uk)
Table 6.7: Landscape Character of Derby and Derbyshire (Source: Derbyshire County Council)

<table>
<thead>
<tr>
<th>Landscape Character Area</th>
<th>Landscape Character Type</th>
<th>Key Townscape Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Peak (incorporates Glossop, New Mills, Buxton and New Mills)</td>
<td>Riverside Meadows</td>
<td>• Very sparsely settled landscape with occasional isolated gritstone farmsteads and cottages with stone slate roofs.</td>
</tr>
<tr>
<td></td>
<td>Settled Valley Pastures</td>
<td>• Distinctive small clusters of farmsteads and cottages known as Booths.</td>
</tr>
<tr>
<td></td>
<td>Moorland Fringe</td>
<td>• Scattered water-powered gritstone mills and a few later steam-powered mills, often constructed of red brick with prominent chimneys.</td>
</tr>
<tr>
<td></td>
<td>Enclosed Moorland</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open Moors</td>
<td></td>
</tr>
<tr>
<td>White Peak (incorporates areas around Buxton and Brassington)</td>
<td>Limestone Dales</td>
<td>• Strongly nucleated, with most farmsteads and dwellings concentrated into a central village</td>
</tr>
<tr>
<td></td>
<td>Limestone Slopes</td>
<td>• Buildings are typically constructed from the local Carboniferous limestone, often with random rubble constructed walls and stone tile, or Welsh slate roofs. Use of gritstone is also common.</td>
</tr>
<tr>
<td></td>
<td>Limestone Moorlands</td>
<td>• Isolated stone farmsteads and scattered stone field barns</td>
</tr>
<tr>
<td></td>
<td>Plateau Pastures</td>
<td>• Dry-stone walls</td>
</tr>
<tr>
<td>Derbyshire Peak Fringe and Lower Derwent (incorporates Wirksworth, Ashbourne and Belper)</td>
<td>Riverside Meadows</td>
<td>• Grey to brown sandstone farmsteads with Staffordshire blue tile or stone slate roofs are the dominant vernacular building type</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Settled Farmlands</td>
<td>Farmsteads are dispersed throughout the landscape, though there are occasionally clusters of farmsteads and cottages.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The presence of coal in the area and the expansion of Chesterfield have contributed to widespread development of 19th to 20th century red brick housing.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small market towns and villages tend to be nestled in valley bottoms and are characterised by sturdy limestone cottages and fine church buildings with dispersed farmsteads in outlying enclosed land.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Derwent Valley World Heritage Site</td>
<td></td>
</tr>
<tr>
<td>Gritstone Heaths and Commons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wooded Farmlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wooded Slopes and Valleys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosed Moors and Heaths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nottinghamshire, Derbyshire and Yorkshire Coalfield (incorporates Dronfield, Tibshelf, Alfreton, Ripley and Ilkeston)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wooded Hills and Valleys</td>
<td>Small villages, hamlets and scattered farmsteads</td>
<td></td>
</tr>
<tr>
<td>Plateau Estate Farmlands</td>
<td>Occasional country houses with associated parkland trees</td>
<td></td>
</tr>
<tr>
<td>Riverside Meadows</td>
<td>Villages and towns with red brick former mining terraces and ribbon development</td>
<td></td>
</tr>
<tr>
<td>Coalfield Estatelandsls</td>
<td>Strong association with transport routes due to the presence of canals, railway lines and roads</td>
<td></td>
</tr>
<tr>
<td>Wooded Farmland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estate Farmland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>Characteristics</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Coalfield Village Farmland</td>
<td>• Settlement concentrated in villages with historic cores of limestone buildings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Farms and cottages with red clay pantile roofs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Large self contained mining settlements around historic village cores</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Creswell Crags</td>
<td></td>
</tr>
<tr>
<td>Southern Magnesium Limestone (incorporates Clowne, Bolsover and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shirebrook)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limestone Gorge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limestone Farmlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needwood and South Derbyshire Claylands</td>
<td>• Red brick and half timber villages with sandstone churches.</td>
<td></td>
</tr>
<tr>
<td>Riverside Meadows</td>
<td>• Historic parks and country house</td>
<td></td>
</tr>
<tr>
<td>Estate Farmlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandstone Slopes and Heaths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Settled Plateau Farmlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Settled Farmlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trent Valley Washlands (includes Long Eaton and Willington)</td>
<td>• Discrete red brick villages with farms and cottages</td>
<td></td>
</tr>
<tr>
<td>Riverside Meadows</td>
<td>• Large red brick outlying farms</td>
<td></td>
</tr>
<tr>
<td>Wet Pasture Meadows</td>
<td>• Rapid expansion of many villages particularly noticeable at Hatton, Hilton,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Borrowash and Breaston. Today the urban fringes are characterised by large</td>
<td></td>
</tr>
<tr>
<td></td>
<td>modern housing estates.</td>
<td></td>
</tr>
<tr>
<td>Lowland Village Farmlands</td>
<td>• Open character punctuated by massive cooling towers of power stations and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>strongly influenced by pylons, sand and gravel extraction</td>
<td></td>
</tr>
<tr>
<td>Melbourne Parklands (incorporates</td>
<td>• Settlements constructed of red brick with red clay tiled roofs</td>
<td></td>
</tr>
<tr>
<td>Riverside Meadows</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Melbourne and
Repton)       Sandstone Slopes
                             and Neaths
                             • Scattered red brick estate
                             farmsteads and the occasional
country house.
                             wooded
                             Estatelands
                             Estate Farmlands
Leicestershire and
South Derbyshire
Coalfields       Coalfield Village
                             Farmlands
                             • Red brick buildings with clay tile
                             roofs
                             • Expansion of villages with red
                             brick terraces, ribbon
                             development and housing
                             estates Widespread legacy of
                             coal extraction, including spoil
                             heaps opencast sites and pit
                             railways.
Mease & Sence
Lowlands (incorporates
Walton-on-Trent) River Meadows
                             Village Estate
                             Farmlands
                             • Small red-brick villages, often on
                             hilltop sites and with prominent
                             church spires.

Noise and Visual Intrusion

6.3.14 Table 6.8 below presents information relating to noise and visual intrusion taken from
the 'Developing an Intrusion Map of England' report prepared by the Campaign to
Protect Rural England (CPRE)\(^{59}\) in 2007. Within the City of Derby, there has been no
change in the area disturbed by noise and visual intrusion between the 1960s and
2007. Within Derbyshire, there has been a significant increase in the proportion of the
region disturbed by noise and visual intrusion between the 1960s and 2007. Table 6.8
shows that in 2007, a higher percentage of land in both the City of Derby and
Derbyshire than the East Midlands and England averages were disturbed by noise and
visual intrusion.

\(^{59}\) Accessed on 15/07/2011 from: \url{http://www.cpre.org.uk/resources/countryside/tranquil-places/item/1790}. 
### 6.4 Likely Future Baseline

6.4.1 Having presented the current baseline situation, this section provides details on the likely future evolution of the baseline in relation to heritage and landscape.

6.4.2 The likely increase in population in Derby and Derbyshire in the future is likely to increase the number of people visiting historic and landscape assets located throughout the area. Unless these assets are managed appropriately, an increase in visitors could have a detrimental impact. In addition, an increase in development in the local vicinity may have an impact on the setting of heritage assets.

6.4.3 In terms of designated historic features, it might be assumed that there will continue to be strict protection provided by planning policy. However, the current economic climate has made it difficult to secure investment needed to improve the quality of heritage assets on the Heritage at Risk Register. This trend is likely to continue in the future, unless investment is secured.

6.4.4 Natural England, as part of the consideration of the ‘State of the Natural Environment’ in the East Midlands identify a series of challenges that the natural environment is likely to encounter in the future. These include:

- **Increased Development** – plans for additional housing and improvements to the transport infrastructure will pose further risk to the character of areas of landscape value in the East Midlands region.

- **Land Management** – the changing global economic climate, population growth and the effects of climate change on food production will further increase pressure on areas of landscape value.

- **Flood Risk** – the risk of flooding is likely to pose an increased risk to areas of landscape value in the region.
6.5 Sustainability Issues

6.5.1 Having considered the context review and current and likely future baseline, this section focuses on the sustainability issues within Derby and Derbyshire in relation to heritage and landscape. Whilst broad sustainability issues relating to the area are identified below, specific issues relating to minerals and waste planning are also set out.

Heritage

- Development that would have a detrimental impact upon designated heritage assets located in Derby and Derbyshire and their settings should be avoided, especially those where the asset is of national or international significance, such as the World Heritage Site.

- There are a number of heritage assets located in Derby and Derbyshire that are on the ‘Heritage at Risk’ Register. It is important that these assets are protected and where possible, enhanced in the future. Any new development should be sensitive to the setting of heritage assets.

- Minerals sites play a role in the upkeep of heritage assets through continued supply of local building materials such as stone (5-6000 tonnes of sandstone is quarried in the county each year for use as building stone). However, this is also dependent upon positive policy consideration for the protection of the various sources of local stone that are available.

Landscape

- The integrity of the most valued and sensitive areas of landscape value located in Derby and Derbyshire should be protected in the future.

- Minerals and waste operations (including associated transport infrastructure) can have a negative impact on the landscape and visual amenity of the immediate and surrounding area. However, sensitive location and design can avoid or minimise effects on the landscape and townscape and restoration proposals provide an opportunity to enhance and improve landscape quality.

- There is a need to achieve sensitive and appropriate restoration of former minerals sites as they can contribute towards improving landscape quality.

6.6 Data Limitations

6.6.1 The information presented in this chapter from the Heritage Counts website also incorporates administrative areas which coincide with the Peak District National Park. This slightly distorts the statistics presented for these local authorities.

6.6.2 There were no maps available to show the location and distribution of Listed Buildings, Scheduled Monuments, Registered Parks and Gardens and Conservation Areas within
Derby. A map showing the Landscape Character Areas located in Derby and Derbyshire was also unavailable.
7 Communities and Health

7.1 Introduction

7.1.1 Health and equality, safe communities, access to open space and leisure and education facilities are all fundamental contributors to the quality of life and well-being of people living in Derbyshire and Derby.

7.1.2 The Government is clear that a key element of sustainable development involves seeking to ensure a better quality of life for everyone. Spatial planning has a key role to play in achieving this through facilitating the development of sustainable communities.

7.1.3 The community and health baseline varies substantially at a range of scales, as demonstrated by a host of indicators including the Index of Multiple Deprivation (IMD). The Derbyshire and Derby Minerals and Waste Plans have the potential to influence the current situation through spatial policies.

7.2 Key Sustainability Objectives and Messages from the Context Review

7.2.1 The key objectives and messages which have been drawn out of the context review are as follows:

<table>
<thead>
<tr>
<th>Key Sustainability Objectives and Messages</th>
<th>Evidence Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>The NPPF identifies the planning system’s social role as being able to ‘support vibrant and healthy communities’, with a ‘core planning principle’ being to ‘take account of and support local strategies to improve health, social and cultural wellbeing for all’. The aim is to achieve places that promote social interaction, and which are safe and accessible.</td>
<td>National Planning Policy Framework (NPPF) (2012)</td>
</tr>
<tr>
<td>The central purpose of the Paper is to arrest urban decline and it starts with a holistic approach to policy which recognises the need to link together a range of initiatives on housing, planning, education, transport and law and order issues.</td>
<td>The Urban White Paper: Our Towns and Cities: The Future - Delivering an Urban Renaissance (2000)</td>
</tr>
<tr>
<td>These Standards recommend that people living in towns and cities should have:</td>
<td>Natural England’s Accessible Natural Greenspace Standards (ANGST) (2001)</td>
</tr>
<tr>
<td>• An accessible natural greenspace of at least 2 hectares in size, no more than 300 metres (5 minutes walk) from home;</td>
<td></td>
</tr>
<tr>
<td>• At least one accessible 20 hectare site within two kilometres of home;</td>
<td></td>
</tr>
</tbody>
</table>
The Plan sets out a number of key objectives for the country. These include:

- To develop sustainable communities;
- To deliver a step change in housing supply;
- To deliver growth areas throughout the country;
- To ensure decent homes are delivered; and
- To protect the countryside and the local environment.

