BARNSLEY, DONCASTER AND ROTHERHAM JOINT WASTE PLAN

Submission

Sustainability Appraisal Report

Prepared for Barnsley, Doncaster and Rotherham Metropolitan Borough Councils

by
Land Use Consultants

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1 Introduction

1.1 As unitary authorities, Barnsley, Doncaster and Rotherham Metropolitan Borough Councils are required by law to plan for the appropriate provision of waste management facilities. The three councils are working together to prepare a plan to guide the provision of waste management facilities across their areas.

1.2 The Joint Waste Plan will provide the detailed waste planning strategy for Barnsley, Doncaster and Rotherham (collectively referred to throughout this report as "BDR") and will allocate suitable sites to manage municipal, commercial and industrial waste over the period to 2026[1]. The Joint Waste Plan is currently at the 'submission' stage and has been developed in conjunction with the Sustainability Appraisal (SA) and Habitat Regulations Assessment (HRA) processes. Once adopted, the Joint Waste Plan will have legal status as part of each borough's new development plan, which is known as the Local Development Framework (LDF).

1.3 The preparation of the Joint Waste Plan has been subject to a detailed SA in line with the Planning and Compulsory Purchase Act 2004[2]. SA is an iterative process designed to assess and evaluate the significant effects of the LDF. It must be prepared in accordance with the requirements of European Directive 2001/42/EC (known as the Strategic Environment Assessment, or SEA Directive). In line with the government's SA guidance[3], the SA and SEA of the Joint Waste Plan are being undertaken through a single, joint process and reported on together; thus any reference to "SA" throughout this report should be taken to include the requirements of SEA as well.

1.4 The requirement to undertake a Habitat Regulations Assessment (HRA) is met in a separate report accompanying the Joint Waste Plan. However, the findings from the HRA have been taken into account throughout the SA process where relevant.

1.5 In October 2007, BDR appointed Land Use Consultants (LUC) to undertake the SA on their behalf to inform the preparation of the Joint Waste Plan from an early stage.

ABOUT THE BARNSLEY, DONCASTER AND ROTHERHAM JOINT WASTE PLAN

Scope of the Joint Waste Plan

1.6 The Joint Waste Plan will provide the detailed waste planning strategy for BDR and will allocate suitable sites to accommodate large-scale municipal, commercial and industrial waste facilities over the period to 2026. Once adopted, it will form part of each borough's separate Local Development Framework (LDF). Each LDF will comprise:

- a separate, general-purpose Core Strategy;

[1] In accordance with government guidance, the Joint Waste Plan is being prepared as a separate, stand-alone Core Strategy covering waste management. It is based on the fact that the DPD will give strategic direction to the location of new waste management facilities across the three boroughs.
[2] Planning and Compulsory Purchase Act (House of Commons, May 2004)
[3] Sustainability Appraisals of Regional Spatial Strategies and Local Development Documents (ODPM, Nov. 2005)

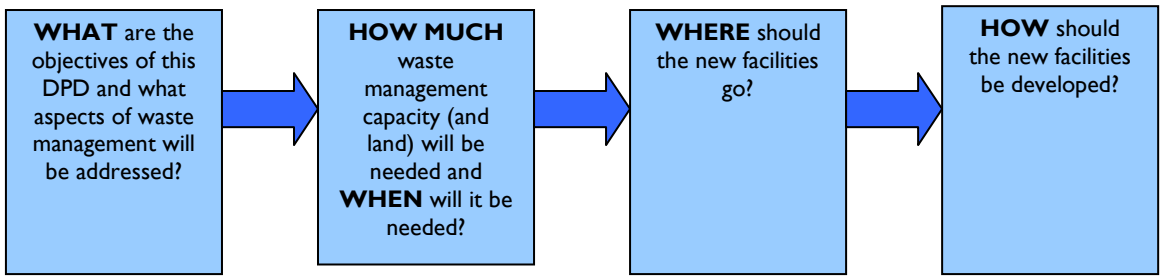
- site allocations and designations, including waste management facilities;
- policies relating to development and use of land (including waste management); and
- a proposals map.

1.7 In the context of government guidance, these documents are known as development plan documents (DPDs) and will have legal status for decision making regarding planning applications.

1.8 Supplementary Planning Documents (SPDs) also form part of the LDF and these provide more guidance about how DPD policies will be implemented.

1.9 The Joint Waste Plan is currently at the submission stage. The submission version sets out the vision, aims and policies for the Joint Waste Plan. **Figure 1.1** below shows the key issues the Joint Waste Plan is seeking to address.

Figure 1.1: Key issues for the Joint Waste Plan



1.10 The preparation of the Joint Waste Plan has involved consideration of the following.

- Options for the distribution of sites for strategic facilities
- Potential development control policy directions
- Options for imported waste
- Options for non-municipal, commercial and industrial waste

1.11 The Joint Waste Plan (submission version) sets out the long-term vision for achieving sustainable waste management across the three boroughs over the period up to 2026. The vision states that:

By 2026, Barnsley, Doncaster and Rotherham boroughs will be leading exponents of environmentally friendly and innovative waste management solutions to support a diverse local economy and future growth. By working together with our partners, we will have:

- **managed the majority of our waste within our boundaries and diverted it from landfill;**
- **met and exceeded our recycling, composting and recovery targets;**
- **developed a range of high quality, state-of-the-art and integrated facilities that manage different waste streams mainly within accessible urban locations close to where they arise, addressing the overall shortfall and anticipated growth in the volume of waste;**

- **put in place appropriate safeguards to make sure that new waste facilities respect and enhance the character and quality of the surrounding area and assets; and**
- **taken into account likely cross-boundary movements.**

1.12 The Joint Waste Plan also includes eight **aims** as follows.

Aim A: Encourage waste to move up the hierarchy (away from landfill towards greater reduction, re-use, recycling and recovery) to achieve the targets set out in our municipal waste management strategies and save energy/resources.

Aim B: Ensure the timely provision of good quality waste management facilities to help address the predicted shortfall of recycling and treatment provision within South Yorkshire and meet future waste needs within Barnsley, Doncaster and Rotherham up to 2026.

Aim C: Deal with waste locally within accessible urban locations and maximise movements via rail and water where possible, so as to save resources and minimise transport, whilst allowing waste to be imported or exported where this represents the most sustainable option.

Aim D: Maximise the local economic benefits of waste management activity, including using waste as a resource for industry.

Aim E: Maximise the potential to co-locate and integrate facilities to manage different waste streams using a range of advanced treatment technologies, including renewable energy generation (where possible).

Aim F: Make use of vacant and underused brownfield land within existing industrial or employment areas.

Aim G: Waste management facilities should protect, maintain and where possible enhance the amenity, health and safety of local communities and the wider built and natural environment, especially in areas of sensitivity such as the greenbelt, floodplain, Thorne and Hatfield moors, groundwater protection zones, rivers Don and Dearne, historic assets and the Peak District National Park.

Aim H: Reduce greenhouse gas emissions (especially carbon dioxide and methane) through energy efficient waste technologies and innovative transport solutions.

1.13 The Joint Waste Plan also sets out seven policies, which provide the detailed framework for achieving sustainable waste management. These are as follows.

Policy WCS1: Barnsley, Doncaster and Rotherham's overall strategy for achieving sustainable waste management

Policy WCS2: Safeguarding and enhancing existing strategic waste management sites

Policy WCS3: New strategic waste management sites

Policy WCS4: Waste management proposals on non-allocated sites

Policy WCS5: Landfill

Policy WCS6: General considerations for all waste management proposals

Policy WCS7: Minimising waste resources and waste management plans

1.14 Policies WCS2 and WCS5 identify specific sites for safeguarding existing waste facilities (e.g. landfill sites, recycling and composting facilities and dredging sites), while policy WCS3 identifies specific sites to accommodate new large-scale waste management facilities.

OVERVIEW OF SUSTAINABILITY APPRAISAL AND THE SEA DIRECTIVE

1.15 The purpose of SA is to promote sustainable development by integrating social, environmental and economic considerations into the preparation of development plans. The SA process is an integral, ongoing part of plan–making process, identifying and reporting on its likely significant effects and the extent to which sustainable development is likely to be achieved through its implementation. Under the 2004 Planning and Compulsory Purchase Act, SA is a mandatory requirement for local development frameworks (LDFs), which include DPDs and SPDs.

1.16 When preparing DPDs and SPDs, local planning authorities must also carry out an environmental assessment in accordance with the SEA Directive[4]. The objective of the SEA Directive[5] is *'to provide for a high level of protection of the environment and contribute to the integration of environmental considerations into the preparation and adoption of plans….with a view to promoting sustainable development'.*

1.17 As briefly described above, the government's approach is to incorporate the requirements of the SEA Directive into the wider SA process. To this end, government guidance[6] sets out how the requirement for both processes can be met through a combined SA and SEA process referred to in this document as 'Sustainability Appraisal' (SA). This report includes the required elements of an 'Environmental Report' (the output required by the SEA Directive) and **Table 1.1** sign-posts the relevant sections of the SA report that are considered to meet the SEA Directive requirements.

[4] *Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents (*ODPM, 2005).
[5] European Parliament and Council of the European Union (2001). *Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment.*
[6] *Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents (*ODPM, 2005).

Table 1.1 Summary of the requirements of the SEA Directive and where these have been addressed in this SA report

SEA Directive requirements	Where covered in SA report
Preparation of an environmental report in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated. The information to be given is (Art. 5 and Annex I):	
a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes;	Chapters 1 and 3
b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;	Chapter 4
c) The environmental characteristics of areas likely to be significantly affected;	Chapter 4
d) 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 and 92/43/EEC.;	Chapter 4
e) The environmental protection, objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental, considerations have been taken into account during its preparation;	Chapter 3, Appendix B
f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. (Footnote: These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects);	Chapters 6, 7 and 8 Appendices F & G
g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;	Chapter 7
h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;	Chapters 2 and 6
i) a description of measures envisaged concerning monitoring in accordance with Art. 10;	Chapter 8
j) a non-technical summary of the information provided under the above headings	Non-technical Summary
The report shall include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process to avoid duplication of the assessment (Art. 5.2)	Chapters 1 and 2
Consultation: • authorities with environmental responsibility, when deciding on the scope and level of detail of the information which must be included in the environmental report (Art. 5.4)	Scoping Report June 2004 Appendix A
• authorities with environmental responsibility and the public, shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme (Art. 6.1, 6.2)	Consultation on the SA reports (May 2007, Jan 2008 and June 2010) and consultation on this SA report.
• other EU member states, where the implementation of the plan or programme is likely to have significant effects on the environment of that country (Art. 7).	Not applicable
Taking the environmental report and the results of the consultations into account in decision-making (Art. 8)	To be addressed at a later date
Provision of information on the decision: When the plan or programme is adopted, the public and any countries consulted under Art.7 must be informed and the following made available to those so informed: • the plan or programme as adopted • a statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report of Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Art. 7 have been taken into account in accordance with Art. 8, and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and • the measures decided concerning monitoring (Art. 9)	To be addressed at a later date
Monitoring of the significant environmental effects of the plan's or programme's implementation (Art. 10)	Chapter 8

2 Stages and Tasks in the Sustainability Appraisal Process

2.1 **Table 2.1** below sets out the main stages of the plan-making process and shows how these link to the SA process.

Table 2.1 Corresponding stages in plan-making and SA

DPD Step 1: Pre-production - Evidence Gathering
SA stages and tasks
Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope • A1: Identifying other relevant policies, plans and programmes, and sustainability objectives • A2: Collecting baseline information • A3: Identifying sustainability issues and problems • A4: Developing the SA Framework • A5: Consulting on the scope of the SA
DPD Step 2: Production
SA stages and tasks
Stage B: Developing and refining options and assessing effects • B1: Testing the DPD objectives against the SA Framework • B2: Developing the DPD options • B3: Predicting the effects of the DPD • B4: Evaluating the effects of the DPD • B5: Considering ways of mitigating adverse effects and maximising beneficial effects • B6: Proposing measures to monitor the significant effects of implementing the DPDs
Stage C: Preparing the Sustainability Appraisal Report • C1: Preparing the SA Report
Stage D: Consulting on the Preferred Options of the DPD and the Sustainability Appraisal Report • D1: Public participation on the preferred option of the DPD and the SA Report • D2(i): Appraising significant changes
DPD Step 3: Examination
SA stages and tasks
• D2(ii): Appraising significant changes resulting from representations
DPD Step 4 & 5: Adoption and Monitoring
SA stages and tasks
• D3: Making decisions and providing information
Stage E: Monitoring the significant effects of implementing the DPD • E1: Finalising aims and methods for monitoring • E2: Responding to adverse effects

STAGE A: SETTING THE CONTEXT AND OBJECTIVES, ESTABLISHING THE BASELINE AND DECIDING ON THE SCOPE

2.2 In 2007, the councils of Barnsley, Doncaster and Rotherham appointed LUC to undertake the initial stages of the SA of the Joint Waste Plan by way of a 'scoping report'. Its preparation involved carrying out the following tasks.

- A review of plans, programmes, strategies and studies.
- Collection of baseline information and characterisation of Barnsley, Doncaster and Rotherham.
- Identification of key sustainability issues and problems in Barnsley, Doncaster and Rotherham.
- Preparing an SA framework for assessing the social, economic and environment effects of the Joint Waste Plan.
- Description of the proposed SA methodology.
- Consultation with the three statutory SEA consultation bodies (i.e. Natural England, English Heritage, the Environment Agency) and other stakeholders.

2.3 The Scoping Report was published for consultation alongside the consultation document on the issues and options for the DPD between February and March 2008[7]. Thirty-seven consultation responses were received from stakeholders regarding the scope of the SA from individuals and the following organisations.

- Edenthorpe Parish Council
- Thorne-Moorends Town Council
- Stainborough Parish Council
- WA Fairhurst and Partners
- Barnsley Metropolitan Borough Council (waste management)
- Veolia Environmental Services
- Maltby Environmental Group
- Curtis Recycling
- Aukley Parish Council
- Barnburgh and Harlington Parish Council
- English Heritage (Yorkshire and Humber region)
- SITA UK
- Rotherham Metropolitan Borough Council (waste management)
- Yorkshire Wildlife Trust
- Sterecycle
- Waste Recycling Group
- Government Office for Yorkshire and the Humber

[7] *Barnsley, Doncaster and Rotherham Joint Strategic Waste Development Plan Document: Issues and Options* (Land Use Consultants on behalf of Barnsley, Doncaster and Rotherham Metropolitan Borough Councils, March 2008).

- Robin Hood Airport Doncaster Sheffield
- Primary Care Trusts
- Natural England
- Silkstone Parish Council
- Penistone Friends of the Earth
- Rotherham Action Group for World Development
- High Hoyland Parish Council
- Banks Developments
- Doncaster Metropolitan Borough Council - Resource Recovery
- Maltby Scouts

2.4 The comments received during this consultation can be seen in appendix A of the SA report for the pre-publication version of the Joint Waste Plan (June 2010).

STAGE B: DEVELOPING AND REFINING OPTIONS AND ASSESSING EFFECTS

Issues and options stage (2008)

2.5 In March 2008, the three councils consulted on the key issues and options associated with the provision of new waste management facilities within Barnsley, Doncaster and Rotherham.[8] The consideration of *'reasonable alternatives'* is a central component of the SEA Directive; however, not every possible alternative needs to be considered. In some instances, other policy considerations (e.g. PPGs, PPSs, EU legislation and government circulars) pre-determine which policy approach needs to be adopted, thus effectively ruling out some options. The views expressed by stakeholders during the consultation on the Scoping Report were also taken into account in formulating the policy options.

2.6 Once the Scoping Report had been consulted upon and finalised, the policy options presented in the issues and options consultation were assessed against the objectives of the SA framework, which was developed at the scoping stage. The findings were presented in an Interim Sustainability Appraisal Report, which was published for a four week consultation period between July-August 2008. The comments received during this consultation can also be found in Appendix A of the SA Report for the pre-publication version of the Joint Waste Plan (June 2010).

Site assessment (2008 – 2010)

2.7 A long list of sites was drawn up (including sites suggested by consultees during the issues and options consultation) from which suitable sites for large-scale waste management facilities could be identified. The SA objectives formed a significant component of the site assessment methodology that was used to assess their suitability for allocation as strategic waste management sites within the Joint Waste Plan. The findings of the SA of the potential sites were presented in an annex to the Site Assessment Report (October 2008) and are updated in an SA annex to this

[8] *Barnsley, Doncaster & Rotherham Joint Strategic Waste Development Plan Document: Issues and Option (*prepared by Land Use Consultants on behalf of Barnsley, Doncaster and Rotherham Metropolitan Borough Councils, March 2008).

report. These findings have informed the selection of strategic waste management sites under policy WCS3 (New Strategic Waste Management Sites) of the Joint Waste Plan.

