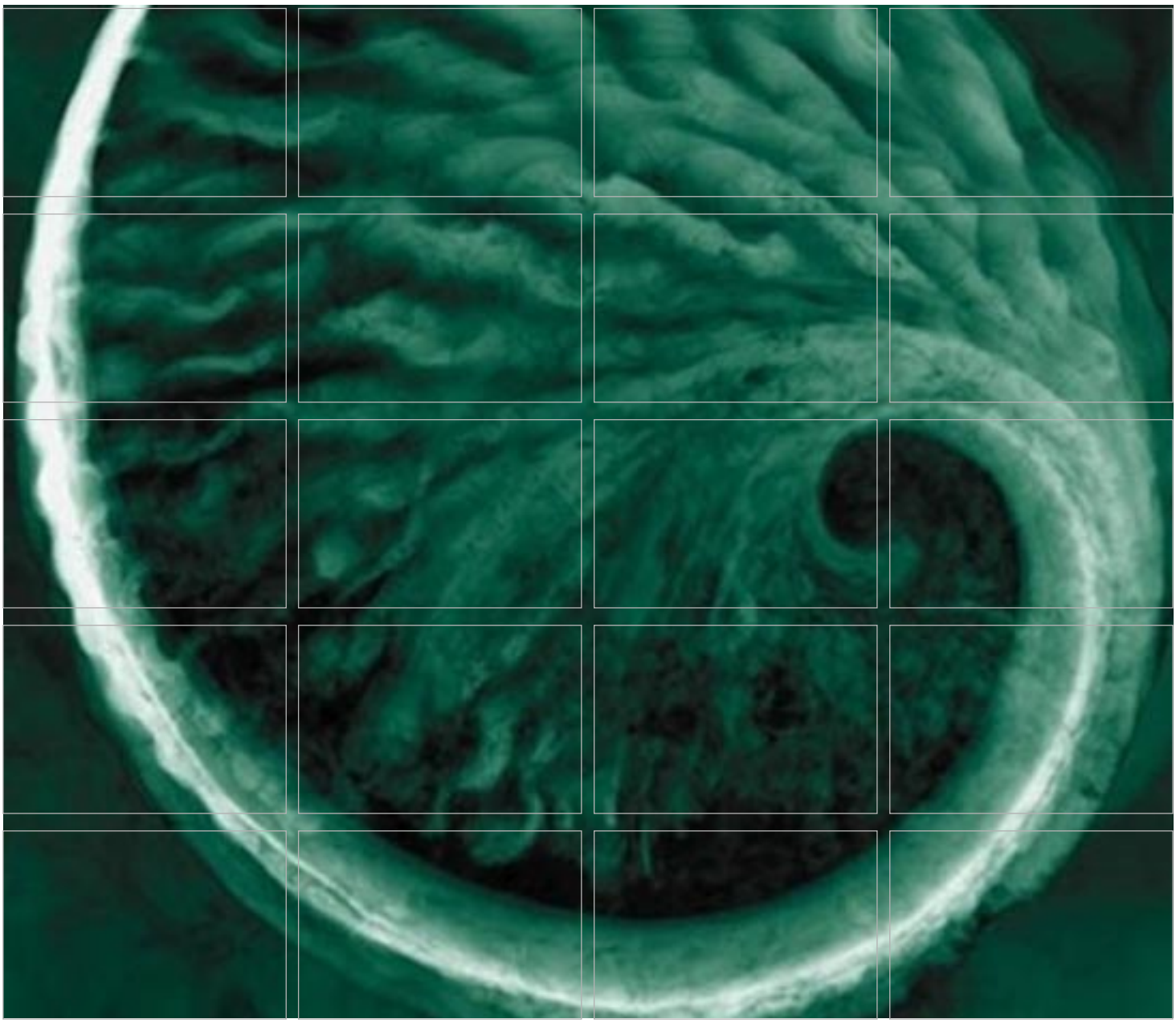

Sustainability Appraisal of Emerging Preferred Options for the Waste Core Strategy for Worcestershire

Final Report

November 2009

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Worcestershire County Council

Sustainability Appraisal of Emerging Preferred Options for the Waste Core Strategy for Worcestershire

November 2009

Reference 0096130/01

For and on behalf of
Environmental Resources Management

Approved by: Paul Fletcher _____

Signed: 

Position: Partner _____

Date: 18th November 2009 _____

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HEADLINE FINDINGS

This report presents a Sustainability Appraisal (SA) of the Worcestershire Waste Core Strategy (WCS) Emerging Preferred Options of September 2009. This is the third stage in an ongoing SA process, and will be followed by subsequent appraisals of later stages in the development of the WCS. The key findings from the SA of the Emerging Preferred Options are as follows.

Clear support is given to the waste hierarchy across many of the Emerging Preferred Options, and a strong emphasis is placed on mitigating and adapting to climate change and on energy efficiency and generation. This will reduce the emission of greenhouse gases from waste management activities. However, stronger incentives could be given to increase recycling of construction and demolition waste and commercial and industrial waste, including by adoption of targets for recycling, and the use of combined heat and power should be promoted.

The effects on waste transport are uncertain, and depend on where facilities will be located which is not known at this stage. A solution based on centralised, larger facilities may result in greater waste transport distances compared to a more dispersed pattern of development.

The WCS requires the avoidance of adverse impacts on landscape, biodiversity, geodiversity, air, water, soil and historic and cultural assets, although the likelihood and significance of impacts depends largely on sensitivities at individual locations which are not currently known. The effects on flood risk and on European nature conservation sites are uncertain and further assessment is contingent on the results of a forthcoming Strategic Flood Risk Assessment and completion of the Habitats Regulations Assessment.

By giving priority to locating development in the main towns/city, the WCS is likely to help to increase the focus on the use of previously developed land. However, the WCS may also increase the pressure for development in the green belt, particularly with the existing preferred option which appears to derogate from national policy on green belt. The need for any derogation should be assessed in more detail when further information is available about locations for development.

By facilitating the development of sites to divert waste from landfill and allowing flexibility to respond to new technologies, the WCS will help to support growth and innovation in the waste sector and increase its economic contribution. Promoting sustainable construction, higher energy and environmental standards in design and climate change adaptation will also support markets for new technologies.

Access to services is promoted where this is within the scope of the WCS. The existing preferred option which focuses on larger, centralised facilities would not spread responsibility for waste management as widely as a more dispersed pattern of waste developments.

The following recommendations are made for mitigating the adverse effects of the Emerging Preferred Options, or for maximising opportunities for benefits.

Table 1 Mitigation Recommendations

No.	Recommendation
1	The WCS should give stronger incentives to increase recycling of C&D and C&I waste, for example through setting targets and capacity requirements for recycling facilities.
2	Reuse of waste should be promoted in the vision.
3	The locational hierarchy should be applied taking account of both the size and broad type of facility to be developed.
4	The use of CHP wherever practicable should be promoted, particularly aiming to maximise opportunities in relation to planned housing and economic development.
5	Further consideration should be given to the need for hazardous waste disposal arising from residual treatment of waste.
6	Transport impacts should be assessed in more detail when more information is available on broad locations or specific sites, including the effects of a preferred option based on centralised, larger facilities compared to a more dispersed pattern of development.
7	Flood risk impacts should be assessed in more detail when more information is available on development locations and from a detailed Strategic Flood Risk Assessment
8	The need for any derogation from national green belt policy should be assessed in more detail when further information is available about locations for development.
9	Development management policy in the WCS should ensure that applications are required to assess and avoid or minimise impacts on transport networks, particularly in relation to congestion and air quality.
10	Further assessment of effects on biodiversity should be undertaken when more information is known about expected waste developments, and is also dependent on the completion of the Habitats Regulations Assessment process.
11	Potential policy areas relating to 'other matters of concern' • Policy on restoration and aftercare should include a requirement to recover and use landfill gas for energy generation. • Policy on permitted development rights should require information to assist in controlling effects on flood risk, soil and water quality, landscape, biodiversity, geodiversity, historic assets. • Landfill mining should specifically seek to control the risk of detrimental effects on water quality, landscape and biodiversity. • Policy on control of recyclable collection points should seek to reduce the risk of adverse impacts on cultural, built or historic assets.

1 SUMMARY AND OUTCOMES

1.1 NON-TECHNICAL SUMMARY

1.1.1 Overview

This report sets out details of the process and outcomes of a Sustainability Appraisal (SA) of the Emerging Preferred Options for the Worcestershire County Council Waste Core Strategy (WCS). The WCS will provide the framework for how all the waste streams in the county will be managed between now and 2027. Having undertaken earlier work on the WCS between 2005 and 2007, WCC is now recommencing the process and refreshing the preparatory work. The 'Emerging Preferred Options' is the latest stage in an iterative process of development of the WCS, incorporating a number of formal and informal stages. SA is an integral part of that process.

Under the Planning and Compulsory Purchase Act 2004 Worcestershire County Council is required to undertake an SA of Local Development Documents including the WCS. The SA must also satisfy the requirements for a Strategic Environmental Assessment (SEA) arising from the authority's obligations under the European Directive on SEA and the implementing Regulations in England and Wales.

The overall purpose of the SA is to evaluate the likely implications for sustainable development in Worcestershire of the proposed WCS and reasonable alternatives to it. The aim is to inform the plan-making process to enable the WCS to take account of the ways in which waste management might affect the economy, environment and communities in Worcestershire.

In undertaking the SA, the Emerging Preferred Options have been tested against a series of objectives that reflect relevant sustainable development policy objectives. The Emerging Preferred Options and a number of alternatives to them were tested to determine their potential to give rise to significant effects, in order to enable the amendment and improvement of the WCS in the light of knowledge of the potential impacts on relevant sustainable development policy objectives. As part of the iterative process of development of the WCS, recommendations for amendments have been made by the SA at various stages and incorporated into the WCS as it has developed.

The findings and recommendations reached through the SA are set out in this report, and the method by which the appraisals were undertaken is described.

1.1.2 The WCS and its Context

The overall purpose of the WCS is to provide a policy framework by which Worcestershire County Council will carry out its statutory duty to provide a

land use plan for the management of waste. In doing this, the following strategic objectives have been identified.

Box 1.1 Strategic Objectives of the WCS

WO1	To base our decisions on the principles of sustainable development and the need to reduce and mitigate the causes of climate change to guide decisions;
WO2	To do everything possible to minimise waste production;
WO3	To address the "Capacity Gap" between how much waste management capacity we have and what we need;
WO4	To make implementing the waste hierarchy the basis for Waste Management in Worcestershire;
WO5	To make communities in Worcestershire take responsibility for their own waste;
WO6	To reduce the transportation of waste by road where possible;
WO7	To ensure that the waste implications of all new development in Worcestershire are taken into account;
WO8	To safeguard existing waste management facilities from incompatible development;
WO9	To involve all those affected as openly and effectively as possible;
WO10	To monitor the effects of the Waste Core Strategy and revise it accordingly as circumstances change.

The following issues are covered by the detailed policies in the WCS in order to achieve the aims set out above:

Box 1.2 Scope of Draft WCS Policies

- Ensuring proposals for development contribute to sustainable development, particularly promoting the waste hierarchy and combating climate change
- Delivering waste development near to the principal settlements in the county
- Directing where development would be acceptable
- Criteria for assessing unallocated sites and for the granting of permission for all waste management development
- Setting out the capacity needs for facilities to manage the different waste streams and the kind of facilities required
- Safeguarding waste sites from other developments
- Requiring other developments to take account of waste arisings and management
- Setting particular conditions for energy from waste and landfill
- Managing the impacts of waste developments

The WCS sits within a framework of other policy documents which together influence both the content of the plan and its implementation. The most important of these are:

- European Union legislation, most importantly the *Landfill Directive*, which sets binding targets for reduction in the amount of biodegradable municipal waste sent to landfill, and the *Waste Framework Directive* which implements the waste hierarchy and sets requirements for recycling and recovery;

- National legislation which is binding on WCC, principally the *Waste and Emissions Trading Act 2003* which implements the *Landfill Directive* in the UK and introduces a scheme of trading in landfill allowances;

- National waste policy which sets the framework of overarching policy objectives for Waste Local Development Documents (LDDs), including objectives such as promoting waste minimisation and implementing the waste hierarchy;

- National planning guidance which sets out details of the policy approaches which should be adopted by local and regional authorities;

- The draft Regional Spatial Strategy, which sets out policies for dealing with the West Midland region's waste, and with which local authorities should seek to align their waste LDDs;

- A reviewed *Joint Municipal Waste Management Strategy* for Herefordshire and Worcestershire, which sets out a 30-year plan for the management of municipal waste, which the WCS seeks to enable by providing the necessary planning framework;

- Worcestershire statutory plans, for example the Local Development Frameworks, which set the policy context for the content and implementation of the WCS particularly policies on the location and control of development; and

- The Worcestershire Sustainable Community Strategy and non-statutory strategies and plans, which guide the policy approach of the WCS on specific issues, but which are not binding.

A list of relevant policies, plans and programmes and a review and summary of their content is set out in *Annex A*.

1.1.3 The Current State of Sustainable Development in Worcestershire

The main issues for sustainable development in Worcestershire and which are relevant to the WCS are summarised in the following table.

Table 1.1 Key Environmental, Social and Economic Issues for Worcestershire

Issue	Key facts
Waste	Approximately 300,000 tonnes of municipal waste was generated in Worcestershire in 2007/08, of which 40% was recycled and 52% landfilled. The remainder was incinerated with energy recovery. Approximately 800,000 tonnes of industrial and commercial waste was generated, and a similar tonnage is estimated for construction and demolition waste. About 50,000 tonnes of hazardous waste is generated in the county each year. Existing landfill capacity is estimated to be sufficient to meet needs for approximately the next 20 years.
Climate change	In 2006 an estimated 5 million tonnes of $C0_2$ was added to the atmosphere from sources within Worcestershire as follows: • Industry and commercial 34%; • Domestic 29%; • Road transport 36%; • Land use, land use change and forestry 1%. Approximately 10% of the county is at risk of flooding, principally from the rivers Severn, Teme, Avon and Stour.
Transport	There is relatively little traffic congestion on the county's road network, but the limited number of river crossings is a key cause of congestion in Worcester. There are currently no major rail freight facilities located within Worcestershire.
Growth with prosperity for all	The employment rate for Worcestershire is higher than the regional and national averages, although at lower tier level the rates vary considerably.
Participation by all	The six District Authorities committed to providing kerbside recycling to 84 -100 % of their residents, by 2005.
Technology, innovations and inward investment	The business base of Worcestershire is concentrated towards manufacturing, with the sector accounting for 17.8% of the county's employment.
Energy generation and use	Current renewable energy in the county comes from landfill gas, wood-fuel, biofuel, ground source heat, and solar systems. Potential sources include solar, biogas, energy crops, wind power and hydroelectricity.
Landscape	The Worcestershire Landscape Character Assessment identifies and describes 23 different landscape types in the county. There are also numerous historic townscapes – including 147 conservation areas. The County contains parts of two areas designated as Areas of Outstanding Natural Beauty. About a quarter of the county's land is designated as green belt.
Biodiversity, flora and fauna	Worcestershire contains two Special Areas of Conservation, 11 National Nature Reserves, 25 Local Nature Reserves, 5,848 ha of ancient semi natural woodland and around 200 Sites of Special Scientific Interest of which about 80% are in a good or improving condition..
Natural resources (air, water and soil)	Three Air Quality Management Areas have been declared due to poor air quality, all associated with busy arterial and main roads. The water quality of the majority of rivers within the county is rated as average. The majority of soils are Grade 3 in the agricultural land classification but significant areas of Grade 1 and 2 also occur.
Access to services	Nearly 40% of areas in Worcestershire are ranked within the top 20% most deprived areas nationally in terms of the geographical distance to basic services.

Issue	Key facts
Health	The healthy life expectancy of males and females living in Worcestershire is marginally higher than for the West Midlands and England.
Provision of housing	13,742 households in Worcestershire do not have central heating, while 632 households in Worcestershire do not have their own bath/shower and toilet.
Population 1 (learning and skills)	The proportions of Worcestershire residents with varying levels of qualification compare favourably with regional and national averages. 71% of residents of working age have level 2 qualifications or above, compared to 69% nationally and 65% regionally. 30% have level 4 qualifications or above, the same as the national average.
Cultural heritage, built design and archaeology	There are nearly 6,000 listed buildings in the County, together with 485 scheduled ancient monuments, 147 conservation areas, 1 registered battlefield, 15 historic parks and gardens, and over 22,000 entries on the County Historic Environment Record.
Population 2 (anti social behaviour, crime, litter and graffiti)	Between April 2007 and March 2008, 37,686 crimes were recorded in Worcestershire. This is a reduction of 5.86% compared to 2006/07, and 9.63% compared to 2005/06.
Material assets (including land use & local amenity)	Construction aggregates make up most of the mineral output of the county. Worcestershire provides about 1 million tonnes or 7% of the annual apportionment of aggregates for the West Midlands region. Sand, gravel clay, moulding sand and limestone are the materials being commercially exploited at present and which will continue to be exploited in the foreseeable future. The enjoyment of the countryside is a key pull factor for many visitors to the county.

1.1.4 Areas Likely to be Significantly Affected by the WCS

The appraisal has considered the areas likely to be significantly affected by implementation of the Emerging Preferred Options, in order to identify the sustainability characteristics of those areas. In reality, the effects of implementation of the plan can be considered on two levels.

First, the overall effects will be spread throughout the county; because waste arises almost everywhere, waste transport will occur throughout the county and some of the impacts of recycling, recovery and disposal activities will be widespread and borne by all. In this case, the relevant sustainability characteristics are those set out in the baseline above and in *Annex A*.

On another level, some of the effects of the management of waste will occur in the vicinity of waste management sites. At this stage, the broad areas which will be regarded as acceptable locations for development have not been identified, nor have specific sites, and therefore it has not been possible to make an assessment of the conditions in areas likely to be significantly affected. It is expected that more specific information will become available on locations for waste development at later stages in the process of developing the WCS; at which time an assessment will be made of the environmental and sustainability conditions in those areas.

1.1.5 Existing Problems Relevant to the WCS

Worcestershire has a number of characteristics and 'problems' [(1)] which are relevant to the WCS. These are summarised below and described in detail in the baseline in *Annex B*.

Worcestershire currently exceeds the England average for recycling municipal solid waste and landfills slightly less than average, although 52% of municipal solid waste was still landfilled in 2007/08. Commercial/industrial and construction/demolition wastes are each significantly larger waste streams than the municipal solid waste stream, although data on how these waste streams are managed is poor.

Although there is relatively little traffic congestion on the county's road network, there are hotspots in and around the main towns and particularly around Worcester.

Air quality is generally good throughout the county, although there are some areas of poor air quality, largely due to transport emissions.

Construction aggregates make up most of the mineral output of the county. Worcestershire provides about 1 million tonnes or 7% of the annual apportionment of aggregates for the West Midlands region.

About 10% of the land area of the county is subject to flood risk, particularly from the rivers Severn, Teme, Avon and Stour. A Strategic Flood Risk Assessment is yet to be completed for the WCS.

The County contains parts of two areas designated as Areas of Outstanding Natural Beauty. There are also numerous historic townscapes including 147 conservation areas, and about a quarter of the county is designated as green belt.

Worcestershire contains or is near to some areas which are designated as internationally important, including Special Protection Areas and Special Areas of Conservation designated pursuant to Directives 79/409/EEC [(2)] and 92/43/EEC [(3)]. The sites are all subject to pressures which are described in more detail later in the report.

1.1.6 Taking Account of Relevant Sustainable Development Objectives

A long list of international, national, regional and county level policy documents was considered to assess each one's relevance to sustainable development, and particularly in the context of the scope of the WCS. The list of the documents considered and those reviewed is given in *Annex A*.

(1) The SEA Directive requires the report to identify relevant problems.
(2) Directive 79/409/EEC on the conservation of wild birds
(3) Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

The review identified the key sustainable development policy objectives contained in each document, and *Table 2.1* sets out the environmental, economic and social objectives which were identified. These objectives set the policy context for the WCS and with which it must conform. They were used in undertaking the SA as a framework against which to assess the likely environmental and sustainability effects of the Emerging Preferred Options. The review also identified any relevant targets which have been set.