The objectives set out in the Review are to:

- Give every child the best start in life;
- Enable all children, young people and adults to maximise their capabilities and have control over their lives;
- Create fair employment and good work for all;
- Ensure healthy standard of living for all;
- Create and develop healthy and sustainable places and communities: and
- Strengthen the role and impact of ill health prevention.

The overall aim of the Strategy is to:

“improve the health and well-being of everyone in the East Midlands and reduce the gap between the most and least healthy”.

In order to achieve the strategic aim of improving health and reducing inequality, four strategic goals were established:

- To secure effective leadership, governance and partnership arrangements;
- To promote ‘better health’ as a personal aspiration, corporate objective and shared responsibility for each individual and organisation in the region;
- To ensure that public services are designed, commissioned and delivered to include ‘better and more equal health’ as an outcome;
- To identify and promote high-impact, evidence-based interventions that will deliver better and more equal health.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>One accessible 100 hectare site within five kilometres of home;</td>
<td>Sustainable Communities Plan (Sustainable Communities: Building for the Future) (2003)</td>
</tr>
<tr>
<td>One accessible 500 hectare site within ten kilometres of home; and</td>
<td></td>
</tr>
<tr>
<td>Statutory Local Nature Reserves at a minimum level of one hectare per thousand population.</td>
<td></td>
</tr>
<tr>
<td>The Plan sets out a number of key objectives for the country. These include:</td>
<td>Marmot Health Inequalities Review – Fair Society, Healthy Lives (2010)</td>
</tr>
<tr>
<td>To develop sustainable communities;</td>
<td></td>
</tr>
<tr>
<td>To deliver a step change in housing supply;</td>
<td></td>
</tr>
<tr>
<td>To deliver growth areas throughout the country;</td>
<td></td>
</tr>
<tr>
<td>To ensure decent homes are delivered; and</td>
<td></td>
</tr>
<tr>
<td>To protect the countryside and the local environment.</td>
<td></td>
</tr>
<tr>
<td>The objectives set out in the Review are to:</td>
<td>The East Midlands Health Strategy: Next Steps for Investment for Health (2009)</td>
</tr>
<tr>
<td>Give every child the best start in life;</td>
<td></td>
</tr>
<tr>
<td>Enable all children, young people and adults to maximise their capabilities and have control over their lives;</td>
<td></td>
</tr>
<tr>
<td>Create fair employment and good work for all;</td>
<td></td>
</tr>
<tr>
<td>Ensure healthy standard of living for all;</td>
<td></td>
</tr>
<tr>
<td>Create and develop healthy and sustainable places and communities: and</td>
<td></td>
</tr>
<tr>
<td>Strengthen the role and impact of ill health prevention.</td>
<td></td>
</tr>
<tr>
<td>The overall aim of the Strategy is to:</td>
<td></td>
</tr>
<tr>
<td>“improve the health and well-being of everyone in the East Midlands and reduce the gap between the most and least healthy”.</td>
<td></td>
</tr>
<tr>
<td>In order to achieve the strategic aim of improving health and reducing inequality, four strategic goals were established:</td>
<td></td>
</tr>
<tr>
<td>To secure effective leadership, governance and partnership arrangements;</td>
<td></td>
</tr>
<tr>
<td>To promote ‘better health’ as a personal aspiration, corporate objective and shared responsibility for each individual and organisation in the region;</td>
<td></td>
</tr>
<tr>
<td>To ensure that public services are designed, commissioned and delivered to include ‘better and more equal health’ as an outcome;</td>
<td></td>
</tr>
<tr>
<td>To identify and promote high-impact, evidence-based interventions that will deliver better and more equal health.</td>
<td></td>
</tr>
</tbody>
</table>
and creating cohesive communities with a thriving voluntary and community sector.

Three relevant principles of the Strategy are:

- Making sure that everyone in the City has equal life chances no matter what their background or where they live;
- Raising aspirations, ambition and achievement – for individuals, communities and the City; and
- Involving people in decision making – giving people who live and work in Derby the opportunity to influence decisions that affect them.

The Cultural City Strategy has three primary aims for culture in Derby:

- Improving the range and quality of Derby’s cultural and learning opportunities and facilities;
- Celebrating diversity and ensuring everyone has the opportunity to take part in cultural and learning activities; and
- Contributing to regeneration and prosperity and ensuring that the importance of culture in the economy of the City is better understood.

The vision for the Plan is that by 2026 people in Derby will enjoy:

- A thriving sustainable economy;
- Achieving their learning potential;
- Good health and wellbeing;
- Being safe and feeling safe;
- A strong community; and
- An active cultural life.

### 7.3 The Current Baseline

#### Population

7.3.1 In 2011, it was estimated that 1,019,600 people live in Derby and Derbyshire, which is 22.5% of the East Midlands population. Across Derbyshire there is great variation, ranging from sparsely populated rural areas to market towns and larger urban settlements.

7.3.2 Between 2002 and 2009 the population of Derbyshire increased by 3.0%, equating to an estimated additional 22,100 people. This was below the regional (5.4%) and national...
increase (4.4%). From 2009 to 2011, there has been an estimated increase in 4,800 people in Derby and 10,500 people in Derbyshire.  

Table 7.1: Derbyshire and Derby Population Estimates (Source: Mid-Year Estimates, ONS 2011)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amber Valley Borough</td>
<td>120,800</td>
<td>121,000</td>
<td>121,600</td>
<td>122,500</td>
</tr>
<tr>
<td>Bolsover District</td>
<td>74,300</td>
<td>74,200</td>
<td>74,600</td>
<td>76,000</td>
</tr>
<tr>
<td>Chesterfield Borough</td>
<td>100,700</td>
<td>100,900</td>
<td>101,000</td>
<td>103,800</td>
</tr>
<tr>
<td>Derbyshire Dales District</td>
<td>70,000</td>
<td>70,100</td>
<td>70,400</td>
<td>71,100</td>
</tr>
<tr>
<td>Erewash Borough</td>
<td>110,500</td>
<td>110,900</td>
<td>111,300</td>
<td>112,200</td>
</tr>
<tr>
<td>High Peak Borough</td>
<td>92,100</td>
<td>92,400</td>
<td>92,600</td>
<td>91,000</td>
</tr>
<tr>
<td>North East Derbyshire</td>
<td>97,900</td>
<td>98,000</td>
<td>98,300</td>
<td>99,100</td>
</tr>
<tr>
<td>South Derbyshire District</td>
<td>91,800</td>
<td>92,800</td>
<td>93,900</td>
<td>94,900</td>
</tr>
<tr>
<td>Derbyshire</td>
<td>758,100</td>
<td>760,200</td>
<td>763,700</td>
<td>770,700</td>
</tr>
<tr>
<td>Derby City</td>
<td>243,200</td>
<td>244,100</td>
<td>246,900</td>
<td>248,900</td>
</tr>
<tr>
<td>East Midlands</td>
<td>4,429,400</td>
<td>4,451,200</td>
<td>4,481,400</td>
<td>4,537,400</td>
</tr>
<tr>
<td>England</td>
<td>51,464,600</td>
<td>51,809,700</td>
<td>52,234,000</td>
<td>53,107,200</td>
</tr>
</tbody>
</table>

7.3.3 Of the eight districts within Derbyshire, all of them, apart from High Peak, experienced some degree of population increase between 2010 and 2011.

7.3.4 The district with the greatest percentage increase between 2009 and 2010 was South Derbyshire (2.7%).

7.3.5 The Office for National Statistics (ONS) mid-year population estimates for 2011 indicate that:

- 44-64 year olds account for the most people within Derbyshire (220,000).
- 17.7% of the population in Derbyshire are aged between 0-15, 63.6% are between 16-64 and 18.7% are 65+ - Derbyshire has a relatively older population than the national population, with 16.5% of the population in England at 65 years or older.

60 Source: Mid-Year Estimates, ONS 2011
Table 7.2 outlines the percentages in population change from mid 2002 to mid 2011.

### Table 7.2 Percentage change in population by broad age band

<table>
<thead>
<tr>
<th></th>
<th>All persons</th>
<th>0–15 years</th>
<th>16–64 years</th>
<th>65+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derbyshire County</td>
<td>4.4%</td>
<td>-5.1%</td>
<td>4.2%</td>
<td>15.8%</td>
</tr>
<tr>
<td>East Midlands</td>
<td>7.5%</td>
<td>0.4%</td>
<td>7.9%</td>
<td>14.6%</td>
</tr>
<tr>
<td>England</td>
<td>6.9%</td>
<td>1.6%</td>
<td>7.6%</td>
<td>10.8%</td>
</tr>
</tbody>
</table>

Source: Office for National Statistics

7.3.6 The 2001 Census\(^{61}\) found that there were 308,869 households in Derbyshire and 92,405 households in Derby. The 2011 census identified 332,637 households\(^{62}\) in Derbyshire\(^{63}\) and 102,271 in Derby.\(^{64}\)

### Deprivation and Social Inclusion

7.3.7 The Indices of Multiple Deprivation (IMD) 2010 measure deprivation within localities under the following sub-domains:

- Health deprivation and disability;
- Barriers to Housing Services;
- Income deprivation;
- Employment deprivation;
- Education, Skills and Training deprivation;
- Crime;
- Living Environment deprivation.

7.3.8 An overall deprivation score is calculated by combining the seven deprivation scores and assigning each sub-domain a different weighting. Figure 7.1 shows the position of Derbyshire’s Lower Super Output Areas (LSOAs) when the overall IMD scores for LSOAs in England are ranked. The most deprived LSOAs are to the east of the County. The most deprived LSOA within Derbyshire, Hopewell North, lies within Ilkeston North

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\(^{62}\) In the 2011 Census a household is defined as 'one person living alone or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room or sitting room or dining area'. This differs only slightly from the definition used for previous Censuses which was: 'One person or a group who have the accommodation as their only or main residence and (for a group of people) either share at least one meal a day or share the living accommodation'.


Ward and covers part of the Cotmanhay area. It ranks in the top 3% most deprived areas in England. It was also the most deprived LSOA in Derbyshire in the IMD 2007.

7.3.9 Populations in urban areas in Derbyshire are more likely to live in deprived areas than those living elsewhere. When comparing IMD 2007 and IMD 2010, it is seen that the average rank for both urban and rural populations has improved.

7.3.10 There are 17 LSOAs within Derbyshire in the 10% most deprived areas in England, 1 more than in IMD 2007. There are 60 LSOAs within Derbyshire in the 20% most deprived in England, 1 less than in IMD 2007 and 7 less than in IMD 2004.

7.3.11 The number of LSOAs in the least deprived 10% in England has increased from 30 in IMD 2007 to 42 in 2010. This maintains the upward trend from 2004 when 23 LSOAs were in the least deprived 10%.

7.3.12 Across all the LSOAs in the County there has been an improvement over time. The average rank of Derbyshire’s LSOAs on the national scale has fallen (i.e. improved) by 1% compared with IMD 2007, and 3% compared with IMD 2004.