Towards the Publication DPD stage (2009)

2.8 At this stage a sustainability appraisal note was produced to summarise the work that had been undertaken to date, including the SA of sites (described above). This was published alongside the Towards the Publication DPD. Further SA work was then undertaken (as described below) and helped to inform the development of the Joint Waste Plan as it moved towards the Publication stage.

Pre-publication stage (2009-2010)

2.9 In January 2009, LUC facilitated a workshop alongside the three councils and the statutory bodies to discuss the preferred policy options for the Joint Waste Plan, and to identify key sustainability issues relating to each preferred option. Details of the format and findings of this workshop are presented in **Appendix E**. The findings from the workshop were taken into account in formulating the proposed aims and policies in the pre-publication consultation version of the Joint Waste Plan (Summer 2010). The pre-publication version set out a shortlist of preferred waste sites and policies.

2.10 The aims and policies presented in the pre-publication consultation version of the Joint Waste Plan were appraised against the SA objectives with reference to the assumptions set out in **Appendix D**. The sustainability implications and likely effects of the aims and policies were predicted and assessed. The findings were presented in the SA report (June 2010).

Publication stage (Spring 2011)

2.11 Feedback from the pre-publication consultation on both the Joint Waste Plan and the accompanying SA report was used to inform the preparation of the publication version of the plan. The consultation responses received at the pre-publication stage can be seen in **Appendix A**. The SA report relating to the pre-publication version of the plan was updated to reflect where changes were made to the vision, aims and policies. Most of the changes that were made since the pre-publication stage were minor changes to the wording of the plan, although a new safeguarded site was included under policy WCS5: Landfill.

Submission stage

2.12 Following the formal publication stage, a series of minor amendments have been made to the Joint Waste Plan, some of which specifically address concerns raised by English Heritage. A final update of the SA has been undertaken to reflect English Heritage's comments on the findings of the SA Report. The consultation responses received from English Heritage on the SA report for the publication Joint Waste Plan can also be seen in **Appendix A**.

2.13 The sustainability effects of the plan were predicted and assessed using the SA framework as shown in **Chapter 7** and **Appendices G and H**, and these findings have been amended to reflect where minor changes made to the submission version

of the vision, aims and policies have had implications for the SA. This report therefore relates to the submission version of the plan.

STAGE C: PREPARING THE SA REPORT

2.14 This report details the SA process that has been undertaken throughout the preparation of the Joint Waste Plan, but specifically reflects the submission version of the Joint Waste Plan and sets out the findings of the appraisal.

STAGE D: CONSULTATION ON THE JOINT WASTE PLAN AND THE SA REPORT

2.15 In July 2011 the Joint Waste Plan will be submitted along with this SA report to the government to undergo an independent public examination. The government will appoint an independent planning inspector to oversee the examination, who will make recommendations on the changes that need to be made to make the Joint Waste Plan sound[9].

STAGE E: MONITORING IMPLEMENTATION OF THE DPD

2.16 This report sets out recommendations for monitoring the social, environmental and economic effects of implementing the Joint Waste Plan (see **Chapter 8**). These proposals will need to be considered once the Joint Waste Plan has been adopted, within the context of the broader monitoring framework for each borough's Local Development Framework (as set out in their separate Annual Monitoring Reports).

[9] The tests of soundness broadly focus on three main areas: justified (whether the document has been founded on a robust and credible evidence base and is the most appropriate strategy when considered against the reasonable alternatives), effective (is it deliverable, flexible and capable of being monitored) and consistent with national planning policy (see Planning Policy Statement 12).

3 Sustainability Requirements of Relevant Plans and Programmes

3.1 The Joint Waste Plan will be influenced by and must have regard to other relevant plans and programmes at the international, national, regional and local level. Annex 1 of the SEA Directive requires:

(a) *"an outline of the…relationship with other relevant plans or programmes";* and

(e) *"the environmental protection objectives established at international, community or member state level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation".*

3.2 The first stage of this task involved identifying which plans and programmes are relevant to the Joint Waste Plan. These are listed in full in **Appendix B** of this report.

RELATIONSHIP WITH OTHER RELEVANT PLANS AND PROGRAMMES

3.3 The plans and programmes of relevance to the Joint Waste Plan at the international level are as follows.

- The World Summit on Sustainable Development, Johannesburg (2002)
- Kyoto Protocol and the UN Framework Convention on Climate Change (1992)
- Bern Conservation of European Wildlife and Natural Habitats (1979)
- Bonn Convention on Conservation of Migratory Species (1979)
- Ramsar Convention on Wetlands of International importance, especially waterfowl habitat (1971)

3.4 In order to carry forward these commitments, the European Union has produced a number of directives. The key EU directives that influence the Joint Waste Plan are:

- Waste Framework Directive (2006/12/EEC)
- Landfill Directive (1999/31/EC)
- Hazardous Waste Directive (91/689/EEC)
- Water Framework Directive (2000/60/EC)
- Directive concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive) (91/676/EEC)
- Air Quality Framework Directive (96/62/EC)
- Directive to Promote Electricity from Renewable Energy (2001/77/EC)

- Conservation of Natural Habitats and Wild Fauna and Flora Directive (92/43/EC) (The Habitats Directive)
- Directive on Conservation of Wild Birds (79/409/EEC)

3.5 The Joint Waste Plan will also need to have regard to and put into practice a large number of national, regional, sub regional and local plans and programmes, in particular national planning policy guidance and statements (PPGs and PPSs) and other council based plans and strategies.

3.6 In order to fulfil requirement (a) of Annex 1 of the SEA Directive, the relationship between the relevant national, regional and local plans and programmes (including environmental or sustainability objectives and targets) and the Joint Waste Plan is considered in **Appendix B**. This appendix sets out the ways in which they have been taken into account in preparing the Joint Waste Plan as well as information about how they helped to inform the development of the SA framework (see **Chapter 4**). Many of these documents have already been reviewed through the SA process as part of each borough's LDF. The review of plans and programmes has been used to identify and evaluate the waste management priorities relating to Barnsley, Doncaster and Rotherham in terms of community aspirations, protecting and enhancing environmental assets, waste prevention, improving recycling and composting performance and promoting training and employment opportunities to support future growth.

3.7 The *Yorkshire and Humber Plan*[10] (which reflects the *South Yorkshire Spatial Strategy*[11] and *Advancing Together*[12]) has influenced the preparation of the Joint Waste Plan. The coalition government is in the process of abolishing the regional tier of planning through the Localism Bill. However, the current status of the RSS remains uncertain, as a court ruling in November 2010 declared the revocation unlawful.[13] Despite this ruling, two further judgments in February and May 2011 confirmed that the coalition government's intended abolition of regional spatial strategies should not be a consideration for development plan preparation[14]. In addition, the government has very recently published a draft of the new National Planning Policy Framework (25th July 2011, which is out for consultation until 17th October 2011). Until the new national planning policy framework and the revocation of regional spatial strategies is finalised, the Yorkshire and Humber Plan (along with planning policy guidance notes and statements) still remains relevant and have been included in **Appendix B**.

[10] The Yorkshire and Humber Plan: Regional Spatial Strategy for Yorkshire and the Humber to 2026 (Government Office for Yorkshire and Humber, May 2008)
[11] The 'Vision' and 'Strategic Framework' for Yorkshire and Humber, Advancing Together, Yorkshire and Humber Assembly, Government Office for Yorkshire and Humber (Yorkshire Forward, 2004)
[12] Sub Regional Spatial Strategy Vision for South Yorkshire prepared for South Yorkshire Partnership by Ideasmiths Consulting Partnership in collaboration with South Yorkshire Partnership (2004)
[13] The Cala Homes (South) Ltd case (2010 EWHC 2866) was decided on 10 November 2010 and the outcome was to quash the 6 July revocation.
[14] http://www.communities.gov.uk/news/newsroom/1837512 and http://www.communities.gov.uk/news/corporate/1912879

4 Sustainability Context for the Joint Waste Plan

4.1 Annex I of the SEA Directive requires the following information to be provided:

(b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan;

(c) the environmental characteristics of areas likely to be significantly affected;

(d) any existing environmental problems which are relevant to the plan 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'].

4.2 In undertaking this SA, the requirement to collect 'baseline information' has been extended from an assessment of environmental issues alone to include information about the relevant social and economic characteristics of the three boroughs. The requirements of Annex I (b)-(d) overlap somewhat, and this chapter attempts to address them all.

SUSTAINABILITY ISSUES

4.3 The review of other relevant plans and programmes (including the scoping reports prepared for each borough's LDF) has been used to identify and evaluate the key sustainability issues facing each borough, which are summarised in **Table 4.1** below. The aim of this is to:

- avoid duplicating information already provided within other relevant LDF documents; and
- focus on the key issues that will be pertinent to planning for waste management.

4.4 In turn, these key issues have established the context for appraising the effects of the Joint Waste Plan.

Table 4.1: Summary of Key Sustainability Issues for Barnsley, Doncaster and Rotherham[15]		
BARNSLEY	**DONCASTER**	**ROTHERHAM**
Key environmental issues		
• Pressure on air quality, especially in areas of high traffic volume • Poor water quality of rivers • Risk of flooding, especially the Dearne and Dove catchments • Enhance quality, quantity and accessibility of greenspaces and urban fringe • Improve the openness and amenity of the greenbelt • Reduce the reliance on landfill; • Increase tree cover • Safeguard mineral resources.	• Pressure on the historic built environment • Threat to landscape character • Pressure on the greenbelt • Pressure on designated sites and biodiversity • Risk of flooding • Threat from noise pollution • Threat from air pollution • Geology (limited minerals supply); • Large amounts of biodegradable waste being landfilled.	• Address land contamination and use of water resources especially in relation to previously developed (brownfield) sites • Potential to enhance and protect Rotherham's waterways for recreational and ecological value • Manage risk of flooding • Reduce levels of waste • Encourage landscape enhancement.
Key economic issues		
• Identify sufficient land to meet employment needs and reduce the need for outward commuting; • Promote business enterprise especially digital media technologies • Encourage diversification of the local economy • Improve skills base • Regenerate Barnsley town centre.	• Lack of a diverse economy • Lack of range of local jobs • Lack of skilled workforce • Limited opportunities for redevelopment of derelict and other brownfield land.	• Low number of business start ups • Reliance on vulnerable employment sectors • Disparities in unemployment and low levels of economic activity in certain groups of population • Low level of skills and qualifications in adult population • Loss of graduate population
Key social issues		
• Lack of affordable housing and poor quality social housing stock, combined	• Pockets of deprivation • A lack of range of housing choice and	• Inequalities and disparities in deprivation across Rotherham

[15] Source: Sustainability appraisals of the LDF scoping reports for Barnsley (2007), Doncaster (2007) and Rotherham (2006) Metropolitan Borough Councils

Table 4.1: Summary of Key Sustainability Issues for Barnsley, Doncaster and Rotherham[15]		
BARNSLEY	**DONCASTER**	**ROTHERHAM**
with market failure in certain areas • Higher than average levels of ill health and physical health deprivation • Poor educational attainment • Poor quality school accommodation and shortage of school places • Lack of cultural and leisure facilities; • Enhancing community spirit and isolated communities.	affordability; • Limited access to the natural environment for all • Lack of local community facilities • High levels of crime and fear of crime • Low levels of educational achievement	• Life expectancy lower than the national average • High numbers of permanently sick, disabled and obese • Educational attainment below national average • High levels of unfit housing stock, and dependency on Housing Market Renewal Pathfinder provision.
Key transport and accessibility issues		
• Improve accessibility of the borough including public transport links • Improving transport links between settlements • Reduce reliance on car transport.	• Lack of integrated public transport • Urban traffic congestion.	• Reduce car dependency due to proximity to strategic road network, and high levels of out-commuting for work, especially to Sheffield • Improve public transport services to provide access to facilities for 30% of residents without access to a car • Promote sustainable modes of travel.

4.5 An overview of the plan area is provided below, as adapted from each borough's LDF scoping report. Where other sources have been used, they are referenced within the text. The SEA Directive requirement to report on the 'likely evolution of the relevant aspects of the current state of the environment without implementation of the plan' has been addressed in the boxes below each key sustainability issue, which set out the 'implications for the Joint Waste Plan'. These boxes also explain how the Joint Waste Plan could improve current baseline conditions and the future state of the environment (or the sustainability issue).

Sub-regional Dimension

4.6 Barnsley, Doncaster and Rotherham metropolitan borough councils, together with Sheffield City Council, constitute the county of South Yorkshire. Around 40% of South Yorkshire's population of 1.3 million live within the city of Sheffield. The plan area covering Barnsley, Doncaster and Rotherham has a total population of around 760,168[16].

Population totals		
Barnsley	Doncaster	Rotherham
221,000	252,300	286,868

4.7 Research suggests that the population of the plan area will grow at a slightly faster rate than South Yorkshire as a whole (6% and 5.39% respectively) during the period from 2007 to 2030, rising from 760,168 to 815,000 people[17]. The projected rise is due to a combination of higher life expectancy, higher birth rates than death rates and inward migration. Population growth coupled with rising consumption and household numbers has the potential to increase waste production depending on future lifestyle choices and behaviours.

4.8 The plan area also forms part of two wider city regions of Leeds and Sheffield[18]. Sheffield City Region encompasses the entire plan area and extends into the East Midlands to the south, and therefore it is important to consider Sheffield's strategic role as the regional city and its relationship with neighbouring authorities in Derbyshire and Nottinghamshire in the context of the waste hierarchy. Barnsley forms part of both city regions and a small part of the north west of the borough (9%) lies within the Peak District National Park (which is also covered by policies for the Peak sub-area within the Regional Spatial Strategy for the East Midlands[19]).

Strategic Focus for South Yorkshire

4.9 The strategic focus for development in South Yorkshire is centred on the city of Sheffield and the towns of Barnsley, Doncaster and Rotherham with a particular

[16] Sustainability appraisal scoping reports for Barnsley, Doncaster and Rotherham's separate LDF (2007)
[17] Yorkshire Futures/University of Leeds
[18] The Sheffield City Region is defined as comprising South Yorkshire, plus Bassetlaw, Bolsover, Chesterfield, Derbyshire Dales and North East Derbyshire in the East Midlands (Yorkshire & Humber Plan, May 2008).
[19] Regional Spatial Strategy for the East Midlands: East Midlands Regional Plan (Government Office for East Midlands, March 2009)

emphasis on securing investment to enable large-scale regeneration and to revitalise the inner areas and town centres of these four sub regional centres, and to create sustainable and healthy housing markets in the housing market renewal areas of South Yorkshire. Throughout the twentieth century, South Yorkshire's economy was centred around coal and steel production but these sectors saw a dramatic decline during the eighties and nineties, leading to a loss of population during this period. South Yorkshire qualified for European Objective 1 status displaying some of the worst levels of multiple exclusion in the country.

4.10 The focus of economic development for Barnsley during the next 15 to 20 years is to redevelop and regenerate the town's urban core to become a "21st century market town". The aim for Doncaster's town centre is to develop it to offer a broader range of retail and commercial uses as well as facilitate the growth of storage/distribution throughout the borough. Doncaster has become a logistics centre of regional and national importance, due partly to its good connections to the rail and motorway networks. In Rotherham, the focus is on revitalising the town centre, alongside the development of existing public spaces and parts of the riverside. Barnsley, Doncaster and Rotherham have recently been awarded growth point status in recognition of their capacity to accommodate additional housing growth.

General overview of the Joint Waste Plan area

4.11 The Joint Waste Plan area is predominantly urban in character, containing the town centres of Barnsley, Doncaster and Rotherham, but it also retains extensive open countryside and natural woodland, farmland and moorland as well the nationally important Humberhead Levels. The total plan area covers around 118,170 ha[20] and it has a strong historic environment legacy from the twentieth century steel and mining industries and associated settlements, as well as retaining evidence from the pre-industrial age through its landscape and buildings.

- **Barnsley** is the second largest metropolitan borough in the plan area covering 32,892 ha. The eastern half of the borough is characterised by a dense settlement pattern of former mining settlements. The western half is more rural consisting of open moorland, arable farmland and natural woodland. Around two-thirds of the borough is green belt (23,030 ha).

- **Doncaster** is the largest metropolitan borough in England[21]. It covers around 57,000 ha with the majority of its population living in the main Doncaster urban area, but it also has a large rural hinterland containing over 44 defined rural settlements. Doncaster has large areas of attractive countryside to the east of the borough, with the designated green belt covering much of the western half. 67% of the borough is still in agricultural use, mainly in the eastern parts.

- **Rotherham** is smaller than the other metropolitan boroughs covering 28,278 ha[22], two thirds of which is rural, comprising high quality countryside. Of this area, 49% is directly used for agriculture, primarily arable production. Over half of

[20] Note: this figure is calculated from breakdown from RSS overall figures and BDR SA scoping reports, (excluding Sheffield City Council boundary)
[21] Sustainability appraisal of Doncaster's LDF – Scoping Report (Doncaster MBC, 2007)
[22] Rotherham Borough Profile (Rotherham MBC, 2006)

the population lives in and around the town of Rotherham where government regeneration initiatives are focussed. The remainder live within surrounding smaller towns and rural areas.