The sustainability baseline data was also analysed to identify the key sustainability issues in the county which are relevant to the WCS. The list of sustainable development objectives was then reviewed to ensure that all key issues would be covered by the appraisal framework and therefore that the WCS would be appraised for its effect on these issues.

1.1.7 The Likely Significant Effects of the WCS

The various elements of the Emerging Preferred Options and reasonable alternatives were assessed against the appraisal framework, and their likely sustainability effects identified and described. The findings and conclusions of these individual elements were then drawn together to make an assessment of the overall effects of the WCS as a whole, in light of the appraisal of the vision and strategic objectives for the WCS (see *Section 5*), the appraisal of the draft policies (see *Section 6*) and the appraisal of the preferred options and reasonable alternatives (see *Section 7*). *Table 1.2* sets out the results of this synthesis, and draws conclusions about the likely significant overall effects of the WCS taken as a whole.

Table 1.2 Summary of Likely Significant Effects of WCS

SA objectives	Assessment	Comments
1. Manage waste in accordance with the waste hierarchy	+/0	Clear support is given to the waste hierarchy across much of the WCS. However, stronger incentives could be given to increase recycling of C&D and C&I waste, including by adoption of targets for recycling. Reuse should also be promoted in the vision. Further consideration should be given to the need for hazardous waste disposal arising from residual treatment of waste.
2. Reduce causes of and adapt to the impacts of climate change.	+/?	Climate change has a strong emphasis in the WCS, and emissions are likely to be reduced through the diversion of waste from landfill and recovery of energy. Emissions from waste transport are less certain as specific locations for development are not yet defined.
3. Avoid flood risk	+/?	Development management policy should ensure flood risk is not increased, although pressure for development on constrained land may be increased by the locational hierarchy. However, the likelihood of this will depend on the specific locations of development sites and on the results of a more detailed Strategic Flood Risk Assessment.
4. Reduce the need to travel and promote sustainable	?	The WCS requires minimisation and sustainable use of waste transport, but by increasing recycling and recovery it may increase the need for waste transport by requiring multiple handling of waste streams. However, the

SA objectives	Assessment	Comments
travel		significance of effects depends on where facilities are located which is not known at this stage. A solution based on centralised, larger facilities may not minimise waste transport distances compared to a more dispersed pattern of development. The locational hierarchy should be applied taking account of both the size and broad type of facility to be developed. Further consideration should be given to the need for hazardous waste disposal arising from residual treatment of waste.
5. Develop a knowledge-driven economy	+	The WCS supports the development of waste management facilities, encouraging the growth and development of the waste sector in Worcestershire and increasing its economic contribution. The benefits of industrial symbiosis and co-location are promoted.
6. Encourage participation and responsibility	+/-	The WCS increases opportunities to recycle thereby promoting greater responsibility among the public for waste. A dispersed pattern of waste developments would spread responsibility for waste management more widely than a solution which focused on larger, centralised facilities.
7. Promote new technologies	+	By facilitating the development of sites to divert waste from landfill and allowing flexibility to respond to new technologies, the WCS will help to support the development of new technologies for managing waste. Promoting sustainable construction, higher energy and environmental standards in design and climate change adaptation will also support markets for new technologies.
8. Promote energy efficiency and renewable/low carbon generation	+/?	The WCS emphasises energy efficiency and energy generation and including renewable generation. However, it does not explicitly promote the use of CHP and this should be included. The effect of transport on energy consumption is uncertain and should be assessed further when more details on location are known.
9. Protect and enhance water, soil and air.	+/?	The WCS requires the avoidance of adverse impacts on air, water and soil, although the likelihood and significance of impacts depends largely on sensitivities at individual locations which are not currently known.
10. Improve quality and access to services	+	The WCS aims to improve access to services where this is within its scope to achieve, particularly access to HWRCs and to recycling facilities within new non-waste developments.
11. Safeguard and strengthen landscape quality	+	Landscape character is explicitly protected and significant adverse effects are unlikely. However, the significance of landscape impacts depends primarily on individual sites and types of facilities proposed.
12. Conserve and enhance biodiversity and geodiversity	+	By requiring compliance with national, regional and local policy, and account to be taken of designated sites and action plans, adverse effects on biodiversity and geodiversity should be avoided. However, the likelihood of this will depend on the specific locations of development sites and on the results of a more detailed Strategic Flood Risk Assessment and the completion of the Habitats Regulations Assessment.

SA objectives	Assessment	Comments
13. Improve health and well being	0	By requiring compliance with national, regional and local policy, adverse effects on health and amenity are unlikely.
14. Provide decent affordable housing for all	+	The WCS promotes the adoption of sustainable construction methods and good design for waste facilities.
15. Raise skills levels	+	Diverting increased quantities of waste from landfill will support new enterprises in Worcestershire which will require more skilled labour, although the number of jobs is likely to be small compared to the overall labour market in the county.
16. Conserve and enhance the historic and built environment	+	The WCS requires protection of assets, therefore adverse effects on the built and historic environment should be avoided. In addition, good design and sustainable construction are promoted for waste developments.
17. Reduce crime and antisocial behaviour	Ø	Not relevant to the scope of the WCS.
18. Ensure efficient use of land	+ /?	By promoting waste minimisation, recycling and reuse and the adoption of sustainable construction standards, the WCS will help to reduce demand for virgin mineral resources. However, it does not give any incentive to recycle increased levels of C&D waste and therefore the overall effect on substitution for primary minerals is unknown. Incentives to recycle C&D waste should be strengthened by adoption of a target. By giving priority to locating development in the main towns/city and to previously developed land, the WCS is likely to help to increase the focus on the use of previously developed land. However, it may also increase the pressure for development in the green belt, particularly with the emerging preferred option which appears to derogate from national policy on green belt. The need for any derogation should be assessed in more detail when further information is available about locations for development.

1.1.8 Selecting Alternatives

In developing the Emerging Preferred Options, a number of issues have been considered where there are a number of options available for policy approaches to be taken. In some cases a preferred option has been identified, whereas in others the alternatives are still being considered and a preferred option is yet to be selected. The SA has appraised these preferred options (where identified) and reasonable alternatives to them, or the options under consideration (where a preferred option is yet to be selected).

Outcome of Options Appraisal

The issues and options which have been appraised by the SA, together with the conclusions, are as follows.

Urban or rural locations: Locating facilities primarily in the urban areas will minimise the need for waste transport and is likely to focus development on previously developed land, while protecting assets more likely to be affected by rural development such as landscape, open spaces and biodiversity.

Centralised or dispersed facilities: A mix of centralised and dispersed facilities would capture the benefits of industrial symbiosis and co-location, while also enabling facilities to be located close to the source of arisings where appropriate and spreading the responsibility for waste more widely.

Small or large facilities: A mix of large and small facilities would deliver a more balanced approach to waste management, by reducing waste transport distances and spreading responsibility for waste more widely, but still providing the benefits from economies of scale.

Approach to green belt: The preferred option in relation to green belt could make it more likely that development could be delivered close to some of the larger settlements, particularly Redditch, Kidderminster and Bromsgrove. This could help to reduce waste transport distances and associated emissions including greenhouse gas emissions, while still protecting the objectives of green belt designation. However, the significance of any impacts and the need for relaxation of green belt restrictions will depend on the availability of sites which is not known at this stage. The preferred option should give further consideration to the need for a change to green belt policy when more information is known about broad locations for waste development and site availability.

Locational strategy: The strategy is likely to minimise waste transport distances but this should be tested further when more detail is available about the locations or specific sites which will be identified. Protection of the green belt should be strengthened to avoid losses wherever possible, by regarding waste development as inappropriate in the green belt except in very special circumstances, unless this can be demonstrated to be necessary when more detail is known about the broad locations for waste facilities and availability of sites.

Allocating facilities to the locational hierarchy: The likely effect on waste transport distances of the options is unclear at this stage, and should be tested further when more detail is available about the locations or specific sites which will be identified and the types of development and sizes which are likely to be sought. However, greater control over waste transport is likely to be achieved through specifying a combination of size and type of facility, while also allowing flexibility to support innovation in waste management technologies.

MSW capacity needs: The WCS gives clear support to the waste hierarchy and resource efficiency for MSW and supports the development of the waste sector. The effects on transport are unclear at this stage and should be tested

further when more detail is available about the locations or specific sites which will be identified.

C&I capacity needs: The preferred option for C&I waste capacity gives some support to the waste hierarchy, but this could be strengthened by adopting a target for recycling a percentage of arisings. This would lead to greater resource efficiency and fewer greenhouse gas emissions, although is likely to require more waste transport because of the need for multiple handling of recyclable materials and to generate less energy from waste..

C&D capacity needs: The preferred option for C&D waste capacity gives little support to the waste hierarchy. This could be strengthened by adopting a target for recycling a percentage of arisings, which would also help to safeguard mineral reserves and reduce the risk of impacts from extraction and landfill.

Hazardous waste capacity: The Preferred Options document should give additional consideration to whether there is a need to provide capacity to manage hazardous waste arisings from thermal treatment of waste, and of what type.

1.1.9 Mitigation of Effects

The following recommendations are made for amendments to the emerging WCS in order to mitigate the predicted adverse effects or to maximise opportunities to capture benefits.

Table 1.3 Mitigation Recommendations

No.	Recommendation
1	The WCS should give stronger incentives to increase recycling of C&D and C&I waste, for example through setting targets and capacity requirements for recycling facilities.
2	Reuse of waste should be promoted in the vision.
3	The locational hierarchy should be applied taking account of both the size and broad type of facility to be developed.
4	The use of CHP wherever practicable should be promoted.
5	Further consideration should be given to the need for management of hazardous waste arising from treatment of residual waste.
6	Ensure that policy in relation to permitted development rights and local collection points considers potential impacts on the historic environment.
7	Transport impacts should be assessed in more detail when more information is available on broad locations or specific sites, including the effects of a preferred option based on centralised, larger facilities compared to a more dispersed pattern of development.
8	Flood risk impacts should be assessed in more detail when more information is available on development locations and from a detailed Strategic Flood Risk Assessment
9	The need for any derogation from national green belt policy should be assessed in more detail when further information is available about locations for development.

10	Development management policy in the WCS should ensure that applications are required to assess and avoid or minimise impacts on transport networks, particularly in relation to congestion and air quality.
11	Further assessment of effects on biodiversity should be undertaken when more information is known about expected waste developments, and is also dependent on the completion of the Habitats Regulations Assessment process.

1.1.10 Monitoring Recommendations

The SA makes recommendations for monitoring, with suggested indicators to enable WCC to monitor the likely significant impacts of the WCS. This also includes a number of indicators to allow WCC to identify unforeseen adverse effects in order to be able to take appropriate remedial action.

1.2 STATEMENT ON THE DIFFERENCE THE PROCESS HAS MADE TO DATE

As part of the SA process, an appraisal of the Refreshed Issues and Options document[1], which was the previous stage prior to the development of the Emerging Preferred Options, was undertaken previously. A number of recommendations were made in an Initial SA Report[2] produced in April 2009 which indicated how the sustainability of the WCS could be increased in carrying forward its development from the Refreshed Issues and Options stage. A number of these recommendations have been followed by WCC, and the Emerging Preferred Options document now incorporates the following as a result:

- The Spatial Portrait includes references to climate change mitigation and adaptation, quality of landscape, habitats and species of nature conservation importance and historic assets.

- The Vision emphasises that most waste will be recycled and that waste management activities will be resource-efficient.

- The WCS refers to the following strategies as being relevant to waste development:
    - Catchment Management Plans,
    - the Local Transport Plan,
    - the Air Quality Strategy for Herefordshire and Worcestershire,
    - AONB Management Plans and
    - the Worcestershire Biodiversity Action Plans.

- Draft policy in the Emerging Preferred Options promotes energy efficiency.

(1) Waste Core Strategy for Worcestershire Refreshed Issues and Options Consultation – 'How Should We Proceed'?, Worcestershire County Council, September 2008

(2) Initial Sustainability Appraisal of Issues and Options for Waste Core Strategy for Worcestershire, ERM, April 2009

1.3 *HOW TO COMMENT ON THE REPORT*

Comments on any aspect of the Emerging Preferred Options for the WCS, or on this SA Report can be made by:

- emailing to wcs@worcestershire.gov.uk
- writing to Nicholas Dean, Directorate of Planning Economy and Performance, Worcestershire County Council, County Hall, Spetchley Road, Worcester, WR5 2NP

2 INTRODUCTION

2.1 BACKGROUND

Worcestershire County Council (WCC) has re-started the process of producing the Waste Core Strategy (WCS) for Worcestershire. The WCS will provide the framework for how all the waste streams in the County will be managed between now and 2027. Earlier work on the WCS which was undertaken between 2005 and 2007 was subsequently halted, but WCC is now recommencing the process and refreshing the preparatory work.

The first stage in the process was to redraft an Issues and Options document and to publish it for consultation. The consultation on the Issues and Options document took place between September and December 2008. Responses to the consultation were considered by WCC in developing an Emerging Preferred Options Report for the WCS, which was drafted during the summer and autumn of 2009 and issued for public consultation in late 2009.

The *Planning and Compulsory Purchase Act 2004* requires a sustainability appraisal (SA) of local Development Plan Documents (DPD) to be carried out, including Waste DPDs such as the WCS. Under the *Environmental Assessment of Plans and Programmes Regulations 2004,* the WCS must also be subject to a Strategic Environmental Assessment (SEA) before it is adopted. Government guidance indicates that an SA can and should be undertaken which also meets the requirements of SEA. Therefore, as part of the process of developing the WCS, it will be subject to an SA incorporating SEA.

SA is to be used as a tool for integrating environmental and sustainability considerations into the preparation of the WCS, by considering the effects of implementing the WCS during its preparation and before its adoption. The SA is required systematically to assess the WCS against a framework of environmental, economic and social objectives. It should identify, describe and evaluate the likely significant effects of implementing the plan or strategy, and reasonable alternatives taking into account the objectives and the geographical scope. These issues must be taken into account in the preparation of the WCS.

WCC has commissioned Environmental Resources Management (ERM) to support it in the process of developing the WCS by undertaking an SA of the WCS as it emerges and develops. An initial appraisal of the Issues and Options Report was undertaken during March and April 2009, and the findings and recommendations were taken into account by WCC in developing the Emerging Preferred Options Report.

A formal SA has now been carried out of the Emerging Preferred Options Report, on a draft produced in September 2009. The SA has identified the key sustainability implications of the emerging preferred options, with the aim of

informing WCC about the likely effects and enabling it to understand the implications. This document sets out the results of the SA and highlights the main implications of the emerging preferred options. The results, conclusions and recommendations of the SA will be taken into account by WCC in the development of a Preferred Options Report during the early part of 2010, which is the next stage in the development of the WCS.

2.2 *PROCESS*

2.2.1 *Scoping*

The first step in the SA work was a scoping stage, to identify the sustainability context for waste management and planning in Worcestershire. This stage of the SA was undertaken by WCC in-house.

The scoping stage involved the collection of a wide range of baseline data covering economic, social and environmental issues in order to provide a picture of the current sustainability conditions in Worcestershire and to identify emerging trends where possible. The baseline data was analysed to identify the key sustainability issues for the county, within the particular context of waste management and planning.

In tandem with the baseline data collection and analysis, all relevant policies, plans and programmes were identified with a view to helping to establish the key sustainability issues for Worcestershire that could be affected by the WCS. The policy documents identified were reviewed to extract information to inform the issues, and to identify sustainable development policy objectives with which waste management and planning in the county must or should conform.

A framework of policy objectives was then developed for the appraisal. The objectives are supported by decision-making criteria in the form of questions under each objective. The emerging WCS has been appraised against this framework to assess the extent to which it supports sustainable development policy objectives for Worcestershire, taking into account the specific questions which are posed. The framework was based on the existing Worcestershire Joint SA Framework, and also informed by:

- Review of the issues of relevance to Worcestershire as described within key policy documents, with particular regard being given to the Community Strategy and Regional Sustainable Development Framework;
- Review of the sustainability characteristics and issues; and
- Analysis of the opportunities arising from the baseline data.

The results of the scoping stage were set out in a Scoping Report which was issued to the three statutory agencies for consultation from 29 September to 7 November 2008.

In total, three responses were received, from the Environment Agency, English Heritage and Natural England. The main comments related principally to additional data to be included in the baseline, and additional documents for the policy review. These particularly covered issues of flood risk, water quality, biodiversity, heritage and landscape. However, there was also a request to note water as a significant issue for waste management in Worcestershire, and requests to amend the wording of the objectives on historic environment and biodiversity to expand their scope. The Environment Agency also identified a need to undertake a Strategic Flood Risk Assessment (SFRA) for Worcestershire as a whole in the particular context of the WCS. Consultation comments were taken on board and further scoping work was undertaken to ensure that the relevant key issues and policies are reflected in the framework. Further work on the SFRA is yet to be taken forward.

The objectives and decision-making criteria, as amended following the Scoping Report consultation, are set out in *Table 2.1*. This is the appraisal framework which has been used to appraise both the Refreshed Issues and Options and the Emerging Preferred Options.

Table 2.1 SA Objectives and Decision-Making Criteria

Theme	Objective	Decision-Making Criteria
1. Waste	Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	1a. Are opportunities to increase recycling encouraged in your plan? 1b. Will your plan reduce the production of waste and manage waste in accordance with the waste hierarchy?
2. Climate Change	Reduce causes of and adapt to the impacts of climate change.	2a. Will your plan reduce emissions of greenhouse gases? 2b. Does your plan promote patterns of spatial development that are adaptable to and suitable for predicted changes in climate? 2c. Does your plan promote measures to mitigate causes of climate change?
3. Flooding	Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	3a. Does your plan protect the floodplain from inappropriate development? 3b. Does your plan reduce the risk of flooding in existing developed areas? 3c. Does your plan promote Sustainable Drainage Systems (SUDs)? 3d. Does your plan promote patterns of spatial development that are adaptable to and suitable for predicted changes in climate?
4. Traffic and transport	Reduce the need to travel and move towards more sustainable travel patterns.	4a. Will your plan reduce the need to travel? 4b. Will your plan provide opportunities to increase sustainable modes of travel? 4c. Does your plan focus development in existing centres, and make use of existing infrastructure to reduce the need to travel?
5. Growth with prosperity for all	Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	5a. Will your plan contribute towards urban and rural regeneration? 5b. Will your plan provide opportunities for businesses to develop and enhance their competitiveness? 5c. Will your plan support the shopping hierarchy? 5d. Will it help to improve skills levels in the workforce?
6. Participation by all	Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	6a. Do your plan proposals incorporate consultation with the local communities? 6b. Does your plan promote wider community engagement and civic responsibility?
7. Technology, innovation and inward investment	Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	7a. Does your plan encourage innovative and environmentally-friendly technologies? 7b. Does your plan promote and support the development of new technologies, of high value and low impact?
8. Energy generation and use	Promote energy efficiency and energy generated from renewable energy and low carbon sources.	8a. Will your plan encourage opportunities for the production of renewable and low-carbon energy?