7.3.13 Out of all 326 local authority districts in the country, Bolsover and Chesterfield are ranked the highest (most deprived) of Derbyshire’s districts in each of the five local authority summary measures. Bolsover ranks as 46th most deprived local authority district and Chesterfield 90th.

7.3.14 Across the seven domains of deprivation, Derbyshire scores worst on the Health and Disability domain, with 60 LSOAs in the worst 10% in England out of a total of 486 LSOAs in Derbyshire. A comparison between IMD 2007 and IMD 2010 shows that there has been a significant increase in the number of LSOAs near the top of the ranking for this domain, with nearly double the number of LSOAs in the top 10% deprived in England. However, this picture is set against a net relative improvement (as measured as the change in average rank across all LSOAs in the County) between IMD 2007 and IMD 2010 for this measure.

7.3.15 There is a strong correlation between the incidence of income and employment deprivation and health, and the most deprived areas in terms of health are also the most economically deprived areas within Bolsover, Chesterfield and North East Derbyshire. There are nearly 93,000 people in the County who are classed as income deprived, including nearly 23,000 children and 30,600 people aged 60 or over. Lower levels of deprived households are evident in the south and west of Derbyshire.

7.3.16 Employment deprivation is classed as those people receiving Jobseekers Allowance, Incapacity Benefit or Severe Disablement Allowance. Over 44,000 people of working age in Derbyshire fell into this category in IMD 2010.

7.3.17 The pattern of results for the Barriers to Housing domain is vastly different from that of the other domains; of the 16 highest ranking LSOAs (i.e. most deprived) 11 are in Derbyshire Dales. This is likely to reflect house prices and long distances to travel to...
key services in rural parts of the County. However, there are 108 LSOAs in the lowest 10% (i.e. least deprived) in England, more than in any other domain.

**Figure 7.1: Derbyshire IMD 2010 Overall Index (Source: Derbyshire Partnership Forum 2011)**
7.3.18 In recent years Derby’s economy has made positive progress and demonstrated strong economic performance in some sectors. Despite this there are pockets of deprivation across the City. According to the 2010 IMD, Derby is ranked 88th out of 355 local authorities in the country, placing it within the 25% most deprived areas. Figure 7.3
below illustrates that the most deprived areas of Derby are in the centre of the City. Pockets of deprivation are mainly concentrated in five areas – Arboretum, Normanton, Derwent, Sinfin and Alvaston which are all in the top 10% most deprived wards nationally.

**Figure 7.3: Derby IMD 2010 Overall Index (Source: Derby City Council)**

7.3.19 A comparison of Figures 7.3 and 7.4 indicates that those LSOAs that were amongst the most deprived in 2007 were also amongst the most deprived in 2010.
Figure 7.4: Derby IMD 2007 Overall Index (Source: Derby City Council)

Ethnicity

7.3.20 The ethnic composition of Derbyshire differs considerably from that of Derby. The County’s white population makes up 98.5% of the total, a significantly higher proportion than the English average of 90.9%. Within Derby the white population is lower at around 87.5%. The remaining population is composed of a range of minority ethnic groups, of which the largest is Asian (mainly of Indian and Pakistani origin) with 0.5% in Derbyshire and 8.4% in Derby. Among local authorities, those with the highest proportions of ethnic minorities outside Derby City are South Derbyshire District, and to a lesser extent Erewash Borough.65

Education

7.3.21 The principal supply of programmes/courses for skills development within Derby and Derbyshire and the surrounding area (i.e. within reasonable travel distance for

Derbyshire employees) comes from the following Further Education and Higher Education establishments:

- Chesterfield College;
- Buxton College;
- Derby College;
- South Derbyshire College;
- Stockport College;
- Castle College (Nottingham);
- University of Derby;
- Manchester University;
- Sheffield University;
- Sheffield Hallam University;
- Nottingham University;
- Nottingham Trent University;
- Lincoln University;
- Leicester University; and
- Loughborough University.

7.3.22 Whilst the majority of Derbyshire’s school leavers progress into either further education, training or employment after leaving school, a small proportion do not. In November 2010, there were a total of 1,430 16-18 year olds in Derbyshire not in education, employment or training (NEET), representing 7.5% of this age group.

7.3.23 In 2005, the County figure had been 6.5%, lower than that for England of 7.7%. Since then the national figure has shown a steady decline but locally it has increased with Derbyshire now having a higher than national average of NEET 16-18 year olds. This suggests that the impact of the recession on the NEET group in Derbyshire has been greater than nationally. Locally, Derbyshire Dales had the lowest percentage of NEET 16-18 year olds at 4.0%, the highest was Bolsover at 9.4% (2005).

7.3.24 In 200766 7.83% of 16-18 year olds were not in education, employment or training in Derby. However, NEET rates are significantly higher in the geographical pockets of deprivation that exist across the City.

7.3.25 In the IMD 2010 Derbyshire’s second worst domain was Education, Skills and Training, with 56 out of a total of 486 SOAs in Derbyshire in the most deprived 10% nationally. There has been a worsening in the number of LSOAs in the 10% most deprived in England over time for this domain. There are 9 more LSOAs in this category than in

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IMD 2007 and 10 more than in IMD 2004. Deprivation in terms of education, skills and training is highest in the north of the County, although all Districts are represented, with the exception of South Derbyshire.

7.3.26 The School Census January 2010\(^67\) indicates that there are 2180 children with special educational need in Derby, which represents 6.9% of all children. The highest incidence of all children recorded on school action plans for special educational need are within the wards of Sinfin at 10.5%, Arboretum at 9.9% and Mackworth at 9.4%. The lowest incidence can be seen in Allestree at 3.1% and Littleover at 3.7%.

Health

7.3.27 The Sub-Regional Profiles prepared by the East Midlands Development Agency in 2009 indicate that between 2002 and 2007, Derby has shown a progressive decline in mortality rates per 100,000 head of population. This overall reduction reflects the increases in both male and female life expectancy in the East Midlands. Contributing to this are healthcare programmes targeting key causes of mortality, including circulatory diseases such as coronary heart disease and certain cancers.

7.3.28 The Sub-Regional Profiles indicate that mortality rates for Derbyshire in 2007 were 583.1 deaths per 100,000 population, similar to that for the East Midlands (585.0) but marginally higher than for England (579.4). Within the County, districts within the north-east, Bolsover, Chesterfield and Erewash have the highest mortality rates and Derbyshire Dales has the lowest. Between 2001 and 2007, Bolsover has also shown the lowest rates of improvement, Chesterfield and Derbyshire Dales have shown the greatest.

7.3.29 The 2001 Census found that the general health of 90.1% of Derby and Derbyshire’s household population was defined as ‘good’ or ‘fairly good’, below the national rate of 91.2%. The remaining 9.9% of Derby and Derbyshire’s population’s health was defined as ‘not good’. In addition, life expectancy at birth stood at 74.9 for men and 79.8 for women in 2001, falling below the national average of 76.1 and 80.7.

7.3.30 Waste may contain materials that are putrescible, toxic or otherwise harmful and, if poorly managed, could lead to potential health issues. In particular, leachate from such materials in landfill has the potential to contaminate ground water, surface water and land, with implications for local communities and wildlife. This may be made more significant because of the presence of substantial aquifers beneath large parts of the County from which water is abstracted. Transportation of waste also poses a potential threat to health and safety when passing through settlements, due to increased risk of traffic accidents and increased noise and pollution related health problems.

7.3.31 In addition, there are potential issues relating to public health concerning the landfilling of clinical waste. Leachate from the site may contaminate ground or surface water with a range of toxic chemicals and heavy metals, which could negatively affect health if

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\(^67\) Derby City Council Childcare Sufficiency Assessment – Demographic Profile Published: March 2011. Available at: www.derby.gov.uk/NR/rdonlyres/5228.../CSADemographicProfileMarch2011.pdf
drinking water supplies become contaminated. Such issues will have to considered when preparing the MWDF policies and on a site specific basis at the planning application stage.

**Leisure and Recreation**

7.3.32 Leisure and recreation covers a wide range of activities, from informal activities such as walking and cycling, to organised sports such as football and cricket. These activities can promote the health and well-being of communities as well as contribute to economic activity. Derbyshire’s exceptional landscape and countryside provide a significant resource for leisure and recreational opportunities. While the Peak District National Park provides the most obvious example of such resources, significant parts of the County area, such as the National Forest, Sherwood Forest, Carsington Water and the County’s Country Parks like Elvaston Castle are also an important recreational resource.

7.3.33 There are also a large number of cycle paths, recreational paths, bridleways and long walks in Derbyshire including:

- The Derwent Riverlife Way;
- The Trent and Mersey Canal Towpath;
- The National Cycle Network;
- The Midshires Way;
- The Derwent Valley Heritage Way; and
- The Nutbrook Trail.

7.3.34 The 2006 Derbyshire’s Best Value General User Satisfaction Survey found that 54.8% of residents in Derbyshire were satisfied with sports / leisure facilities, 15.9% were dissatisfied and 29.3% were neither dissatisfied nor satisfied.

**Urban and Rural**

7.3.35 The Rural and Urban Area Classification 2004\(^{68}\) developed by the ONS; the Department for Environment, Food and Rural Affairs (DEFRA); the Countryside Agency and others indicates that 64.9% of Derbyshire is made up of a large urban population, 19.0% of a town/fringe population and 16.2% of a rural population\(^{69}\). Derbyshire was classified as ‘significantly rural’.

7.3.36 Derby was classified as having an ‘other urban classification’ with only 0.17% of the population living outside an urban area.


\(^{69}\) Large urban areas are defined as settlements with a population of 10,000 or more. Dispersed dwellings, hamlets and villages constitute the ‘rural’ category. Small towns and ‘urban fringe’ constitute the remaining category.
7.4 Likely Future Baseline

7.4.1 The Derbyshire Local Economic Assessment 2011\textsuperscript{70} indicates that the County is expected to experience modest levels of population growth over the next two decades (14.5\%) compared to growth at the regional (20.4\%) and national (18\%) scale. However, this growth is varied throughout the County, with South Derbyshire set to experience a substantial population increase. The number of people of retirement age is also forecast to increase significantly.

7.4.2 The ONS Sub-National Population Projections for England 2008 suggest that the population of Derby will increase by 5.1\% by 2016 and 15.4\% by 2030.

Table 7.3: Population projections for Derbyshire and Derby (Source: ONS 2008\textsuperscript{71})

\begin{tabular}{|l|c|c|c|c|c|}
\hline
Area & 2010 & 2015 & 2020 & 2025 & 2030 \\
\hline
Amber Valley Borough & 123,600 & 128,800 & 134,300 & 139,700 & 144,400 \\
\% change 2010-2030 & & & & & 16.8 \\
Bolsover District & 76,000 & 79,100 & 82,400 & 85,700 & 88,500 \\
\% change 2010-2030 & & & & & 16.4 \\
Chesterfield Borough & 102,400 & 105,400 & 108,700 & 111,900 & 114,900 \\
\% change 2010-2030 & & & & & 12.2 \\
Derbyshire Dales District & 70,500 & 71,800 & 73,600 & 75,600 & 77,400 \\
\% change 2010-2030 & & & & & 9.8 \\
Erewash Borough & 111,700 & 114,400 & 117,900 & 121,500 & 124,800 \\
\% change 2010-2030 & & & & & 11.7 \\
High Peak Borough & 94,900 & 98,800 & 102,900 & 107,000 & 110,600 \\
\% change 2010-2030 & & & & & 16.5 \\
North East Derbyshire District & 98,900 & 100,900 & 103,500 & 106,200 & 108,400 \\
\% change 2010-2030 & & & & & 9.6 \\
South Derbyshire District & 96,800 & 105,100 & 113,000 & 120,100 & 126,200 \\
\% change 2010-2030 & & & & & 30.4 \\
Derbyshire & 774,900 & 804,400 & 836,300 & 867,700 & 895,200 \\
\% change 2010-2030 & & & & & 15.5 \\
Derby City & 243,200 & 252,600 & 262,200 & 271,600 & 280,600 \\
\% change 2010-2030 & & & & & 15.4 \\
East Midlands & 4,544,200 & 4,777,600 & 5,013,300 & 5,242,400 & 5,451,900 \\
\% change 2010-2030 & & & & & 20.0 \\
England & 52,296,500 & 54,319,200 & 56,354,200 & 58,310,700 & 60,096,200 \\
\% change 2010-2030 & & & & & 14.9 \\
\hline
\end{tabular}

\textsuperscript{70} Original source: ONS Sub-National Population Projections 2008
\textsuperscript{71} Accessed via http://www.derbyshire.gov.uk/community/about_your_county/population/population_forecasts/default.asp

July 2013
Quality of life and health

7.4.3 The existing policies of the various local authorities across Derby and Derbyshire and their partners are expected to continue to deliver improvements to quality of life and health across Derby City and the County. The delivery of various Sustainable Community Strategies and the Corporate Plans requires the local authorities to work with partners to make the necessary quality of life improvements.