4.12 **Landscape**: The plan area contains a wide variety of landscape types, including the Nottinghamshire, Derbyshire and Yorkshire Coalfield (covering the main urban areas of Barnsley, Doncaster and Rotherham), Magnesian Limestone Ridge (an elevated ridge characterised by open fields and dry valleys which bisects the plan area) and the highlands and open moorlands of the Yorkshire Southern Pennine Fringe and the low peat-lands of Humberhead levels to the east. There are no nationally designated landscapes within BDR.

The loss of coal mining and other traditional industries has left a legacy of degraded and fragmented landscapes within BDR.

Key sustainability issues and implications for the Joint Waste Plan:

- The restoration of former landfill sites and mineral workings can offer significant opportunities to enhance landscape character and biodiversity and increase access to the countryside.
- New waste sites should be located where the landscape is most degraded, disturbed, fragmented, modern or urban in character and accessible (see the findings of the landscape character assessments for each borough).

4.13 **International nature conservation designations**: There are a total of five internationally and nationally important Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) within a 10km radius of the boundary of the plan area. These are:

- the Peak District Moors SPA and South Pennine Moors SPA mainly within the Peak District boundary, but extending into the tip of Barnsley MBC;
- the Thorne Moor SPA/SAC extends into to the north east of Doncaster MBC and Hatfield Moor SPA/SAC lies solely within Doncaster MBC; and
- the Denby Grange Colliery Ponds SAC lies just within the 10km boundary to the north of Barnsley and Doncaster. There are no Ramsar sites within 10km of the plan area boundary.

4.14 **National nature conservation sites: SSSIs and Local Nature Reserves**: There are a total of 27 Sites of Special Scientific Interest within BDR, of which nine are designated due to their geological interest and 18 are designated due to their biological interest. This includes 5 SSSIs within Barnsley, including two of geological importance - Carlton Main Brickworks and Stairfoot Brickworks; 15 SSSIs in Doncaster; and 7 SSSIs in Rotherham. Barnsley has six large Local Nature Reserves, including the Dearne Valley Park and Worsborough Country Park. Doncaster has 4 council-owned Local Nature Reserves, including the 200 ha Potteric Carr SSSI run by Yorkshire Wildlife Trust and Denaby wetlands, plus 2 candidate sites within existing

country parks at Campsall and Dunsville, as well as 6 Local Nature Reserves in Rotherham.

Each borough has a number of non-statutory nature conservation sites of regional or local importance (known as SSSIs). Doncaster has over 300 of these sites, covering 4240 ha of land, including mainly woodland, grassland, mixed habitats and scrub. Barnsley has designated 50 Natural Heritage Sites, which contain representatives of all the habitat types in the borough. Rotherham has implemented a local wildlife sites system and has a record of around 100 sites of local wildlife importance.

4.15 **Forest and woodlands**: The South Yorkshire Forest covers a total of 50,530 ha across South Yorkshire and extends into Barnsley and Rotherham, of which 40% is within urban areas. Barnsley contains around 2,431ha of woodland, much of which results from land reclamation schemes, although there are still ancient woodlands, especially to the west and south. Doncaster has 4,091ha of woodland[23] including 3 distinct types – lowland healthy oak woodlands typical of the Coal Measures and Sandy Lowlands; limestone woodlands of the Magnesian Limestone Natural Area, and wet woodlands of the Humberhead Levels, as well as diverse areas of ancient woodland. Recent woodland planting in Doncaster has been boosted by planting on restored colliery sites; this amounts to 126.5ha. Around 10% of Rotherham consists of woodland.

Sustainability issues and implications for the Joint Waste Plan:

- New waste-related proposals provide an opportunity to increase tree and woodland cover through the planting of buffer zones, restoration of landfill or mineral sites and appropriate landscape mitigation measures (e.g. carbon sinks).

4.16 **Geology and mineral reserves:** In Barnsley, mineral extraction remains a major industry and employer, with the main commercial interest relating to clay extraction for making pipes and bricks, as well as open-cast coal mining and quarrying of sandstone. There are no aggregate or deep coal mines currently operating in Barnsley.

4.17 All three boroughs have suffered a major decline in mining during recent years with most of the coal pits having closed. However, Hatfield colliery in Doncaster has recently re-opened and coal is transported from the site via a rail freight line to power stations. Doncaster contains the majority of South Yorkshire's mineral resources, including the nationally important limestone dolomite. However, the southern and eastern parts of the plan area lie over the Sherwood Sandstone aquifer (from which Doncaster's water supply is obtained) which is at potential risk of pollution. Doncaster also has sources of magnesian limestone, and soft sand and gravel which are still in demand for use as aggregates, as well as shallow coal reserves, peat, clay, natural gas, coal mine methane and oil.

4.18 **Hydrology:** South Yorkshire is drained by several rivers and canals, including the Don, Dove, Dearne and Rother rivers and the Sheffield and South Yorkshire

[23] Woodland and Scrub Habitat Statement, Doncaster Local Biodiversity Action Plan (Doncaster MBC, January 2007)

Navigation Canal. The rivers Dearne and Don flow through Barnsley, Rotherham and Doncaster boroughs. Flooding is a particular issue in the south-east of Barnsley where over 300 properties are at risk from flooding (1:1000 years). Rotherham town centre, which is situated on the river Don, is prone to flooding.

4.19 Large areas of Doncaster are identified as being at high risk of flooding (1:100 years or greater), in particular within parts of the main urban area and settlements in the west of the borough (e.g. Mexborough, Conisborough and Spotbrough) and Kirk Sandall, Bentley and Toll Bar in the north. Doncaster's flooding is mainly attributed to the low lying and flat nature of the landscape (much of which is below sea level) and nature of the river systems which mostly flow downstream from the river Don. As sea levels rise and rainfall increases, tidal flooding across the Humber flood plain will continue to be the main driver of flood risk within South Yorkshire.

4.20 Much of the solid geology of Doncaster is overlain by deposits of Sherwood Sandstone - a major aquifer, which is particularly important in meeting the needs of the local population and is known to experience effects of drought during hot weather. There is also potential for solid geological deposits of limestone to form a major aquifer in future, but this source is vulnerable to pollution. A long term flood risk management strategy is being developed for the river Don catchment in Rotherham.

Key sustainability issues and implications for the Joint Waste Plan:

- New waste facilities should be directed away from areas at risk of flooding and incorporate sustainable urban drainage systems to reduce or minimise flood risk and water loss. .

4.21 **Soil quality:** The majority of Barnsley is classified as grade 3 agricultural quality (good to moderate), while Doncaster contains extensive areas of grade 1-3a (including grade 2 quality land being associated with the north-south belt of magnesian limestone, and further areas of low quality grade 4 agricultural land are found to the east). The majority of Rotherham is classified as grade 3 agricultural land quality, with some areas in the south-east classified as grade 2, relating to the belt of magnesian limestone.

Key sustainability issues and implications for the Joint Waste Plan

- Sites located within areas of high quality and versatile agricultural land should be avoided. Waste facilities should be located near to centres of population close to where waste is generated.

4.22 **Air quality:** The main sources of atmospheric emissions in the plan area are transport and energy use arising from congestion and increased human activities. The plan area has a total of 13 Air Quality Management Areas, covering the town centres and key motorway corridors along the M1, M18 and A1(M).

4.23 **Waste**: Most waste produced in BDR is currently being sent to landfill sites where a large amount of methane is produced from the breakdown of biodegradable waste materials and carbon dioxide.

4.24 BDR require a range of different types of waste management facilities to meet statutory targets relating to recycling, composting and recovering value from waste,

4.25 **Transport**: The plan area is well located to transport connections, including the M1 motorway network to Leeds in the north and Sheffield to the south, the M18 to Hull and the A1 to London, as well as to strategic rail routes, and Robin Hood Airport located near Doncaster on the site of the former RAF airbase at Finningley. Despite excellent road, rail and air links, the Sheffield City Region Transport Strategy considers that substantial transport investment is still required to support economic regeneration and improve accessibility to remoter settlements and former mining communities within South Yorkshire. Existing landfill sites and facilities are currently dispersed throughout BDR. The majority of hazardous waste is sent via to a specialist landfill site in East Yorkshire.

The Sheffield and South Yorkshire Navigation, a waterway running from Goole via the Aire and Calder Navigation onwards to Doncaster, Rotherham and Sheffield has been upgraded but is currently not well patronised by freight transport, although it is popular for leisure purposes.

4.26 Rail freight has grown rapidly in recent years and Doncaster is an important rail freight hub owing to its central geographical position and there are proposals to increase the capacity of the network. It has potential to reduce the need to transfer waste across local authority boundaries.

Key sustainability issues and implications for the Joint Waste Plan:

- New waste management facilities within BDR should be directed towards the most accessible locations that offer good links to the main highway network (M1, A1(M) and M18 etc.) and alternative modes of travel wherever possible (e.g. rail and canal), - and support co-location.
- There is a need to identify sites that are located close to existing urban areas but away from schools, hospitals and heavily congested areas.
- Consideration should be given to the potential use of rail and canal heads and wharfs.

4.27 **Energy resources**: Barnsley contains a cluster of wind turbine farms in the west close to the Peak District National Park, and has pioneered biomass technology for heating community buildings, including the new council offices, secondary schools and some homes. Barnsley council has achieved its target of reducing carbon dioxide emissions in its buildings by 40% on 1990 levels.

4.28 Wind farm applications in Doncaster have to take account of radar implications in the vicinity of Robin Hood Airport.

4.29 Some of the existing landfill sites and treatment facilities within BDR have the potential to use waste to generate energy such as biomass/fuels and electricity to the national grid. Local authorities have been set waste recovery targets and composting and recovering energy from waste is included within current recovery capacity figures.

Key sustainability issues and implications for the Joint Waste Plan:

- The plan should harness and support the development of renewable energy sources and energy efficient measures as part of the network of new waste facilities to reduce energy loss and provide alternative forms of energy sources, whilst seeking to minimise adverse environmental effects. Specific targets should be set to increase the amount of waste sent for energy recovery purposes.
- New development (including residential and commercial uses) will have to take into account the provision of suitable space for storage and collection of recyclable materials to ensure that less waste is sent to landfill.
- There is a need to reduce the amount of waste produced as a first principle and to also recover value from waste though recycling and energy production. BDR has a key part to play in achieving regional and national targets.

4.30 **Health, safety and deprivation:** Life expectancy within South Yorkshire is slightly lower than the regional and national average (due to lifestyle, diet and history of illnesses associated with mining and heavy industry), although the gap has narrowed in recent years. Notable discrepancies exist between different parts of each borough – in some wards life expectancy can be up to 9 years below the national average. The three boroughs have more permanently sick and disabled people than the national average.

4.31 Outside the main urban areas, the plan area largely consists of dispersed settlement pattern of former mining towns and villages which suffer from environmental and health related problems (some of these fall within the top 10% most deprived in England). This situation is exacerbated by poor quality housing, low incomes and the legacy of contaminated, former industrial sites. BDR has a high proportion of vacant brownfield land, especially compared with other parts of the region[24]. Research has found that deprived populations in South Yorkshire experience poorer environmental quality than the rest of the population. However, new waste facilities such as recycling centres and civic amenity sites have potential to reduce these inequalities in that they:

- can potentially offer accessible locations for residents to dispose of their waste;
- cut waste mountains (South Yorkshire has a relatively high incidence of fly tipping, which is a significant source of disease, odours, pests and litter);
- create employment and enterprise opportunities (waste treatment and recycling facilities, civic amenity sites and other small scale facilities often employ people who live within the vicinity of the site) especially for deprived communities; and

[24] National Land Use Database of Previously Developed Land (NLUD-PDL)

- have a very minor effect on health, particularly when compared with other health risks associated with ordinary day-to-day living.[25]

Key sustainability issues and implications for the Joint Waste Plan:

- Remediation and redevelopment of former contaminated industrial sites
- There is a need to educate and raise awareness of the benefits of waste management (e.g. a waste management facility could accommodate an education and visitor centre). The general public must take greater ownership and responsibility for their waste.

4.32 **Employment:** There are disparities in unemployment and low levels of economic activity in certain groups of the population and locations in BDR**.**

In recent years, unemployment within South Yorkshire has fallen substantially (from 44.8% in 1999 to 2.6% in 2004.) and employment has increased (from 69.2% in 1998 to 71.5% in 2005). However, more recent trends have indicated significant sub regional variations between Sheffield and Barnsley, Doncaster and Rotherham. BDR also has more low skill jobs compared to the national average, many of which are in sectors that are predicted to reduce in size. The employment rate is also below the regional and national average. There is a need to attract inward investment, indigenous investment and encourage business growth.

Key sustainability issues and implications for the Joint Waste Plan:

- Education and awareness (green economy)
- Retention and creation of medium to highly skilled jobs, especially for local people (maintenance, construction and operation)
- The LDF needs to identify sufficient land to meet employment needs and stimulate employment growth.

4.33 **Historic heritage:** In respect of conservation areas, Barnsley has 22; Doncaster has 46 and Rotherham has 25. These range from Victorian residential areas and historic town cores through to dispersed rural towns and villages, such as Silkstone and Cawthorne in the west of Barnsley and Tickhill, Hatfield and Bawtry in the east of Doncaster borough. However, ten of these conservation areas are at risk of decay of neglect, decay or damaging change (9 in Doncaster and 1 in Barnsley), according to English Heritage's risk register. 11 grade I and II* buildings are at risk of decay or neglect (six are in Barnsley; 1 in Doncaster; 4 in Rotherham). 35 Scheduled Ancient Monuments are at risk: 5 are in Barnsley, 17 in Doncaster; and 13 in Rotherham. They include Roman earthworks, remains of early iron smelting site and

[25] Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes (Enviros Consulting and the University of Birmingham, 2004)

an anti-aircraft gunnery site. Each borough contains 4 or 5 registered historic parks and gardens.

4.34 BDR has a number of nationally important cultural and heritage attractions such as Wentworth Castle, Monk Bretton Priory (owned by English Heritage) and Stainborough Castle and Conisborough Castle. However, Rotherham and Barnsley have among the lowest number of grade I and grade II* listed buildings in the region. BDR has no registered battlefields or any historic wrecks. Other local unscheduled sites of archaeological interest are included in the South Yorkshire Sites and Monuments Record.

Key sustainability issues and implications for the Joint Waste Plan

- It is important that waste facilities do not have an adverse impact on heritage assets.

DATA SOURCES AND GAPS

4.35 The baseline data sources have been revisited during each stage of the SA to reflect the latest available information and socio-economic trends. The baseline data provides the context for predicting and assessing the significance of the likely effects of the Joint Waste Plan, and monitoring their effects. The SA assumptions table (see **Appendix D**) describes the data sources that have been used to assess potential waste sites against the SA objectives. Some gaps in data exist such as:

- details of nuisance related to waste management activities across the three boroughs;
- information regarding the amount of energy generated from treatment of waste; and
- information regarding the transportation of waste, including distances travelled and the modes of transport utilised within the plan area.

5 Sustainability Appraisal Framework

DEVELOPMENT OF SA OBJECTIVES

5.1 The SA objectives provide a recognised framework in which the likely social, economic and environmental effects of a plan can be described, analysed and compared. The SA framework for the Joint Waste Plan consists of a set of sustainability objectives which state desired outcomes[26]. The SA objectives are distinct from the aims within the Joint Waste Plan (although there may be some overlap) and performance of the plan aims in terms of sustainability has been appraised against the SA objectives.

5.2 The sustainability objectives within the SA framework were drawn from the SA objectives that had already been developed to assess the social, economic and environmental effects of each borough's Local Development Framework. The SA framework is structured around 13 "SA headline objectives" which highlight the key sustainability issues relevant to the Joint Waste Plan (see **Table 5.1**). A number of responses were received in relation to the question posed during the issues and options consultation: "do you agree with the sustainability appraisal objectives proposed in the Scoping Report?" A total of 71% of the respondents agreed with the SA objectives and no new objectives were suggested - the only amendment related to SA objective 2: health and safety where 'well-being' was included as a key outcome since impacts upon health are not always physical.

5.3 The SA framework set out in the Scoping Report also includes assumptions regarding the level of significance and magnitude of potential effects arising from the site and policy options in the Joint Waste Plan and data sources that would be used to monitor these effects. Helpful suggestions from consultees in relation to the assumptions and data sources were also incorporated into the SA where appropriate (see Appendix A of the June 2010 SA Report).

5.4 The final SA framework that has been used to assess the likely significance of the effects of the Joint Waste Plan is shown in **Table 5.1** below.

[26] The government's SA guidance explains that SA objectives should focus on outcomes, not how the outcomes will be achieved. For example, they should focus on improved biodiversity (the outcome), rather than protection of specific wildlife sites (a means to achieving it).