		8b. Will your plan promote greater energy efficiency?
9. Natural resources	Protect and enhance the quality of water, soil and air.	9a. Will your plan improve or maintain air quality? 9b. Will your plan provide opportunities to improve or maintain water quality? 9c. Will your plan encourage measures to improve water efficiency in new development, refurbishment and redevelopment? 9d. Will your plan provide opportunities to improve or maintain soil quality?
10. Access to services	Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	10a. Will your plan enhance the provision of local services and facilities? 10b. Will your plan contribute to rural service provision across the County? 10c. Will your plan enhance accessibility to services by public transport?
11. Landscape	Safeguard and strengthen landscape character and quality.	11a. Will your plan safeguard and strengthen landscape character and quality?
12. Biodiversity, geodiversity, flora and fauna	Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	12a. Will your plan help to safeguard the County's biodiversity and geodiversity? 12b. Will your plan provide opportunities to enhance local biodiversity/ geodiversity in both urban and rural areas? 12c. Will your plan protect sites and habitats designated for nature conservation? 12d. Will your plan help to achieve targets set out in the Biodiversity and Geodiversity Action Plans?
13. Health	Improve the health and well being of the population and reduce inequalities in health.	13a. Will your plan improve access to health facilities across the County? 13b. Will your plan help to improve quality of life for local residents? 13c. Will your plan promote healthier lifestyles? 13d. Does your plan mitigate against noise pollution? 13e. Does your plan mitigate against light pollution?
14. Provision of housing	Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	14a. Will your plan provide opportunities to increase affordable housing levels within urban and rural areas of the County? 14b. Will your plan provide affordable access to a range of housing tenures and sizes? 14c. Does your plan seek to provide high quality, well-designed residential environments? 14d. Does your plan provide opportunities for the construction of sustainable homes?
15. Population (learning and skills)	Raise the skills level and qualifications of the workforce.	15a. Will your plan provide opportunities to further develop educational and attainment facilities within the County?
16. Cultural heritage, built design and archaeology	Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	16a. Does your plan provide opportunities for sustainable construction? 16b. Will your plan preserve, protect and enhance conservation areas, listed buildings, archaeological remains, historic parks and gardens and their settings, and other features and areas of historic and cultural value? 16c. Will your plan help to safeguard the County's listed, locally-listed and other historic

		buildings? 16d. Does your plan improve the quality of the built environment?
17. Population (antisocial behaviour, crime, litter and graffiti)	Reduce crime, fear of crime and antisocial behaviour.	17a. Does your plan seek to provide high quality well-designed environments? 17b. Does your plan promote wider community engagement and civic responsibility? 17c. Does your plan promote mixed development that encourages natural surveillance?
18. Material assets	Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	18a. Will your plan safeguard the County's mineral resources? 18b. Will your plan help to protect the County's agricultural land from adverse developments? 18c. Will your plan preserve the openness of the green belt? 18d. Will your plan protect and enhance the County's open spaces of recreational and amenity value? 18e. Does your plan provide opportunities for sustainable construction? 18f. Will your plan maximise the use of previously developed land?

2.2.2 *Issues and Options*

The Issues and Options document was developed by WCC and issued for public consultation from September to December 2008. Following this, WCC commissioned ERM to undertake the SA of the emerging WCS, which began with an Initial Appraisal of the Issues and Options document between March and April 2009.

The following issues and options were assessed in the Initial Appraisal:

- Geographic or locational issues to be considered in the spatial portrait for Worcestershire;
- The draft Vision statement;
- Guiding principles for the WCS;
- Draft local objectives for the WCS;
- Monitoring implementation of the WCS;
- Whether and how to allocate C&I and C&D capacity requirements to the individual lower tier authorities;
- Factors to consider in protecting the environment, health, employment and amenity;
- Future plans and strategies of spatial relevance in Worcestershire;
- Options for the approach to green belt;
- Options for focusing development in urban or rural locations;
- Options for the approach to commissioning small or large facilities;
- Options for whether to prioritise centralised or dispersed facilities;
- Options for quantities of waste to be managed at different levels of the waste hierarchy; and
- Whether to specify waste management technologies, or to identify broad locations or sites and broad types of suitable uses.

The findings and recommendations from the Initial Appraisal were set out in an Initial SA Report[1] which was submitted to WCC in April 2009. The conclusions of this report were taken into account by WCC in developing the Emerging Preferred Options.

2.2.3 *Emerging Preferred Options*

The Emerging Preferred Options document was developed during the summer and autumn of 2009. A first draft was produced in September 2009 which is the subject of this SA. The document proposes a vision and objectives for the WCS and sets out a number of draft policies. It also poses a series of questions asking for comments on a range of issues, and in some cases identifies preferred options in response to the issues. However, for some issues the options are still to be developed and a preferred option is yet to emerge.

(1) *Initial Sustainability Appraisal of Issues and Options for Waste Core Strategy for Worcestershire*, ERM, April 2009

For some of the issues and options which are raised in the Emerging Preferred Options document, it was not considered useful to appraise them for sustainability implications, as there are no clear sustainability issues involved. This particularly applies to the issue of how much of the different types of waste is likely to arise over the plan period.

However, for other aspects of the emerging preferred options, it is clear that there are sustainability implications around the choice of preferred option, and therefore the SA has assessed each of the relevant elements to identify the likely sustainability effects arising.

The following aspects of the Emerging Preferred Options document have been subject to SA:

- vision;
- objectives;
- draft policies;
- whether to locate facilities in urban or rural areas ;
- whether to promote centralised or dispersed facilities;
- whether to require large or small facilities;
- approach to permitting development in the green belt;
- locational strategy for MSW, C&I, C&D;
- how to allocate facilities to the locational hierarchy;
- capacity needs for MSW;
- capacity needs for C&I waste;
- capacity needs for C&D waste;
- capacity needs for hazardous waste.

The detailed results of the appraisal are set out in *Annexes C and D* and a summary of the main findings given in the main text of this report in *Sections 5* to *8*.

2.2.4 Methodology

The appraisal determined the likely effects arising from the Emerging Preferred Options for the WCS where this was possible. This applied largely to the vision, objectives and policies, and to elements of the spatial strategy. This was done by assessing each element of the Emerging Preferred Options against the appraisal objectives in turn, using the decision-making criteria identified, and making a largely qualitative assessment, with reference also to the baseline data from the Scoping Report.

In reporting the results of these assessments, the following symbols have been used to indicate the broad nature of the predicted effect:

+	effect likely to be positive
-	effect likely to be negative
0	no significant effect
?	effect unknown

Ø not relevant

Multiple symbols have been used (e.g. ++) to indicate a different scale of impact relative to the other options, in other words where the impacts of an option are *substantially* better or worse than others.

The effects were also rated for their significance in terms of the importance for achieving each appraisal question within the context of the SA objective. Effects were rated as high, medium or low, taking account of a number of factors. The factors were:

- the expected scale of the effects or the degree to which the effects are likely to contribute to the achievement of the SA objective in the county overall;
- the certainty or probability that the effect is likely to occur as a consequence of the options;
- whether the effects would be permanent or reversible;
- whether the effect will occur as a direct result of the option or not, in other words whether the options are key for achieving or controlling effects;
- whether the effect is more strongly dependent on other interventions or other factors;
- how important the objective is in differentiating between the options.

The assessment of significance is indicated in the tables by colour:

	Not relevant
	No significance
	Medium significance
	High significance

3 BACKGROUND

3.1 PURPOSE OF THE SA AND THE SA REPORT

The overall purpose of the SA is to evaluate the likely implications of the Worcestershire WCS and reasonable alternatives for the sustainable development of waste management arrangements in the county, and to inform the plan-making process. The aim is to enable the WCS to take account of the ways in which waste management as proposed in the Emerging Preferred Options for the WCS might affect the economy, environment and communities of Worcestershire.

The SA has tested the Emerging Preferred Options for the WCS against a series of objectives that reflect relevant sustainable development policy objectives. The WCS and alternatives were tested to determine their potential to give rise to significant effects, in order to enable the identification of the most sustainable strategy in the light of knowledge of the potential significant impacts of the WCS on relevant sustainable development policy objectives.

The findings and recommendations reached through the SA are set out in this report, and the method by which the appraisals were undertaken is described and explained.

3.2 PLAN OBJECTIVES AND OUTLINE OF CONTENTS

The overall purpose of the WCS is to provide a strategic policy framework by which the authorities in Worcestershire will carry out their statutory duty to manage and dispose of waste.

Reflecting the new planning framework introduced by the Planning and Compulsory Purchase Act 2004, the WCS not only covers the normal issues relating to land use planning and development management, but also deals with other aspects of waste disposal which have spatial implications.

To reduce the county's current reliance on landfill, the development of waste management infrastructure to divert waste from landfill is critical to delivery of the WCS. As such, strategic locations to deliver this capacity across the county will be identified, focusing on a hierarchy of towns where waste development would be permitted. Policies have been drafted which set out how such capacity will be delivered.

The WCS sets out a number of strategic objectives:

Objectives Specified in Worcestershire County Council's Emerging WCS:	
WO1	To base our decisions on the principles of sustainable development and the need to reduce and mitigate the causes of climate change to guide decisions;
WO2	To do everything possible to minimise waste production;
WO3	To address the "Capacity Gap" between how much waste management capacity we have and what we need;
WO4	To make implementing the waste hierarchy the basis for Waste Management in Worcestershire;
WO5	To make communities in Worcestershire take responsibility for their own waste;
WO6	To reduce the transportation of waste by road where possible;
WO7	To ensure that the waste implications of all new development in Worcestershire are taken into account;
WO8	To safeguard existing waste management facilities from incompatible development;
WO9	To involve all those affected as openly and effectively as possible;
WO10	To monitor the effects of the Waste Core Strategy and revise it accordingly as circumstances change.

The following issues are covered by draft policies in the WCS in order to achieve the objectives set out above:

Summary of draft policies:

- Ensuring proposals for development contribute to sustainable development, particularly promoting the waste hierarchy and combating climate change
- Delivering waste development near to the principal settlements in the county
- Directing where development would be acceptable
- Specifying criteria for assessing unallocated sites and for the granting of permission for all waste management development
- Setting out the capacity needs for facilities to manage the different waste streams and the kind of facilities required
- Safeguarding waste sites from other developments
- Requiring other developments to take account of waste arisings and management
- Setting particular conditions for energy from waste and landfill
- Managing the impacts of waste developments

3.3 RELATIONSHIP OF WASTE CORE STRATEGY WITH OTHER POLICY DOCUMENTS

The WCS sits within a framework of other policy documents which together influence both the content of the plan and its implementation. The most important of these are described below:

- European Union legislation, most importantly the *Landfill Directive* which sets targets for reduction in the amount of biodegradable municipal waste sent to landfill, and the *Waste Framework Directive* which implements the waste hierarchy and sets requirements for recycling and recovery. WCC must meet the requirements imposed by the Directives.

- National legislation which is also binding on WCC, principally the *Waste and Emissions Trading Act 2003* which implements the *Landfill Directive* in the UK and introduces a scheme of trading in landfill allowances in order to reduce disposal of biodegradable municipal waste to landfill.

- National waste policy, in particular that set out in *Waste Strategy 2007* (1), sets the framework of overarching policy objectives for waste Local Development Documents (LDDs). The WCS must be aligned with these broad policy objectives such as promoting waste minimisation and implementing the waste hierarchy.

- National planning guidance which sets out details of the policy approaches which should be adopted by local and regional authorities, and which WCC should follow unless there are special circumstances and strong reasons to the contrary. The most significant of these is Planning Policy Statement 10 on *Planning for Sustainable Waste Management*, but a range of other Planning Policy Statements and Guidance notes are relevant.

- The draft Regional Spatial Strategy (2) sets out policies to deal with waste arising in the West Midlands region. While being aligned with national waste policy objectives, the strategy has a specific focus on policy to deal with the specific circumstances and challenges of the region. Local authorities in the region should take the strategy into consideration in developing Local Development Documents and should seek to align their policies with those in the strategy. The strategy is yet to be approved by the Secretary of State.

- Herefordshire and Worcestershire local authorities have produced a reviewed *Joint Municipal Waste Management Strategy* (3). This constitutes a 30-year plan for the management of municipal waste which seeks to deliver targets for minimising, recycling and treating municipal waste while meeting environmental objectives. The WCS seeks to enable implementation of the Joint Municipal Waste Management Strategy by providing the planning framework by which the facilities to do so will be delivered.

- Worcestershire statutory plans, for example Local Development Frameworks, set the local policy context for the content and

(1) Waste Strategy for England 2007, Department for Environment, Food and Rural Affairs, May 2007
(2) West Midlands Regional Spatial Strategy Phase Two Revision Draft: Preferred Option, West Midlands Regional Assembly, December 2007
(3) The Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire 2004-2034 First Review November 2009 Headline Strategy, Joint Waste Resource Management Forum, draft reviewed but still to be adopted

implementation of the WCS, particularly policies on the location and control of development, and by which development under the WCS will be bound.

- The Worcestershire Sustainable Community Strategy, and other non-statutory strategies and plans such as the Economic Development Strategy, guide the policy approach of the WCS on specific issues but are not binding.

A list of relevant policies, plans and programmes and a review and summary of their content is set out in *Annex A*. The key points emerging from the review that the SA needs to address are outlined below.

Social

- Access to services, particularly for people living in rural areas.
- Promotion and improvement of access to education.
- Enabling communities to participate in and contribute to the issues that affect them.
- Pockets of deprivation exist in the County.
- Provision of decent affordable housing for all.
- Promotion of communities that are healthy and support vulnerable people.
- Addressing health inequalities.
- Tackling crime, fear of crime and anti-social behaviour.

Environmental

- Encouraging and enabling waste minimisation, reuse, recycling and recovery, in order to meet national, regional and local targets.
- Prevention or reduction of the negative effects of waste management on the environment.
- Target of 60% reduction in carbon dioxide emissions by 2050.
- Improving energy efficiency; increasing the use of renewable energy: 10% of the UK electricity should be coming from renewable energy sources by 2010 and 20% by 2020 (Energy White Paper).
- Development should be focused in, or next to, existing towns and villages with previously-developed land used in preference to greenfield.
- Encouraging and promoting land use activities which will lead to an improvement in the quality of natural resources.
- Development should be informed by, and sympathetic to, the landscape character of the locality.
- Protection of the County's natural and cultural heritage.
- The County is subject to potential flooding from, in particular, the Rivers Severn, Teme, Avon and Stour.
- There is an emphasis on reducing the need to travel and addressing hotspots of road congestion.

Economic

- Ensuring prudent and efficient use of natural resources.

- Ensuring the efficient transportation of freight within the County, so as to support a strong long economy, but ensuring the environmental impacts are minimised.
- On a workplace basis average earnings well below national comparators combined with a relatively low level of skilled workforce in the County.
- Significant proportion of workforce employed in declining industries.

3.4 *COMPLIANCE WITH THE SEA DIRECTIVE/REGULATIONS*

The Worcestershire WCS is subject to the requirements of the European Union's Directive on the Environmental Assessment of Certain Plans & Programmes (Directive 2001/42/EC) and the domestic legislation through which the Directive has been transposed into law in England and Wales (the Environmental Assessment of Plans & Programmes Regulations 2004 – Statutory Instrument 2004 No. 1633).

The SA of the Emerging Preferred Options was designed and undertaken so as to meet the legal requirements for the environmental assessment of plans. Throughout the report the term 'sustainability appraisal' should be interpreted as encompassing the sustainability appraisal process as required under the Planning & Compulsory Purchase Act 2004 and the strategic environmental assessment process as required under the European Directive and domestic Regulations on the environmental assessment of plans and programmes.

The following table indicates the components of the Sustainability Appraisal Report that make up the Environmental Report, as required by domestic and European law on the environmental assessment of plans.

Table 3.1 Summary Requirements of SEA Directive and Compliance of SA Report

Requirements for Environmental Report	**Component of SA Report**
a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes;	*Sections 3.2* and *3.3*
b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;	*Section 4.2* and *Annex B*
c) The environmental characteristics of areas likely to be significantly affected;	*Section 4.2.1* and *Annex B*
d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC;	*Section 4.2.2*
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;	*Section 3.3* and *Annex A*

Requirements for Environmental Report	Component of SA Report
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;	*Sections 5.2* to *5.4*, *6.3, 7.4. 8.2, Annexes C* and *D*
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;	*Sections 6.3* and *8.4*
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;	*Section 7.3* *Section 2.2.4* *Section 8.5*
i) a description of measures envisaged concerning monitoring in accordance with Art. 10;	*Section 9.2*
j) a non-technical summary of the information provided under the above headings	*Section 1.1*

4 SUSTAINABILITY BASELINE

4.1 INTRODUCTION

This section describes the significant features and conditions within Worcestershire relevant to sustainable development policy and objectives. It provides an overview of the state of the environment, society and the economy in the county in the period preceding the development and publication of the Emerging Preferred Options. The full baseline information which was used to compile this summary is given in *Annex B*.

The aim of this section of the report is to highlight any significant issues or problems that are affecting Worcestershire's economy, its people, or its environment and to outline the way in which the state of the environment, society and the economy might change in the future. The purpose is to set the context within which waste management activities arising out of the WCS will take place, so that the significant sustainability issues and the way that waste management activities might interact with those issues can be better understood. It also enables the SA and the process of developing the WCS to identify and focus on those issues which are significant.

This section of the report incorporates the environmental baseline information requirements that are specified in Schedule 2(6) of the Environmental Assessment of Plans & Programmes Regulations 2004.

4.1.1 *Difficulties in Collecting Data*

There are substantial amounts of data available to populate a sustainability baseline for Worcestershire. However, in some instances specific data relating to Worcestershire was not available. In such cases, where possible, data for the West Midlands region or the country as a whole has been used to indicate the likely situation in Worcestershire. In some cases, no data could be found to describe the baseline situation. In particular, there is little data on likely future trends for many issues.

4.2 SUMMARY OF SIGNIFICANT ISSUES AND PROBLEMS IDENTIFIED

The significant issues which have been identified from a review of the baseline are summarised in the following table.

Table 4.1 Key Sustainability Issues in Worcestershire

Issue	Key findings
Waste	Approximately 300,000 tonnes of municipal waste was generated in Worcestershire in 2007/08, of which 40% was recycled and 52% landfilled. The remainder was incinerated with energy recovery. Approximately 800,000 tonnes of industrial and commercial waste was generated, and a similar tonnage is estimated for construction and demolition waste. About 50,000 tonnes of hazardous waste is generated in the county each year. Existing landfill capacity is estimated to be sufficient to meet needs for approximately the next 20 years.
Climate change	In 2006 an estimated 5 million tonnes of $C0_2$ was added to the atmosphere from sources within Worcestershire as follows: • Industry and commerce 34% • Domestic premises 29%; • Road transport 36%; • Land use, land use change and forestry 1%. Approximately 10% of the county is at risk of flooding, principally from the rivers Severn, Teme, Avon and Stour.
Transport	There is relatively little traffic congestion on the county's road network, but the limited number of river crossings is a key cause of congestion in Worcester. There are currently no major rail freight facilities located within Worcestershire.
Growth with prosperity for all	The employment rate for Worcestershire is higher than the regional and national averages, although at lower tier level the rates vary considerably.
Participation by all	The six District Authorities committed to providing kerbside recycling to 84 -100 % of their residents, by 2005.
Technology, innovations and inward investment	The business base of Worcestershire is concentrated towards manufacturing, with the sector accounting for a total of 17.8% of the county's employment, which is second only to public administration, education and health at 23.9% of the county's employment.
Energy generation and use	Current renewable energy in the county comes from landfill gas, wood-fuel, biofuel, ground source heat, and solar systems. Potential additional sources include solar, biogas, energy crops, wind power and hydroelectricity.
Landscape	The Worcestershire Landscape Character Assessment identifies and describes 23 different landscape types in the county. There are also numerous historic townscapes – including 147 conservation areas. The County contains parts of two areas designated as Areas of Outstanding Natural Beauty. About a quarter of the county's land is designated as green belt.
Biodiversity, flora and fauna	Worcestershire contains two Special Areas of Conservation, 11 National Nature Reserves, 25 Local Nature Reserves, 5,848 ha of ancient semi natural woodland and around 200 Sites of Special Scientific Interest of which about 80% are in a good or improving condition..
Natural resources (air, water and soil)	Three Air Quality Management Areas have been declared due to poor air quality, all associated with busy arterial and main roads. The water quality of the majority of rivers within the county is rated as average. The majority of soils are Grade 3 in the agricultural land classification but significant areas of Grade 1 and 2 also occur.
Access to services	Nearly 40% of areas in Worcestershire are ranked within the top 20% most deprived areas nationally in terms of the geographical distance to basic services.