7.5 Sustainability Issues

7.5.1 The key sustainability issues arising from the baseline assessment for Communities and Health in Derby and Derbyshire are:

- It will be important to continue to respond to the greater demands placed on resources and minerals and waste infrastructure from an increased population in Derby and Derbyshire over the next two decades.
- There is a need to increase the skill levels of Derby residents to improve their employment opportunities, particularly those of young people.
- In terms of barriers to community services the most deprived areas are in the predominantly rural east of the County.
- The need to ensure the sustainable location of new waste and minerals facilities and appropriate mitigation at the planning application stage for new, extended and redeveloped minerals facilities in relation to impacts on community amenity; including noise, air, odour, litter, dust and visual impacts. An ageing population in Derbyshire may be more vulnerable to such amenity impacts.
- It is important that leisure and recreational sites are protected from new minerals and waste developments where appropriate across Derbyshire and Derby. Minerals and waste sites have the potential to affect the recreational value of such areas through, for example severance of sites.
- The need to ensure that all potential health impacts and quality of life issues are fully considered in allocating and designing new waste and minerals facilities and opportunities are taken to enhance health and well being particularly in the after use of mineral sites.

7.6 Data Limitations

7.6.1 No limitations were recorded when obtaining information for this section of the Scoping Report.
8 Local Economy, Employment and Housing

8.1 Introduction

8.1.1 The performance of the economy has a fundamental bearing on the achievement of sustainable development. The economy provides employment and generates wealth but can as a result generate adverse effects such as waste or pollution from industrial processes or traffic. A sustainable economy should be seen as of equal importance as the social and natural environment and, as far as possible, not adversely affect these elements.

8.1.2 Both minerals workings and waste facilities represent land-uses that are not generally compatible with housing and so can limit the land available for residential development, and vice-versa. However, there is also a need to ensure that minerals workings and waste facilities are located in relative proximity to the communities they serve.

8.1.3 Waste facilities should be located close to areas of high population density in order to ensure that waste is managed as close to source as possible. In addition, the location of some minerals workings, as well as mineral importation points, may need to consider the location of housing growth as these are the areas where materials are often required for construction.

8.2 Key Sustainability Objectives and Messages from the Context Review

8.2.1 The key objectives and messages which have been drawn out of the context review are as follows:

<table>
<thead>
<tr>
<th>Key Sustainability Objectives and Messages</th>
<th>Evidence Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>With regards to the economy the NPPF aims to:</td>
<td>National Planning Policy Framework (NPPF) (2012)</td>
</tr>
<tr>
<td>- Plan proactively to meet the development needs of business and support an economy fit for the 21st century;</td>
<td></td>
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<tr>
<td>- Promote the vitality and viability of town centres, and meet the needs of consumers for high quality and accessible retail services; and</td>
<td></td>
</tr>
<tr>
<td>- Raise the quality of life and the environment in rural areas by promoting thriving, inclusive and locally distinctive rural economies.</td>
<td></td>
</tr>
<tr>
<td>The presumption in favour of sustainable development is the ‘golden thread’ running through the Framework and the NPPF highlights the contribution the planning system can make to ‘building a strong, responsive economy.’</td>
<td></td>
</tr>
<tr>
<td>A commitment to securing economic growth is set out in the</td>
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</tbody>
</table>
NPPF. This is in order to ‘create jobs and prosperity’, to build on ‘the country’s inherent strengths’ and to meet the ‘twin challenges of global competition and of a low carbon future’. This should include supporting existing, new and emerging business sectors, including positively planning for ‘clusters or networks of knowledge driven, creative or high technology industries’.

The NPPF sets out the need to deliver a wide choice of high quality homes. Local planning authorities are also called upon by the NPPF to ‘widen opportunities for homeownership’ and to ‘create sustainable, inclusive and mixed communities’.

The Housing Report outlines the need for the NPPF to contribute to house development rather than impair it, particularly in relation to affordable housing.

The Housing Strategy sets out a package of reforms to:

- get the housing market moving again;
- lay the foundations for a more responsive, effective and stable housing market in the future;
- support choice and quality for tenants; and
- improve environmental standards and design quality.

The new strategy will address concerns across the housing market making it easier to secure mortgages on new homes, improving fairness in social housing and ensuring homes that have been left empty for years are lived in once again.

The objective for housing is “to ensure that the existing and future housing stock is appropriate to meet the housing needs of all parts of the community.”

Priorities of the Investment Plan include:

- Attract investment and support businesses to start, survive and grow;
- Improve skills and expand the employee pool;
- Support growth through the City’s physical assets; and
- Respond to the opportunities and challenges of climate change.

Key objectives include:

- Stimulating an enterprise culture with innovation and creativity;
- Supporting growth of companies and relocation opportunities;
- Improving Derby as an investment proposition;
- Addressing barriers to employment;
- Aligning supply and demand of skills;
- Influencing young people’s career aspirations;
• Reinforcing cultural and leisure facilities and the City’s infrastructure;
• Pursuing low carbon economy opportunities;
• Developing a vibrant City centre; and
• Realising the potential of Derby’s heritage and tourism assets.

<table>
<thead>
<tr>
<th>Some of the key objectives relating to housing are to:</th>
<th>Derby Housing Strategy 2009 – 2014 (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Create further opportunities for residents to be able to directly influence the delivery of housing services;</td>
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<tr>
<td>• Improve partnership working to tackle anti-social behaviour and enhance the quality of life on Derby’s social housing estates;</td>
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<tr>
<td>• Identify and respond to the housing needs of BME groups including vulnerable in-migrants and other groups such as Gypsies and Travellers;</td>
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<tr>
<td>• Consider the equalities impact of all new major policies and strategies;</td>
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<tr>
<td>• Maximise the delivery of appropriate affordable housing to meet increasing housing needs;</td>
<td></td>
</tr>
<tr>
<td>• Bring long-term empty homes back into use;</td>
<td></td>
</tr>
<tr>
<td>• Ensure sustainable housing choices for homelessness groups; and</td>
<td></td>
</tr>
<tr>
<td>• Improve housing options for older residents.</td>
<td></td>
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</tbody>
</table>

The vision for the Plan is that by 2026 people in Derby will enjoy:
• A thriving sustainable economy;
• Achieving their learning potential;
• Good health and wellbeing;
• Being safe and feeling safe;
• A strong community; and
• An active cultural life.

<table>
<thead>
<tr>
<th>The Derby Plan 2011-2026 A vision for Derby’s future (2011)</th>
</tr>
</thead>
</table>

### 8.3 The Current Baseline

#### Economic Activity

8.3.1 Gross Value Added (GVA) data is used to provide an estimate of a local area’s contribution towards the UK economy. In 2008, Derbyshire’s businesses contributed a total of £11.18bn to the national economy. In 2008 Derbyshire’s GVA\(^\text{72}\) per resident head was \(\£14,752\), 70.1% of the national average. In contrast, GVA per head figures

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\(^{72}\) GVA per head of population is the standard measure of economic performance.  
\(^{73}\) Source: Derbyshire Local Economic Assessment 2011 (original source ONS 2009)
in Derby have increased steadily since 1999 and Derby outperforms the regional and national averages with a GVA per head of £23,167\(^{74}\).

**Employment**

8.3.2 The employment rate\(^{75}\) in Derbyshire at the end of 2012 stood at 73.3%, higher than both the regional (71.5%) and the national (70.7%) rates. Across the County, High Peak (83.5%) had the highest employment rate and Chesterfield (70.8%) the lowest.

8.3.3 In 2012 78.2% of people were economically active in Derbyshire; this activity rate is higher than the regional (77.7%) and national average (76.9\%)\(^{76}\).

8.3.4 During the period 1998 to 2008, Derby’s net additional job creation was 6,100\(^{77}\). In line with national trends, employment growth was spread over a number of sectors, with ‘real estate and business activities’ adding 5,200 jobs. This was balanced out by extensive losses in the manufacturing sector, which was the largest source of job loss, shedding 4,200 jobs (3.5% of Derby’s 2008 workforce). However, this decline was less than half the national rate, suggesting that Derby’s strong industrial heritage has helped to make local firms more resilient.

**Unemployment Claimants**

8.3.5 The recession has had an impact on the area as employment has fallen and unemployment has increased.

8.3.6 The decline of coal mining and traditional manufacturing in the north-east of Derbyshire has left a concentration of areas where there are higher levels of unemployment and deprivation.

8.3.7 Peak unemployment levels hit Derbyshire in February 2010 with almost 18,500 people claiming Job Seekers Allowance (JSA). The trend has improved somewhat in recent years however falling to a current total of 13,903. This is 14.8% less than at the same time in the previous year (16,314) too\(^{78}\).

8.3.8 Since 1990, the number of people on JSA fell steadily in Derby from a high of 9% to a low of 2.3% of the population in November 2007. The recession led to a rapid increase in claimants to 4.9% in February 2010, and up to 5.5% in February 2012. Currently the figure is falling and has been since. May 2013 has 4.5% of Derby claiming JSA\(^{79}\).

**Employment Structure**

8.3.9 The Demand for Skills in Derby and Derbyshire 2009-2013 Study, produced by Working Ventures in March 2009 examined the current distribution of employees across nine priority sectors as detailed in Table 8.1 and Figure 8.1 below. Manufacturing, Health  

\(^{74}\)Source: ONS annual population survey, January 2012 – December 2012  
\(^{75}\)Source: The percentage of the working age population who are employed including the self employed.  
\(^{76}\)Source: ONS Annual Population Survey, January 2012 - December 2012  
\(^{77}\)Source: Derby Economic Strategy 2011-2016  
\(^{78}\)Source: Nomis Annual Population Survey May 2013  
\(^{79}\)Source: ONS claimant count with rates and proportions.
and Social Care, and Retail are the major employers across Derby and Derbyshire. The industrial structure of both Derbyshire’s and Derby’s economies remain heavily dependant upon the manufacturing sector. Derby and Derbyshire is one of the UK’s most important centres for manufacturing in the transportation sector, with the presence of companies such as Toyota and Rolls Royce (who employ over 11,000 people). The recent announcement (July 2011) that Bombardier is to halve its workforce with 1400 job losses will have a very negative impact on employment opportunities and the local economy.