Table 5.1: Sustainability appraisal framework for the Barnsley, Doncaster and Rotherham Joint Waste Plan

SA objective *(i.e. Will the Joint Waste Plan option / policy / site…?)*
Recreation: **1.** Improve access for all sections of the community within BDR to leisure and recreational activities.
Health and safety: **2.** Improve overall levels of health/well-being and services to reduce disparities in BDR, including minimisation/ avoidance of noise, odour, dust, light and air pollution.
Biodiversity and geodiversity: **3.** Conserve and enhance habitats, biodiversity and geodiversity in BDR.
Landscape quality: **4.** Conserve and enhance landscape character and quality, and setting of BDR's settlements
Built environment: **5.** Maintain and enhance the quality of the built environment in BDR.
Culture and historic heritage: **6.** Maintain and enhance the cultural, historic environment and archaeological heritage of BDR.
Water quality and quantity: **7.** Improve quality and quantity of BDR's rivers and groundwater and achieve sustainable use of water.
Efficient use of land: **8.** Encourage reuse of previously vacant sites and buildings.
Minerals and resources: **9.** Safeguard mineral resources and encourage re-use of primary resources through sustainable waste management.
Greenhouse gas emissions **10.** Minimise greenhouse gas emissions from energy use, transport of waste and facilities.
Flooding: **11.** Reduce BDR's vulnerability to flooding.
Employment and training: **12.** Maintain and enhance the provision of employment, training and education opportunities in BDR.
Sustainable local economy: **13.** Promote conditions which enable sustainable local economic activity and regeneration and encourage creativity and innovation.

6 Assessment of Alternatives

6.1 The SEA Directive requires that the likely significant effects on the environment of implementing the plan or programme are considered and that reasonable alternatives (taking into account the objectives and geographical scope of the plan or programme) are identified, described and evaluated. As only *"reasonable"* alternatives need to be taken into account, not every possible alternative or 'option' needs to be considered. In some instances, other policy considerations (e.g. national planning policy) will pre-determine which policy approach needs to be adopted, effectively ruling out some options.

6.2 A number of reasonable alternatives or options have been considered during the preparation of the Joint Waste Plan and subjected to SA. This process and the key findings are summarised below.

HOW HAS THE SA INFLUENCED THE JOINT WASTE PLAN STRATEGIC AIMS?

6.3 The issues and options consultation initially proposed nine strategic objectives.[27] These objectives were tested against the SA framework during the scoping stage and were included in the Scoping Report. On the whole, the strategic objectives were found to be compatible with the objectives of the SA framework, leading to positive effects on the wider plan area. However, some potential tensions were identified: the main one was that new/alternative waste management facilities that reduce reliance on landfill may have adverse effects on biodiversity, community well-being (e.g. loss of amenity), landscape character and historic assets depending on their proximity to sensitive receptors such as these.

6.4 As a means to address these potential tensions, the SA process was integrated into the site assessment process used to select the most suitable waste management sites within the Joint Waste Plan. Each potential waste site (78 in total) was assessed against the SA objectives in terms of their potential effects, including sensitive receptors. In addition, the development control policy directions set out in the Issues and Options consultation document also addressed potential impacts on sensitive receptors. Consequently, the potential for adverse effects on specific sensitive receptors will be assessed at the planning application stage when a proposal for waste-related development comes forward.

6.5 The Joint Waste Plan objectives were reviewed in relation to the responses received during consultation on the issues and options, resulting in eight new aims being included in the pre-publication version of the Joint Waste Plan. Further refinements were made to these aims, taking into consideration the consultation responses received at the pre-publication and publication stages, and the changes have again reflected in the appraisal against the SA framework. The results of this appraisal are described in **Chapter 7**.

[27] *Barnsley, Doncaster and Rotherham Joint Strategic Waste Development Plan Document: Issues and Options* (Land Use Consultants on behalf of Barnsley, Doncaster and Rotherham Metropolitan Borough Councils, March 2008).

HOW HAS THE SA INFLUENCED THE JOINT WASTE PLAN POLICY OPTIONS?

6.6 The following policy options were presented at the issues and options stage and the findings of the SA (carried out in June 2008) in relation to these policy options are summarised below (the full SA matrices can be found in **Appendix C**)[28].

Options for distributing sites for strategic waste management facilities

- **Option 1:** Distribute sites evenly between the three boroughs
- **Option 2:** Locate more or larger sites within one or two boroughs (because they are close to a central point that could serve all three boroughs
- **Option 3**: Consider each site individually and include sites that most closely meet sustainability criteria outlined in the DPD regardless of which borough they are located within.

6.7 The following assumptions were made during the SA of these options.

- Large-scale waste facilities owing to their size and scale are most likely to be located on existing employment sites (including industrial estates) or on previously developed land (brownfield sites) within existing urban areas (as advocated by national planning policy: PPS1 and PPS10).

- Under each strategic option, any individual waste management site would be considered against the policy criteria set out in the plan and the SA objectives to assess their potential negative effects, such as noise, odour, glare, visual impact and emissions on sensitive receptors (e.g. flora and fauna) etc.

- Option 1 would make provision for an equal number of waste facilities within each borough. This is likely to result in at least one facility being located centrally within each borough.

- Option 2 would result in a disproportionate number of facilities in one area or borough. These larger facilities would be centrally located within BDR.

- Option 3 would mean that sites would be selected on the basis of how well they comply with PPS10 criteria and the SA objectives regardless of how they are distributed geographically across BDR.

6.8 The potential effects of these options were assessed against the 13 SA objectives. In general, due to uncertainty about the likelihood and scale of effects there was found to be little difference between them. Rather, the effects would very much depend on the exact location of sites, their proximity to sensitive receptors, the character of the area in which the site is situated, and the type and design of the facility that would be developed.

[28] Please note that the Joint Waste Plan was previously referred to as the "Joint Strategic Waste Development Plan Document".

Conclusion and recommendations relating to the options for distribution of sites for strategic facilities

6.9 Overall, option 3 has the potential to have more positive effects in relation to SA objectives 3 and 4 (biodiversity and landscape) since it would allow greater flexibility in determining locations based on the outcomes of assessment against sustainability criteria rather than a pre-determined distribution of facilities across BDR. At this stage, it was unclear exactly what factors would be used to determine the suitability of sites for waste facilities and it was recommended that these be made explicit in the next iteration of the Joint Waste Plan ("Towards the Publication DPD", October 2008). In addition, the fact that suitable locations would be considered on an individual, site-by-site basis highlights the need to carry out an assessment of the potential cumulative effects associated with the different options. The SA recommended that the significance of these effects be considered during the detailed SA of the preferred site options that are recommended for inclusion within the Joint Waste Plan. The SA of site options is discussed at the end of this chapter.

Options for imported waste

- **Option 1:** Planning applications for waste development dealing with imported waste will not be approved on those sites allocated for strategic waste management in the DPD.

- **Option 2:** Planning applications for strategic waste management development dealing with municipal, commercial and industrial waste from the three boroughs could be given priority on a site-by-site basis e.g. if two applications are submitted for the same site, priority would be given to the application for waste management development that would deal with municipal, commercial and industrial waste arisings from the three boroughs.

- **Option 3**: Planning applications for strategic waste management development dealing with municipal, commercial and industrial waste arisings from the three boroughs could be given priority on a strategic basis. Once municipal, commercial and industrial waste management capacity for the three boroughs has been met, applications for imported waste could be considered on sites identified in the DPD that have not already been developed.

6.10 The following assumptions were made during the SA of these options.

- The three options relate to how to deal with proposals that only come forward on sites that are allocated in the DPD. It was assumed that allocated sites will be more suitable for sustainable waste management as they will have been assessed against the SA objectives during the preparation of the DPD and allocated because they are the sites with the least potential to have negative effects on sensitive receptors, biodiversity, water, heritage, landscape, flooding and the most potential to have potential benefits in terms of reducing greenhouse gas emissions, providing employment opportunities and encouraging sustainable growth. However, any waste-related proposal, whether on allocated or unallocated sites, would have to be assessed against the criteria-based

policies within the DPD (and should address most of the sustainability objectives) and would also have to meet the requirements of environmental permits licensed by the Environment Agency. As such, unallocated sites may also prove to be suitable from a sustainability perspective.

- Option 1 would safeguard the allocated sites to ensure future capacity requirements to manage future BDR waste arisings are met. There would be very limited cross-boundary movements of waste beyond the plan area, even if an allocated site was on the edge of the plan area or one of the three boroughs. As such, this option would reduce transport of waste from neighbouring authorities.

- Option 2 would give priority to proposals dealing with BDR's waste over imported waste if two applications came forward on the same site. However, if only one application came forward on an allocated site involving managing imported waste, the proposed scheme may be permitted in the absence of an alternative proposal just for BDR's waste.

- Option 3 would effectively safeguard allocated sites for as long as necessary until the capacity requirements for BDR's waste were met.

Conclusion and recommendations relating to the options for imported waste

6.11 Overall, option 1 has the potential to have more positive effects on those SA objectives which seek to protect sensitive receptors or natural resources (1, 2, 3, 4, 6 and 11) than the other options since it is likely to limit the overall number of waste management facilities developed within BDR and could in turn reduce the likelihood or scale of potentially adverse effects (e.g. noise, odour and air pollution) in BDR. However, option 1 limits the ability of decision makers to address the need for waste management facilities at a sub-regional or regional scale, and could result in adverse effects occurring outside the plan area if more sensitive areas need to be developed to deal with waste that cannot be imported.

6.12 Both options 2 and 3 may result in more or larger facilities being developed within BDR. In turn this could increase the spatial extent of potential adverse effects on sensitive receptors or natural resources within BDR, but could provide positive effects on the local economy by way of employment opportunities and associated green enterprises. In addition, the two options could offer a more strategic approach to managing waste. For example, an allocated site located on the outskirts of the plan area that accepted waste from a neighbouring authority could reduce transport of waste overall. In addition, greater flexibility should be adopted within the plan to deal with imported waste, in particular where this would reduce distances in which waste travels.

Options for non-municipal, commercial and industrial waste

- **Option 1:** Planning applications for waste management development dealing with non-municipal, commercial and industrial will not be approved on those sites allocated for strategic waste management in the DPD.
- **Option 2:** Planning applications for strategic waste management development dealing with municipal, commercial and industrial waste from the three boroughs could be given priority on a site-by-site basis e.g. if two applications are submitted for the same site, priority would be given to the application for waste management development that would deal with municipal, commercial and industrial waste arisings from the three boroughs.
- **Option 3**: Planning applications for strategic waste management development dealing with municipal, commercial and industrial waste arisings from the three boroughs could be given priority on a strategic basis. Once the municipal, commercial and industrial waste management capacity for the three boroughs has been met, applications for non-municipal, commercial and industrial waste could be considered on sites identified in the DPD that have not already been developed.

6.13 The following assumptions were made during the SA of these options.

- As with the options for imported waste, the options for dealing with other types of waste (e.g. construction, excavation and demolition waste and agricultural waste) relate to how to deal with proposals that only come forward on sites that are allocated in the DPD. It is based on the assumption that no large-scale waste proposals involving construction and demolition waste will come forward during the plan period since most of it is re-used and recycled either on-site or within construction projects as a low grade aggregate. Similarly, agricultural waste arisings are unlikely to require a large number of new facilities. However, it is likely that hazardous waste capacity requirements will be addressed on a regional basis owing to its specialist nature and the nature of waste movements across metropolitan boundaries.

- Option 1 would not allow waste facilities on the allocated sites unless they specifically treated or recycled municipal, commercial and industrial waste. Thus, the allocated sites would be safeguarded to meet future capacity requirements to manage only municipal, commercial and industrial waste arisings in BDR. However, it might not be possible to provide a sufficient range of sites to deal with other types of waste under this scenario.

- Option 2 would give priority to municipal, commercial and industrial waste over other types of waste if two applications came forward on the same site. However, if an application came forward on an allocated site to manage other types of waste, it would be determined on the basis that there are no alternative proposals to manage municipal, commercial and industrial waste.

- Option 3 would only allow other types of waste facilities on allocated sites once all of the required municipal, commercial and industrial waste management capacity has been developed. Thus, the allocated sites would be safeguarded for

as long as necessary until the municipal, commercial and industrial waste capacity requirements are met.

6.14 The potential effects relating to the options for non-municipal, commercial and industrial waste were assessed against the 13 SA objectives and are summarised below.

Conclusion and recommendations relating to the options for non-municipal, commercial and industrial waste

6.15 Overall, option 1 has the potential to have more positive effects on those SA objectives which seek to protect sensitive receptors or natural resources (SA objectives 1, 2, 3, 4, 6 and 11) in that it could limit the overall number of waste management facilities developed within BDR and thereby reduce the likelihood or scale of potentially adverse effects (e.g. from noise, odour, glare, litter, emissions and air pollution etc.). However, option 1 limits the ability to take a strategic, long term view on the need to develop non-municipal, commercial and industrial waste management facilities (both at the local and regional scale with respect to hazardous waste), and could result in adverse effects occurring if more sensitive areas than the allocated sites need to be developed to deal with other types of waste. Conversely, options 2 and 3 are likely to result in more or larger facilities being developed within BDR. But while this could increase the spatial extent of potential adverse effects on sensitive receptors or natural resources within BDR, it would also encourage the re-use of resources, reduce greenhouse gas emissions and support the local economy by encouraging more sustainable waste management practices and associated green enterprises and providing more employment opportunities. In addition, options 2 and 3 offer a means to adapt to the changing policy context and waste market to deal with other types of waste. For example, an allocated site that is deemed surplus to requirements could be a suitable location to develop a composting or dedicated treatment facility to deal with agricultural or other types of waste or serve more than just BDR could potentially be permitted under these options. However, hazardous or low level radioactive waste proposals on allocated sites would not be supported from a sustainability point of view because they are specialist in nature and subject to different locational requirements to municipal, commercial and industrial waste facilities i.e. different catchment areas.

6.16 The DPD must deal with all types of waste and some flexibility will be required to deal with non-municipal, commercial and industrial waste (especially where this would provide sustainability advantages over not allowing other waste-related development on an allocated site).

JOINT WASTE PLAN SITE OPTIONS

6.17 Firstly, a long list of 78 potential sites was drawn up (including sites suggested by consultees), from which suitable sites for large-scale waste management facilities would be identified and allocated within the Joint Waste Plan. The SA objectives formed a significant component of the site assessment methodology that was used to assess the suitability of these sites, and the assumptions used in assessing the effects of the sites against each SA objective are shown in **Appendix D**. The detailed findings of the sustainability appraisal of all of the site options are presented in the separate SA Annex to this report.

6.18 Although the SA is an important component of the site assessment process, other factors have also informed decision-making about which sites will be allocated in the Joint Waste Plan. The site assessment process led to the identification of a reduced list of sites from the initial long list, based on information relating to their fit with strategic policy and their deliverability to ensure that the sites that are allocated in the plan are sited within sustainable locations (i.e. seeking to minimise potential negative effects and maximise positive effects on the environment, community and economy) and are deliverable. Officers from BDR undertook this exercise and considered:

- whether allocation of the sites for waste management conflicted with regional or local level policies (e.g. if sites identified in the long list had subsequently been allocated for residential use in each borough's LDF or their allocation would conflict with policies in the Yorkshire and Humber Plan); and
- whether there were any major issues which would mean that it would be difficult to deliver waste management on these sites. Major deliverability issues included the following.
    - The site has already been developed for alternative uses (e.g. residential, office and mixed-use).
    - There would be major access issues which would be difficult and very expensive to overcome - for example, the site is very remote from urban areas with no existing access infrastructure to the site.
    - The site is too small to accommodate a large-scale waste facility; and
    - The site is an active sewage treatment works and it is unlikely that a strategic scale facility could be accommodated on the site as it would mean removing the sewage treatment works.

6.19 A total of 35 sites out of the original long list of 78 sites were identified as not being constrained by any of these deliverability issues and these were subject to further consultation during the 'Towards the Publication DPD' stage (November 2008 - January 2009). The reduced list included 8 potential sites in Barnsley, 13 in Doncaster and 14 in Rotherham.

6.20 The purpose of the next stage of the site selection process was to narrow down the options to identify the preferred options for large-scale strategic waste management facilities. Based on the growth forecasts evidenced in the topic paper, the three authorities need to identify 3-4 sites of around 5 hectares in size for large-scale waste management facilities to treat and manage municipal, commercial and industrial waste arisings over the plan period to 2026. The second Site Assessment Report (June 2010) detailed the approach taken to selecting the preferred sites. The sites proposed for allocation were set out in policy WCS3 (new strategic waste sites) of the Joint Waste Plan (Pre-publication version, June 2010). These sites (which remain unchanged in the latest version of policy WCS3 within the submission version of the plan) are as follows.

- Site 3.1: Sandall Stones Road, Kirk Sandall, Doncaster (Site **D-042** in SA Annex)

- Site 3.2: Hatfield Power Park, Stainforth, Doncaster (Site **D-020** in SA Annex)
- Site 3.3: Bolton Road, Manvers, Rotherham (Site **R-015** in SA Annex)
- Site 3.4: Aldwarke Steelworks, Parkgate, Rotherham (Site **R-014** in SA Annex). It should be noted that at the previous stages this site was known as "Corus Steelworks".