Issue	Key findings
Health	The healthy life expectancy of males and females living in Worcestershire is marginally higher than for the West Midlands and England.
Provision of housing	13,742 households in Worcestershire do not have central heating, while 632 households in Worcestershire do not have their own bath/shower and toilet.
Population 1 (learning and skills)	The proportions of Worcestershire residents with varying levels of qualification compare favourably with regional and national averages. 71% of residents of working age have level 2 qualifications or above, compared to 69% nationally and 65% regionally. 30% have level 4 qualifications or above, the same as the national average.
Cultural heritage, built design and archaeology	There are nearly 6,000 listed buildings in the County, together with 485 scheduled ancient monuments, 147 conservation areas, 1 registered battlefield, 15 historic parks and gardens, and over 22,000 entries on the County Historic Environment Record.
Population 2 (anti social behaviour, crime, litter and graffiti)	Between April 2007 and March 2008, 37,686 crimes were recorded in Worcestershire. This is a reduction of 5.86% compared to 2006/07, and 9.63% compared to 2005/06.
Material assets (including land use & local amenity)	Construction aggregates make up most of the mineral output of the county. Worcestershire provides about 1 million tonnes or 7% of the annual apportionment of aggregates for the West Midlands region. Sand, gravel clay, moulding sand and limestone are the materials being commercially exploited at present and which will continue to be exploited in the foreseeable future. The enjoyment of the countryside is a key pull factor for many visitors to the county.

4.2.1 Areas Likely to be Significantly Affected

The appraisal has considered the areas likely to be significantly affected by implementation of the WCS, in order to identify the sustainability characteristics of those areas. In reality, the effects of implementation of the plan can be considered on two levels.

First, the overall effects will be spread throughout the county because waste arises almost everywhere. Hence, waste transport will occur throughout the county and some of the impacts of recycling, recovery and disposal activities will be widespread and borne by all. In this case, the relevant sustainability characteristics are those as set out in the baseline above and in *Annex B*.

On another level, some of the effects of the management of waste will occur in the vicinity of waste management sites. At this stage, the broad areas which will be regarded as acceptable locations for development have not been identified, nor have specific sites, and therefore it has not been possible to make an assessment of the conditions in areas likely to be significantly affected. It is expected that more specific information will become available on locations for waste development at later stages in the process of developing the WCS, at which time an assessment will be made of the environmental and sustainability conditions in those areas.

4.2.2 *Worcestershire Characteristics that are Relevant to the WCS*

Worcestershire has a number of characteristics which are relevant to the WCS. These are summarised below and described in detail in the baseline assessment presented in *Annex B*.

Worcestershire currently exceeds the average recycling rate for municipal solid waste in England and landfills slightly less than average, although 52% of municipal solid waste was still landfilled in 2007/08. Commercial/industrial and construction/demolition wastes are each significantly larger waste streams than the municipal solid waste stream, although data on how these waste streams are managed is poor.

Although there is relatively little traffic congestion on the county's road network, there are hotspots in and around the main towns and particularly around Worcester.

Air quality is generally good throughout the county, although there are some areas of poor air quality, largely due to transport emissions.

Construction aggregates make up most of the mineral output of the county. Worcestershire provides about 1 million tonnes or 7% of the annual apportionment of aggregates for the West Midlands region.

About 10% of the land area of the county is subject to flood risk, particularly from the rivers Severn, Teme, Avon and Stour. A Strategic Flood Risk Assessment is yet to be completed for the WCS.

The County contains parts of two areas designated as Areas of Outstanding Natural Beauty. There are also numerous historic townscapes including 147 conservation areas, and about a quarter of the county is designated as green belt.

Worcestershire contains or is near to some areas which are designated as internationally important, including Special Protection Areas (SPA), Special Areas of Conservation (SAC) and a Site of Community Importance (SCI) designated pursuant to Directives 79/409/EEC [(1)] and 92/43/EEC [(2)]. The sites are all subject to pressures, as indicated in the following table.

(1) Directive 79/409/EEC on the conservation of wild birds
(2) Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

Table 4.2 Pressures on European Sites in or near to Worcestershire

European site	Key sensitivities
Ponds and pools: • Lyppard Grange Ponds SAC • Fens Pools SAC	Water quality - eutrophication is a threat, particularly from point source pollution (e.g. sewage outfalls) but also from surface runoff or groundwater pollution and atmospheric deposition
	Water levels – a high and stable water table is fundamental.
	Siltation (eg excessive poaching of lake margins by stock, suspended sediments leading to transport of nutrients)
	Scrub or tree encroachment (leading to shading, nutrient and hydrological effects)
	Maintenance of appropriate grazing regime
	Spread of introduced non-native species
	Recreational pressure / disturbance (particularly on-water activities with potential to disturb sediment and increase turbidity in lakes)
	Development pressure
	Diffuse air pollution from traffic and agriculture.
Woodland: • Dixton Wood SAC • Bredon Hill SAC	Water quality – e.g. pollution through groundwater and surface run-off sources
	Water level – maintenance of water table essential e.g. restrict new drainage ditches around wet woodlands
	Maintenance of appropriate grazing regime
	Heavy recreational pressure
	Spread of non-native / invasive species
	Scrub encroachment
	Atmospheric pollution (nutrient deposition and acidification)
	Development pressure
Rivers: • River Wye / Afon Gwy SAC • Severn Estuary SCI[1]	Water quality – pollution through agricultural run-off and sewage outputs is a problem
	Flow (flow regime should be characteristic of the river). Abstraction should be regulated.
	Suspended sediments/siltation – through intensification of agricultural practices and other disturbance eg soil degradation around stock feeding points
	Inappropriate dredging
	Recreational pressure and disturbance – can lead to disturbance, damage and increases in suspended sediment eg footpath erosion, water-based activities
	Atmospheric pollution - deposition of oxides of nitrogen & sulphur, acidification of river water (deposition of nitrogen & ammonia)
	Climate change - change in rainfall patterns and transpiration rates, inc temp – more algal blooms, reduced summer flow. Inc high rainfall – more erosive runoff and sedimentation
	Illegal fish poaching
	Spread of introduced non-native species
	Artificial barriers to fish migration

European site	Key sensitivities
Wet grassland: • Walmore Common SPA/Ramsar	Maintenance of appropriate grazing regime Water level – maintenance of hydrological regime (grassland communities are strongly influenced by the quantity and base status of the groundwater) Water quality – nutrient enrichment from fertiliser run-off etc Scrub encroachment (often due to undergrazing) Development pressure Spread of introduced non-native species Human disturbance (off-road vehicles, burning (vandalism)) Atmospheric pollution eg nitrous oxides from vehicle exhausts.
Estuarine habitat: • Severn Estuary SCI[1]/SPA/Ramsar	Water quality – pollution Recreational/tourism disturbance Development eg dock/harbour creation, coastal defence works Erosion Siltation Dredging Over-fishing Maintenance of appropriate grazing regime Spread of non-native species Disturbance to bird feeding and roosting habitat (noise / visual)

Source: Habitats Regulations Screening Assessment of the Worcestershire Waste Core Strategy Final Draft, ERM, June 2009
Notes: [1] The Severn Estuary is currently designated as an SCI. It is likely that this will be upgraded in the near future to an SAC.

A Habitats Regulations Assessment is being undertaken by ERM on behalf of Worcestershire County Council. The HRA Screening Assessment[1] has concluded that there may be adverse effects on European nature conservation sites arising from implementation of the WCS but that this depends to a large degree on what facilities are developed and where, and that there is a need for further assessment as more details become available as the preferred options are developed.

(1) Habitats Regulations Screening Assessment of the Worcestershire Waste Core Strategy: Final Draft, ERM, June 2009

5 APPRAISAL OF THE WCS VISION AND STRATEGIC OBJECTIVES

5.1 INTRODUCTION

The WCS sets out a vision and strategic objectives. The objectives establish a set of policy objectives for the WCS which set the framework for the more detailed policies which follow, while the vision describes a desired state arising from the implementation of the WCS. The vision has been appraised using the appraisal framework. As recommended by government guidance, the strategic objectives have been tested both against the SA objectives and each other, to ensure compatibility with sustainable development objectives and internal consistency.

5.2 VISION OF THE WASTE CORE STRATEGY

The vision has been appraised against the SA framework using the methodology set out in *Section 2.2.4*, and the detailed results of this are set out in *Annex C* and summarised below.

The vision explicitly promotes the waste hierarchy and community responsibility, although reuse of waste is not mentioned and should be included in item 4. By promoting the waste hierarchy and greater resource efficiency, the vision will support the reduction of greenhouse gas emissions and reduced use of energy and water. The vision also supports the economic contribution of waste management and the development of new technologies. In seeking to avoid damage to natural and cultural assets and amenity, the vision will help to ensure protection of air, water, soil, landscape, biodiversity and the built and historic environment. However, the vision does not address land use issues or the spatial distribution of facilities, and therefore effects on waste transport and the use of open or undeveloped space and green belt land are unclear.

5.3 OBJECTIVES OF THE WASTE CORE STRATEGY

Government guidance recommends that the SA should undertake a compatibility analysis between the objectives of the WCS and the SA appraisal objectives. This has been undertaken and the results are set out in detail in *Table 5.1* below.

The purpose of this exercise is to determine whether the objectives of the WCS will contribute to sustainable development, and to identify any potential incompatibilities between the objectives of the WCS and sustainable development policy objectives. To do this, the WCS objectives have been compared with each of the SA appraisal objectives and an assessment made of the likelihood that the WCS will contribute to the achievement of each objective for sustainable development.

Box 5.1 Strategic Objectives of the WCS

WO1	To base our decisions on the principles of sustainable development and the need to reduce and mitigate the causes of climate change to guide decisions;
WO2	To do everything possible to minimise waste production;
WO3	To address the "Capacity Gap" between how much waste management capacity we have and what we need;
WO4	To make implementing the waste hierarchy the basis for Waste Management in Worcestershire;
WO5	To make communities in Worcestershire take responsibility for their own waste;
WO6	To reduce the transportation of waste by road where possible;
WO7	To ensure that the waste implications of all new development in Worcestershire are taken into account;
WO8	To safeguard existing waste management facilities from incompatible development;
WO9	To involve all those affected as openly and effectively as possible;
WO10	To monitor the effects of the Waste Core Strategy and revise it accordingly as circumstances change.

Table 5.1 below shows the results of the test against SA objectives. There are no clear incompatibilities between the aims of the WCS and the appraisal objectives although there are a number of areas of uncertainty. The main reason for this is that the objectives of reducing the need for road transport and making communities in Worcestershire take responsibility for their waste imply that waste management facilities will be located closer to the source of arisings than they are currently. This could increase pressure for development in areas that are constrained, for example by flood risk or green belt.

It is noted that there are no strategic objectives which could clearly cover the sustainable development objectives of raising skills levels and reducing crime and anti-social behaviour. However, these are not directly relevant to the scope of the WCS and therefore no recommendations are made for addressing these objectives.

Table 5.1 Assessment of Strategic Objectives against SA Objectives

Key:
✓ Positive compatible
× Possible conflict
0 Neutral
? Uncertain

WCS Objectives[1] / SA Objectives	1	2	3	4	5	6	7	8	9	10	Comments
1. Waste Manage waste in accordance with the waste hierarchy	✓	✓	✓	✓	0	?	✓	0	0	✓	Promoting the waste hierarchy will increase the need for multiple handling of waste streams, which is likely to increase the need for waste transport.
2. Climate Change Reduce causes of and adapt to the impacts of climate change.	✓	✓	✓	✓	?	✓	✓	0	0	✓	Making communities in Worcestershire take responsibility for their waste implies that waste management facilities will be located closer to the source of arisings than currently, which will help to reduce greenhouse gas emissions from waste transport.
3. Flooding Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	✓	0	0	0	?	?	0	0	0	0	Reducing road transport of waste and making communities in Worcestershire take responsibility for their waste implies that waste management facilities will be located closer to the source of arisings than currently, which could increase pressure for development in areas constrained by flood risk.
4. Traffic and transport Reduce the need to travel and move towards more sustainable travel patterns.	✓	✓	0	?	✓	✓	0	0	0	0	Promoting the waste hierarchy will increase the need for multiple handling of waste streams, which is likely to increase the need for waste transport, although the significance of effects depends on where facilities are located which is not known at this stage. Making communities in Worcestershire take responsibility for their waste implies that waste management facilities will be located closer to the source of arisings than currently which will reduce the need for waste transport.
5. Growth with prosperity for all Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	0	0	✓	✓	0	0	0	0	0	0	By encouraging the management of waste at higher levels of the waste hierarchy and requiring new facilities to address the capacity gap, the WCS is likely to support and encourage the development of waste infrastructure which uses new technologies for managing waste.
6. Participation by all Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	0	0	0	✓	0	0	0	✓	0	

WCS Objectives[1] SA Objectives	1	2	3	4	5	6	7	8	9	10	Comments
7. Technology, innovation and inward investment Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	✓	✓	✓	✓	0	0	0	0	0	✓	
8. Energy generation and use Promote energy efficiency and energy generated from renewable energy and low carbon sources.	✓	✓	0	✓	0	✓	0	0	0	0	Reducing the transport of waste by road will help to reduce transport energy consumption leading to greater energy efficiency in waste management.
9. Natural resources Protect and enhance the quality of water, soil and air.	✓	✓	0	✓	0	✓	0	0	0	✓	Promoting the waste hierarchy will reduce landfill which will help to reduce the risk of pollution effects.
10. Access to services Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	✓	0	0	✓	0	0	0	0	0	0	Promoting the waste hierarchy will require improved access to waste management services to achieve increased recycling and composting levels.
11. Landscape Safeguard and strengthen landscape character and quality.	✓	0	0	0	?	?	0	0	0	0	Reducing the need for road transport and making communities in Worcestershire take responsibility for their waste implies that waste management facilities will be located closer to the source of arisings than currently, which could increase pressure for development in areas of landscape value.
12. Biodiversity, geodiversity, flora and fauna Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	✓	0	0	0	?	?	0	0	0	0	Reducing the need for road transport and making communities in Worcestershire take responsibility for their waste implies that waste management facilities will be located closer to the source of arisings than currently, which could increase pressure for development in areas of biodiversity value. However, reduced emissions from road transport will help to improve overall air quality which will benefit species and habitats.
13. Health Improve the health and well being of the population and reduce inequalities in health.	✓	0	0	0	0	✓	0	0	0	0	
14. Provision of housing Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	0	0	0	0	0	0	✓	✓	0	0	

WCS Objectives[1] SA Objectives	1	2	3	4	5	6	7	8	9	10	Comments
15. Population (learning and skills) Raise the skills level and qualifications of the workforce.	0	0	0	0	0	0	0	0	0	0	
16. Cultural heritage, built design and archaeology Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	✓	0	0	0	0	0	✓	✓	0	0	
17. Population (antisocial behaviour, crime, litter and graffiti) Reduce crime, fear of crime and antisocial behaviour.	0	0	0	0	0	0	0	0	0	0	
18. Material assets Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	✓	0	✓	✓	?	?	✓	0	0	0	Reducing the need for waste road transport and making communities in Worcestershire take responsibility for their waste implies that waste management facilities will be located closer to the source of arisings than currently, which could increase pressure for development in the green belt or on greenfield land near to urban areas.

Note (1) Refer to *Box 2.1* for description of WCS Objectives

Table 5.2 shows the results of the test of internal compatibility of the WCS objectives. In no case are any of the WCS objectives clearly incompatible with any of the other objectives. There are several instances where there is a link between the objectives but it is not clear that the objectives are compatible. A comment is given to explain how the potential incompatibility is tested further by the SA. The key issue is in relation to strategic objective WO6 and the likelihood that reducing the landfill of waste, implied by WO4, is likely to increase the need for waste transport.

Table 5.2 Assessment of Internal Compatibility of Strategic Objectives

WCS Objective	2	3	4	5	6	7	8	9	10	Comments
1	✓	✓	✓	✓	✓	✓	0	0	0	
2		✓	✓	✓	✓	✓	0	0	✓	
3			✓	✓	?	0	✓	0	✓	Ensuring sufficient facilities are provided to move the management of waste up the waste hierarchy may result in an increase in road transport of waste due to the need for multiple handling of waste streams.
4				0	?	✓	✓	0	✓	Moving the management of waste up the waste hierarchy may result in an increase in road transport of waste due to the need for multiple handling of waste streams.
5					✓	✓	0	✓	0	
6						?	0	0	0	Taking the waste implications of new developments into account will help to promote increased recycling, which may increase the need for waste transport.
7							0	0	0	
8								0	0	
9									0	

5.4 CONCLUSIONS

There are a number of uncertainties about the sustainability effects of the vision and objectives, relating to land use issues and waste transport and the relationship between the two in terms of the locational strategy of the WCS. These uncertainties could be clarified through the inclusion of an additional strategic objective on land use, giving priority to locations which are near to the main urban areas, are on previously developed land and are not affected by other land use constraints.

6 APPRAISAL OF DRAFT POLICIES

6.1 INTRODUCTION

The Emerging Preferred Options document sets out some draft policies by which it is intended the WCS will achieve its vision and strategic objectives. The draft policies have been appraised and the results are set out in this section.

6.2 DRAFT POLICIES

The Emerging Preferred Options document describes the issues which each policy will cover and how it is intended to address those issues. Draft text is not provided, but in some cases specific details are given, notably for the waste management capacity that it is intended to provide. The policies are summarised for reference in *Box 6.1*.

Box 6.1 Summary of WCS Policies

WCS1: Ensuring Sustainable Development.
Criteria for assessing proposals for their impacts on the waste hierarchy and on climate change mitigation and adaptation.

WCS2: Spatial Hierarchy.
Hierarchy of towns giving priority for the location of waste facilities.

WCS3: Future Waste Site Allocations.
Broad locations where waste facilities will be permitted, including protection of AONBs and promotion of sustainable transport.

WCS4: Unallocated Sites.
Criteria for permitting proposals for waste development on sites not identified in the WCS.

WCS5: Waste Treatment Capacity.
Capacity requirements and targets for managing MSW, C&I, C&D and hazardous waste.

WCS6: Safeguarding.
Ensuring waste facilities are not compromised by neighbouring developments.

WCS7: Assessing the Waste Implications of New Development.
Requirements for waste audits and provision of integral facilities to separate recyclable waste.

WCS8: What Kind of Facilities Do We Need?
Specific facility needs already identified, including thermal treatment plant, HWRCs, materials reclamation facility, and composting or AD plant.

WCS9: Landfill.
Requirements and conditions for permitting new landfill.

WCS10: Energy from Waste.
Conditions for granting planning permission for energy recovery.

WCS11: Managing the Impact of Waste Management Related Development.
Criteria for granting planning permission for all types of waste development.

Other Matters of Concern.
Discussion of other matters which may be covered by policy, comprising restoration and aftercare of waste sites, control of landfill mining, control of landscaping and noise mounds, information requirements for permitted development rights, and local recyclable collection points.

6.3 APPRAISAL RESULTS

An appraisal of the draft policies has been carried out, according to the methodology set out in *Section 2.2.4*. The detailed findings from the appraisal of policies are set out, policy by policy, in *Annex C*. The overall conclusions are summarised in *Table 6.1* showing the assessment of the effects of the draft policies according to the objectives of the appraisal framework. In addition to setting out information about the likely effects of the policies on each of the appraisal objectives, the tables in *Annex C* provide recommendations where appropriate for mitigation of effects.

Key recommendations for mitigation include the following:

- The WCS should give stronger incentives to increase recycling of C&D and C&I waste, for example through setting capacity requirements for recycling facilities.

- Transport impacts should be assessed in more detail when more information is available on broad locations or specific sites.

- Flood risk impacts should be assessed in more detail when more information is available on development locations and from a detailed Strategic Flood Risk Assessment.

- The use of CHP wherever practicable should be promoted.

Please refer to *Annex C* for further detailed mitigation recommendations.