8.3.10 Three of Derby’s three largest employers are in the public sector, with Derby City Council, Derby NHS Trust and the University of Derby employing approximately 21,000 people between them.

8.3.11 The economies of Derby and Derbyshire benefit significantly from the nearby location of the East Midlands Airport which acts as a major employer and is also attractive for businesses with travel requirements. The 2005 survey of on-site employees at the airport indicated that there were a total of around 7,000 employees based on or near the airport site, employed by a total of 103 companies.

8.3.12 The north west of Derbyshire and the Peak District is based on traditional quarrying and agriculture, although hill farming has declined in profitability and now employs fewer people with increasing part time employment. The further development of tourism and new leisure activities is helping to supplement incomes and support farm diversification in these areas.

Table 8.1: Sectors currently employing the highest number of people

<table>
<thead>
<tr>
<th>Sector</th>
<th>Derbyshire</th>
<th>Derby City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>34.02%</td>
<td>30.32%</td>
</tr>
<tr>
<td>Health and Social Care</td>
<td>18.72%</td>
<td>26.72%</td>
</tr>
<tr>
<td>Retail</td>
<td>15.63%</td>
<td>15.64%</td>
</tr>
<tr>
<td>Hospitality</td>
<td>11.62%</td>
<td>8.32%</td>
</tr>
<tr>
<td>Public sector</td>
<td>7.61%</td>
<td>9.09%</td>
</tr>
<tr>
<td>Logistics</td>
<td>5.27%</td>
<td>1.49%</td>
</tr>
<tr>
<td>Tourism and Leisure</td>
<td>3.77%</td>
<td>4.17%</td>
</tr>
<tr>
<td>Airport</td>
<td>1.68%</td>
<td>2.55%</td>
</tr>
<tr>
<td>Creative</td>
<td>1.68%</td>
<td>1.70%</td>
</tr>
</tbody>
</table>

8.3.13 The Annual Business Enquiry 2008[^80] indicated that 1% of employees across the County work in the mining, quarrying and utilities sector, this is slightly lower than the regional

[^80]: Source: Derbyshire Observatory 2011: http://observatory.derbyshire.gov.uk/IAS/dataviews/report?reportId=59&viewId=37&geoReportId=2191&geoId=11&geoSubsetId=
average of 1.3%. The highest numbers are found in the Derbyshire Dales (2.1%) and the lowest in South Derbyshire (0.5%).

8.3.14 The Derby Local Economic Assessment 2011 provides an assessment and analysis of the 'Knowledge Index' of Derbyshire's competitive position, based on the following three dimensions of the knowledge economy:

- Knowledge Intensive Industries - the proportion of the workforce employed in the sectors classified as knowledge-intensive by Eurostat;
- Knowledge Workers - the proportion of residents with high skill levels, defined as qualifications at or above NVQ4 level; and
- Knowledge Occupations - the proportion of the workforce in the most knowledge-intensive occupations (SOC codes 1-3).

8.3.15 The assessment indicates that Derbyshire is not well placed to share in future knowledge based economic growth, falling short of the national average on all four measures and below the East Midlands average on all but one\(^{81}\).

**Figure 8.1: Percentage distribution of priority sector employment (Source: Demand for Skills in Derby and Derbyshire 2009-2013, Working Ventures 2009)***

\(^{81}\)The assessment is based on Annual Business Inquiry, 2008 / Annual Population Survey, 2009 ONS
Table 8.2: Knowledge Index Assessment (Source Annual Business Inquiry, 2008 / Annual Population Survey, 2009 ONS via: Derbyshire Local Economic Assessment 2011)

<table>
<thead>
<tr>
<th>Area</th>
<th>Knowledge Industries 2008</th>
<th>Knowledge Workers 2009</th>
<th>Knowledge Occupations 2009</th>
<th>Knowledge Index (Eng=1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Derbyshire (NUTS 3)</td>
<td>37.7%</td>
<td>26.3%</td>
<td>36.9%</td>
<td>0.86</td>
</tr>
<tr>
<td>S &amp; W Derbyshire (NUTS 3)</td>
<td>31.2%</td>
<td>28.9%</td>
<td>33.4%</td>
<td>0.79</td>
</tr>
<tr>
<td>Derbyshire</td>
<td>33.5%</td>
<td>28.0%</td>
<td>34.6%</td>
<td>0.81</td>
</tr>
<tr>
<td>Derby City</td>
<td>49.8%</td>
<td>26.3%</td>
<td>43.0%</td>
<td>1.01</td>
</tr>
<tr>
<td>East Midlands</td>
<td>38.7%</td>
<td>25.7%</td>
<td>38.8%</td>
<td>0.88</td>
</tr>
<tr>
<td>England</td>
<td>43.7%</td>
<td>29.6%</td>
<td>44.6%</td>
<td>1.00</td>
</tr>
</tbody>
</table>

8.3.16 Derbyshire performs well on the resident knowledge workers dimension, better than the regional average, but the level of knowledge industries and occupations are low. Derby has a percentage of knowledge industries and occupations but the number of residents involved in the knowledge economy is low.

8.3.17 However the Derby Local Economic Assessment 2011 does suggest that the County’s proximity to several universities in the neighbouring cities may provide opportunities to attract knowledge-intensive industries and to improve links between existing firms and the educational community.

**Employment Land**

8.3.18 The latest Derby City Annual Monitoring Report (AMR) reports on the period April 2011 – March 2012. It indicates only 0.15 ha of employment land has been developed over the time period, with another 0.15 ha of land being redeveloped. Prior to this 0.56 ha were developed in 2010-11 and the 2009-2010 period AMR indicated that only 1.10 hectares of employment land was developed in the City. This was 9.83 ha less than the amount of employment land developed during the 2008-2009 period. 2011-2012 saw the lowest level of overall completions since monitoring began in 1991. The global credit crunch has undoubtedly had an impact upon the development of employment uses during the monitoring period.

**Skills Profile**

8.3.19 As highlighted in Table 8.3 below, Erewash has the highest employment rate across Derbyshire and Derby and Derbyshire Dales has the lowest. Derbyshire still lags in the skills/qualifications area, with a wide disparity in the numbers achieving Level 4 across authority areas. In 2012, Derbyshire had a lower proportion of residents qualified to an
equivalent of an NVQ level 4 or above than England with high values in Amber Valley, Chesterfield and High Peak and low values in South and North East Derbyshire\textsuperscript{82}. These low skill levels have led to lower than average salaries, even in what are perceived to be the more affluent areas of the sub-region.

Table 8.3: Skills Profile by District (Source: nomis 2013)

<table>
<thead>
<tr>
<th>Area</th>
<th>Employment rate</th>
<th>Economically Active</th>
<th>% with no qualifications</th>
<th>% with at least degree / NVQ4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derby City</td>
<td>70.4%</td>
<td>127,800</td>
<td>9.9%</td>
<td>28%</td>
</tr>
<tr>
<td>Derbyshire</td>
<td>73.3%</td>
<td>389,800</td>
<td>9.1%</td>
<td>30.4%</td>
</tr>
<tr>
<td>Amber Valley</td>
<td>75.1%</td>
<td>64,800</td>
<td>14.5%</td>
<td>33.1%</td>
</tr>
<tr>
<td>Bolsover</td>
<td>71.6%</td>
<td>36,500</td>
<td>N/A</td>
<td>27.5%</td>
</tr>
<tr>
<td>Chesterfield</td>
<td>71.6%</td>
<td>51,900</td>
<td>11.5%</td>
<td>33.2%</td>
</tr>
<tr>
<td>Derbyshire Dales</td>
<td>68.7%</td>
<td>31,500</td>
<td>9.9%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Erewash</td>
<td>81.8%</td>
<td>61,900</td>
<td>N/A</td>
<td>28.9%</td>
</tr>
<tr>
<td>High Peak</td>
<td>70.5%</td>
<td>48,500</td>
<td>N/A</td>
<td>35.7%</td>
</tr>
<tr>
<td>North East Derbyshire</td>
<td>72.3%</td>
<td>47,500</td>
<td>10.9%</td>
<td>27.8%</td>
</tr>
<tr>
<td>South Derbyshire</td>
<td>71.5%</td>
<td>47,300</td>
<td>10.1%</td>
<td>27.5%</td>
</tr>
<tr>
<td>England</td>
<td>71.6%</td>
<td>27,183,000</td>
<td>9.5%</td>
<td>34.2%</td>
</tr>
</tbody>
</table>

8.3.20 The 2012 Annual Population Survey\textsuperscript{83} indicates that 30.4% of adults across Derbyshire are qualified to at least Level 4, this compares to 28% in Derby, 29% across the East Midlands and 34.2% in England.

Business and Enterprise

8.3.21 In 2010 Derbyshire was home to approximately 25,575 VAT and / or PAYE based enterprises, a net decrease of 800 (3.0%) since 2009\textsuperscript{84}. This decline is slightly lower than that seen regionally (3.2%) but higher than the national decline of 2.5%.

8.3.22 Small employers dominate the Derbyshire economy, with 88.5% of businesses employing less than 10 people. This is similar to the proportions seen regionally and nationally.

8.3.23 Whilst businesses employing more than 250 employees account for just 0.5% of all businesses in the County they are of significant importance to the local economy due to the numbers of people employed. These large employers are predominantly within the public sector.

8.3.24 According to ONS a total of 780 enterprises were created in Derby during 2008. The majority of these were small businesses of up to 4 employees. In 2009 of the VAT and/or PAYE based enterprises in Derby, 62% of local units were for those employing

\textsuperscript{82} Source: ONS annual population survey 2012
\textsuperscript{83} Source: ONS annual population survey 2012
\textsuperscript{84} Source: Derbyshire Local Economic Assessment 2011 (original source Excel Data Link: http://tinyurl.com/table02-vat)
up to 4 people. Just 13% of the total units were for businesses employing over 20 people. Derby has a smaller proportion of local units within the 0-4 employee size band than the regional and national average.\(^{85}\)

**Income**

8.3.25 The Annual Survey of Hours and Earnings 2011\(^{86}\) highlights that Derby has higher workplace than residence based earnings, indicative of in-commuting from the counties into Derby. The average gross weekly pay of a full time worker in Derby in 2011 was £620.2, this compares to £454.7 across Derbyshire, £461.3 across the East Midlands and £507.2 in England.

8.3.26 High Peak has the highest average gross weekly pay of a full time worker that lives in the area in the East Midlands at £529.3. High Peak and Derbyshire Dales also have a higher average gross weekly pay than the national average of £507.6. Across Derbyshire the average gross weekly pay of a full time worker that lives in the area in 2011 was £482.5\(^{87}\), this is slightly higher than the East Midlands average of £471.9.

**Tourism**

8.3.27 Approximately 25,235 full time equivalent jobs are supported by the tourism sector in Derbyshire\(^{88}\), accounting for a quarter of all tourism related employment in the East Midlands. Whilst this data demonstrates the important contribution the tourism sector makes to Derbyshire’s economy it does not account for the full extent of employment supported by the sector in the terms of secondary suppliers such as retail etc.

8.3.28 The STEAM (Scarborough Tourism Economic Activity Monitor) model 2009 estimated that 36.24 million people visit the Peak District and Derbyshire each year, which contributes around £1.47bn to the local economy\(^{89}\). Derbyshire represents the biggest share of the tourism market within the East Midlands at 24.0%.