The separate SA Annex to this report includes the SA summary sheets for the sites allocated under policy WCS3.

7 Assessment of the publication version of the Joint Waste Plan

7.1 The eight aims and seven policies of the Joint Waste Plan (WCS1-WCS7) have been appraised against the SA objectives to determine their likely significant effects. Inevitably, assumptions have had to be made during the appraisal work, and where possible these have been identified in the descriptive assessments of the aims and policies against each of the SA objectives. An initial exercise was undertaken at the scoping stage to identify key assumptions regarding the potential effects and the findings of this exercise, which are reproduced in **Appendix D**, have helped to ensure consistency when assessing the likely effects of each of the policies.

7.2 The appraisal of the aims and policies summarises the likely effects of the Joint Waste Plan using symbols and has attempted to differentiate between significant effects and other more minor effects. The dividing line in making such a decision is often quite small. Where either **++** or **--** have been used to distinguish significant effects from minor effects, this indicates they will be of a scale and magnitude that will have a noticeable and measurable impact on the SA objective, especially compared with other factors that may influence the achievement of that objective, taking into account the baseline information, sustainability issues and characteristics of BDR, other technical studies/consultation and workshop responses.

7.3 **Table 7.1** below sets out the symbols and colour coding that has been used to illustrate the likely effects of the Joint Waste Plan on each SA objective.

Table 7.1 Key to symbols used in the appraisal

Symbol	Meaning
++	Significant positive effect on sustainability objective (normally direct)
+	Minor positive effect on sustainability objective
0	Neutral effect on sustainability objective
-	Minor negative effect on sustainability objective
--	Significant negative effect on sustainability objective (normally direct)
/	Policy has more than one score e.g. +/- policy could both support and conflict with the SA objective in a minor way.
?	Uncertain effect on sustainability objective

SA FINDINGS FOR JOINT WASTE PLAN AIMS

7.4 The Joint Waste Plan (submission version) includes eight overarching aims which flow from the spatial vision of the plan. These will:

- establish clear links to the aspirations of European and national waste management strategies along with wider sustainability aspirations;
- clarify the purpose, scope and role of the Joint Waste Plan; and
- set out the broad principles for bringing forward sites and assessing proposals for waste-related development.

7.5 Each of the aims was appraised against the SA framework to determine their likely significant sustainability effects. The full results of this assessment are shown in **Appendix F** and are summarised in **Table 7.2** below. While potential negative effects have been identified for some of the aims, it is often the case that these effects are likely to be mitigated through implementation of the Joint Waste Plan policies (in particular policies WCS1 and WCS6), as well as adherence to the strict requirements of the environmental permit system regulated by the Environment Agency. The environmental permit standards that most waste facilities need to meet include emissions to air, land and water, energy efficiency, noise, vibration and heat and accident prevention. Chapter 1 of the Joint Waste Plan (submission version) states that the three councils will work together with the Environment Agency to ensure that decisions taken on waste management proposals are consistent, effective and implemented in a timely fashion. Applicants and developers will be expected to prepare and submit planning applications and environmental permits in parallel to allow proper consultation and detailed scrutiny of the proposals.

Table 7.2 Summary of SA findings for the Joint Waste Plan aims

Aims	Summary of SA findings
Aim A: Encourage waste to move up the hierarchy (away from landfill towards greater reduction, re-use, recycling and recovery) to achieve the targets set out in our municipal waste management strategies and save energy/resources.	The waste hierarchy seeks to encourage waste reduction, re use, recycling and recovery and only use landfill as a last resort. Moving waste management further up the hierarchy will: • reduce methane emissions from landfill; • will reduce current reliance on landfill; • reduce the environmental impact of landfill disposal (e.g. leachate, methane and other greenhouse gas emissions, noise, water pollution, dust and odours); and • potentially reduce the amount of waste transported by road. Employment provision during the construction and operation of new recycling facilities will support the local economy and increase the skills base of the local population. However, the development of more sustainable waste management facilities may have both positive and adverse effects on aspects of the environment, such as biodiversity, health, landscape and the built environment, although effects are likely to be less significant, depending on their location e.g. in relation to sensitive receptors.

Aims	Summary of SA findings
Aim B: Ensure the timely provision of good quality waste management facilities to help address the predicted shortfall of recycling and treatment provision within South Yorkshire and meet future waste needs within Barnsley, Doncaster and Rotherham up to 2026.	The likely effects of this aim are uncertain at this stage as they will depend on the type and location of waste management facilities that come forward. If new facilities divert waste from landfill, there may be positive effects on biodiversity, human health, landscape and the built environment. However, new facilities may also have adverse effects on these features, depending on their location e.g. in relation to sensitive receptors. New waste facilities may result in some employment provision both during construction and operation including landfill restoration proposals. Effects on minerals and resource use are likely to be positive as the aim specifies that waste management facilities should help to address the shortfall of recycling provision, which in turn will help to move the management of waste up the waste hierarchy. Ensuring waste management facilities meet future needs and the capacity shortfall will have mixed effects on traffic and greenhouse emissions: although it will cut transportation of waste within BDR, it may increase the amount of waste being imported from the rest of South Yorkshire.
Aim C: Deal with waste locally within accessible urban locations and maximise movements via rail and water where possible, so as to save resources and minimise transport, whilst allowing waste to be imported or exported where this represents the most sustainable option.	Aim C is likely to make a positive contribution towards reducing greenhouse gas emissions since it seeks to transport waste by sustainable means (e.g. rail and canal) and to deal with it as close to its source as possible, within mainly accessible urban locations. Consequently, a larger proportion of the population could be adversely affected from the effects of odour and noise in terms of their health, safety and well-being. On the other hand, importing or exporting waste could, in some instances, have positive impacts on reducing energy and emissions where it reduces the distances travelled and contributes towards a more efficient network. Care will need to be taken to ensure that new waste facilities in urban areas do not harm the visual setting of settlements or the quality of the built environment, including access to recreational activities (e.g. open space from increased land use competition). However, employment sites within urban areas would generally be more suitable locations than rural areas in the open countryside and provides opportunities to reuse existing buildings and previously developed land. Innovative design (such as that seen at Marchwood incinerator near Southampton) can actually result in a positive effect on the landscape/townscape. The extent of these effects will depend on the exact siting and design of the

Aims	Summary of SA findings
	facilities... The provision of large-scale waste facilities will generate employment provision, both during construction and operation, which will have a positive impact on the economy at the local and sub-regional scale.
Aim D: Maximise the local economic benefits of waste management activity, including using waste as a resource for industry.	As waste can be used to produce energy (e.g. biofuels), this aim should have significant positive effects on reducing greenhouse gas emissions. There are notable economic and environmental benefits to be derived from recycling, re-using and recovering waste at the local level, including the potential to reduce costs and consumption associated with waste collection and management, increase employment provision (e.g. more skilled jobs and training) and stimulate investment/production (e.g. new products and energy generation).
Aim E: Maximise the potential to co-locate and integrate facilities to manage different waste streams using a range of advanced treatment technologies, including renewable energy generation (where possible).	Co-locating waste facilities could result in cumulative effects from noise, glare, odour and emissions, which may significantly affect the amenity or health of local communities. Negative effects may also occur on the quality of the landscape and the built environment because of the level of land take associated with developing larger resource recovery parks, except where they sited within existing industrial locations close to where waste is produced. Industrial areas will tend to make more efficient use of the land. Co-location can also have significant positive effects on reducing energy consumption and greenhouse gas emissions as it will reduce the distances that waste is transported and make the use of freight transport such as roads and railways more viable. However, the effect on encouraging reuse of primary resources is mixed as treatment technologies may not always facilitate the recycling or reprocessing of materials into new items, but energy produced from recovering waste could be used to help reduce energy consumption from other sources. Large-scale processing and treatment activities will also have positive effects on the employment-related objectives.

Aims	Summary of SA findings
Aim F: Make use of vacant and underused brownfield land within existing industrial or employment areas.	Siting waste facilities on previously developed land within existing industrial locations will have significant positive effects on reducing land take and transportation costs (and in turn lower greenhouse gas emissions). However, as South Yorkshire's settlement pattern is relatively dispersed, some of these vacant or underused sites may not necessarily be well located in terms of strategic transport routes and other urban areas, thus this effect is uncertain. Locating waste facilities in or near to urban centres may have negative effects on the health, safety and amenity of local communities, as a result of the associated noise, odour and pollution. On the other hand, re-using land may take pressure off the open countryside and landscape outside built-up-areas. Overall, the impacts on the built environment, townscape, biodiversity and landscape are uncertain and may be mixed depending on the exact siting and design of the facilities. Innovative design (such as that seen at Marchwood incinerator near Southampton) can result in a positive effect on the landscape/townscape. Previously developed land is often a rich wildlife resource, particularly in view of its urban location. The loss of this could have a negative impact on biodiversity objectives, especially where it has been derelict over long period of time.
Aim G: Waste management facilities should protect, maintain and where possible enhance the amenity, health and safety of local communities and the wider built and natural environment, especially in areas of sensitivity such as the green belt, floodplain, Thorne and Hatfield moors, groundwater protection zones, rivers Don and Dearne, historic assets and the Peak District National Park.	Aim G will result in a number of significant positive effects on SA objectives relating to human health and the quality of the natural environment due to its emphasis on conserving and enhancing these qualities. Minor positive effects on recreation are likely to result from conserving and improving of the quality of the landscape, thus securing it as a recreational resource. Waste facilities are likely to have significant positive effects in relation to the efficient use of land/buildings and greenhouse gas emissions, as well as flooding as a result of developing them outside areas of high flood risk to protect the floodplain. Minor positive effects are likely on the built environment as the aim refers to enhancing the wider environment. Aim G is likely to have a limited or negligible impact on the remaining SA objectives.
Aim H: Reduce	This aim will have significant positive effects on reducing

Aims	Summary of SA findings
greenhouse gas emissions (especially carbon dioxide and methane) through energy efficient waste technologies and innovative transport solutions.	greenhouse gas emissions. People's health and well-being should also benefit from the use of cleaner and more energy efficient processes and local employment opportunities. Aim H is not likely to have significant effects on the remaining SA objectives.

SA FINDINGS FOR JOINT WASTE PLAN POLICIES

7.6 A summary of the findings of the policy appraisal is set out in **Table 7.3** below and the full assessment can be found in **Appendix G**.

Table 7.3 Summary of the SA findings for the Joint Waste Plan policies

Joint Waste Plan policy:	Summary of SA findings:
Policy WCS1: Barnsley Doncaster and Rotherham's overall strategy for achieving sustainable waste management	**Summary:** Policy WCS1 is likely to result in a number of significant positive effects on the SA objectives and only a small amount of negative effects. Some of these mixed effects are associated with the location of waste management facilities within urban areas. Directing facilities away from sensitive locations within existing employment areas has the potential to facilitate regeneration (i.e. bring underused areas back into use and encourage clusters of related waste industries), protect the setting and character of settlements and landscape and reduce the transportation of waste. However, placing facilities near centres of population could result in negative effects on the health and amenity of the local population depending on the type of facility and nature of the process and its proximity to housing, schools, hospitals etc., as well as any potential mitigation measures (e.g. design) which are incorporated at the planning application stage. Also, it is assumed that facilities will be well-run and that the mitigation measures required under other policies (such as WCS6) will be successfully implemented and should effectively minimise any adverse effects. While constructing larger-scale waste management facilities will contribute towards energy consumption, policy WCS1 also encourages the use of sustainable design and construction practices such as the reuse of existing materials, which will have beneficial effects in terms of reducing greenhouse gas emissions and the use of primary resources. Policy WCS1 also requires appropriate mitigation measures to prevent harm to and promote a number of qualities as covered by the SA objectives (e.g. criterion I seeks to avoid harm to

Joint Waste Plan policy:	Summary of SA findings:
	groundwater aquifers and the functional floodplain). **Recommendations:** None required.
Policy WCS2: Safeguarding and enhancing existing strategic waste management sites	**Summary:** This policy seeks to safeguard and redevelop existing sites and therefore should not impact on a number of the SA objectives that are associated with new waste development at an additional site. Redevelopment at Brier Hills Farm and Wroot Road Quarry could have significant negative effects on the Thorne Moor and Hatfield Moor SACs if thermal treatment is proposed and the former could cause disturbance to the Hatfield Moor SPA nightjar population. However, the likelihood of these sites being redeveloped in the short term is relatively low since there has been no indication from the landowners of any redevelopment proposals. In addition, the policy now specifically requires any redevelopment proposals at these two sites to demonstrate they will not have an adverse effect on the integrity of conservation sites of international importance. English Heritage also highlighted the potential if the Grange Lane site was redeveloped for significant negative effects upon Mount Bretton Priory, a heritage asset which PPS5 considers to be "of the highest significance". Redevelopment of any safeguarded site is likely to provide opportunities to improve the environmental performance of existing facilities, and economic benefits associated with the redevelopment and construction of new facilities on a site. Careful assessment will be needed at the planning application stage to ensure that new facilities are in keeping with the character of the immediate and surrounding area and avoid effects on the local environment and amenity, as required under policy WCS6. **Recommendation:** None required. (Previous recommendations made in the HRA screening report on the pre-publication version of the Joint Waste Plan were incorporated into the supporting text of policy WCS2). However, at the request of Natural England, the submission version of the Joint Waste Plan now requires within policy WCS2 itself any proposals at these two sites to demonstrate that they would not have an adverse impact on the integrity of conservation sites of international importance (Thorne and Hatfield moors) in line with policies WCS1 and WCS6 of

Joint Waste Plan policy:	Summary of SA findings:
	the Joint Waste Plan. The supporting text further states that any proposals to extend or redevelop Brier Hills Farm and Wroot Road Quarry (sites 2.2-3) must include an assessment of their effects on air quality, hydrology, water quality and wildlife (especially nightjars) on the Thorne and Hatfield Moors SACs and SPA.) In response to English Heritage's concerns, the supporting text to policy WCS2 in the submission version of the Joint Waste Plan now states that new waste facilities on the Grange Lane site will need to safeguard those elements which contribute to the significance of the scheduled ancient monument at Monk Bretton Priory and other listed buildings in the area.
Policy WCS3: New strategic waste management sites	**Summary:** The development of new strategic waste sites could have a significant negative impact on biodiversity and flooding within BDR because: • three of the proposed sites are located in higher risk flood zones (Sandall Stones Road, Hatfield Power Park and Aldwarke Steelworks); and • the HRA screening assessment identified the potential for significant effects on Thorne Moor SAC as a result of air emissions if an energy recovery facility were developed at Hatfield Power Park due to being within the direction of the prevailing wind. In addition, there could be a minor negative effect on the historic environment (as highlighted by English Heritage in its consultation response to the publication Joint Waste Plan and SA report) because: • one of the sites (Aldwarke Steelworks, Parkgate) could potentially result in harm to elements which contribute to the significance of the Grade II* Registered Historic Park and Garden at Wentworth Woodhouse. Depending upon the scale, massing and siting of a waste facility on this site, it could potentially have an impact upon the setting of these assets and, especially, of views out of the Registered landscape (including, those from the Grade I principal building within this designed landscape); However, these effects should be mitigated by the supporting text (in particular the infrastructure requirements in table 7), which confirms that waste proposals on these sites must incorporate suitable mitigation measures, such as flood defences, flood alleviation measures and the use of

Joint Waste Plan policy:	Summary of SA findings:
	sustainable urban drainage systems to offset or reduce the likelihood of flooding. It also requires more detailed assessment of the potential effects arising from any air emissions that might occur on Thorne Moor SAC at the planning application stage if an energy recovery facility is proposed at Hatfield Power Park. Finally, the requirements in table 7 of the Joint Waste Plan submission version have also been amended to reflect English Heritage's concern regarding the potential effects on the historic environment, such that it now states for Aldwarke Steelworks that: "Proposals must … minimise any impact on the significance of historic assets (including consideration of the impact upon views from the historic park and garden at Wentworth Woodhouse) through appropriate design and landscaping." Policy WCS6 also explicitly refers to the need for proposals to demonstrate how they will not have an adverse impact upon the significance of heritage assets and features; flood risk areas; and the integrity of conservation sites of national and international importance, particularly Thorne and Hatfield moors. The proposed strategic sites are also near local populations and existing recreational resources which could have potential negative effects on the health and wellbeing of local populations. However, the policy is likely to result in a significant amount of waste being diverted from landfill, thereby reducing greenhouse gas emissions and resource consumption. **Recommendations:** None required. Previous SA recommendations made on earlier drafts of the Joint Waste Plan have been incorporated into the infrastructure/mitigation requirements relating to each site in table 7 under policy WCS3 (such as references to the need for sustainable urban drainage systems and flood alleviation measures for most of the sites in the higher risk flood zones). In addition, two of the previous recommendations were reflected within the infrastructure requirements table in the supporting text to policy WCS3 of the publication version of the plan as follows: • Hatfield Power Park (Doncaster) – while the infrastructure requirements in the pre-publication version of the plan confirmed the need to undertake 'air quality control measures', the recommendation