Table 6.1 Summary of Appraisal of Draft Policies

WCS policies / SA objectives	WCS 1	WCS 2	WCS 3	WCS 4	WCS 5	WCS 6	WCS 7	WCS 8	WCS 9	WCS 10	WCS 11	Other matters	Comments
1. Manage waste in accordance with the waste hierarchy	+	+	+	+	+/0	+	+	+	+	0	Ø	+	Clear support is given to the waste hierarchy across many of the policies where relevant. However, stronger incentives could be given to increase recycling of C&D and C&I waste.
2. Reduce causes of and adapt to the impacts of climate change.	+	+/?	+	0	+	0	+	+	+	+	Ø	+/?	Policies will promote the reduction of greenhouse gas emissions through the facilitation of new developments to divert waste from landfill and recovery of landfill gases. Emissions from waste transport may also be reduced by locating facilities near to the main towns/city thereby reducing waste transport, however this depends on the location of sites which is currently unknown.
3. Avoid flood risk	?	?	?	+	Ø	0	Ø	Ø	0	Ø	+	?	Development management policy should ensure flood risk is not increased. However, the likelihood of this will depend on the specific locations of development sites and on the results of a more detailed Strategic Flood Risk Assessment.
4. Reduce the need to travel and promote sustainable travel	+	?	+	?	?	?	+	?	?	Ø	?	+/-	By increasing recycling and recovery, the policies may increase the need for waste transport by requiring multiple handling of waste streams. However, the significance of effects depends on where facilities are located which is not known at this stage. Policies

WCS policies / SA objectives	WCS 1	WCS 2	WCS 3	WCS 4	WCS 5	WCS 6	WCS 7	WCS 8	WCS 9	WCS 10	WCS 11	Other matters	Comments
													specifically require the minimisation of waste transport and sustainable transport modes and methods to be implemented and comparison to alternative sites to be made.
5. Develop a knowledge-driven economy	Ø	0	Ø	Ø	+	Ø	Ø	+	0	0	Ø	Ø	The policies support the development of waste management facilities, encouraging the growth and development of the waste sector in Worcestershire and increasing its economic contribution.
6. Encourage participation and responsibility	Ø	Ø	Ø	Ø	Ø	Ø	+	+	Ø	Ø	Ø	+	
7. Promote new technologies	+	Ø	Ø	Ø	+	Ø	+	+	+	+	Ø	Ø	By facilitating the development of sites to divert waste from landfill and allowing flexibility to respond to new technologies, the policies will help to support the development of new technologies for managing waste. Promoting sustainable construction, higher energy and environmental standards in design and climate change adaptation will also support markets for new technologies.
8. Promote energy efficiency and renewable/low carbon generation	+	?	+	?	+	0	Ø	+	+	+	Ø	?	The policies give a strong emphasis on increasing energy efficiency by promoting energy recovery and renewable generation from landfill gas and anaerobic digestion. The use of CHP wherever practicable should be promoted. Policies also promote the generation of

WCS policies / SA objectives	WCS 1	WCS 2	WCS 3	WCS 4	WCS 5	WCS 6	WCS 7	WCS 8	WCS 9	WCS 10	WCS 11	Other matters	Comments
													renewable energy and energy efficiency within waste developments. By aiming to locate facilities near to the main towns/city, the policy may help to reduce the use of energy for waste transport. However, this depends on where the facilities are located which is not known at this stage.
9. Protect and enhance water, soil and air.	?	?	?	+	Ø	0	0	?	+	+	+	?	Policies require the avoidance of adverse impacts on air, water and soil, although the likelihood and significance of impacts depends largely on sensitivities at individual locations which are not currently known. Landfill mining in particular risks adverse effects.
10. Improve quality and access to services	Ø	0	0	0	+	0	+	+	Ø	Ø	Ø	+	To achieve increased recycling performance the policy will indirectly require improved recycling services and better access to such services, although to some extent this will be outside the scope of the WCS. However, developers will be required to provide facilities for recycling and composting in new developments, which will help to improve access, a HWRC will be provided in every principal and market town and local collection points will be encouraged.
11. Safeguard and strengthen landscape quality.	Ø	?	+	+	Ø	0	Ø	?	+	Ø	+	+/?	Landscape character would be explicitly required to be considered by developers, therefore significant adverse effects should be unlikely.
12. Conserve	Ø	?	Ø	+	Ø	0	Ø	?	+	Ø	+	+/?	By requiring compliance with national, regional

WCS policies / SA objectives	WCS 1	WCS 2	WCS 3	WCS 4	WCS 5	WCS 6	WCS 7	WCS 8	WCS 9	WCS 10	WCS 11	Other matters	Comments
and enhance biodiversity and geodiversity													and local policy, and account to be taken of designated sites and action plans, adverse effects on biodiversity and geodiversity should be avoided. Benefits may be secured through restoration conditions, but landfill mining in particular risks adverse effects. Effects on European nature conservation sites are still to be assessed through the Habitats Regulations Assessment.
13. Improve health and well being	?	Ø	Ø	+	Ø	0	Ø	0	0	0	0	+	Health impacts are unlikely if facilities are operated in accordance with good practice standards, but by requiring compliance with national, regional and local policy, adverse effects on health and amenity should be avoided.
14. Provide decent affordable housing for all	Ø	Ø	Ø	Ø	Ø	0	+	Ø	Ø	Ø	Ø	Ø	Policies will promote the adoption of sustainable construction methods in waste management, and support better designed developments by requiring the provision of recycling facilities for occupiers.
15. Raise skills levels	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	
16. Conserve and enhance the historic and built environment	+	?	Ø	+	Ø	0	+	?	+	Ø	+	?	Policies will require protection of assets, therefore adverse effects on the built and historic environment should be avoided. In addition, sustainable construction standards are promoted, and better designed developments in relation to the provision of waste facilities. Additional benefits could be secured in relation

WCS policies / SA objectives	WCS 1	WCS 2	WCS 3	WCS 4	WCS 5	WCS 6	WCS 7	WCS 8	WCS 9	WCS 10	WCS 11	Other matters	Comments
													to permitted development rights and local collection points.
17. Reduce crime and antisocial behaviour	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Policies will encourage greater civic responsibility by providing more opportunities for people to recycle and dispose of their waste.
18. Ensure efficient use of land	+	+/?	Ø	+	?	0	+	?	?	Ø	Ø	?	By promoting waste minimisation, recycling and reuse and the adoption of sustainable construction standards, the policies will help to reduce demand for virgin mineral resources. However, the policies do not give any incentive to recycle increased levels of C&D waste and therefore the overall effect on substitution for primary minerals is unknown. By giving priority to locating development in the main towns/city and to previously developed land, the policies are likely to help to increase the focus on the use of previously developed land. However, it may also increase the pressure for development in the green belt. Policy on permitted development rights could assist in controlling any adverse effects on agricultural land.

7 ALTERNATIVES TO THE EMERGING PREFERRED OPTIONS

7.1 INTRODUCTION

The SA is required to appraise the impacts of the WCS and of reasonable alternatives to it. In developing the WCS, a number of options have been considered at various stages in the process, specifically at the Issues and Options stage and now at the Emerging Preferred Options stage.

In the progression from each stage of the process to the next stage, the options under consideration have been taken forward and developed or refined, also taking into account comments made by stakeholders including members of the public in response to the consultation at each stage.

7.2 OPTIONS AT ISSUES AND OPTIONS STAGE

The Issues and Options document which was published for consultation in September 2008 posed a number of questions on a range of issues, and in some cases identified possible options in response to the issues. The Sustainability Appraisal process undertook an assessment of the Issues and Options document, and set out the findings and conclusions in an Initial Appraisal Report.

For some of the issues and options which were raised, it was not considered useful to appraise them for sustainability implications as there were no clear sustainability issues involved. However, for other issues and options, it was clear that there were sustainability implications around the choice of preferred option, and therefore the Initial Appraisal assessed each of the relevant options to identify the likely sustainability effects arising from them.

The issues and options which were assessed in the Initial Appraisal are as follows.

- Geographic or locational issues to be considered in the spatial portrait for Worcestershire;
- The draft Vision statement;
- Guiding principles for the WCS;
- Draft local objectives for the WCS;
- Monitoring implementation of the WCS;
- Whether and how to allocate C&I and C&D capacity requirements to the individual lower tier authorities;
- Factors to consider in protecting the environment, health, employment and amenity;
- Future plans and strategies of spatial relevance in Worcestershire;
- Options for the approach to green belt;
- Options for focusing development in urban or rural locations;

- Options for the approach to commissioning small or large facilities;
- Options for whether to prioritise centralised or dispersed facilities;
- Options for quantities of waste to be managed at different levels of the waste hierarchy; and
- Whether to specify waste management technologies, or to identify broad locations or sites and broad types of suitable uses.

7.3 DEVELOPMENT OF EMERGING PREFERRED OPTIONS

The Emerging Preferred Options document again discusses a number of issues to be considered in moving towards a set of preferred options, and in many cases identifies a preferred option for addressing the issue. It then goes on to set out proposed policies for delivering the preferred options, informed by the discussion of issues in the preceding sections of the Emerging Preferred Options report.

In most cases, the proposed policies incorporate the preferred option for each area of policy or type of issue addressed in these earlier sections of the document. However, in some cases, the preferred option is not yet identified. The following table sets out for each issue addressed by the proposed policies the preferred option and alternatives to it, or the options still under consideration.

Table 7.1 Preferred Options and Reasonable Alternatives

Issue	Preferred Option	Alternatives	Approach of SA
Urban or rural locations for facilities	To concentrate waste development in urban locations, with justified minimal development in rural areas	Refreshed Issues and Options consultation document identified the following alternative options: 1. Focus is evenly split between urban and rural locations 2. Focus is on development in rural locations with justified minimal development in urban locations	Preferred option and alternatives appraised. See *Section 7.4.1*.
Centralised or dispersed facilities	To focus on centralised facilities but with dispersed facilities if justified	Refreshed Issues and Options consultation document identified the following options: 1. Even split between centralised and dispersed facilities 2. Focusing on dispersed facilities but with a countywide/central service facility, if justified	Preferred option and alternatives appraised. See *Section 7.4.2*.
Large or small facilities	To establish primarily large facilities	Refreshed Issues and Options consultation document identified the following options: 1. Even split of large and small waste management facilities 2. Primarily small waste management facilities	Preferred option and alternatives appraised. See *Section 7.4.3*.
Green belt	That waste development would be appropriate in the green belt when in accordance with national policy	Refreshed Issues and Options consultation document identified the following options: 1. Any new waste management facility in the greenbelt is inappropriate, unless exceptional circumstances are	Preferred option and alternatives appraised. See *Section 7.4.4*.

Issue	Preferred Option	Alternatives	Approach of SA
		justified 2. New waste development in the green belt is appropriate when (i) on previously developed land; and (ii) when in accordance with national policy	
Locational strategy for MSW, C&I, C&D	To adopt a hierarchy of towns indicating broad areas for waste development The role of large industrial estates within the broad areas hierarchy will be explored at the next stage of the WCS development.	No alternatives are proposed in the Emerging Preferred Options document. A 'do nothing' option, ie to have no locational strategy, is not considered realistic.	Preferred option appraised as policy WCS8. See *Section 7.4.5*.
Allocating facilities to locational hierarchy[1]	No preferred option identified	The Emerging Preferred Options document proposes defining what facilities would be acceptable where on the basis of either 1. Size 2. Broad kind 3. Specific type	Options appraised. See *Section 7.4.6*.
MSW capacity needs	To meet targets in JMWMS for recycling/composting and diversion of biodegradable waste from landfill, and not specifying the type of residual treatment facility required.	No options identified. WCS should provide capacity to meet JMWMS targets therefore alternatives are not appropriate.	Appraised as draft policy WCS5. See *Section 7.4.7*.
C&I capacity needs	To meet RSS targets for diversion from landfill	Refreshed Issues and Options consultation document identified the following alternative option: 1. Meeting BPEO[2] targets ie % targets for recycling, treatment and landfill	Preferred option and alternative appraised. See *Section 7.4.8*.
C&D capacity needs	Providing capacity to manage arisings	Refreshed Issues and Options consultation document identified the following alternative option:	Preferred option and alternative appraised. See *Section 7.4.9*.

Issue	Preferred Option	Alternatives	Approach of SA
		1. Meeting BPEO[2] targets ie % targets for recycling and landfill	
Hazardous waste capacity	Maintain the status quo, maintaining sufficient transfer capacity and developing policies to enable facilities to treat or dispose of waste if applications are made	The Emerging Preferred Options document identifies the following alternative: 1. Manage all of Worcestershire's hazardous waste in-county However, the Emerging Preferred Options document also states that this is not a realistic option and there is no evidence of need for any greater capacity than existing. It is therefore concluded that this is not a reasonable alternative to the status quo.	Appraised under draft policy WCS5. See *Section 7.4.10*.

Notes

1: The issue of whether and how to allocate C&D capacity to the individual lower tier authorities is not carried forward into the Emerging Preferred Options. No explanation is given for this in the Emerging Preferred Options document.

2: Best Practicable Environmental Option (see *Section 7.4.8*)

7.4 APPRAISAL OF OPTIONS AND ALTERNATIVES

For each issue set out in *Table 7.1* above, the preferred option (where identified) for addressing the issue and reasonable alternatives to it were appraised against the appraisal framework, according to the methodology set out in *Section 2.2.4*. An assessment was made of the likely effects of implementing the preferred option or its alternatives, and conclusions drawn about the performance of the preferred option. Recommendations are made where appropriate for addressing the predicted impacts.

7.4.1 *Urban or Rural Locations*

A detailed assessment of impacts is provided in *Table D.1* in *Annex D*.

Focusing waste development in urban areas will help to locate facilities closer to the source of arisings than the more rurally-focused options. This will support the minimisation of waste transport distances in comparison to the other options, thereby helping to reduce emissions of greenhouse gases. It will also avoid development pressure on land assets and open spaces in rural areas and is more likely to focus development on previously developed land. Urban-focused development may also help to improve public access to recycling sites although no data is available on where need currently arises.

Effects on biodiversity and geodiversity are less likely with urban development, although this is dependent on sensitivities at individual sites, as are the potential effects on natural resources such as air and water quality which could arise with development anywhere. Waste development in urban locations is less likely to have a negative impact on landscape character and quality than rural developments, and may in some circumstances enhance it depending specific site conditions and on design quality.

Conclusion

Locating facilities primarily in the urban areas will minimise the need for waste transport and is likely to focus development on previously developed land, while protecting assets more likely to be affected by rural development such as landscape, open spaces and biodiversity.

7.4.2 *Centralised or Dispersed Facilities*

A detailed assessment of impacts is provided in *Table D.2* in *Annex D*.

By centralising facilities on a single site, the WCS could give greater encouragement to industrial symbiosis between waste management activities, thereby giving greater support to innovation, promoting the economic contribution of the waste sector and encouraging the management of waste at higher levels of the waste hierarchy.

Centralised facilities can also increase opportunities for use of CHP which can help to reduce greenhouse gas emissions, and help to reduce waste transport by co-locating facilities. However, dispersed facilities could also reduce waste transport by locating facilities close to the source of arisings. The significance of effects arising from transport depends on specific locations of sites, including in relation to the source of arisings. The relative benefits of the different options can only be determined when more information on sites is available.

Although all options will promote Worcestershire taking responsibility for the waste produced by the county, the more dispersed the facilities are, the more the responsibility for waste will be spread among different communities.

Conclusion

A mix of centralised and dispersed facilities would capture the benefits of industrial symbiosis and co-location, while also enabling facilities to be located close to the source of arisings where appropriate and spreading the responsibility for waste more widely.

7.4.3 Small or Large Facilities

A detailed assessment of impacts is provided in *Table D.3* in *Annex D*.

Larger facilities will provide greater energy generation efficiency thus providing a greater reduction in greenhouse gas emissions than would be possible with small facilities or a mix of large and small.

The significance of effects on waste transport depends on the locations of sites in relation to the sources of arisings, but it is possible that a larger number of smaller facilities could minimise the transport of waste, thus minimising emissions and other effects from transport. However, emissions from transport are likely to be much smaller than emissions from waste processing therefore the benefit will be relatively small.

Larger facilities are likely to have a greater impact on landscape, because effects may be more difficult to mitigate. However, the significance of landscape impacts depends primarily on individual sites and types of facilities proposed.

Although all options will promote Worcestershire taking responsibility for the waste produced by the county, the more small facilities there are, the more the responsibility for waste will be spread among different communities.

Conclusion

A mix of large and small facilities would deliver a more balanced approach to waste management, by reducing waste transport distances and spreading responsibility for waste more widely, but still providing the generation benefits from economies of scale.

7.4.4 Approach to Green Belt

A detailed assessment of impacts is provided in *Table D.4* in *Annex D*.

By relaxing the restrictions on development in the green belt, the WCS could make it more likely that development could be delivered close to some of the larger settlements, particularly Redditch, Kidderminster and Bromsgrove. This could help to reduce waste transport distances and associated emissions including greenhouse gas emissions. It may also help to improve public access to waste facilities although there is no information available about where need currently arises.

Although regarding waste development as appropriate in the green belt will result in a reduction in the area of land of green belt value, all the options will ensure that green belt objectives are supported, including protection of landscapes, securing nature conservation interest, protection of accessible open spaces and land of recreational and amenity value, and retaining land in agricultural use. This would require any green belt developments to either avoid land with these particular uses or values, for example in the case of agricultural land, or to protect the uses or values on any waste sites, for example in the case of nature conservation interest. By requiring any green belt development to be on previously developed land, the second option would support the prioritisation of previously developed land, although this could also be achieved if waste development is regarded as inappropriate and through a policy to prioritise previously developed land.

Conclusion

The preferred option in relation to green belt could make it more likely that development could be delivered close to some of the larger settlements, particularly Redditch, Kidderminster and Bromsgrove. This could help to reduce waste transport distances and associated emissions including greenhouse gas emissions, while still protecting the objectives of green belt designation. However, the significance of any impacts and the need for relaxation of green belt restrictions will depend on the availability of sites which is not known at this stage. The preferred option should give further consideration to the need for a change to green belt policy when more information is known about broad locations for waste development and site availability.

7.4.5 Locational Strategy for MSW, C&I, C&D

A detailed assessment of impacts is provided in *Table C.9* in *Annex C*.

The locational strategy aims to locate waste management facilities near to the main towns and city, which may help to reduce waste transport and associated emissions. However, the significance of effects depends on the location of new facilities which at this stage is unknown.

By giving priority to locating development in the main towns/city, the WCS is likely to help to increase the focus on the use of previously developed land. However, it may also increase the pressure for development in the green belt, particularly with the priority on Worcester, Redditch, Bromsgrove, Kidderminster and Droitwich. The priority for Worcester may also increase the pressure for development in flood risk areas. However, the likelihood of this will depend on the specific locations of development sites and on the results of a more detailed Strategic Flood Risk Assessment.

Conclusion

The strategy is likely to minimise waste transport distances but this should be tested further when more detail is available about the locations or specific sites which will be identified. Protection of the green belt should be strengthened to avoid losses wherever possible, by regarding waste development as inappropriate in the green belt except in very special circumstances, unless this can be demonstrated to be necessary when more detail is known about the broad locations for waste facilities and availability of sites.

7.4.6 Allocating Facilities to Locational Hierarchy

A detailed assessment of impacts is provided in *Table D.5* in *Annex D*.

By specifying the size of facility that would be appropriate to different towns in the locational hierarchy, the WCS would have some control over the distances travelled by waste and therefore also over energy efficiency and greenhouse gas emissions from transport. By specifying the broad kind of facility or the specific type would help to ensure that facilities of the type needed are provided close to the source of arisings. It is not clear whether there is a significant difference between the options in terms of transport impacts. This would depend on where facilities are to be located and of what type.

Specifying the size or broad type of facility will be flexible to allow innovative technologies to come forward, whereas specifying the specific type is likely to restrict innovation.

Conclusions

The likely effect on waste transport distances of the options is unclear at this stage, and should be tested further when more detail is available about the locations or specific sites which will be identified and the types of development and sizes which are likely to be sought. However, greater control over waste transport is likely to be achieved through specifying a combination of size and type of facility, while also allowing flexibility to support innovation in waste management technologies.

7.4.7 MSW Capacity Needs

A detailed assessment of impacts is provided in *Table C.6* in *Annex C.*

The WCS will explicitly require the management of MSW at higher levels of the hierarchy than is currently the case thereby increasing resource and energy efficiency and reducing greenhouse gas emissions. This will support the development of the waste sector and increase its economic contribution, and support the development of new resource-efficient technologies.

By increasing recycling and recovery, the policy may increase the need for waste transport by requiring multiple handling of waste streams. However, the significance of effects depends on where facilities are located which is not known at this stage. It will also indirectly require improved recycling services and better access to such services, although to a large extent this will be outside the scope of the WCS.