**Housing Supply**

8.3.29 From 2001 to 2008, housing completions in Derbyshire and the rest of the country steadily increased, however, between 2007/08 and 2008/09 the number of net additional dwellings delivered showed a dramatic decline. This sharp drop in housing completions was mirrored throughout the country but between 2008/09 and 2009/10 the decline in new building completions, whilst continuing to fall, had slowed. Just 24 dwellings were delivered in Chesterfield in 2009/10, due to the recession, few large sites being available, and the lack of investment by the construction industry.\(^{90}\)

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\(^{85}\) Source UK Business: Activity, Size and Location, ONS, 2009 (via Derby Local Economic Assessment 2010)

\(^{86}\) Source: Derbyshire Observatory 2012: http://observatory.derbyshire.gov.uk/IAS/dataviews/tabular?viewId=40&geoId=11&subsetId=

\(^{87}\) Estimate of 2011 averages from each district.

\(^{88}\) Source: Derbyshire Local Economic Assessment 2011

\(^{89}\) Global Tourism Solutions (UK) Ltd using their STEAM (Scarborough Tourism Economic Activity Monitor) model via http://www.eastmidlandstourism.com/?page_id=173

\(^{90}\) Source: Core Output Indicators H2(a) (Net additional dwellings \(\Delta\) in previous years) and H2(b) (Net additional dwellings \(\Delta\) for the reporting year) contained in LDF/ AMR and cdpvision, the regional monitoring system, 2010, CLG via Derbyshire Local Economic Assessment.
8.3.30 The Derby 2010/2011 AMR indicates that during the monitoring period there were 533 new dwellings recorded as completed. The figure however dropped to below half of this in 2011/12, with 261 net dwellings completed.

8.3.31 The 2011/2012 AMR indicates a locally set target of 12,000 dwellings for the City, there are enough deliverable sites to provide for 5.9 years including a 5% buffer.

8.4 Likely Future Baseline

Housing Growth

8.4.1 Amber Valley Borough Council, Derby City Council and South Derbyshire District Council, the three local authorities in the Derby Housing Market Area (HMA), are working together to draw up aligned Core Strategies.

8.4.2 In July 2011 the three local authorities alongside Derbyshire County Council consulted on an Options for Housing Growth paper. The East Midlands Regional Plan sought to focus the majority of development in and around the City of Derby and the main towns in Amber Valley and South Derbyshire. The paper provides the opportunity to re-consider the broad locations for future development up to 2028. Four options are put forward for housing. All options assume making the best possible use of brownfield sites and reducing vacant housing stock.

8.4.3 The paper indicates that there is limited capacity for new development in the City of Derby and it is unlikely that it will be able to accommodate all of the housing need that it is generating. It is estimated that Derby can realistically deliver around 10,000 new homes between 2008 and 2028 through existing commitments and brownfield sites. Therefore any development that cannot be built on brownfield land within the built up area of Derby will have to be located elsewhere if needs are to be met, possibly on new greenfield sites within and outside the City’s boundaries.

8.4.4 The four housing options that have been put forward are to:

- Concentrate more development in and adjoining Derby;
- A greater role for other towns;
- A greater role for rural settlements; and
- New settlements.

8.4.5 Four growth scenarios are also put forward:

- Balanced migration;
- Current buildings trends;
- Regional plan targets; and
- Government projections.
8.4.6 The least amount of new housing to be delivered in the Derby HMA between 2008-2028 under these options is 1500 per year (balanced migration - 30,000 in total) and the highest is 2,395 per year (government projections - 47,900).

Derbyshire, Nottingham and Nottinghamshire Local Enterprise Partnership

8.4.7 In October 2010 the Derby, Derbyshire, Nottingham and Nottinghamshire Local Enterprise Partnership (the D2N2 LEP) was approved by the Government. The LEP has identified joint priorities that are likely to lead to private sector led economic growth in the future.

The LEP seeks to drive economic growth by:

- “Building on shared advantages in internationally competitive science, manufacturing, engineering and creative industries, to drive productivity growth as we develop a low carbon economy.
- Developing our distinctive cultural, leisure, sport and tourism offer to world class standards.
- Ensuring that the benefits of sustainable economic growth are shared across our cities, towns and rural communities.
- Developing our skills, building on the strengths and reputation of our first rate FE and HE sector, that will meet and drive up employers’ current and future skills demands.
- Continuing to secure investment in regeneration and infrastructure projects to stimulate private sector growth.”
Figure 8.2: Derby, Derbyshire, Nottingham and Nottinghamshire Local Enterprise Partnership Area (Source: D2N2 LEP Proposal 2010)
Pipeline and Proposed Development

8.4.8 There are a number of schemes with planning permission that will have a significant impact on the local economy, employment and housing in Derby and Derbyshire, these include:

- Chellaston Business Park (extension);
- Land to the east of Raynesway (storage and distribution uses);
- St. Mary’s Gate (500 sq ft of floor space);
- Number One Cathedral Green (95,000 sq ft of office space);
- City Gate House (60,000 sq ft of Grade A office space, with an additional 3,200 sq ft of complementary retail/leisure space);
- Friar Gate Square (72,000 sq ft of office space along with some residential accommodation);
- Central Square (50,000 sq ft of office space);
- One Derby (400,000 sq ft of office space, 100+ room hotel and restaurant and cafés);
- Markham Vale (industrial, warehouse and office accommodation ranging from 3,000 sq ft (279 sq m) to 1 million sq ft (92,900 sq m), together with ancillary amenities); and
- Castleward Urban Village (800 new homes, as well as new schools and community facilities) facilities available.

8.4.9 Coal mining operators have noted that there are economically viable coal resources present in the county that could contribute to the local economy and provide a source of local employment in the future.

Forecast GVA

8.4.10 Figure 8.5 below shows Experian’s\textsuperscript{91} output GVA growth forecasts from 2006 to 2026 for the sectors in Derby predicted to grow most in this period. The general trend shown by the model as a whole is for the regional and UK economy to contract during 2009 and for Derby, the region and the UK to recover steadily from 2010.

8.4.11 The model provides a forecast for 30 different industry sectors. Most sectors in Derby are forecasted to grow steadily, the Business Services and Health sectors are expected to see the greatest growth towards 2026\textsuperscript{92}.

\textsuperscript{91} Experian’s output and employment forecasts are based on its Integrated Regional Sectoral Model (IRSM) of the UK. In this model each sector of the economy is treated as an economic entity in its own right. The forecasts take into account historical relationships between a range of national and non-local variables, but also rely heavily on local sector structure and labour markets.

\textsuperscript{92} Source: Derby Local Economic Assessment 2010
8.5 Sustainability Issues

8.5.1 The key sustainability issues arising from the baseline assessment for Local Economy, Employment and Housing in Derby and Derbyshire are:

- Ensuring Derbyshire provides sufficient mineral resources to meet demand - through aggregates, other minerals and protecting mineral resources.
- There is a need to ensure that minerals and waste development does not act as a constraint to residential development.
- The Minerals and Waste Plans should seek to have a direct positive impact on local economic activity and employment opportunities through the creation of jobs to meet the skills and aspirations of local people. Surface coal mining has the potential to be an important employer in the local economy.
- The Minerals and Waste Plans must support and not hinder wider efforts to diversify economic activity.
- There is a need to improve the overall skills levels of Derbyshire’s and Derby’s workforce in order to enhance economic performance and raise the income level of residents in Derbyshire.
• There is a need to ensure the infrastructure is in place in Derby and Derbyshire to continue to attract and retain investment and business.

8.6 Data Limitations

8.6.1 There is a lack of up-to-date information in relation to predictions of the minerals resources that are likely to be required to meet house building targets in Derby and Derbyshire. There is also a lack of information on:

• tourism statistics for Derby; and
• employment statistics in the minerals and waste sector across Derby and Derbyshire.
9 Key Sustainability Issues

9.1 Introduction

9.1.1 The identification of key sustainability issues facing Derby and Derbyshire with regard to waste and minerals planning provides an opportunity to define key issues for the Minerals and Waste Plans and to develop sustainable plan objectives and options for resolving these. The identification of sustainability issues will also provide useful information to inform the SA / SEA process.

9.1.2 The requirement to identify sustainability problems arises from the SEA Directive:

The ‘Environmental Report’ required under the SEA Directive should include:

“any existing environmental problems which are relevant to the plan or programme including, in particular those relating to any areas of a particular environmental importance, such as areas designated pursuant to directives 79/409/EEC ‘the Birds Directive’ and 92/43/EEC the ‘Habitats Directive’

(Annex 1(d))

9.1.3 Key sustainability issues identified for the Derby and Derbyshire Minerals and Waste Plans are outlined below. These have been identified from the context review and the review of baseline data.

9.1.4 It is important not only to identify the key issues under each of the various topics, but also to identify those issues that cut across themes and that act in a synergistic manner to improve or exacerbate issues. Where there is tension within the sustainability issues i.e. between economic and/or social and environmental issues, these are also identified below.

### Key Sustainability Issues

Derby and Derbyshire has a rich natural environment with a high proportion of land designated for nature and landscape conservation. Minerals and waste planning will need to ensure designated sites and the features they seek to conserve are protected and that development does not adversely affect those sites, any European Protected Species (including bats) or any priority habitats and species identified in the Lowlands Derbyshire Biodiversity Action Plan 2011-2020 and identified heritage of a more local value is given suitable levels of protection in proportion to their relative importance.
Key Sustainability Issues

A combination of low annual rainfall, low water storage capability and high water abstraction has caused pressure on water supplies in the East Midlands, with particular issues relating to over-abstraction and insufficient water resources towards the north and west of Derbyshire. By 2050 climate change could reduce river flow by 10 to 15 per cent on an annual average basis, and could reduce summer river flows by 50 to 80 per cent. There is a need to manage and reduce water consumption.

There are a number of heritage assets located in Derby and Derbyshire that are on the ‘Heritage at Risk’ Register. It is important that these assets are protected and where possible, enhanced in the future and any new development affecting these assets should be sensitive to their setting. The continued supply of local building materials such as stone plays an important role in the upkeep of heritage assets (5-6000 tonnes of sandstone is quarried in the county each year for use as building stone).

Loss of the best and most versatile agricultural land and greenfield sites should be avoided, and locational decisions should seek to protect the extent, openness and quality of the Green Belt, recognising that waste or minerals development would not always be inappropriate development. Waste facilities should be provided on previously developed land where practicable.

As new development increases the demand for land, particularly within the compact urban boundary of Derby City, the conflict between housing, light industrial and less neighbourly land uses increases. Sufficient land must be made available within such areas to provide waste management facilities which are appropriately located to serve the settlements which generate waste; and to supply primary and secondary minerals sufficient to meet economic and social demand close to the markets which such demand is generated.

The delivery of waste facilities to meet future capacity is a major challenge and the Minerals and Waste Plans will need to make adequate provision in a manner that respects the environment and local communities while balancing the need to attract investment. Waste arisings in Derby and Derbyshire are expected to continue to rise. While there is slowly increasing capacity for waste management locally this is not expected to be enough to drive waste up the waste hierarchy. Waste miles are likely to increase as waste is transported to the next nearest facility.

In terms of the spatial distribution of waste facilities, communities in some remoter western areas of Derbyshire have comparatively limited access to waste processing.
## Key Sustainability Issues

facilities and services, due to the relatively low population density and associated infrastructure in this area. A balance must be found between the economies of scale of certain waste developments versus the proximity principle - both here and in other small settlements in the Core Strategy Area.

A number of areas towards the south of Derby and Derbyshire are at significant risk of flooding. This situation is likely to worsen with climate change and existing patterns of fluvial flood risk are also likely to change as a result. The location of future waste and minerals development should consider climate change effects and especially the need to locate the more vulnerable elements of the development away from areas liable to flood risk.