Joint Waste Plan policy:	Summary of SA findings:
	from the HRA report is more explicit: 'emissions from any waste development on this site must not contribute to excessive acid deposition at Thorne Moor SAC' • Sandall Stones Road (Doncaster) – new sustainable urban drainage system/flood alleviation measures)
Policy WCS4: Waste management proposals on non-allocated sites	**Summary:** Policy WCS4 is predicted to have generally mixed effects on the SA objectives, most of which would be minor, although significant positive effects will result from the re-use of previously developed and vacant/underused land. Promoting the use of existing quarries, landfills and agricultural holdings may remove them from potential amenity/recreational use and prevent their re-use as a biodiversity resource. However, the location of waste-related facilities on employment sites in built-up-areas will encourage the re-use of resources, boost the local economy (e.g. jobs) and reduce the visual impact on the wider countryside. **Recommendation:** None required. Previous SA recommendations made on earlier drafts have been reflected in the Joint Waste Plan. For instance, policy WCS4 now states the need for proposals to comply with the requirements under policies WCS1, WCS6 and WCS7.
Policy WCS5: Landfill	**Summary:** Policy WCS5 safeguards existing landfill sites taking municipal waste and therefore could potentially have significant negative effects on SA objective 9 (encourage the re-use of primary resources and achieve more sustainable waste management). However, it is recognised that the Joint Waste Plan makes sufficient provisions to meet statutory recycling and recovery targets (policies WCS1, 2, 3) and that some landfill capacity will be needed to handle residual municipal waste. If additional landfill is required to dispose of construction, demolition and excavation waste, proposals may cause minor negative effects on landscape character, resource consumption and the water and historic environment. However, the reclamation of quarries may provide opportunities to conserve geodiversity, enhance biodiversity and create new green infrastructure for recreational use. **Recommendations:** None required.
Policy WCS6: General considerations for all waste	**Summary:** Policy WCS6 could have a significant positive impact on the long-term sustainability of the three boroughs with the criteria resulting in either minor or significant

Joint Waste Plan policy:	Summary of SA findings:
management proposals	positive effects across all aspects of sustainable development. However, the protection of the environment may also lead to limitations being placed on some waste developments restricting economic and employment benefits, so minor negative impacts may also occur on those economic SA objectives. **Recommendations:** None required. Previous SA recommendations made on earlier drafts have been reflected in the Joint Waste Plan. Policy WCS6 now includes reference to water and energy saving measures, flood risk and sustainable construction techniques.
Policy WCS7: Minimising waste resources and waste management plans	**Summary:** The requirements to prepare, update and implement a waste management plan and incorporate recycling, composting and sorting facilities within all new development (excluding minor applications) is likely to result in significant positive effects on the majority of the SA objectives. No negative effects are associated with this policy. **Recommendations:** None required.

SUMMARY OF SIGNIFICANT EFFECTS

7.7 Drawing on the appraisal of strategic aims and policies found in **Appendices G** and **H**, a summary of the potential significant effects of the Joint Waste Plan against each SA objective is provided below. This section also assesses the likely cumulative effects and recommendations and sets out proposed mitigation measures relating to the likely effects on each SA objective. The summary for each SA objective follows the same structure under the headings described below.

Significant effects

7.8 It is evident from the SA findings that many of the policies will result in sustainability benefits. The summaries for each SA objective below describe both the potential significant positive and negative effects of the policies on each of the SA objectives. A significant effect is defined as being of the highest magnitude (shown as double positive or negative (++ or --) and/or by the results of the cumulative effects assessment (see below).

Cumulative effects

7.9 Plan policies and objectives have been scrutinised to identify the likely positive and negative effects. Many socio-economic and environmental problems, however, result from the accumulation of multiple, small and, often indirect, effects, rather than a few large and obvious ones. These effects can be difficult to address purely on a project-

by-project basis as planning applications come forward along with environmental impact assessments (EIA). Annex I of the SEA Directive requires that the assessment of the effects of a development plan include indirect (secondary), synergistic and cumulative effects. The geographical scale, probability, duration, frequency and reversibility of effects are also required to be addressed, and these are considered below.

7.10 Indirect or secondary effects are effects that are not a direct result of the Joint Waste Plan, but occur away from the original impact or as a result of a complex pathway. For example, a development that changes the water table may affect the ecology of wetland in a different part of the river basin, or the construction of a road may then facilitate and attract other developments associated with the logistical benefits that a road may provide.

7.11 Synergistic effects arise where several developments each have an insignificant effect but together combine to have a significant effect. For example, where two developments in combination end up fragmenting a habitat where as on their own there would still be a link.

7.12 Cumulative effects produce a total effect greater than the sum of the individual effects, and cumulative effects over time are often not recognised. For example, air pollution and climate change are both cumulative in nature. The assessment of cumulative effects below in the summary is based on considering the current baseline conditions against the accumulation of effects from all of the policies considered together and the likely scale and duration of predicted effects.

Recommendations/mitigation

7.13 One of the key advantages of the SA process is that it enables plan-makers to contemplate a large amount of information when making decisions on whether and how to provide for an identified need. In this respect, the recommendations that the SA has made during the preparation of the Joint Waste Plan on how the sustainability of the aims and policies could be improved are summarised above in **Table 7.3**. The way in which the Joint Waste Plan is implemented will also be critical to determining its effects; therefore more general recommendations and best practice measures/mitigation measures that need to be taken into account when implementing the policies are detailed in relation to each SA objective.

SA OBJECTIVE 1: IMPROVE ACCESS FOR ALL SECTIONS OF THE COMMUNITY WITHIN BDR TO LEISURE AND RECREATIONAL ACTIVITIES.

Significant positive effects

7.14 The proposed policies are not expected to have any significant positive effects on access to recreation.

Significant negative effects

7.15 The proposed policies are not expected to have any significant negative effects on access to recreation.

Cumulative effects

SA objective 1: Improve access for all sections of the community within BDR to leisure and recreational activities.						
Score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
-/+	Indirect	Local	Medium certainty	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.16 All waste management facilities should incorporate best practice measures to limit noise, light pollution and odour and also visually screen facilities from local recreational resources to help to limit damage to their aesthetic qualities and amenity value.

7.17 Special efforts will also have to be made to ensure that waste facilities do not undermine or reduce access to these recreational resources. Detailed transport assessments need to be undertaken aimed at limiting the amount of road movements associated with the facility and ensuring that vehicle routing to and from the site takes into account any impact on access to local recreational resources.

7.18 Policy WCS 6 should help to ensure that these measures are assessed at the planning application stage. In addition, most waste operations will need to meet the high standards of design and operation under the environmental permit system regulated by the Environment Agency. The requirement to meet environmental permit standards (including emissions to air, land and water, energy efficiency, noise, vibration and heat and accident prevention) should ensure that design and operation of waste facilities minimises most of the potentially significant effects on access to leisure and recreational activities.

SA OBJECTIVE 2: IMPROVE OVERALL LEVELS OF HEALTH/WELL-BEING AND SERVICES TO REDUCE DISPARITIES IN BDR, INCLUDING MINIMISATION/ AVOIDANCE OF NOISE, ODOUR, DUST, LIGHT AND AIR POLLUTION

Significant positive effects

7.19 The proposed policies are not expected to have any significant positive effects in terms of improving overall levels of health and well-being and services.

Significant negative effects

7.20 Locating waste facilities in more densely populated urban locations means that a greater number of people are likely to be within close proximity to the site, potentially exposing them to noise and odour resulting from waste management activities, which may have a detrimental impact on their health and well being.

7.21 Co-locating waste management facilities means that effects such as those outlined above may be cumulative and potentially significant in particular areas, causing higher

levels of exposure to pollution from noise and odour for the population around the site (see also the section at the end of this chapter of the potential for cumulative impacts on amenity for particular settlements in BDR).

Cumulative effects

SA objective 2: Improve overall levels of health/well-being and services to reduce disparities in BDR, including minimisation/avoidance of noise, odour, dust, light and air pollution						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
-	Direct	Local	Medium certainty	Medium term	Intermittent dependent on operation times and life of facility	Reversible subject to conditions imposed on operation of facility, and/or at closure of facility

Recommendations/mitigation

7.22 All waste management facilities should incorporate best practice measures to limit noise, dust, air and odour pollution, which will help to limit the impact of facilities on human health in the local area. The precise nature of these effects will depend on the type and size of the proposed facility (e.g. the type of processes occurring on site), and in some cases there may be opportunities to reduce impacts through appropriate design.

7.23 Redirecting traffic (where appropriate) may have some effects in terms of reducing noise and impacts on local sensitive receptors.

7.24 The appropriate implementation of policies WCS1 and WCS6 should go some way towards mitigating the potential effects of waste facilities on human health and well-being.

SA OBJECTIVE 3: CONSERVE AND ENHANCE HABITATS, BIODIVERSITY AND GEODIVERSITY IN BDR

Significant positive effects

7.25 The requirement that applicants must submit waste management plans as part of planning applications (policy WCS7) should lead to more appropriate on site management of waste, helping to avoid damage to wildlife and habitats, for example through the appropriate disposal or bio-remediation of hazardous waste.

7.26 Policy WCS6 aims to protect wildlife and habitats from harm resulting from waste developments. As these criteria must be observed under a number of the other policies, they should result in significant positive effects on this objective.

Significant negative effects

7.27 In many cases, abandoned land and buildings harbour rich biodiversity, particularly where they have remained derelict for some time. Significant adverse effects may be seen at sites on previously developed land that are identified for possible redevelopment in policy WCS2, as a result of disturbance to wildlife.

7.28 The HRA Screening Assessment identified the potential for significant negative effects arising from development at one proposed site - Hatfield Power Park - on Thorne Moor SAC due to its potential effects on air pollution if thermal treatment is proposed. These potential effects will need to be avoided and/or mitigated at the development control as part of an appropriate assessment as required under policy WCS6.

Cumulative effects

SA objective 3: Conserve and enhance habitats, biodiversity and geodiversity in BDR						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
-/+	Direct	Local	Medium certainty	Long term	Temporary	Permanent

Recommendations/mitigation

7.29 Wherever possible, appropriate site surveys should be carried out to establish where species or habitats may be at risk from disturbance through waste development. It should not be assumed that previously developed land has no or a low ecological value. Policy WCS6 should help to ensure that such surveys are undertaken at the planning application stage, while the EIA process will help to protect sites that are of particular ecological value. Where waste-related development is proposed on or near to nature conservation sites of European importance, a Habitat Regulations Assessment will also be required to ensure that suitable mitigation measures are implemented (as required in policy WCS6). Waste development at Hatfield Power Park will need to meet the requirements of the Habitats Regulations in relation to its potential effects on air pollution if thermal treatment is proposed. As recommended in an earlier draft of this SA report, the infrastructure requirements table in the supporting text to policy WCS3 relating to Hatfield Power Park has been amended to state that any emissions must not contribute to excessive acid deposition at Thorne Moor SAC.

SA OBJECTIVE 4: CONSERVE AND ENHANCE LANDSCAPE CHARACTER AND QUALITY, AND SETTING OF SETTLEMENTS IN BDR

Significant positive effects

7.30 The policy provides a mechanism for ensuring that waste-related development promotes and achieves high quality design and is sympathetic with its surroundings, As such, it should have significant positive effects on the SA objectives in terms of protecting the landscape/townscape and promoting innovative technologies and architecture through redevelopment. This means that landscape and townscape within BDR could also be enhanced.

Significant negative effects

7.31 No significant negative effects on the landscape and townscape have been identified as a result of any of the proposed policies.

Cumulative effects

SA objective 4: Conserve and enhance landscape character and quality, and setting of settlements in BDR						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
-/+	Direct	Local	Medium certainty	Long term	Ongoing	Permanent

Recommendations/mitigation

7.32 Appropriate design and screening of new developments should offer opportunities to minimise the impacts of waste facilities on the landscape and setting of settlements. Every opportunity should be made to improve the character and appearance of surrounding landscape/townscape, as waste facilities will often be located in areas that are highly degraded.

7.33 Implementing policy WCS 6 should help to ensure that the design of waste related development is of high quality, innovative and sympathetic to its surroundings.

SA OBJECTIVE 5: MAINTAIN AND ENHANCE THE QUALITY OF THE BUILT ENVIRONMENT IN BDR

Significant positive effects

7.34 Ensuring that high quality design and sustainable construction methods are used within new or redeveloped waste facilities (as required under policy WCS6) will maximise opportunities to enhance the quality of the built environment

Significant negative effects

7.35 The proposed policies are not expected to have any significant negative effects on the quality of the built environment in BDR.

Cumulative effects

SA objective 5: Maintain and enhance the quality of the built environment in BDR						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
+	Direct	Local	Medium certainty	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.36 Selecting sites where there are opportunities to re-use vacant or redundant buildings or land should enhance the quality of the built environment in BDR. Policies WCS1-4 and 6-7 seek to do this and their implementation should help to mitigate any potential adverse effects on the built environment.

SA OBJECTIVE 6: MAINTAIN AND ENHANCE THE CULTURAL, HISTORIC ENVIRONMENT AND ARCHAEOLOGICAL HERITAGE OF BDR

Significant positive effects

7.37 Policy WCS6 specifies that waste development must not have an adverse impact on the integrity of historic assets in BDR, such as listed buildings and conservation areas. This will help to protect and minimise the potential adverse effects on the historic character and appearance of the landscape and historical and cultural assets.

Significant negative effects

7.38 Most of the aims and policies are not expected to have any significant negative effects on the cultural and historic environment. However, English Heritage highlighted the potential for significant effects from policy WCS2. If the safeguarded Grange Lane site was redeveloped there could be significant negative effects upon Mount Bretton Priory, a heritage asset which PPS5 considers to be "of the highest significance". In response to English Heritage's concerns, the supporting text to policy WCS2 in the submission version of the Joint Waste Plan now states that new waste facilities on the Grange Lane site will need to safeguard those elements which contribute to the significance of the scheduled ancient monument at Monk Bretton Priory and other listed buildings in the area. In addition, there could be a minor negative effect on the historic environment (as highlighted by English Heritage in its consultation response to the publication Joint Waste Plan and SA report) because one of the sites allocated in policy WCS3(Aldwarke Steelworks, Parkgate) could potentially result in harm to elements which contribute to the significance of the grade II* registered Historic Park and Garden at Wentworth Woodhouse.

Cumulative Effects

SA objective 6: Maintain and enhance the cultural, historic environment and archaeological heritage						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
+/-	Indirect	Local	Medium probability	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.39 Site assessments to establish the extent to which archaeological assets exist should be carried out prior to any development. The safeguards in policies WCS1 and WCS 6, the supporting text to policy WCS2 regarding the Grange Lane site and the infrastructure requirements in table 7 for the Aldwarke Steelworks site should help to ensure that no adverse effects or damage occurs to historic assets in BDR.

SA OBJECTIVE 7: IMPROVE QUALITY AND QUANTITY OF BDR'S RIVERS AND GROUNDWATER AND ACHIEVE SUSTAINABLE USE OF WATER.

Significant positive effects

7.40 Policy WCS 6 sets out a proactive approach to the protection of aquifers during construction and site operation, which will result in significant positive effects relating to drainage, groundwater quality and flooding. Furthermore, reducing water consumption during the construction and operation of waste facilities (also included in policy WCS 6) should have significant positive effects on the SA objective in terms of maintaining the quantity of water available in BDR.

Significant Negative Effects

7.41 The proposed policies are not expected to have any significant negative effects on the quality and quantity of groundwater or the sustainable use of water in BDR.

Cumulative effects

SA objective 7: Improve quality and quantity of BDR's rivers and groundwater and achieve sustainable use of water.						
Cumulative Score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
+	Direct	Regional	Medium probability	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.42 Appropriate implementation of the Joint Waste Plan (in particular policies WCS1 and WCS6) should help to ensure the efficient use of water and the protection of aquifers. In line with a previous recommendation of the SA on an earlier draft of the Joint Waste Plan, policy WCS6 has been revised to include a specific reference to water saving.

SA OBJECTIVE 8: ENCOURAGE REUSE OF PREVIOUSLY VACANT SITES AND BUILDINGS

Significant positive effects

7.43 Redeveloping existing sites for waste facilities (as advocated under policies WCS 1, 2, 3 and 4) will provide extensive opportunities to re-use and redevelop vacant sites and buildings, which may have significant benefits on the environment in terms of reduced resource consumption, energy usage and aesthetics.

7.44 In addition, both policies WCS6 and WCS7 advocate sustainable construction measures, design techniques and resource efficiency, which should include the re-use of existing materials and possibly the use of existing sites.

Significant negative effects

7.45 The proposed policies are not expected to have any significant negative effects on the reuse of previously vacant sites and buildings in BDR.