Conclusions

The WCS gives clear support to the waste hierarchy and resource efficiency for MSW and supports the development of the waste sector. The effects on transport are unclear at this stage and should be tested further when more detail is available about the locations or specific sites which will be identified.

7.4.8 C&I Capacity Needs

A detailed assessment of impacts is provided in *Table D.6* in *Annex D*.

The preferred option is to provide capacity to divert 75% of C&I waste from landfill as required by the RSS. An alternative to this is to provide a target for the level of recycling of C&I waste, for example as adopted in the Best Practicable Environmental Option (BPEO) for Worcestershire[1] which adopted a target of 73% recycling of C&I waste. While the preferred option supports the waste hierarchy, it gives no indication of desired recycling levels. The alternative approach of adopting a recycling target is likely to encourage greater recycling performance and would give greater support to the waste

(2)[1]Waste Planning Applications Guidance on Addressing Best Practicable Environmental Option, Worcestershire County Council, August 2004

hierarchy. This would lead to greater resource efficiency and fewer greenhouse gas emissions, although is likely to require more waste transport because of the need for multiple handling of recyclable materials and to generate less energy from waste. Both options would support the development of the waste sector and encourage new technologies in waste management.

Conclusion

The preferred option for C&I waste capacity gives some support to the waste hierarchy, but this could be strengthened by adopting a target for recycling a percentage of arisings. This would lead to greater resource efficiency and fewer greenhouse gas emissions, although is likely to require more waste transport because of the need for multiple handling of recyclable materials and to generate less energy from waste..

7.4.9 C&D Capacity Needs

A detailed assessment of impacts is provided in *Table D.7* in *Annex D*.

The preferred option is to provide capacity to manage C&D waste arisings without specifying how that should be managed. An alternative to this approach is to adopt a target for recycling, such as that adopted in the BPEO of 76% recycling of C&D waste arisings. Without targets for recycling, the preferred option gives little support to the waste hierarchy, whereas adopting a target for recycling and landfill capacity would strengthen the commitment to the waste hierarchy. Without a target this level may still be achieved, although it is less likely.

By increasing the level of recycling of C&D waste, the adoption of a target would be likely to reduce greenhouse gas emissions through reducing the need to extract and transport virgin minerals and making recycled materials available closer to the market, decreasing fuel consumption and increasing energy efficiency. It would also help to safeguard mineral reserves and decrease the potential for adverse effects on landscape and greenfield land by reducing the need for extraction of virgin minerals and for inert landfill capacity. However, it may also reduce the availability of materials to fill and restore minerals sites or other brownfield sites.

Conclusion

The preferred option for C&D waste capacity gives little support to the waste hierarchy. This could be strengthened by adopting a target for recycling a percentage of arisings, which would also help to safeguard mineral reserves and reduce the risk of impacts from extraction and landfill.

7.4.10 Hazardous Waste Capacity

The emerging preferred option in relation to hazardous waste is to maintain the status quo, providing facilities to manage 49,000 tonnes per annum which was the approximate quantity of arisings in 2007. The thermal treatment of residual MSW will generate additional quantities of hazardous waste requiring transport and disposal. This will depend on the type of residual treatment technology employed but could, for example, be an estimated 6,300 tonnes per annum of air pollution control residues from an Energy from Waste facility[1]. The amount of hazardous waste arising from treatment of residual C&I waste is unknown.

Conclusion

The Preferred Options document should give additional consideration to whether there is a need to provide capacity to manage hazardous waste arisings from thermal treatment of waste, and of what type.

(1) From modelling work undertaken by ERM in 2009 of residual treatment options for Joint Municipal Waste Management Strategy

8 OVERALL ASSESSMENT OF EMERGING PREFERRED OPTIONS

8.1 INTRODUCTION

This section of the report draws together the findings and conclusions of the assessments of each of the different elements of the Emerging Preferred Options, specifically the vision and objectives from *Section 5*, the draft policies from *Section 6* and the preferred options from *Section 7*. The results of each of these appraisals are synthesised to make an assessment of the Emerging Preferred Options overall, and recommendations are provided for addressing the predicted effects.

8.2 OVERALL ASSESSMENT OF WCS EMERGING PREFERRED OPTIONS

Table 8.1 presents an assessment of the overall effects of the Emerging Preferred Options, giving an explanatory description of the predicted effects.

Table 8.1 Overall Appraisal of WCS

SA objectives	Assessment	Comments
1. Manage waste in accordance with the waste hierarchy	+/0	Clear support is given to the waste hierarchy across much of the WCS. However, stronger incentives could be given to increase recycling of C&D and C&I waste, including by adoption of targets for recycling, and reuse which should be promoted in the vision. Further consideration should be given to the need for hazardous waste disposal arising from residual treatment of waste.
2. Reduce causes of and adapt to the impacts of climate change.	+/?	Climate change has a strong emphasis in the WCS, and emissions are likely to be reduced through the diversion of waste from landfill and recovery of energy. Emissions from waste transport are less certain as specific locations for development are not yet defined.
3. Avoid flood risk	+/?	Development management policy should ensure flood risk is not increased, although pressure for development on constrained land may be increased by the locational hierarchy. However, the likelihood of this will depend on the specific locations of development sites and on the results of a more detailed Strategic Flood Risk Assessment.
4. Reduce the need to travel and promote sustainable travel	?	The WCS requires minimisation and sustainable use of waste transport, but by increasing recycling and recovery it may increase the need for waste transport by requiring multiple handling of waste streams. However, the significance of effects depends on where facilities are located which is not known at this stage. A solution based on centralised, larger facilities may not minimise waste transport distances compared to a more dispersed pattern of development. The locational hierarchy should be applied taking account of both the size and broad type of facility to be developed. Further consideration should be given to the need for hazardous waste disposal arising

SA objectives	Assessment	Comments
		from residual treatment of waste.
5. Develop a knowledge-driven economy	+	The WCS supports the development of waste management facilities, encouraging the growth and development of the waste sector in Worcestershire and increasing its economic contribution. The benefits of industrial symbiosis and co-location are promoted.
6. Encourage participation and responsibility	+/-	Providing improved access to recycling facilities will encourage people to take greater responsibility for waste. A dispersed pattern of waste developments would spread responsibility for waste management more widely than a solution which focused on larger, centralised facilities.
7. Promote new technologies	+	By facilitating the development of sites to divert waste from landfill and allowing flexibility to respond to new technologies, the WCS will help to support the development of new technologies for managing waste. Promoting sustainable construction, higher energy and environmental standards in design and climate change adaptation will also support markets for new technologies.
8. Promote energy efficiency and renewable/low carbon generation	+/?	The WCS emphasises energy efficiency and energy generation and including renewable generation. However, it does not explicitly promote the use of CHP and this should be included. The effect of transport on energy consumption is uncertain and should be assessed further when more details on location are known.
9. Protect and enhance water, soil and air	+/?	The WCS requires the avoidance of adverse impacts on air, water and soil, although the likelihood and significance of impacts depends largely on sensitivities at individual locations which are not currently known. The WCS is unlikely to enhance significantly water, soil or air quality, but by improving methods of managing waste, including diversion from landfill, the WCS may help to reduce the risk of water, soil and air pollution.
10. Improve quality and access to services	+	The WCS aims to improve access to services where this is within its scope to achieve, particularly access to HWRCs and to recycling facilities within new non-waste developments.
11. Safeguard and strengthen landscape quality	+	Landscape character is explicitly protected and significant adverse effects are unlikely. However, the significance of landscape impacts depends primarily on individual sites and types of facilities proposed. The WCS is unlikely to enhance significantly landscape quality across the county in a strategic way.
12. Conserve and enhance biodiversity and geodiversity	+	By requiring compliance with national, regional and local policy, and account to be taken of designated sites and action plans, adverse effects on biodiversity and geodiversity should be avoided. Effects on European nature conservation sites are still to be assessed through the Habitats Regulations Assessment. The WCS is unlikely to enhance significantly biodiversity and geodiversity.
13. Improve health and well being	0	By requiring compliance with national, regional and local policy, adverse effects on health and amenity are unlikely. However, the WCS is unlikely to improve significantly health and wellbeing.
14. Provide	+	The WCS promotes the adoption of sustainable

SA objectives	Assessment	Comments
decent affordable housing for all		construction methods and good design for waste facilities.
15. Raise skills levels	+	Diverting increased quantities of waste from landfill will support new enterprises in Worcestershire which will require more skilled labour, although the number of jobs is likely to be small compared to the overall labour market in the county.
16. Conserve and enhance the historic and built environment	+	The WCS requires protection of assets, therefore adverse effects on the built and historic environment should be avoided. In addition, good design and sustainable construction are promoted for waste developments. The WCS is unlikely to enhance significantly the built and historic environment.
17. Reduce crime and antisocial behaviour	Ø	
18. Ensure efficient use of land	+/?	By promoting waste minimisation, recycling and reuse and the adoption of sustainable construction standards, the WCS will help to reduce demand for virgin mineral resources. However, it does not give any incentive to recycle increased levels of C&D waste and therefore the overall effect on substitution for primary minerals is unknown. Incentives to recycle C&D waste should be strengthened by adoption of a target. By giving priority to locating development in the main towns/city, the WCS is likely to help to increase the focus on the use of previously developed land. However, it may also increase the pressure for development in the green belt, particularly with the emerging preferred option which appears to derogate from national policy on green belt. The need for any derogation should be assessed in more detail when further information is available about locations for development.

8.2.1 Conclusions

Clear support is given to the waste hierarchy across much of the WCS, and a strong emphasis is placed on mitigating and adapting to climate change and on energy efficiency and generation. This will reduce the emission of greenhouse gases from waste management activities. However, stronger incentives could be given to increase recycling of C&D and C&I wastes, including by adoption of targets for recycling. The use of CHP should also be promoted.

The effects on waste transport are uncertain, and depend on where facilities will be located which is not known at this stage. A solution based on centralised, larger facilities may not minimise waste transport distances compared to a more dispersed pattern of development.

The WCS requires the avoidance of adverse impacts on landscape, biodiversity, geodiversity, air, water, soil and historic and cultural assets, although the likelihood and significance of impacts depends largely on sensitivities at individual locations which are not currently known. The effects on flood risk and on European nature conservation sites are uncertain and further assessment is contingent on the results of a forthcoming Strategic Flood Risk Assessment and completion of the Habitats Regulations Assessment.

By giving priority to locating development in the main towns/city, the WCS is likely to help to increase the focus on the use of previously developed land. However, it may also increase the pressure for development in the green belt, particularly with the emerging preferred option which appears to derogate from national policy on green belt. The need for any derogation should be assessed in more detail when further information is available about locations for development.

By facilitating the development of sites to divert waste from landfill and allowing flexibility to respond to new technologies, the WCS will help to support growth and innovation in the waste sector and increase its economic contribution. Promoting sustainable construction, higher energy and environmental standards in design and climate change adaptation will also support markets for new technologies.

Access to services is promoted where this is within the scope of the WCS. A dispersed pattern of waste developments would spread responsibility for waste management more widely than the existing preferred option which focuses on larger, centralised facilities.

8.3 CUMULATIVE EFFECTS

The SEA Directive requires assessment of an additional level of impacts in addition to straightforward direct impacts. These are specified as "secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative". The following approach has been taken to identifying such impacts.

A number of different types of impact are set out in European Commission guidance:

- separate developments causing the same impact – cumulative;
- different impacts acting together on a receptor eg air pollution and land take – cumulative;
- plan impacts which give rise to other indirect impacts – secondary; and
- different impacts which together give rise to yet another impact – cumulative and secondary;

There is therefore a need to consider both secondary and cumulative impacts in the appraisal. Secondary impacts were considered as an integral part of the main appraisal work, and this is indicated in the appraisal matrices in *Annexes C* and *D* where impacts are either direct, or indirect ie secondary. Certain other attributes are common to all types of impact: these are timescales (ie short, medium and long-term impacts), reversibility (ie permanent or temporary impacts) and whether the impacts are positive or negative. These attributes were also all considered as integral aspects of impact assessment, and this is similarly indicated in the appraisal matrices in *Annexes C* and *D*. Cumulative impacts are discussed in this section of the SA Report.

There are two types of situation which could give rise to cumulative impacts:

- the same effect arising from two or more different sources; and
- different effects where there is a relationship between the effects and potentially an interaction.

Synergistic effects are a type of cumulative impact. These are effects where the cumulative impact may be greater or smaller than the sum of the separate effects.

Cumulative impacts were considered in the appraisal in two ways:

- the potential for different developments to give rise to the same type of effect; and
- the potential for interaction between different types of effect.

In order to assess the cumulative impacts arising from all potential developments under the WCS, the appraisal considered the overall effect of the WCS as a whole on each of the SA objectives. The results of this are set out above in *Table 8.1* and *Section 8.2.1*.

The appraisal then considered the potential for effects arising from other plans and programmes which in combination with effects arising from the WCS may give rise to significant impacts. The results of the review of other plans and programmes and their potential to give rise to cumulative effects is set out in detail in *Annex E*. The findings are summarised below in *Table 8.2* and the conclusions are set out in *Section 8.3.1*

Table 8.2 Summary of Likely Significant Effects of JWCS and Other Plans and Programmes on Receptors

	Resource use (energy, water, minerals)	Waste generation	Climate change	Road networks	Alternatives to road	Flooding	Land use	Air quality	Ecosystems	Open space	Built and historic	Opportunities for CHP
WCS	+/?	+	+	?	+	+/?	+/?	+/?	+	?	+	
Regional Spatial Strategy Phase Two Revision Draft Preferred Option	-	-	-	-/?	+	?	-	?	?	-		?
Regional Economic Strategy	-/+	-/+	-/+	-/+			+	?				
South Worcestershire Joint Core Strategy Preferred Options	-	-	-	-/+		?	+	?	?	?		+
Bromsgrove Core Strategy Draft Document	-	-	-				?	?		?		+
Redditch Preferred Draft Core Strategy Document	-	-	-	-			?			-		
Wyre Forest Core Strategy Preferred Options	-	-	-	-/+		?		?				
Worcestershire Local Transport Plan 2006-2011				+				+				
Herefordshire Unitary Development Plan		-										
Birmingham Unitary Development Plan				-/+								
Warwickshire Waste Development Framework Core Strategy Revised Spatial Options		?		?								
Gloucestershire Waste Core Strategy Preferred Options												
Shropshire Core Strategy: Policy Directions				?				?	?			
Solihull Unitary Development Plan				-				?	?			
Draft Core Strategy, Stratford-on-Avon				?								

8.3.1 Conclusions of Cumulative Impact Assessment

The following receptors have been identified as the most likely to be subject to cumulative effects. It should be noted that these receptors and their effects are all interrelated, for example effects on ecosystems are strongly related to air and water quality and land use, and effects on transport networks give rise to climate change and air quality effects. However, they have been selected on the basis that they are areas where the WCS is likely to have the impacts of greatest significance. Furthermore, all of the receptors have effects on and consequences for people.

- ***Resource use***. Several plans and strategies relevant to Worcestershire place a strong emphasis on economic and housing growth. This is likely to lead to increased resource use including energy, water and minerals, in order to facilitate the planned growth and development. However, the WCS will help to reduce the pressure on resource use through its positive effects on minimisation and recycling of waste and energy recovery, although the extent to which this will be able to offset the pressures of growth are not clear. There is also potential for the WCS to increase pressure on water resources in combination with the levels of growth planned for in other strategies, however the likely levels of consumption by waste facilities are unknown and development management policy will require developments to have regard to relevant water strategies.

  Mitigation: It is recommended that the WCS gives greater support to the use of secondary aggregates by adopting capacity targets for C&D recycling. It should also give more emphasis to C&I waste recycling to support greater resource efficiency. Opportunities for CHP use should be encouraged where practicable.

- ***Waste generation***. As with resource use, the growth and development expected to occur in Worcestershire is highly likely to lead to increased waste generation. The WCS includes measures to reduce waste generation in new development, although this is not likely to reduce significantly the effects of other plans and programmes.

  Mitigation: The County Council should press for continuous improvement in waste minimisation measures in Worcestershire, particularly through the Joint Municipal Waste Management Strategy, and for a strong emphasis on resource efficiency in all relevant plans and strategies including at regional level.

- ***Climate change***. The strong emphasis in other plans and programmes on housing and economic growth is likely to lead to increased greenhouse gas emissions and pressure for land for new development. Both of these effects are likely to have climate change consequences by increasing the risk of climate change occurring and adding to pressures from impacts such as flood risk and increased surface run-off due to land take. Although the WCS will help to reduce the emissions from waste management activities,

it will not be able to offset all of the emissions arising from growth in the county. It is also likely to add to land pressures through the need to seek sites for new waste management facilities, possibly in areas with flood risk constraints. However, the likelihood of cumulative effects on flood risk are unknown at this stage, and is dependent on more details becoming available about the likely locations of any facilities and also on the findings of a Strategic Flood Risk Assessment which is yet to be carried out.

Mitigation: Undertake further assessment when more information is available about locations of future waste developments, and incorporating the findings of a Strategic Flood Risk Assessment.

- ***Transport networks.*** The planned housing and economic growth in the county are likely to lead to increased road travel. A number of measures are planned to tackle the predicted increase, including demand management, promotion of public transport, highways improvements and rail network improvements. This will help to reduce the demand for road space and alleviate congestion, although the number of vehicles on the roads is nevertheless likely to increase. The effect of the WCS on the need for waste transport distances is currently uncertain. However, it does aim to promote opportunities for more sustainable modes of waste transport, although there are few synergies with other plans in this respect. The effect of waste development on local congestion is less clear as locations for waste development are currently uncertain, and particularly in the medium and longer term when the effects of planned improvements are likely to take effect but are unknown at this stage.

  Mitigation: Undertake further assessment when more information is available about locations of future waste developments.

- ***Flooding.*** Growth in housing and jobs in the county will require substantial areas of land to accommodate the planned levels of development. This could place pressure on areas affected by flood risk particularly Worcester, Kidderminster, Stourport, Bewdley, Evesham, Pershore and to a lesser extent Upton. All of these towns are also identified in the hierarchy of towns for waste facilities, and therefore there is the potential for cumulative effects on flood risk particularly in Worcester and Kidderminster which are at the higher levels of the hierarchy.

  Mitigation: Undertake further assessment when more information is available about locations of future waste developments, and incorporating the findings of a Strategic Flood Risk Assessment. Development management policy in the WCS should ensure a strong focus on avoidance of flood risk.

- ***Land use.*** A number of plans and programmes relevant to Worcestershire support housing growth and economic development. This is likely to lead to increased pressure for available sites with which waste developments will have to compete. The emphasis for waste development is on the use of

previously developed land, as it is for housing and economic development, although greenfield development is likely with urban extensions, which could provide opportunities for waste developments although this is not actively promoted.

Mitigation: None.

- ***Air quality.*** The main significant effects on air quality in the county are likely to arise from the increase in road traffic expected under a number of other plans and programmes (see above under transport networks). Measures to improve congestion may help to reduce the effect of increasing traffic on emissions, although the overall effect on emissions and air quality into the medium and longer term is uncertain. The effect of the WCS on air quality is also uncertain, mainly due to the uncertainty about likely emissions from developments but also uncertainty in possible effects on local congestion. These issues therefore need to be assessed in detail when developments come forward and appropriate avoidance or mitigation incorporated into the schemes. Policy in the WCS should clearly require this.

  Mitigation: Development management policy in the WCS should ensure that applications are required to assess and avoid or minimise impacts on transport networks, particularly in relation to congestion and air quality.

- ***Ecosystems.*** There is the potential for cumulative effects on ecosystems arising from a number of plans and strategies, from the levels of housing and economic growth in the location of certain towns and also from specific developments at allocated sites. These effects are mainly linked to reductions in air quality. However, the likelihood of cumulative effects arising in combination with waste developments is unknown, due to the lack of detail about the scale, type and location of waste developments.

  Mitigation: Further assessment should be undertaken when more information is known about expected waste developments, and is also dependent on the completion of the Habitats Regulations Assessment process.