The majority of energy generation in Derby and Derbyshire is from fossil fuels and there is a lack of existing or planned renewable energy capacity in the Core Strategy Area. There is potential scope for co-location of renewable energy facilities on sites that are developed for waste management in the future.

Derbyshire and Derby experience significant traffic congestion, within urban areas, on the strategic road network (especially the A38) and associated with access to the strategic road network. The impacts of transportation in relation to the mining and quarrying industry in particular; is a significant problem. There has been a significant increase in the number of heavy goods vehicles using the road network in the County, particularly the larger 40 and 44 tonne lorries introduced in 2001. In some areas heavy goods vehicles can account for up to 25% of the traffic volume, which causes problems for local communities associated with dust, noise, vibration, congestion and road user safety. Increasing the number of minerals and waste transport movements in Derby and Derbyshire made by rail would help to alleviate this issue.

There are significant cross-regional movements of waste, in relation to the large urban conurbations and adjacent to the borders of Derbyshire, which generate negative environmental and social impacts. This may be exacerbated by demands for aggregate minerals generated by the Government’s growth agenda, particularly around Milton Keynes, South Midlands, Peterborough and Cambridge.

There is a need to continue to reduce CO\textsubscript{2} emissions particularly that generated from transport, in order to offset the level of growth planned in Derbyshire and Derby, increased car ownership and rising public transport costs.

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93 Derby City Council and Derbyshire County Council (2003) Local Transport Plan 2001-2006
Key Sustainability Issues

Certain areas of Derby and Derbyshire already suffer from unacceptable levels of air pollution; especially those covered by AQMAs related to high traffic flows and associated congestion. The need to improve air quality in these areas should form a key consideration in the preparation of the MWDF. There is a need to take account of nearby sensitive receptors and existing congestion and pollution hotspots in areas such as Spondon and on and close to the M1 north and south. The water resources of the City and County, including that in the aquifers, are under stress and need appropriate protection from pollution and over abstraction.

There is a need to minimise the environmental and human health effects of mineral and waste operations and associated transportation impacts, including impacts on communities’ quality of life - through the strategic allocation and design of new waste and minerals development. Opportunities should be taken to enhance health and well being through proposals for the sensitive restoration and after use of mineral sites, including addressing potential land stability and other public safety risks arising from former minerals winning activities, including the risk of aircraft bird strike, taking into account the limited availability of inert fill for restoration. Non-intervention may be appropriate where significant nature conservation interest has developed over time, recognising that some brownfield sites have intrinsic environmental importance.

The decline of coal mining and traditional manufacturing in the north-east of Derbyshire has led to a concentration of areas where there are higher levels of unemployment and deprivation. The recession has had an impact on the area as employment has fallen and unemployment has increased.

There is a need to improve the overall skills levels of Derbyshire’s and Derby’s workforce in order to enhance economic performance and raise the income level of residents in Derbyshire. The Minerals and Waste Plans should promote investment and employment opportunities and not undermine regeneration initiatives, in both the minerals and waste sectors, while balancing the competing need to protect the environment and local communities from adverse impacts from such development.

The industrial structure of both Derbyshire’s and Derby’s economies remain heavily dependant upon the manufacturing sector. Waste facilities need to provide industries and other businesses with access to cost-effective waste management solutions that also meet environmental regulations, improving the commercial attractiveness of the area to new and existing businesses.

Sufficient mineral resources must be provided, particularly those of regional and...
Key Sustainability Issues

| national importance, to meet the projected demand – through the winning of primary aggregates, recycling and processing of secondary aggregates and safeguarding of mineral resources from unnecessary sterilisation. The Minerals and Waste Plans need to take into account both strategic and local needs when defining Mineral Safeguarding Areas and Mineral Consultation Areas. Increased use of alternative sources of aggregates should be promoted in order to promote resource efficiency in the construction sector. The landbank for sand and gravel is below the recommended seven year land bank, which indicates that additional reserves will need to be permitted. |

9.1.5 The key sustainability issues will be further informed by consultation with the Consultation Bodies and other key stakeholders during the Updated Scoping Report consultation.
10 The Assessment Framework

10.1 Introduction

10.1.1 Drawing on the review of the sustainability context and baseline, the 2009 SA Scoping Report was able to identify a range of sustainability issues that should be a particular focus of appraisal. The issues have subsequently been used as a methodological ‘framework’ for structuring future appraisals, ensuring they remain focused. The issues have been articulated as a concise list of sustainability ‘objectives’. The final SA ‘framework’ was developed following consultation with stakeholders in July 2009.

10.1.2 The objectives are accompanied by more detailed sub-objectives which act as appraisal criteria and assist the assessor to consider the full range of issues which should be considered under each broad objective. Also associated with the objectives is a list of potential indicators that may be used to monitor impacts of the implementation of the plans on the sustainability baseline, once these have been adopted.

10.1.3 Future appraisals will seek to predict ‘significant effects’ on the baseline set out in the preceding chapters of this report, particularly focusing on the sustainability issues identified in Chapter 9 and set out in the following framework.
<table>
<thead>
<tr>
<th>Draft headline SEA/SA objectives</th>
<th>Draft Criteria applying to all policies, plans and programmes and actions referred to in the DPDs</th>
<th>Possible Indicators</th>
</tr>
</thead>
</table>
| 1. To protect, maintain and improve the health and well being of Derby and Derbyshire’s people and communities | To what extent will the measure:  
- Protect and improve leisure, and recreation opportunities (e.g. through site restoration, improved access to open space or improvements to the PROW system) or access to other services or facilities (such as waste management and recycling facilities)?  
- Improve the amenity of local communities (recognising the legacy of impacts on some communities from the winning of minerals)?  
- Address impacts on local amenity including traffic congestion, road safety, noise, dust, vibration, light, vermin and odour?  
- Disproportionately affect vulnerable groups and deprived communities? | No. of sites within 250m of sensitive receptors (settlements)  
National Indicators (NI) now scrapped replaced by “Single Data List”  
N1 047 People killed or seriously injured in road traffic accidents  
N1 137 Healthy life expectancy at age 65                                                                                                                                 |
| 2. To protect, maintain and enhance biodiversity and geodiversity in Derby and Derbyshire, ensuring no net loss of important sites, habitats or species. | To what extent will the measure:  
- Safeguard, and avoid detrimental impacts to sites and features of wildlife or geological/geomorphological importance?  
- Provide opportunities for the creation or enhancement of wildlife habitats, corridors or linking routes in Derby and Derbyshire?  
- Protect and conserve geological areas of significant scientific, historical, educational or heritage value? | No. of Designated sites, BAP habitats and species adversely affected by minerals/waste development  
Protected species losing or gaining 'Favourable Conservation Status' as a result of minerals/waste development |
<table>
<thead>
<tr>
<th>Draft headline SEA/SA objectives</th>
<th>Draft Criteria applying to all policies, plans and programmes and actions referred to in the DPDs</th>
<th>Possible Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Biodiversity &lt;br&gt; - Flora &lt;br&gt; - Fauna</td>
<td>- Assist to restore the full range of characteristic habitats and species in the BAP to viable levels?</td>
<td>No. of permitted applications for mineral or waste development that includes a restoration scheme that contributes to the creation/enhancement/protection of priority habitats &lt;br&gt; No. of permitted applications for waste or minerals development within 1km of designated or locally important sites for nature conservation or geological purposes.</td>
</tr>
</tbody>
</table>

3. To protect, conserve and enhance, air, water and soil quality, minimise light and noise pollution and land instability.  
Covers SEA Directive topics: <br>- Water <br>- Air  
To what extent will the measure:  
- Avoid or minimise all forms of air, noise, soil and light pollution (including dust, odour, emissions to air and vibration) particularly in areas already below established quality standards?  
- Protect, conserve and enhance ground and surface water, including from pollution, over-extraction and disruption to hydrological systems?  
- Minimise the loss of the most valuable soils and improve soil quality?  
- Reduce any issues of land instability, contamination, or any other impacts on land arising from the legacy of winning of minerals?  
| No. of sites affecting SPZs of major aquifers (within 200m)  No. of sites close to (within 200m) watercourses  Number of complaints on dust or odour relating to minerals or waste developments |
## Draft headline SEA/SA objectives

**Draft Criteria applying to all policies, plans and programmes and actions referred to in the DPDs**

**Possible Indicators**

<table>
<thead>
<tr>
<th>4. To protect, conserve and enhance the quality, local distinctiveness and enjoyment of Derby and Derbyshire’s diverse landscapes, green infrastructure, townscape character, and cultural heritage. Covers SEA Directive topics: - Cultural Heritage - Landscape</th>
<th>To what extent will the measure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Affect an Air Quality Management Area?</td>
<td>No. of restored disused quarries</td>
</tr>
<tr>
<td>- Protect and conserve Derby and Derbyshire’s diverse landscape character and distinctiveness, minimise adverse effects on these and ensure quality designs?</td>
<td>No. of permitted applications close to 1km or within landscape designations</td>
</tr>
<tr>
<td>- Conserve and enhance Derby and Derbyshire’s cultural assets, (including archaeological heritage) locally distinctive built environment, historic architecture and heritage sites and townscape features including their setting?</td>
<td>No. of permitted applications affecting archaeological resources</td>
</tr>
<tr>
<td>- Facilitate the supply and use/reuse of local building material to protect and enhance locally distinctive landscape and townscape character?</td>
<td></td>
</tr>
<tr>
<td>- Impact on maintaining the extent, openness and quality of the Green Belt?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. To minimise traffic levels, journey lengths, the number of road traffic related accidents, and to encourage sustainable forms of transport in Derby and Derbyshire.</th>
<th>To what extent will the measure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distances travelled by road for minerals or waste</td>
<td>Proportion of aggregates or waste arisings transported by rail or water</td>
</tr>
<tr>
<td>Proportion of aggregates or waste arisings transported by rail or water</td>
<td>Average distances travelled for mineral supply and waste management</td>
</tr>
<tr>
<td>No. of waste/minerals sites with rail</td>
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</tr>
<tr>
<td>Average distances travelled for mineral supply and waste management</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Draft headline SEA/SA objectives</td>
<td>Draft Criteria applying to all policies, plans and programmes and actions referred to in the DPDs</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 6. To reduce contributions to climate change, by reducing greenhouse gas emissions, promoting efficient energy use, and encouraging the use of renewable energy | To what extent will the measure:  
- Minimise and where possible reduce greenhouse gas emissions? (for example by using rail or water-based access, reducing distances travelled by road, increasing backloading where appropriate)  
- Encourage the use of renewable energy sources or contribute to the production of renewable energy including energy from waste?  
- Minimise energy consumption or increase energy efficiency?  
- Provide a facility/service that serves local needs or is well located in relation to the strategic road network?  
- Will the operation be well located in relation to the surrounding markets for minerals and settlements for waste? | Distances travelled by road for minerals or waste  
Proportion of aggregates or waste arisings transported by rail or water  
Average distances travelled for mineral supply and waste management  
No. of waste/minerals sites with rail access/use  
No. of waste/mineral sites with easy access to the strategic routes |
| 7. Limit vulnerability to flooding, taking | Is the development with an area liable to flooding (e.g. Flood Zones 2 or 3)? | No. of permitted sites for minerals/waste |
### Draft headline SEA/SA objectives

- **account of climate change**
  - Covers SEA Directive topics:
    - Human Health
    - Water
    - Material Assets
    - Climatic Factors

### Draft Criteria applying to all policies, plans and programmes and actions referred to in the DPDs

To what extent will the measure:

- Increase the risk of flooding in this or other areas?
- Make existing or future development more vulnerable to flood risk as a result of climate change especially key services and facilities?
- Assist with flood management, taking account of climate change?