Cumulative Effects

SA objective 8: Encourage reuse of previously vacant sites and buildings						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
++	Direct	Local	High probability	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.46 The reuse of vacant buildings will be particularly beneficial - especially where they currently have a negative impact on the landscape/townscape (attracting litter, graffiti, crime and other antisocial behaviour, thus devaluing the whole area) and should be particularly targeted as a regeneration opportunity.

SA OBJECTIVE 9: SAFEGUARD MINERAL RESOURCES AND ENCOURAGE RE-USE OF PRIMARY RESOURCES THROUGH SUSTAINABLE WASTE MANAGEMENT

Significant positive effects

7.47 Where there are opportunities to re-use or recycle building materials through the redevelopment of existing derelict sites and buildings, there may be significant

positive effects arising from reduced primary resource consumption. Policies WCS6 and 7 also promote sustainable construction techniques and re-use of demolition and construction materials, implemented through site waste management plans.

7.48 The Joint Waste Plan also strongly promotes and will facilitate the provision of waste recycling facilities in line with the principles of sustainable waste management.

Significant negative effects

7.49 Increasing the operational efficiency of landfill sites (which will be safeguarded under policy WSC5) could result in higher quantities of waste being disposed via landfill. Levels of primary resource consumption could also increase. However, it is recognised that the Joint Waste Plan makes sufficient provision to meet statutory recycling targets and that some landfill capacity will always be needed to handle residual waste. The plan demonstrates that there will be sufficient capacity in existing landfill sites to meet residual waste requirements over the course of the Joint Waste Plan period to 2026. However, policy WCS5 will only allow new inert waste landfill proposals where they would contribute to the reclamation of quarries, or are incidental to engineering operations, and this would discourage the re-use of the inert materials, which could have contributed to reducing primary aggregate use.

Cumulative effects

SA objective 9: Safeguard mineral resources and encourage re-use of primary resources through sustainable waste management						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
++	Direct	Local	High probability	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.50 On-site recycling facilities can be incorporated into new developments in order to increase sustainable waste management (policy WCS7). However, it is recognised that there is a limit to how much the Joint Waste Plan can actually influence waste minimisation, as it can only require it within new waste development proposals and larger proposals that come forward within BDR (thereby principally affecting the re-use of construction and demolition materials). Other legislation and strategies (such as the packaging regulations or the municipal waste management strategy) will have more influence than the Joint Waste Plan on minimising other waste streams, such as commercial/industrial and household waste, and measures or initiatives need to be introduced through sustainable communities strategies and other plans to promote an attitudinal shift towards recycling.

SA OBJECTIVE 10: MINIMISE GREENHOUSE GAS EMISSIONS FROM ENERGY USE, TRANSPORT OF WASTE AND FACILITIES

Significant positive effects

7.51 Policies WCS1, 6 and 7 place a strong emphasis on the need to reuse or recycle existing sites and materials, so are therefore likely to have positive benefits in terms of reducing energy use and promoting alternative sources of energy through waste treatment facilities. Measures to reduce the transportation of waste - for example via waste management plans (policy WCS 7) - should have significant positive effects in terms of lowering greenhouse gas emissions from traffic.

7.52 Co-locating waste facilities and seeking to develop sites close to existing urban centres (policies WCS 1 and WCS3) is also likely to result in similar positive effects.

Significant negative effects

7.53 The proposed policies are not expected to have any significant negative effects on greenhouse gas emissions from energy use, transport of waste and facilities.

Cumulative effects

SA objective 10: Minimise greenhouse gas emissions from energy use, transport of waste and facilities.						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
+/-	Direct	Local	High probability	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.54 Packaging regulations and other measures introduced through plans such as sustainable communities strategies and municipal waste management strategies can also help to promote an attitudinal shift towards waste minimisation.

SA OBJECTIVE 11: REDUCE BDR'S VULNERABILITY TO FLOODING

Significant positive effects

7.55 Policy WCS1 is likely to have a significant positive effect on this objective since it specifies that the floodplain should be protected during the development of new waste management facilities as well as endorsing the reuse of brownfield sites which should minimise any reductions in ground impermeability.

Significant negative effects

7.56 From the site assessments concerning the preferred site allocations under policy WCS3, Aldwarke Steelworks, Rotherham, Sandall Stones Road and Hatfield

Powerpark in Doncaster are in areas particularly sensitive to flooding, which could have a significant negative effect, although policy WCS 3 indicates that there is potential for mitigation such as the construction of flood defences, flood alleviation measures and the incorporation of sustainable drainage systems.

Cumulative effects

SA objective 11: Reduce BDR's vulnerability to flooding						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
-/+	Direct	Local	High probability	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.57 Sustainable design techniques should be incorporated into new developments, for example the use of sustainable drainage systems (SuDs), which should help to minimise the risk of flooding. Appropriate implementation of the Joint Waste Plan (in particular policies WCS1 and 6) should result in the use of measures that protect water resources and flood risk areas. In line with the recommendation made in the SA report concerning a previous draft of the Joint Waste Plan, policy WCS6 has been amended to state that that development must not increase the risk of flooding elsewhere in the catchment and will, where possible, improve the existing flood situation. In addition, as recommended in an earlier draft of this SA report, the supporting text to policy WCS3 (see infrastructure requirements table 7 in the Joint Waste Plan) has also been amended to require that waste development on the site at Sandall Stones Road incorporates appropriate sustainable drainage systems and/or flood alleviation measures.

SA OBJECTIVE 12: MAINTAIN AND ENHANCE THE PROVISION OF EMPLOYMENT, TRAINING AND EDUCATION OPPORTUNITIES IN BDR

Significant positive effects

7.58 The proposed policies are not expected to have any significant positive effects on employment, training and education opportunities in BDR.

Significant negative effects

7.59 The proposed policies are not expected to have any significant negative effects on employment, training and education opportunities in BDR.

Cumulative effects

SA objective 12: Maintain and enhance the provision of employment, training and education opportunities in BDR

Cumulative score	Direct / indirect	Geographical scale	Probability	Duration	Frequency	Reversibility
+	Direct	Regional	High probability	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.60 There may be opportunities to incorporate education/training opportunities into new waste facilities, particularly where they are to make use of innovative design and technology and would enable the local community to access or learn about the process of waste management and the benefits of these technologies. In line with an earlier recommendation, the supporting text to policy WCS6 has been amended to include a reference to the training and educational benefits that can be associated with new recycling and treatment waste facilities.

SA OBJECTIVE 13: PROMOTE CONDITIONS WHICH ENABLE SUSTAINABLE LOCAL ECONOMIC ACTIVITY AND REGENERATION AND ENCOURAGE CREATIVITY AND INNOVATION

Significant positive effects

7.61 Policy WCS3 is likely to result in significant positive effects on this objective as the new strategic sites would mean that waste facilities would be adjacent or close to industrial estates and other employment uses. As the number of new waste facilities using innovative technologies and integrated solutions (i.e. co-location) increases, a need to service these facilities should generate activity in the local economy and help to develop markets for waste materials. In addition, the new recycling and composting facilities will generate feedstock for reprocessing facilities or composting outlets within close proximity of the sites and facilities utilising energy recovery technologies would provide energy which could be used to generate power and heat (e.g. electricity) and provide sustainability benefits associated with the proximity principle and reduced transportation distances.

7.62 There may be additional significant positive effects resulting from the implementation of sustainable waste management/disposal practices at new strategic sites and other locations associated with improved economic performance and investment in the green economy arising from these activities. Engendering creativity and innovation within the waste industry will contribute towards economic recovery and promote more sustainable long term economic growth.

Significant negative effects

7.63 The proposed policies are not expected to have any significant negative effects on sustainable local economic activity in BDR.

Cumulative effects

SA objective 13: Promote conditions which enable sustainable local economic activity and regeneration and encourage creativity and innovation						
Cumulative score	**Direct / indirect**	**Geographical scale**	**Probability**	**Duration**	**Frequency**	**Reversibility**
+	Direct	Regional	High probability	Medium term	Ongoing	Permanent

Recommendations/mitigation

7.64 None required.

CUMULATIVE IMPACTS ON SETTLEMENTS

7.65 The potential for cumulative impacts to arise from the Joint Waste Plan (including the sites proposed for safeguarding and large-scale waste development) in relation to each SA objective has been described above. This section describes the potential for

cumulative impacts specifically on the amenity of communities and settlements, as current government guidance (PPS 10) requires that councils consider the cumulative impact of existing waste disposal facilities on the well-being of the local communities when deciding which sites or areas to allocate in their development plans to accommodate waste management facilities.

7.66 In order to address this requirement, a count of the following types of facilities and sites within one kilometre of a settlement was undertaken.

- Existing licensed waste sites within BDR
- Preferred sites for safeguarding identified under policies WCS2 and WCS5; and
- Preferred strategic sites identified under policy WCS3.

7.67 **Figure 7.1** shows the location of these facilities and their proximity to settlements (urban areas as defined by the Ordnance Survey), and **Table 7.4** shows the number of existing facilities and potential waste sites within 1 kilometre of each settlement. The primary road network (motorways, A roads and primary roads) has also been shown in **Figure 7.1**, since the potential effects arising from transport (e.g. air pollution, safety and noise) could combine with other effects associated directly with waste sites to unduly affect the well-being of nearby communities.

7.68 It is important to note that the cumulative impact of multiple waste sites on a settlement is dependent on the size and character of that settlement. For example, the cumulative impact of a large number of waste sites around a large urban area such as Doncaster or Rotherham is likely to be less significant than if those sites were located around a small rural village. However, the severity of cumulative impacts is also dependent on factors such as the proximity of sensitive receptors, the type and design of the waste facility and its hours of operation and the number of vehicle movements.

7.69 On this basis, this analysis can only provide an indicative guide to the potential cumulative and indirect effects arising from waste management activities on these sites. It is also unlikely to be the case that all of the sites as identified under policy WCS3 will come forward for waste management within the same time period or that all existing waste facilities will continue to operate throughout the plan period. Taking these factors into account, a more detailed assessment of the potential cumulative impacts on the amenity of settlements and the well-being of local communities will need to be carried out at the planning application stage once details regarding the design of the proposed facility and its construction and operation are made known.

7.70 Using the analysis in **Figure 7.1** and **Table 7.4** as a guide, the **potential cumulative impacts on the amenity and well being of communities has been identified in relation to the following settlements** because they:

- all have at least one existing facility within 1 kilometre;
- new strategic sites has been identified within 1km of the settlement; and/or
- one or more of the existing waste facilities have been safeguarded under policies WCS2 and 5 of the Joint Waste Plan.

Barnsley has 8 existing waste management facilities within one kilometre radius, which equates to one facility per 8,949 inhabitants. However, these facilities are not evenly spread as all of them are located on the east side of Barnsley, 4 of which are clustered together along A633 and A635, one of which is Grange Lane transfer station, which is a safeguarded site under policy WCS2. As such, these facilities have cumulative impact on the amenity of the surrounding area in terms of traffic and noise from lorry movements.

Carcroft has two waste facilities within one kilometre of each other: a household, commercial and industrial waste transfer station and Croft Farm landfill (a household, commercial and industrial waste landfill). The latter is proposed for safeguarding under policy WCS5. Although this equates to only one waste facility per 4,189 inhabitants, these facilities are located in close proximity to each other on the south east corner of Carcroft. Cumulative effects may therefore be experienced in this area.

One of the strategic waste sites (Bolton Road, Manvers – see policy WCS3) is located within one kilometre of the **Dearne townships** If this site is developed, there would be 3 waste facilities within one kilometre radius, equating to one facility per 4,316 inhabitants. However, all of these facilities would be distributed evenly around the Dearne townships and on different primary/A roads, and so any cumulative effects on specific communities are likely to be very minor in nature.

The **main urban area of Doncaster** has 13 existing waste facilities which equates to one facility per 5,229 people. However, the facilities are clustered in the west to south west of Doncaster and 5 facilities are concentrated in a very small area to the north of Doncaster next to the settlement of Kirk Sandall. Cumulative impacts may therefore be experienced in northern parts of the main urban areas, as one of the new strategic sites is proposed to the north of Doncaster at Sandall Stones Road.

The area around **Hatfield and Stainforth** has an existing household, commercial and industrial waste transfer station and a co-disposal landfill site at Bootham Lane, which equates to one facility per 4,630 people. Policy WCS3 also proposed to allocates a new strategic waste site within one kilometre of these facilities at Hatfield Power Park. The landfill site at Bootham Lane is identified under policy WCS5 as a safeguarded landfill site. Since these facilities or sites are located within very close proximity to each other, waste development in this location could have cumulative effects on community well-being.

Kirk Sandall lies within one kilometre of the five existing waste facilities that are clustered to the north of Doncaster and the new strategic site (Sandall Stones Road). Cumulative impacts on community well-being may therefore occur to the southwest of Kirk Sandall.

Mexborough is a medium sized settlement that has two waste facilities currently within one kilometre radius and policy WCS3 allocates a further new strategic site within one kilometre radius of the settlement. The two existing sites are located to the west of Mexborough and the proposed site lies just north of these sites, potentially making use of the same primary/A road. Cumulative impacts on

community well-being may therefore be experienced on the western to northwestern side of Mexborough.

Rawmarsh has 7 existing waste facilities within one kilometre radius, one of which is Eastwood dredgings landfill to the south of Rawmarsh, which takes dredged waste materials and is identified as a safeguarded site within policy WCS2. In addition, policy WCS3 identifies a new site for allocation within one kilometre radius to the east of the southern edge of Rawmarsh. With 7 existing and 1 potential waste site lying within one kilometre of Rawmarsh, this would equate to one facility per 2,276 people, which is relatively high compared to other settlements. However, the clustering of most of the sites to the south of Rawmarsh and within the northern area of Rotherham means that cumulative effects on community well-being are most likely to be experienced in this area.

Rotherham has 21 existing waste sites, including two household, commercial and industrial waste transfer stations and Eastwood dredging site, which is safeguarded under policy WCS2. In addition, policy WCS3 identifies a new waste site for allocation within the northern part of Rotherham. This equates to 5,330 people per facility. In addition, there are distinctive clusters of waste facilities whose cumulative impacts could affect community wellbeing in the north and south east of Rotherham due to their proposed safeguarding and potential redevelopment opportunities at one site.

Although the **city of Sheffield** lies outside the plan area, nine waste facilities within BDR lie within less than one kilometre from its boundaries, mainly clustered to the south west of Rotherham/north east of Sheffield. These include the material recycling facility at Rotherham Road, Beighton and the former Templeborough steelworks waste transfer station, both of which have been safeguarded under policy WCS2. Cumulatively, these facilities could have indirect and direct effects on community well-being within the north east and south east Sheffield, especially when waste facilities within Sheffield are also taken into consideration.

Wath Upon Dearne has a population of 16,787 and has four existing waste facilities to the north and east. In addition, policy WCS3 also proposes a new strategic waste site allocation to the north of Wath Upon Dearne and cumulative impacts on community well-being may therefore occur in this area.

7.71 Also based on the analysis in **Figure 7.1**, the following communities are considered to be **unlikely to experience cumulative impacts** from the implementation of policies WCS2, 3, and 5:

- Anston/Dinnington
- Armthorpe
- Bentley
- Birdwall
- Conisbrough
- Finningley
- Hoyland Nether

- Maltby
- New Rossington
- Penistone
- Royston
- Swinton
- Thurnscoe
- Toll Bar
- Wales
- Worsbrough

7.72 While all of these settlements have up to five waste facilities within 1 kilometre radius, no safeguarded or new strategic sites have been identified within 1km radius. The following communities are also considered unlikely to experience cumulative impacts on community well-being for the reasons described below.

- **Aughton** is a medium sized settlement of 13,456 people. It only has one existing waste facility (Rotherham Road waste transfer station which is also safeguarded under policy WCS2) within one kilometre radius, so no cumulative impact is expected.

- **Beighton** is a medium sized settlement of 10,676 people. It only has one waste facility (Rotherham Road waste transfer station which is also safeguarded under policy WCS2) within one kilometre radius, so again, no cumulative impact is expected.