- ***Open space.*** Housing growth, particularly urban extensions which are planned for in other strategies, is likely to lead to a loss of open space which may be of value. The WCS is likely to focus development on previously developed land, but may also increase the pressure for development in the green belt. There is therefore the potential for cumulative effects on open spaces, particularly around Worcester and Redditch which are identified for significant levels of growth.

  Mitigation: The need for any derogation from national green belt policy should be assessed in more detail when further information is available about locations for development

- ***Combined Heat and Power.*** Levels of housing and economic growth planned for under various strategies could create opportunities for use of CHP in association with waste developments, particularly where urban extensions are envisaged.

  Mitigation: The use of CHP wherever practicable should be promoted by the WCS.

8.4 RECOMMENDED MITIGATION

The following recommendations are made for mitigating the predicted adverse effects of the Emerging Preferred Options, in the light of the conclusions reached in *Sections 8.2* and *8.3* and also drawing on the mitigation recommended in *Section 6.3*.

Table 8.3 Mitigation Recommendations

No.	Recommendation
1	The WCS should give stronger incentives to increase recycling of C&D and C&I waste, for example through setting targets and capacity requirements for recycling facilities.
2	Reuse of waste should be promoted in the vision.
3	The locational hierarchy should be applied taking account of both the size and broad type of facility to be developed.
4	The use of CHP wherever practicable should be promoted, particularly aiming to maximise opportunities in relation to planned housing and economic development.
5	Further consideration should be given to the need for hazardous waste disposal arising from residual treatment of waste.
6	Transport impacts should be assessed in more detail when more information is available on broad locations or specific sites, including the effects of a preferred option based on centralised, larger facilities compared to a more dispersed pattern of development.
7	Flood risk impacts should be assessed in more detail when more information is available on development locations and from a detailed Strategic Flood Risk Assessment
8	The need for any derogation from national green belt policy should be assessed in more detail when further information is available about locations for development.
9	Development management policy in the WCS should ensure that applications are required to assess and avoid or minimise impacts on transport networks, particularly in relation to congestion and air quality.
10	Further assessment of effects on biodiversity should be undertaken when more information is known about expected waste developments, and is also dependent on the completion of the Habitats Regulations Assessment process.
11	Potential policy areas relating to 'other matters of concern' • Policy on restoration and aftercare should include a requirement to recover and use landfill gas for energy generation. • Policy on permitted development rights should require information to assist in controlling effects on flood risk, soil and water quality, landscape, biodiversity, geodiversity, historic assets. • Landfill mining should specifically seek to control the risk of detrimental effects on water quality, landscape and biodiversity.

- Policy on control of recyclable collection points should seek to reduce the risk of adverse impacts on cultural, built or historic assets.

In addition to the above recommendations for the content of the WCS and the process of its development, the County Council should also press for continuous improvement in waste minimisation measures in Worcestershire, particularly through the Joint Municipal Waste Management Strategy. It should also include, or seek, a strong emphasis on resource efficiency in all relevant plans and strategies including at regional level.

8.5 UNCERTAINTIES AND RISKS

The following are key areas where the likely impacts of the WCS are uncertain.

Air Quality

The main impacts arise will arise from emissions from waste facilities and transport, although the effects of transport will be small in comparison to the facilities themselves. The likely effect of developments on air quality is strongly dependent on the type and nature of developments which come forward and any mitigation proposed and is therefore unknown at this stage.

Waste Transport

The location of facilities will have a strong influence over waste transport distances, as will the methods by which waste is managed. The overall balance of impacts on transport over time is unclear, particularly as the future locations of facilities are still unknown. Monitoring is needed to better understand the amount of transport required for managing waste in Worcestershire and the scale of its contribution to levels of traffic overall.

Greenhouse Gas Emissions

In order to estimate levels of greenhouse gas emissions, it is necessary to know precise information about waste management methods, including waste treatment, facility sizes and about likely waste transport distances. A more detailed, quantified assessment of emissions will be made as the Preferred Options develop as and when more specific information on management methods, facility sizes and locations becomes available.

Biodiversity

The effect on biodiversity is strongly dependent on site-specific circumstances, and also on the nature of developments and opportunities for mitigation. As yet there is insufficient information available about the location, scale and nature of developments and the likely effects on nature conservation value. In

particular, a Habitats Regulations Assessment is still to be completed. It has also not been possible to assess the effect on biodiversity more generally. Insufficient information is available about undesignated biodiversity, existing local air quality and about the likely effects of facilities and waste transport on air quality.

Flood Risk

The likely effects on flood risk are dependent on the specific locations of facilities which are unknown at this stage. A fuller assessment is also dependent on the completion of a Strategic Flood Risk Assessment for Worcestershire.

Water Resources

Likely levels of water consumption are unknown, and dependent on particular technologies and design of facilities. Severn Trent's Draft Water Resource Management Plan[1] indicates that water resources are under pressure in the Severn resource zone including groundwater and surface water around Bromsgrove and Kidderminster. The final Plan is still to be produced, but the latest projections show a supply/demand shortfall in the Severn zone of around 120Ml per day by 2035.

(2) Water Resources Management Plan 2009 Volume 1 Draft, Severn Trent Water, May 2008

9 IMPLEMENTATION

9.1 LINKS TO OTHER TIERS OF PLANS AND STRATEGIES AND THE PROJECT LEVEL

9.1.1 Other Plans and Programmes

The WCS has links to other plans and strategies, at higher levels or county level, which set the overarching policy context. These have already been described in *Section 3.3*.

The WCS also has links with plans at lower tier authority level, notably those for waste collection arrangements. Implementation of the WCS will be strongly dependent on the nature and performance of waste collection activities by the individual districts, boroughs and city to enable the WCS to deliver on some of its objectives. This is particularly the case for achievement of recycling and composting performance and meeting the capacity targets for recycling and composting, recovery and landfill. The authorities need to work in partnership to ensure that plans and actions are coordinated to ensure that targets can be met in the most cost-efficient way.

9.1.2 Projects

The WCS sets the framework for the development consent of projects. It will achieve this in part through development management policies which will list a range of issues which developers will be required to take into account when submitting planning applications for waste management facilities. These will be assessed by a further SA at a later stage when the specific details of the development management policies have been set out, and recommendations for mitigation at the level of planning application have been made.

In addition, the monitoring recommendations presented below include data to be required from site operators on an annual basis to assess the ongoing impact of waste management facilities.

9.2 PROPOSALS FOR MONITORING

As required by the SEA Directive, a number of recommendations are made for indicators to monitor the likely significant impacts of the WCS. These are set out in *Table 9.1* corresponding to the relevant impacts identified and summarised in *Section 8.2.1*.

One of the aims of monitoring as specified by the SEA Directive is to identify unforeseen adverse effects in order to be able to take appropriate remedial action. To enable this to be done, recommendations are also made in *Table 9.1* for monitoring potential sustainability impacts which are not expected to occur as foreseen by the appraisal.

An Annual Monitoring Report will be produced to monitor the implementation of the WCS, and the recommendations given below for monitoring should be incorporated within this. Worcestershire County Council should report annually on the following issues and suggested indicators.

Table 9.1 Monitoring Recommendations

Tonnages and % of waste arisings reused, recycled, composted, used for energy recovery, landfilled (potential links to NI 192 and 193): • MSW • C&I • C&D • Hazardous waste
MW of energy generated by: • Thermal treatment; • Anaerobic digestion; • Landfill.
MW of CHP capacity.
Facility catchments and transport: • Sources and destinations of waste, by quantity and type; • Tonne-kilometres travelled by waste; • No. of vehicle movements to and from sites; • % of waste transported by different modes.
No. of developments with climate change mitigation and adaptation measures incorporated, by type of measure
Estimated greenhouse gas emissions from waste treatment facilities
No. of developments affecting: • biodiversity or land of nature conservation value; • landscape; • geodiversity; • congestion; • historic assets.
Compliance/non-compliance with permit conditions: • Water discharges; • Air emissions: NOx; SO_2; PM10; CO_2; methane; other pollutants of public concern (dioxins and furans, PCBs) (potential links to NI 194); • Pollution episodes.
Quality of land converted to waste uses, annual no. of hectares of: • rural, urban or urban fringe; • previously developed or undeveloped; • green belt; • amenity value; • flood zones 2, 3a, 3b.
No. of developments providing integral recycling facilities
% of population within: • 10km of a HWRC • 5km of a recyclable collection point

The indicators required to support the monitoring fall into four broad categories according to their likely source:

- data which is already collected by the County Council or lower tier authorities;
- data which WCC will need to collect;
- data which is collected by the Environment Agency; and
- data which needs to be collected from operators.

10 NEXT STEPS

10.1 DEVELOPMENT OF PREFERRED OPTIONS FOR WCS

The consultation comments which are received on the Emerging Preferred Options document will be considered and taken into account in finalising the Preferred Options for the WCS. WCC will also take into account the results, conclusions and recommendations set out in this report on the SA of the Emerging Preferred Options document in finalising the Preferred Options.

At this stage it is not known whether the Preferred Options will be subject to an SA.

The Preferred Options will be issued for public consultation. This is currently scheduled for early 2010.

10.2 SUBSEQUENT STAGES

Following the Preferred Options stage, the WCS will be further refined before finalising the WCS for submission to the Secretary of State. The WCS Submission Version will be subject to SA and a final SA Report produced.

The submitted WCS will then be subject to an Examination in Public before an independent Inspector.

Assuming the WCS is found to be sound by the Inspector, the WCS will be adopted. At that stage, a post-adoption statement will be required for the SA to show how the SA has influenced the development of the WCS and to indicate the monitoring arrangements which will be put in place.

Annex A

Review of Policies, Plans and Programmes

Table A.1 Polices, Plans and Programmes Reviewed

International
Water Framework Directive
Waste Framework Directive
Landfill Directive
End of Life Vehicles Directive
Habitats Directive
Wild Birds Directive
Directive on Waste Electrical and Electronic Equipment
National
UK Sustainable Development Strategy, Defra, March 2005
Natural Environment and Rural Communities Act 2006
Climate Change Act 2008
Planning Act 2008
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland
Waste Strategy for England 2007, Defra, May 2007
PPS1: Delivering Sustainable Development
PPS1 Supplement: Planning and Climate Change
PPG2: Green Belts
PPS7: Sustainable Development in Rural Areas
PPS9: Biodiversity and Geological Conservation
PPS10: Planning for Sustainable Waste Management
PPG13: Transport
PPG15: Planning and the Historic Environment
PPG16: Archaeology and Planning
PPS22: Renewable Energy
PPG24: Planning and Noise
PPS25: Development and Flood Risk
West Midlands Region
West Midlands RSS Phase 2 Preferred Option
Regional Economic Development Strategy
Regional Transport Strategy
West Midlands Regional Waste Planning Strategy, draft
West Midlands Energy Strategy
Regional Sustainable Development Framework
England Rural Development Programme, West Midlands
County
Worcestershire County Structure Plan 1996 - 2011
Local Transport Plan
Landscape Character Assessment
Partnership Towards Excellence – The Sustainable Community Strategy for Worcestershire Second Edition 2008 – 2013
Climate Change Strategy
Municipal Waste Strategy
Cotswold Area of Outstanding Natural Beauty Management Plan (2004)
Malvern Hills Area of Outstanding Natural Beauty Management Plan (2004)
Minerals Local Plan
Economic Strategy
Worcestershire County Council Corporate Plan
Learning and Skills Council Strategy for Sustainable Development
Other
H&W Social Enterprise Strategy

Table A.2 Implications Arising from the Review of Policies, Plans and Programmes

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
Landfill Directive	To prevent, or reduce, negative effects of waste management on the environment. Targets see waste strategy.	Objective relating to recovery, recycling and reuse of materials and pollution avoidance
Water Framework Directive	All surface and groundwater needs to be of good quality by 2015	Objective relating to water quality to be included
WEEE Directive	Sets measures to reduce, recycle and recover waste electrical and electronic equipment, and to minimise the risks and impacts to the environment associated with the treatment & disposal of these wastes	Objective relating to recovery, recycling and reuse of materials and pollution avoidance
ELVs Directive	Main requirements for members stats are to ensure that: • Producers limit the use of certain hazardous substances in the manufacture of new vehicles and automotive components; • ELV's are subject to de-pollution prior to dismantling, recycling or disposal; • Treatment facilities operate to higher environmental standards and have permits if dealing with under polluted ELVs; • Certain recovery targets are met by 01/01/06 and 01/01/15 and • By 2007, producers pay 'all or a significant part' of the cost of treating negative or nil value ELVs at treatment facilities.	Objective relating to recovery, recycling and reuse of materials and pollution avoidance
Waste Framework Directive	Waste hierarchy established requiring: 1. Prevention or reduction of waste 2. Recovery of waste through reuse, recycling or reclamation 3. Energy recovery from waste 4. Disposal of waste to landfill	Ensure that sustainability objectives reflect these principles as appropriate
Habitats Directive	Requires the protection of listed species. Plans and projects can only be permitted having ascertained no adverse effect on the integrity of an SAC, although may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest. Member States shall also endeavour to encourage the management of features of the landscape to support the network.	Include an objective on conserving and enhancing biodiversity
EU Wild Birds Directive	Requires the maintenance of the favourable conservation status of all wild bird species. Plans and projects can only be permitted having ascertained no adverse effect on the integrity of an SPA, although may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest. Member States shall also endeavour to encourage the management of features of the landscape to support the Natura 2000 network of which SPAs form a part.	Include an objective on conserving and enhancing biodiversity
PPS 1 Delivering	Planning should facilitate and promote sustainable and inclusive patterns of urban and rural	To ensure the requirement is

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
Sustainable Development	development.	reflected in the sustainability objectives
Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1	Planning authorities should expect new development to [inter alia] provide for sustainable waste management. In developing their core strategy and supporting local development documents, planning authorities should provide a framework that promotes and encourages renewable and low carbon energy generation. Policies should be designed to promote and not restrict renewable and low-carbon energy and supporting infrastructure. Low carbon energy supplies include those from energy-from-waste.	To include objective relating to climate change/atmospheric pollution
PPG 2 Green Belt	There is a general presumption against development that would harm the purposes of the designation.	To include an objective relating to reuse of previous developed land
PPS 7 Sustainable Development in Rural Areas	Amongst the governments objectives for rural areas is: • To promote more sustainable patterns of development; • Focusing development in, or next to, existing towns and villages; • Preventing urban sprawl; • Discouraging the development of Greenfield land; • Promoting a range of uses to maximise the potential benefits of the countryside fringing urban area; • Providing appropriate leisure uses. The conservation of the natural beauty of the landscape and countryside within designated AONB's is given great weight. Within Worcestershire there are two AONBs – the Cotswolds and Malvern Hills.	To include sustainability objective relating to rural regeneration and landscape protection
PPS 9 Nature Conservation	Key principles include the need for plan policies to be based upon up-to-date information about the environmental characteristics of their areas and should ensure that appropriate weight is attached to designated sites of international, national and local importance and the wider environment.	To ensure these requirements are reflected in the sustainability objectives
PPS10 Planning for Sustainable Waste Management	Key Planning Objectives: • help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for; • provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet the needs of their communities; • help implement the national waste strategy, and supporting targets, are consistent with obligations required under European legislation and support and complement other guidance and legal controls such as those set out in the Waste Management Licensing Regulations 1994; • help secure the recovery or disposal of waste without endangering human health and without harming the environment, and enable waste to be disposed of in one of the nearest appropriate installations;	Ensure that sustainability objectives reflect these principles as appropriate

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
	• reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business, and encourage competitiveness; • protect green belts but recognise the particular locational needs of some types of waste management facilities when defining detailed green belt boundaries and, in determining planning applications, that these locational needs, together with the wider environmental and economic benefits of sustainable waste management, are material considerations that should be given significant weight in determining whether proposals should be given planning permission; • ensure the design and layout of new development supports sustainable waste management.	
PPG13 Transport	• Promote more sustainable transport choices for people and for moving freight by shaping the pattern of development and influencing the location, scale, density, design and mix of land uses. • Reduce the need to travel and the length of journeys • Make it safer and easier for people to access jobs, shopping, leisure facilities and services by public transport, walking and cycling.	Ensure that sustainability objectives reflect these principles as appropriate
PPG 15 Planning and the Historic Environment	Identification and protection of historic buildings, conservation areas, designated historic parks and gardens and other elements of the historic environment.	Ensure that sustainability objectives reflect these principles as appropriate
PPG 16 Archaeology and Planning	Archaeological remains are a finite resource and they should be preserved or recorded both in an urban setting and in the countryside.	Noted
PPS 22 Renewable Energy	10% of UK electricity from renewable energy sources by 2010 and to 20% by 2020. A key principle in realising the target is that renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic, and social impacts can be addressed satisfactorily.	To include objective relating to climate change/atmospheric pollution
PPG 24 Planning and noise	Outlines the considerations to be taken into account in determining planning applications both for noise-sensitive developments and for those activities which will generate noise. The aim of this guidance is to provide advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business.	Noted
PPS 25 Development and flood risk	To ensure that flood risk is taken into account at all stages in the planning process, to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk.	To address the issue of economic costs associated with natural hazards
Waste Strategy for England 2007	The Government's key objectives are to: • decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use; • meet and exceed the Landfill Directive diversion targets for biodegradable municipal waste in 2010, 2013 and 2020; • increase diversion from landfill of non-municipal waste and secure better integration of treatment	To reflect objectives

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
	for municipal and non-municipal waste; • secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste; and • get the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.	
National Air Quality Strategy	The Strategy sets objectives for eight main air pollutants to protect health. Within Worcestershire there are 3 local air quality management (LAQM) zones where this will be monitored.	To ensure that health and pollution objectives are covered
National Sustainable Development Strategy	Four broad objectives • Sustainable consumption and production – working towards achieving more with less. • Natural resource protection and environmental enhancement • From local to global, building sustainable communities • Climate change and energy Overall objective of Government policy on waste is to protect human health and the environment by producing less waste and by using it as a resource wherever possible.	Ensure that issues are addressed through objectives
Natural Environment and Rural Communities Act 2006	Places a biodiversity duty on public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity.	Include an objective on conserving and enhancing biodiversity
Climate Change Act 2008	Sets emission reduction targets for 2020 and 2050. • to reduce the net UK carbon account for the year 2050 to at least 80% below the level of net UK emissions of targeted greenhouse gases in 1990. • the carbon budget for 2018-2022 must be set to reduce emissions of carbon dioxide by at least 26% by 2020, against 1990 levels. Also introduces a system of carbon budgeting which constrains the total amount of emissions in a given time period. Carbon budget periods will last five years, beginning with the period 2008-2012, and must be set three periods ahead. Sets out a procedure for assessing the risks of the impact of climate change for the UK, and a requirement on the Government to develop an adaptation programme on matters for which it is responsible. The Act also gives powers to direct persons or bodies with functions of a public nature and statutory undertakers on assessing the risks of climate change, the preparation of reports setting out policies and proposals for addressing those risks and assessing the progress made towards implementing those proposals and policies. Also includes: • a power to introduce charges for single use carrier bags; • a power to pilot local authority incentive schemes to encourage household waste minimisation and recycling; • powers and duties relating to the reporting of emissions by companies and other persons.	Ensure inclusion of climate change mitigation and adaptation measures, and assess the contribution of the CS to mitigation and adaptation objectives.
Planning Act 2008	Creates a new system of development consent for nationally significant infrastructure projects,	Noted

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
	covering certain types of energy, transport, water, wastewater and waste projects. A new independent body, the Infrastructure Planning Commission, will be responsible for examining applications for development consent for nationally significant infrastructure projects, and for deciding any such application when there is in force a relevant national policy statement. The Secretary of State will be responsible for determining an application for development consent where there is no national policy statement covering the relevant type of infrastructure. Changes are also being made in relation to local authorities' development plans, in particular the power of local planning authorities to decline to determine subsequent applications. The Secretary of State may make regulations providing for the imposition of a charge to be known as Community Infrastructure Levy (CIL). The overall purpose is to ensure that costs incurred in providing infrastructure to support the development of an area can be funded (wholly or partly) by owners or developers of land.	
RPG 11 Regional Planning Guidance (RSS Phase 2 Preferred Option)	Spatial Strategy Objectives: a) to make the MUAs of the West Midlands increasingly attractive places where people want to live, work and invest b) to secure the regeneration of the rural areas of the Region c) to create a joined-up multi-centred Regional structure where all areas/centres have distinct roles to play d) to retain the Greenbelt but to allow an adjustment of boundaries, where exceptional circumstances can be demonstrated, either to support urban regeneration or to allow for the most sustainable form of development to deliver the specific housing proposals referred to within the sub-regional implications of the strategy e) to support the cities and towns of the Region to meet their local and sub-regional development needs f) to support the diversification and modernisation of the Region's economy while ensuring that opportunities for growth are linked to meeting needs and reducing social exclusion g) to ensure the quality of the environment is conserved and enhanced across all parts of the Region h) to improve significantly the Region's transport systems i) to promote the development of a network of strategic centres across the Region j) to promote Birmingham as a global city. WD1 Development plans should include proposals which will enable the following Regional targets to be met: • To recover value from at least 40% of municipal waste by 2005 45% by 2010 & 67% by 2015. • To recycle or compost at least 25% of household waste by 2005; 30% by 2010; & 33% by 2015; and • To reduce the proportion of industrial and commercial waste which is disposed of to landfill to at the most 85% of the 1998 levels by 2005. Needs for future waste Management Capacity in Worcestershire ('000 tonnes per annum) Municipal waste recycling and composting facilities. Annual throughput capacity require by 2020/21 ('000 tonnes) = 159 Municipal waste recovery. Annual throughput capacity by 2020/02 ('000 tonnes) = 164 Cumulative landfill void capacity required for all waste streams taking into account the target	Wording of sustainability objectives to ensure that the targets are covered.