### Possible Indicators

- development within the floodplain

### 8. To achieve a more efficient use of natural resources and infrastructure, minimise the production of waste and increase reuse, recycling and recovery of waste in Derby and Derbyshire.

- Covers SEA Directive topics:
  - Material Assets

To what extent will the measure:

- Assist or facilitate movement up the waste hierarchy, in all parts of the plan area? (i.e. reduce waste first, then reuse, recover, recycle and landfill as a last resort) (including the development of appropriate energy from waste facilities)
- Assist in maximising the use of recycled and secondary materials (including aggregates)?
- Reduce extraction of virgin materials?
- Safeguard resources of significant exploitable minerals from sterilisation by other forms of development?
- Require prior extraction if development that would sterilise mineral resources is to go ahead?
- Minimise the loss of best and most versatile agricultural land and

### Possible Indicators

- NI191 – Residual Household Waste per Head
- NI192 – Household Waste Recycled and Composted
- NI193 – Percentage of Municipal Waste Landfilled
<table>
<thead>
<tr>
<th>Draft headline SEA/SA objectives</th>
<th>Draft Criteria applying to all policies, plans and programmes and actions referred to in the DPDs</th>
<th>Possible Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>green field sites?</td>
<td>- Bring forward and optimise the use of previously developed, vacant and derelict land and buildings?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Utilise, optimise and enhance existing infrastructure?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Ensure optimal, appropriate and beneficial restoration and maintenance of mineral sites after use?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Encourage the minerals sector to take responsibility for the waste associated with their operations?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Contribute to self-sufficiency in the management of waste arisings in Derby and Derbyshire?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Reduce the over supply of permissions for crushed rock in the plan area?</td>
<td></td>
</tr>
</tbody>
</table>

9. To maximise the potential economic benefits of mineral operations and waste management to a sustainable economy in Derby and Derbyshire and other parts of the Country. To what extent will the measure:

- Contribute to the adequate and steady supply of minerals or waste management facilities to meet the local area, region’s and UK’s need without affecting the ability of future generations to do the same?
- Drive forward new innovative technologies?
- Provide local training and employment opportunities in Derby and Derbyshire, especially for communities suffering high levels of unemployment and other deprivation?

N1 151 Overall employment rate (working age)
No of direct jobs created in the minerals/waste management sector per year
No of new minerals/waste permissions
### Draft headline

**SEA/SA objectives**  

<table>
<thead>
<tr>
<th>Possible Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Maximise the benefits of regeneration and inward investment of new business into the area, to broaden the economic base and reduce disparities and seek to minimise any effects of M&amp;W development on regeneration and inward investment initiatives?</td>
</tr>
<tr>
<td>- Safeguard and create employment in local business and contribute to the local economy?</td>
</tr>
<tr>
<td>- Be deliverable, having regard to, for example: maturity of technology, market risks, costs?</td>
</tr>
</tbody>
</table>
11 Consultation undertaken to date and the Next Stages

11.1 Introduction

11.1.1 This Scoping Report is a working draft which will undergo further consultation in line with the procedures set out in Chapter 1 of this report. Following on from the consultation process, the content of this document will be updated as necessary, to reflect the responses received.

11.1.2 This section of the report sets out the stages of Sustainability Appraisal that are subsequently required.

11.2 Consultation

11.2.1 Engagement with the statutory consultees at the Scoping Stage helps to ensure that the SA is wide ranging in its consideration of the appropriate issues which should be the subject of the assessment.

11.2.2 Consultation on the first draft of the Joint Scoping Report began 31st July 2009. Consultees were asked to identify any significant gaps in the baseline information gathered so that steps could be taken to remedy these before policy options are developed. Consultees were also asked about the suitability of the SA Framework. In addition to the statutory consultees (Natural England, the Environment Agency and English Heritage) this Scoping Report was sent for comment to Derbyshire District and Borough Councils GOEM.; EMRA; EMDA; DCP; DDEP; trade associations for both minerals and waste industries; CLBA ;DWT FoE and the National Forest. Responses from the consultees are reported in Appendix 2.

11.2.3 Comments were received from the following bodies:

- ATH Resources plc;
- Derbyshire Wildlife Trust;
- The Coal Authority;
- English Heritage;
- The Environment Agency;
- The Highways Agency; and
- National Forest

11.2.4 Their comments have been taken into account in preparing this revised report and Appendix 2 sets out how these comments have been incorporated, where appropriate. This revised Scoping Report will also be made available for further comment by the statutory consultees and other interested stakeholders.
11.3 The Next Stages

11.3.1 The next stage in the SA process is to address the following questions:

5. What has Plan-making / SA involved up to this point?
   - Prior to preparing the draft plan there must be (as a minimum) one plan-making / SA iteration at which point alternative approaches to addressing key plan issues are subjected to SA and findings taken onboard by the plan-makers.

6. What are the appraisal findings at this current stage?
   - i.e. what are predicted to be the sustainability effects of the draft plan and what changes might be made to the plan in order to avoid or mitigate negative effects and enhance the positives.

11.3.2 The SA should inform the evaluation of the alternatives developed for the plan in question and should provide a means to convey that the plan is the most appropriate, given reasonable alternatives.

11.3.3 The assessment will be undertaken on the basis of professional judgement and consultation and will be informed by the evidence included in this document.

11.3.4 Every effort will be made to predict effects accurately, taking into account the potential for the effects to vary in terms of timescale, and impact in different ways on a baseline that is dynamic and variable in terms of its sensitivity. However, predicting significant effects accurately is inherently difficult given the uncertainty as to how alternative policy approaches will be delivered, how a policy approach may be interpreted through Development Management and whether this will lead to actual effects ‘on the ground’.

11.3.5 Because of these inherent uncertainties there is a need to exercise caution when appraising significant effects of alternative approaches. In light of the need to exercise caution:

   - Where effects are predicted this will be done alongside an explanation of the assumptions made; and

   - In many instances it may not be possible to predict significant effects, but it may be possible to comment on the relative merits of alternatives in more general terms.

11.3.6 The results of the appraisal will be documented within an ‘interim’ SA Report. A number of interim reports may be prepared at various stages in the preparation of the plan. A final ‘SA Report’ should accompany the submission document and must meet the full requirements of the SEA Directive (Directive 2001/42/EC) as set out in Chapter 1 of this report. The final task in the SA process will be to prepare the sustainability statement as part of adoption statement for the plan, which will include final proposals for monitoring of the plan.

11.3.7 Further information on the Council’s timetable for the preparation of the Minerals and Waste Core Strategies can be obtained from Derby City
Council and Derbyshire County Council. Any further changes to the baseline evidence presented in this report will be taken into account in further appraisal work to ensure that the appraisal is based on the most up to date baseline data.

11.3.8 The Council will be seeking the views of stakeholders and the public on the emerging Waste and Minerals Plans and accompanying SA Reports in due course.
Glossary

**Agricultural Land** - Agricultural land is classified into five grades. Grade one is best quality and grade five is poorest quality. A number of consistent criteria are used for assessment which include climate (temperature, rainfall, aspect, exposure, frost risk), site (gradient, micro-relief, flood risk) and soil (depth, texture, stoniness).

**Air Quality Management Area (AQMA)** – Local Authorities are required to measure air pollution to monitor if the national air quality objectives are being achieved. If the objectives are not being met, the local authority must declare an Air Quality Management Area (AQMA). The local authority should then produce a Local Air Quality Action Plan, stating how air quality will be improved.

**Biodiversity Action Plan (BAP)** – Biodiversity Action Plans are produced at the national, regional and local level. The UK BAP defines national priorities and targets, setting UK habitats and species into an international context and defines international responsibilities. It represents the UK commitment to the Biodiversity Conservation signed in Rio in 1992 and provides political support and motivation to the wider local planning process. There are seven Local Biodiversity Action Plans (LBAPs) that exist within Somerset.

**C&I** – Commercial and Industrial waste.

**C&D** – Construction and Demolition Waste.

**GVA** – Gross Value Added.

**Index of Multiple Deprivation (IMD)** – This is a measure of deprivation in England, for every local authority and super output area seven domains of deprivation are measured: (Income, Employment, Health deprivation and Disability, Education Skills and Training, Barriers to Housing and Services, Crime the Living Environment). This allows all 32,482 SOAs to be ranked according to how deprived they are relative to each other. This information is then brought together into one overall Index of Multiple Deprivation 2004.

**Output indicator** – An indicator that measures the direct output of the plan or programme. These indicators measure progress in achieving a plan objective, targets and policies.

**Local Development Scheme (LDS)** – Sets out the local authority’s programme for preparing the Local Development Documents.

**LNR** – Local Nature Reserves (LNRs) are for both people and wildlife. They are places with wildlife or geological features that are of special interest locally. They offer people special opportunities to study or learn about nature or simply to enjoy it.

**MSW** – Municipal Solid Waste.

**NNR** - Many of the finest sites in England for wildlife and geology are National Nature Reserves (NNR). There are currently 224 across the country and almost all are accessible and provide great opportunities for people to experience nature.

**Objective** – A statement of what is intended, specifying the desired direction of change in trends Option For the purposes of this guidance option is synonymous with
‘alternative’ in the SEA Directive Plan For the purposes of the SEA Directive this is used to refer to all of the documents to which this guidance applies, including Development Plan Documents. Supplementary Planning Documents are not part of the statutory Development Plan but are required to have a sustainability appraisal.

**RAMSAR** – Ramsar sites are wetlands of international importance designated under the Ramsar Convention.

**Locally Important Geological Sites** – LIGs are designated by locally developed criteria and are currently the most important designated sites for geology and geomorphology outside statutorily protected areas such as SSSIs.

**SAC** – Special Areas of Conservation (SACs) are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive

**Scheduled Monument** - A ‘nationally important’ archaeological site or historic building, which is given protection against unauthorised change.

**Scoping** – The process of deciding the scope and level of detail of a Sustainability Appraisal.

**Screening** – The process of deciding whether a document requires a SA.

**SEA Directive** – European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

**SEA Regulations** – The Environmental Assessment of Plans and Programmes Regulations 2004 (which transposed the SEA Directive into law).

**SPA** – Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

**SSSI** – SSSIs are the country’s very best wildlife and geological sites. They include some of our most spectacular and beautiful habitats - large wetlands teeming with waders and waterfowl, winding chalk rivers, gorse and heather-clad heathlands, flower-rich meadows, windswept shingle beaches and remote uplands moorland and peat bog.

**Super Output Area (SOA)** – SOAs are a new geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. Three layer of SOA have been devised: Lower Layer - Minimum population 1000; mean 1500. Built from groups of SOAs (typically 4 to 6) and constrained by the boundaries of the Standard Table (ST) wards used for 2001 Census outputs. Middle Layer - Minimum population 5000; mean 7200. Built from groups of Lower Layer SOAs and constrained by the 2003 local authority boundaries used for 2001 Census outputs. Upper Layer - To be determined; minimum size c.25, 000.

**Strategic Environmental Assessment (SEA)** – Generic term used internationally to describe environmental assessment as applied to policies, plans and programmes. In
the UK, SEA is increasingly used to refer to an environmental assessment in compliance with the ‘SEA Directive’

**Sustainability Appraisal (SA)** – Generic term used to describe a form of assessment which considers the economic, social and environmental effects of an initiative. SA, as applied to Local Development Documents, incorporates the requirements of the SEA Directive.

**Sustainability Issues** – The full cross-section of sustainability issues, including social, environmental and economic factors.

**Waste Hierarchy** – The “waste hierarchy” ranks waste management options according to what is best for the environment. It gives highest priority to the prevention of waste arising in the first place.