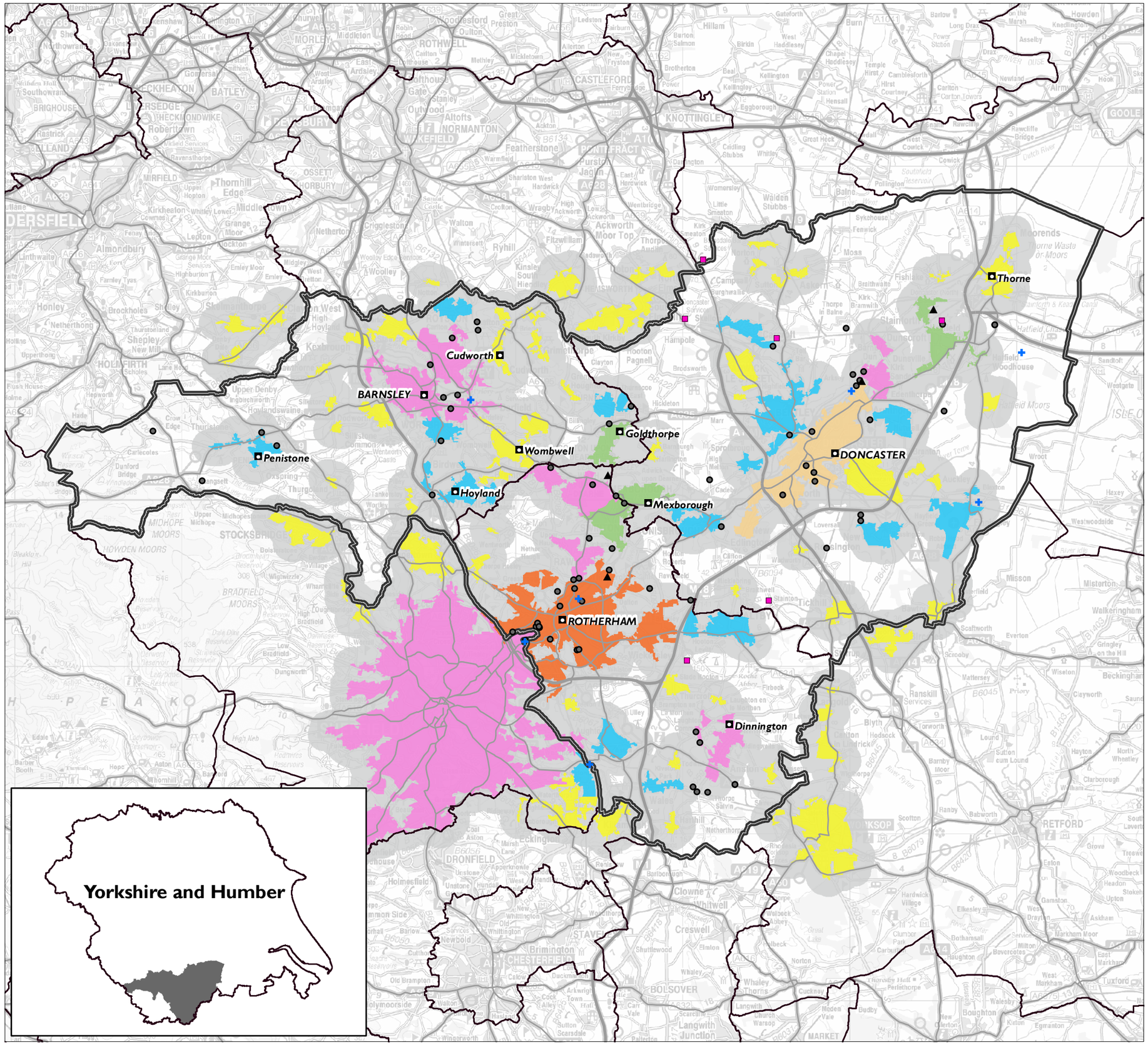
Table 7.5 Number of existing waste facilities and potential waste sites within 1km of BDR settlements

Settlement name	Total population	A1 : Co-Disposal Landfill Site	A11 : Household, Commercial & Industrial Waste T Stn	A12 : Clinical Waste Transfer Station	A14 : Transfer Station taking Non-Biodegradable Wastes	A15 : Material Recycling Treatment Facility	A16 : Physical Treatment Facility	A17 : Physico-Chemical Treatment Facility	A22 : Composting Facility	A4 : Household, Commercial & Industrial Waste Landfill	A5 : Landfill taking Non-Biodegradeable Wastes	A6 : Landfill taking other wastes	A9 : Special Waste Transfer Station	Policy WCS3	TOTAL
Anston/Dinnington	19086		1				1		1			1	1		5
Armthorpe	12630												1		1
Aughton	13456		1												1
Barnsley	71599		4		1		2						1		8
Beighton	10676		1												1
Bentley	33968		1										1		2
Birdwell	2989							1							1
Carcroft	8397		1							1					2
Conisbrough	15361		1												1
Dearne	12948		2											1	3
Doncaster	67977		6				2				1	1	3	1	14
Finningley	4048								1						1
Hatfield	13890	1	1											1	3
Hoyland Nether	15497							1							1
Kirk Sandall	13276		2				1				1	1		1	6
Maltby	17980												1		1
Mexborough	14750	1	1											1	3
New Rossington	13255		1			1									2
Penistone	8727		1	1											2
Rawmarsh	18210		4								1	1	1	1	8
Rotherham	117262		10			2		1			2	1	5	1	22
Royston	9375		1				1								2
Sheffield	439866		7			1							1		9
Stainforth	6342	1	1											1	3
Swinton	14643	1	3												4
Thurnscoe	9122		2												2
Toll Bar	<1500		1												1
Wales	5826						1					1			2
Wath upon Dearne	16787	1	2				1							1	5
Worsbrough	9516												2		2

Policy 3 site
1 Policy 2 site
2 Policy 2 Sites
Policy 5

Barnsley, Doncaster and Rotherham Joint Waste Plan

Figure 7.1 Potential cumulative impact of waste facilities on settlements



Key

- Study Area
- Local Authority boundary
- Motorways
- Primary and A roads
- SUB REGIONAL CITIES AND TOWNS
- Principal Towns
- Within 1km of a settlement
- Policy WCS2 Safeguarded existing facilities
- Policy WCS3 New strategic site allocations
- Policy WCS5 Safeguarded existing landfills
- Existing waste management licenced facilities

Count of existing and potential sites that may impact upon settlements

- 0
- 1 - 2
- 3 - 4
- 5 - 9
- 10 - 15
- 16 - 22

N, W, E, S

0 2 4 8 Km

Source: Ordnance Survey, Environment Agency, ONS

Date: 08/06/2010
Revision: C

File: S:\4200\4220 BDR Waste Sites DPD\GIS\Themes\ArcGIS9\4220-01_101_Cumulative_analysis_RevC.mxd

8 Monitoring

PROPOSALS FOR MONITORING

8.1 The SEA Directive requires that "*member states shall monitor the significant environmental effects of the implementation of plans or programmes… in order, inter alia, to identify at an early stage, unforeseen adverse effects, and be able to undertake appropriate remedial action*" (Article 10.1) and that the environmental report should provide information on "*a description of the measures envisaged concerning monitoring*" (Annex 1 (i)). The government's SA guidance states that monitoring proposals should be designed to provide information that can be used to highlight specific issues and significant effects, and which could help with decision-making.

8.2 The vision, aims and policies of the Joint Waste Plan will be delivered in the context of the wider policy framework which sits alongside the planning system. This means that implementation of this plan will be influenced by the degree to which other policies in the LDF are successfully implemented. For this reason, monitoring the sustainability effects of the Joint Waste Plan should be conducted as part of an overall approach to monitoring the sustainability effects of the whole LDF within each borough, as well as taking account of broader social, economic and environmental trends. This approach is based on the government's good practice guidance on monitoring LDFs[29].

8.3 The three councils are required under the Planning and Compulsory Purchase Act to prepare an Annual Monitoring Report (AMR) to assess the extent to which policies in each DPD are being implemented. The Joint Waste Plan sets out targets and indicators that will be used to monitor each of the policies.

8.4 The monitoring requirements typically associated with the SA process are recognised as placing heavy demands on responsible authorities. It is therefore beneficial if the monitoring framework builds on monitoring systems that are already in place and uses data that is routinely collected by BDR and partner organisations. The indicators identified below will help to measure the environmental, social and economic effects (including any unforeseen effects) of the Joint Waste Plan and its overall success in addressing the sustainability issues of the area.

8.5 Potential indicators are given against each SA objective in **Table 8.1** below and are particularly focussed on those SA objectives that are likely to be subject to significant effects arising from the Joint Waste Plan. A number of the indicators have been drawn from the monitoring framework proposed within the Joint Waste Plan as well as national indicators (NI)[30] where relevant, although it should be noted that the status of this national indicator

[29] *Local Development Framework Monitoring: A Good Practice Guide (*The Office of the Deputy Prime Minister, 2004).

[30] *The New Performance Framework for Local Authorities and Local Partnerships: Single Set of National Indicators (*Department for Communities and Local Government, October 2007).

set is currently uncertain. Information sources collected from other organisations (e.g. the Environment Agency, English Heritage and Natural England) has also been identified where relevant. This exercise allows the three councils and their partner organisations to engage and discuss how future monitoring might take place and how it might link with other monitoring processes. BDR will be responsible for monitoring the sustainability of the Joint Waste Plan once it has been adopted and will need to publish annual monitoring reports.

Table 8.1: Proposals for monitoring sustainability effects of Joint Waste Plan

SA objective	Suggested indicators and/or sources for indicators/monitoring data are:
SA objective 1: Improve access for all sections of the community to leisure and recreational activities in BDR (significant effects identified in relation to aim G of the Joint Waste Plan)	• Quality of open spaces data from PPG17 open space audit. • Volume of road traffic arising from development (from planning application documentation). • Extent of public rights of way • 'Quality of Life Indicator'[31] 8: The number of pedestrian and cyclist road accident casualties per 100,000 population.
SA objective 2: Improve overall levels of health/well-being and services to reduce disparities in BDR, including minimisation/ avoidance of noise, odour, dust, light and air pollution (significant effects identified in relation to aim E, aim G, policy WCS1, policy WCS2, policy WCS3, policy WCS6 and policy WCS7)	• Volume of road traffic arising from waste developments • Measures of air quality in vicinity of waste developments (local authority air quality monitoring plus Environment Agency) • Level of air quality – reduction in NOx and primary PM10 emissions through local authority's estate and operations (NI 194) • Measures of noise in vicinity of waste developments (local authority environmental health monitoring plus Environment Agency) • Quality of Life Indicator 8: The number

[31] *Local quality of life indicators – supporting local communities to become sustainable. A guide to local monitoring to complement the indicators in the UK Government Sustainable Development Strategy (*Audit Commission, August 2005). http://www.audit-commission.gov.uk/Products/NATIONAL-REPORT/0D488A03-8C16-46fb-A454-7936FB5D5589/QofL2005.pdf

SA objective	Suggested indicators and/or sources for indicators/monitoring data are:
	of pedestrian and cyclist road accident casualties per 100,000 population. • Number of reported complaints about waste management facilities.
SA objective 3: Conserve and enhance habitats, biodiversity and geodiversity in BDR (significant effects identified in relation to aim G, policy WCS2, policy WCS3, policy WCS6 and policy WCS7)	• Measures of air quality in vicinity of waste developments (Local authority air quality monitoring plus Environment Agency) • Level of air quality – reduction in NOx and primary PM10 emissions through local authority's estate and operations (NI 194) • Measures of noise and vibration in vicinity of waste developments (Local authority environmental health monitoring plus Environment Agency) • Species numbers on /near site (from planning application documentation) • Habitat condition on/near site (from planning application documentation) • Condition of SAC/SPA (Natural England) • Improved local biodiversity – active management of local sites (NI 197) • Amount of local and national Biodiversity Action Plan habitat created
SA objective 4: Conserve and enhance landscape character and quality, and setting of settlements in BDR (significant effects identified in relation to aim G and policy WCS6)	• Landscape quality and understanding of landscape character (including Countryside Quality Counts). (Local authorities and Natural England).
SA objective 5: Maintain and enhance the quality of the built environment in BDR (significant effects identified in	• New dwellings built on previously developed land or through conversions or all new development on previously developed land (Defra - government

SA objective	Suggested indicators and/or sources for indicators/monitoring data are:
relation to policy WCS6)	sustainable development indicator)
SA objective 6: Maintain and enhance the cultural, historic environment and archaeological heritage of BDR (significant effects identified in relation to policy WCS6)	• Listed buildings and buildings at risk (English Heritage, Heritage Count indicators[32]) • Damage/loss to heritage assets (English Heritage, Heritage Count indicators)
SA objective 7: Improve quality and quantity of BDR's rivers and groundwater and achieve sustainable use of water. (significant effects identified in relation to policies WCS1 and WCS6)	• Levels of water abstraction (number of abstraction licenses – Environment Agency) • Number of pollution incidents (reported to Environment Agency) • Quality of Life Indicator 28: The percentage of river length assessed as good biological quality; and good chemical quality
SA objective 8: Encourage reuse of previously vacant sites and buildings (significant effects identified in relation to aim E, aim F, policy WCS1, policy WCS2, policy WCS3, policy WCS4, policy WCS6 and policy WCS7)	• New dwellings built on previously developed land or through conversions or all new development on previously developed land (Defra - government sustainable development indicator)
SA objective 9: Safeguard mineral resources and encourage re-use of primary resources through sustainable waste management (significant effects identified in relation to aim A, aim D, policy WCS1, policy WCS2, policy WCS3, policy WCS5, policy WCS6 and policy WCS7)	• Area of minerals sterilised by development (minerals planning authorities) • Recycling rates (Audit Commission Area Profiles) • Residual household waste per head (NI 191) • Household waste recycled and composted (NI 192)

[32] http://www.english-heritage.org.uk/hc/server/show/nav.9535. Heritage Counts is an annual survey of the state of England's historic environment undertaken by English Heritage. Data is presented by each region.

SA objective	Suggested indicators and/or sources for indicators/monitoring data are:
	• Municipal waste landfilled (NI 193)
SA objective 10: Minimise greenhouse gas emissions from energy use, transport of waste and facilities (significant effects identified in relation to aims A, C D, E and H and policies WCS1, WCS3, WCS6 and WCS7)	• Quality of Life Indicator 25: Carbon dioxide emissions by sector and per capita emissions. • Quality of Life Indicator 24: Levels of key air pollutants. • Distances waste is transported • Total volume of road traffic related to waste • Proportion of waste transport by sustainable modes • CO_2 reduction from local authority operations (NI 185) • Per capita CO_2 emissions in the local authority area (NI 186) • Adapting to climate change (NI 188)
SA objective 11: Reduce BDR's vulnerability to flooding (significant effects identified in relation to aim G and policies WCS1, WCS3 and WCS6)	• Environment Agency flood data • Extent of flood risk zones • Number of developments incorporating sustainable drainage systems
SA objective 12: Maintain and enhance the provision of employment, training and education opportunities in BDR (significant effects identified in relation to aims A, D and F)	• Number of employees in minerals and waste industries • Contribution of minerals and waste industries to economic sectors
SA objective 13: Promote conditions which enable sustainable local economic activity and regeneration and encourage creativity and innovation (significant effects identified in	• Contribution of minerals and waste industries to economic sectors • Business start-ups: VAT registrations. (Office for National Statistics).

SA objective	Suggested indicators and/or sources for indicators/monitoring data are:
relation to aim A and D and policies WCS3 and WCS)	

9 Conclusions

9.1 The Barnsley, Doncaster and Rotherham Joint Waste Plan (submission version) provides well-reasoned policies and a clear guide to waste development based on sound sustainable development principles and, in general, it is likely to have a positive impact on most of the SA objectives.

9.2 A number of potential negative and mixed effects were identified during the SA process, which relate to recreation, health/amenity, biodiversity, historic environment, landscape, greenhouse gas emissions and the risk of flooding. However, the severity of these impacts will depend very much on the type and nature of the proposed development and its proximity to sensitive receptors. Strict adherence to policy WCS6 will help to mitigate many of the potential adverse effects identified in **Chapter 7**.

9.3 Specific sites have been identified through a comprehensive selection and assessment process, (as detailed in the Site Assessment Report) as being suitable locations to accommodate large-scale waste facilities.

9.4 LUC's dedicated sustainability appraisal team provided independent advice to inform and support the site assessment work including the methodology and detailed SA of the site assessment. In selecting sites, it is considered that the three councils have sought to minimise the potential social, economic and environmental effects arising from future waste provision in BDR and maximise the benefits of waste management, especially among local communities. The policies set out in the plan will work in combination with other LDF policies to help mitigate and reduce the potential negative effects resulting from the development of waste facilities.

9.5 The assumptions made with respect to the likely effects arising from the implementation of the plan, cumulative or otherwise, are based on what it is trying to achieve. Past experience suggests that there will often be tensions when applying different policies and deciding where the most weight should apply. Despite best intentions, it may not always be possible to deliver development that meets all of the policy criteria and good practice guidance, and difficult choices will often have to be made.

Implementation

9.6 Putting into practice what appears to be a generally positive, forward thinking plan represents a major challenge. Effective implementation and monitoring will be the key to its future success and raises some key issues.

- A strong commitment is required to ensure that waste-related development delivers the sustainability benefits identified in this report. If not, then positive effects could easily become negative effects, for example where waste facilities erode landscape/townscape character through their location or design. Similarly, plan policies that aim to protect environmental assets, reduce the need to transport waste and minerals and avoid increased flood risk will need to be applied with rigour if sustainable development is to be achieved.

- There is a need to co-ordinate the delivery of the Joint Waste Plan and other LDF documents as a package of policies to ensure that synergies between economic, social and environmental objectives are maximised – for instance co-locating waste facilities to reduce transport and land take; maximising the re-use of construction and demolition materials to avoid the use of primary aggregates; and linking with improvements to the quality of the natural and built environment.

Land Use Consultants

July 2011

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