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
	reductions in the National Waste strategy 1998/99 –2020/21 Municipal ('000 tonnes) = 4414 Industrial & commercial ('000 tonnes) = 6883 Construction & demolition ('000 tonnes) = 28 700. Additional municipal waste management facilities required by 2021 Recycling & Composting Additional capacity required by 2021 (annual throughput capacity in '000 tonnes) = 134 = 2.5 facilities @ 50 000 tonnes pa capacity Recovery –either EfW of MRF Additional Capacity required by 2021 (annual throughput capacity in '000 tonnes) = 164 = 0.5 EfW facilities @ 300,000 tonnes pa = 3 MRFs @ 50,000 tonnes pa Policy WD3: Criteria for the location of WMF	
Creating Advantage – The West Midlands Economic Strategy	Aims: • Increase wealth and make the most of competitiveness within West Midlands businesses through innovation. • Transform the West Midlands' economy by supporting the development of new and existing sectors to meet the demands of the future. • Develop a workforce that is highly skilled and can adapt to meet the challenges that will face businesses in the next 10 years. • Develop a culture of lifelong learning and continuous improvement. • Improve the movement of people, goods and services inside and outside the region. • Provide sites and premises of the right size and quality, and in the right place. • Encourage people to take part in economic and community life by targeting resources at communities and individuals that suffer poverty and social exclusion. • Develop the connections between public, private, voluntary and community sectors so we can support the complete development of the region to benefit everyone who lives here.	To reflect aims where relevant
West Midlands Regional Transport Strategy	• Improve accessibility and performance of the transport system while not perpetuating post trends in car traffic and trip length growth. • LPA's, developers and other agencies should work together to reduce the need to travel, especially by car and reduce the length of journeys. • Provide greater opportunities for walking and cycling. • Development plans should require all planning applications involving significant travel demand to include transport assessments and provide proposals for travel plans. • An integrated hierarchy of public transport services should be developed with priority given to the improvement of services and interchanges within urban areas and the development of links with catchment areas. In rural areas priority should be given to the development of community and public transport services, particularly those providing links from rural hinterlands to key local service centres. • Local Authorities, other agencies and key representatives should work together to develop a	To reflect aims where relevant

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
	network of Strategic Park & Ride sites to reduce congestion in major centres.	
England Rural Development Programme West Midlands	Environmental, Social And Economic Goals: Environmental En1. Protect and enhance existing environmental assets and create new opportunities for environmental capital. En2. Improve people's understanding and appreciation of, access to, and involvement with, their environment. En3. To achieve economic and community benefits from the sustainable use of the region's assets. Social S1. Promote and develop sustainable rural communities and businesses. S2. Develop innovative solutions to meet the access needs of rural communities and businesses. S3. Stimulate community integration by greater ownership and understanding of the social, physical and economic environment Economic Ec1. Provide an environment conducive to start, grow, adapt and develop business competitiveness. Ec2. The provision of ICT and transport infrastructure that supports local development. Ec3. Foster a well advised, flexible and highly skilled workforce.	To reflect goals where relevant
West Midlands Regional Waste Planning Strategy (Draft)	The Region must play its part in delivering the targets set in the national waste. It is proposed that the national targets are adopted for the West Midlands (See National Waste Strategy, above). • Proximity Principle • Regional Self Sufficiency and County interdependency • Take account of Waste Hierarchy and BPEO • Encourage and promote waste reduction and reuse • Encourage the use of recycled materials in new developments and redevelopments.	Ensure that sustainability objectives reflect these principles as appropriate
West Midlands Energy Strategy	The strategy wants to achieve the following • Improved energy efficiency • Increased use of renewable energy • Business benefiting from commercial opportunities • Focused and practical delivery	Ensure that sustainability objectives reflect these principles as appropriate
Regional Sustainable Development Framework	Principles: • Putting people and the community first • A holistic view • Whole-life costing • Living within our means • The Precautionary Principle • The perpetrator pays • Embracing diversity • Valuing the environment	Ensure that sustainability objectives reflect these principles and objectives as appropriate

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
	• Consideration beyond the region Objectives • Developing thriving sustainable communities • Enhance and protect the environment • Ensure prudent and efficient use of natural resources • Develop a flourishing, diverse and stable regional economy	
Worcestershire County Structure Plan	Objectives of the plan include seeking a reduction in the consumption of energy and finite resources through the more efficient use of resources, recycling, the use of renewable sources and the reduction in the amount of waste produced.	That the SA framework incorporates the land use sustainable development framework.
Worcestershire County Council Corporate Plan	Details the County Council's priorities: • Improving Community Safety; • Raising Standards in Schools; • Improving Highways, Footways & Transport Services; • Supporting Older People to Live Independent Lives; • Strengthening Worcestershire's Economy; and • Enhancing Services to Young People.	
From Here to Sustainability: The Learning and Skills Council's Strategy for Sustainable Development	The LSC's vision is that the learning and skills sector will proactively commit and contribute to sustainable development through its management of resources, the learning opportunities it delivers and its engagement with communities.	
Local Transport Plan (Worcestershire)	The Freight Strategy seeks to ensure the efficient transportation of freight within the County, so as to support a strong local economy, but not at compromise to existing or future needs of society or the environment. This is to be delivered partly through the objective of 'improving efficiencies and timing of distribution; implementing approved freight routes and interchanges where appropriate and minimising pollution and disturbance from freight movements.	Ensure objective relates to the efficient patterns of movement
Landscape Character Assessment (Worcestershire)	Ensure that new development or land use change is informed by and sympathetic to the landscape character of the locality. Within Worcestershire there are identified 22 different landscape types	Include sustainability objectives relate to conservation of landscape quality and character
Worcestershire Sustainable Community Strategy	Sets out 29 priority outcomes that the strategy will address, including: • To reduce harmful climate change causing gas emissions across the county • To assist adaptation to the impacts of climate change on the county • To enhance Worcestershire's countryside and urban greenspace and appropriate access to them while protecting the natural and historic environment • To maximise the diversion of waste away from landfill through prevention, re-use, recycling/composting and recovery	To ensure sustainability objectives relate to climate change mitigation and adaptation, protecting and enhancing the natural and historic environment, promoting

Document	Key objectives/targets/guidance relevant to the WCS and SA	Implications for SA
	• To address issues of water quality, supply, and consumption and land • drainage in Worcestershire • To increase energy efficiency and increase the proportion of energy generated from renewable sources • To promote technology-led growth benefiting all sectors and parts of the county	the waste hierarchy, energy efficiency, economic growth and new technologies.
Worcestershire Climate Change Strategy	Sets the target to reduce climate change causing gas emissions across the County by a minimum of 10% from 2005 levels by 2011 and 20% by 2020 and prepare land uses for adaptation to consequences of climate change.	To have an objective relating to The target of reducing climate change gas emissions.

Annex B

Sustainability Baseline

Table B.1 Key Sustainability Issues and Trends

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Waste	Municipal waste accounts for less than quarter of the waste stream although 84% of the waste is disposed to landfill; industrial and commercial waste accounting for the other 811,000 tonnes of waste of which 64% and 27% was either recycled or reused respectively. At current rate of input there exist less than 10 years capacity at landfill sites.	Without a planning framework to promote delivery of new waste facilities, waste will continue to be landfilled and future recycling and recovery targets are unlikely to be met. Landfill space will run out more quickly than anticipated with a need to find new sites within the county.
Climate Change	In 2006 an estimated 5 million tonnes of $C0_2$ was emitted to the atmosphere from sources within Worcestershire as follows: Industry and commercial 34%; domestic 29%; road transport 36%; land use, land use change and forestry 1%. **County's Climatic Norms** (1961-1990 av): Mean max temperature 13.4C; Mean min temp 4.9C; Mean annual rainfall 669mm **Predicted changes in climate:** 2020 Temperature: Winter max +1.8C; Summer Max +1.4C 2020 Precipitation: Winter + 5%; Summer –12% 2080 Temperature: Winter max +1.9 - 3.2C; Summer Max +3.6 - 6.1C 2080 Precipitation: Winter +13 - 22%; Summer – 29 - 48% Likely to be increased incidences of intense rainfall, drought & heat waves in the future leading to increased risk of flooding, subsidence, water shortages, outdoor fires. The area of the indicative floodplain (2000) is approximately 22,300 ha. The Vale of Evesham is among the driest areas of England and Wales. Other areas within Worcestershire may also potentially be affected by water shortages in the future.	**Mitigation of Climate Change** If nothing is done to prevent an increase in amount of waste produced and waste is not managed appropriately there will be an increase in CO2e emissions attributable to Worcestershire's waste (including methane). These emissions will contribute towards increased magnitude of climatic change **Adaptation to Climate Change** If the WCS does not take predicted climate change into account, flooding, health & safety problems could occur or be exacerbated e.g. increased risk of pests & disease associated with waste collection & disposal; increased fire, subsidence & instability risk on landfill. Not having the Proximity Principle in place could lead to waste being transported over greater distances which will increase the amounts of CO2 being produced.

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Transport	The limited number of river crossings is a key cause of congestion in Worcester with 77,000 movements across the City Centre Worcester Bridge and the A440 Carrington Bridge each day. Most problematic congestion points in the County: eastwest river crossing movements in Worcester, A456 Kidderminster Ring Road, A38 Bromsgrove-M42 junction 7 and A4184 Evesham Town Centre. Worcestershire's roads are far safer now than in 1990s. Worcestershire's roads are generally in good condition and improving. There is relatively little traffic congestion on the County's road network. Vulnerability to problems with bridges exacerbated by previous lack of investment in maintenance. Poor access to national rail services and poor reliability on local rail services. Potential key rights of way are sometimes unsuitable to provide access for all to the local services that they link to. Currently no major rail freight facilities located within Worcestershire.	Potential inappropriate use of road network for waste transport. Congestion in and around waste disposal sites
Growth with prosperity for all	The efficiency of Worcestershire's labour market when analysed in terms of economic activity rates (calculated as a percentage of working age population in employment) appears better in relative terms than both the West Midlands and England. The employment rate for Worcestershire (total, male and female working age population) is higher than the regional and national averages. Further analysis at district level reveals Bromsgrove has the highest employment rate in Worcestershire. On the other hand, employment rates in Wyre Forest, particularly for the male working age population appear to be significantly lower than county-wide, regional and national comparators. Total number of people employed in recycling business in 2003 was 103 (sic Class 37).	Minimal impact.

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Participation by all	One of the aims of the County Council is to provide a voice for the people of Worcester. 92% of residents think it is important that the Council keeps them informed about its services and policies (MORI Communications Survey November 2002). There is a direct correlation between how well informed people feel and how satisfied they are with the Council: 75% of those who don't feel well informed are dissatisfied with the Council overall, compared to only 21% of those who do feel well informed (MORI) The six District Authorities have committed to providing kerbside recycling to 84 -100 % of their residents, by 2005.	Lessens the opportunity for promoting waste minimisation
Technology, innovations and inward investment	The business base of Worcestershire is concentrated towards manufacturing, with the sector accounting for 17.8% of the county's employment, which is second only to public administration, education and health at 23.9% of the county's employment. Employment concentration in distribution, hotels and restaurants type activity is high in Worcestershire at 17.4%, with 15.3% employed in banking, finance and insurance. In most respects the employment profile of Worcestershire is broadly similar to that of the West Midlands region. However, whereas in Worcestershire the manufacturing sector is second largest, and distribution industries third, in the West Midlands it is the distribution industries that are second, followed by manufacturing.	Policy promotion to develop a resource park will not occur, as there would be no framework in place to promote it. Inward investment with regards to waste may not be attracted if there is no Waste Core Strategy in place.

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Energy generation and use	Limited information is available for energy from renewable sources in Worcestershire, but potential sources of renewable energy generation include solar, biogas, energy crops, wind power and hydroelectricity. Figures for the total final energy consumption per capita (in kWh) for each local authority area have been produced by the Department for business, Enterprise and Regulatory Reform. In Worcestershire, the figures are as follows: Bromsgrove: 37,100 Malvern Hills: 31,200 Redditch: 22,500 Worcester: 23,100 Wychavon: 39,300 Wyre Forest: 22,400 An estimated 5% of total renewable energy in the West Midlands comes from Worcestershire. Most of this will likely be from landfill gas. There are several wood-fuel, ground source and solar systems in operation. Biofuel is on sale at one location in county. Work is currently being undertaken to investigate feasibility of producing energy from biogas by biodigestion of organic domestic, commercial and agricultural waste. Also biodiesel from waste vegetable oil.	Amount of energy used in County is likely to increase, especially use of fossil fuels. It is likely opportunities to produce energy from waste will be lost. Waste collection & disposal may not be energy efficient It is likely opportunities to use renewable energy to power waste collection, recycling & disposal could be lost Amount of waste produced may not be reduced. (Waste reduction is the most energy efficient method of managing waste)

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Landscape	The Worcestershire Landscape Character Assessment identifies and describes 23 different landscape types that occur in the County. Within the landscape there are numerous historic townscapes – including 147 conservation areas. The County contains parts of two areas designated as Areas of Outstanding Natural Beauty (AONBs), due to their recognised high landscape interest. These are the Costwolds (to the south of the County) and the Malvern Hills (to the west of the County). The tranquillity of the landscape has been mapped by the Campaign to Protect Rural England (at Hereford & Worcester level). The map shows that for major parts of Worcester City, Bromsgrove District and Redditch Borough there are very few areas of real tranquillity remaining. There are large parts of Malvern Hills and Wychavon districts that are still very tranquil. About a quarter of the county is designated as green belt.	The 23 different landscape types have been identified. This is a defined result from a process of assessment, based upon physical factors and cultural evolution. The number of landscape types and their extent will not change as a result of the Waste Core Strategy (WCS), or indeed any other strategy or policy document for which an SEA or SA is required. Similarly, the number of AONBs within the county, and their extent, is not going to change as a result of the WCS. Landscape character impacts on landscape condition. The creation of landfill sites would continue with the associated problems of landscaping. The creation of new, pronounced landforms associated with landfill sites can generally be integrated into the landscape as 'extensions' of similar adjacent topography, providing the appropriate tree cover and hedgerow structures can be introduced to them.
Biodiversity, Flora and Fauna	199 designated Sites of Special Scientific Interest (SSSI) covering approximately 2% of the County, of which 82% have been classed as 'good' or 'coming good' in 2008. There are two Special Areas of Conservation (SACs), 11 National Nature Reserves (NNRs); 25 Local Nature Reserves, 5,848 ha of ancient semi natural woodland. The Biodiversity Action Plan was revised and re-launched in 2008 and now provides a plan of action for 19 priority habitats and 25 priority species.	Degradation of wider biodiversity interests arising from direct and indirect impacts of the waste management infrastructure.

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Natural Resources (air, water and soil)	The main soils occurring in the County are: Wetland; Gleyed; Clay; Mixed; Brown; Sandy; Impoverished; Shallow; Limestone. The majority of these are Grade 3 in the agricultural land classification but significant areas of Grade 1 and 2 also occur. Three Air Quality Management Areas have been declared due to poor air quality, all associated with busy arterial and main roads. The water quality of the majority of rivers within the County are judged average quality. Kidderminster and Bromsgrove overlie a major aquifer of high vulnerability which spreads south along the line of the Severn, its southern extent is approximately level with Droitwich.	Potential contamination by inappropriate/illegal disposal of waste and contaminants. Without the Waste Core Strategy, facilities may be built in urban areas that may give rise to traffic congestion. This in turn could lead to air pollution. Even without the Waste Core Strategy pollution controls would largely be met through existing environmental controls and legislation.
Access to services	A full range of services and facilities are available to the local population, including various social, leisure, cultural and religious buildings, along with schools, health centres, clinics and hospitals. There are 602 community buildings including Village Halls and Community Centres in Worcestershire. Nearly 40% of areas in Worcestershire are ranked within the top 20% most deprived areas nationally in terms of the geographical distance to basic services. 45 areas have a ranking within the top 5%. Eight areas in the County have been ranked as in the top 1% of the most deprived areas in England with regard to access to services (Interim Economic Assessment, 2004-2005). The six District Authorities have committed to providing kerbside recycling to 84 -100 % of residents, by 2005.	There will be no incentive for developers to include 'bring sites' within their housing developments.

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Health	Life Expectancy in Worcestershire at birth (2004-2006): Males: 78.0; Females: 81.7 The healthy life expectancy of males and females living in Worcestershire is marginally higher than for the West Midlands and England. **Self Assessed Health as Resident Population %** **District** / **Good** / **Fairly Good** / **Not Good** Worcestershire / 69.7% / 22.3% / 8.0% Redditch / 70.2% / 21.9% / 8.0% Wychavon / 70.4% / 22.2% / 7.4% Malvern Hills / 69.1% / 22.5% / 8.4% City of Worcester / 69.9% / 22.3% / 7.8% Bromsgrove / 71.1% / 21.2% / 7.7% Wyre Forest / 67.5% / 23.7% / 8.9% There are approximately 177 medical and health care establishments in Worcestershire, including GP Surgeries, dentist and NHS Hospitals. In the United Kingdom in 1999 there were nearly 74,000 admissions to hospital due to asthma. In 2000, annual hospital admission rates for asthma were 48 per 10,000 children aged under 5 years and 16 per 10,000 children aged 5 to 14 years.	People's mental health may decrease if the environment they live in suffers from fly tipping due to insufficient infrastructure being where people can dispose of rubbish.

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Provision of housing	Number of households with residents 223,049. 9,244 houses are described as being overcrowded. The average household size in Worcestershire is 2.39 persons. 632 of households in Worcestershire do not have their own bath/shower and toilet. 13,742 households in Worcestershire do not have central heating. 169,629 houses are owner occupied. There are 5,967 vacant household spaces.	No impact
Population 1 (learning and skills)	The proportions of Worcestershire residents with varying levels of qualification compare favourably with regional and national averages. 71% of residents of working age have level 2 qualifications or above, compared to 69% nationally and 65% regionally. 30% have level 4 qualifications or above, the same as the national average.	Without the promotion of new high technology waste management solutions, skills in this sector are unlikely to be affected.

Highest Qualification Held by People of Working Age

District	Level 2 or higher	Level 3 or higher	Level 4 or higher
Malvern Hills	81%	60%	37%
Wychavon	69%	48%	29%
Bromsgrove	76%	52%	29%
Wyre Forest	60%	39%	22%
City of Worcester	76%	61%	38%
Redditch	71%	44%	26%
Worcestershire	71%	50%	30%
West Midlands	65%	45%	26%
England	69%	49%	30%

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Cultural Heritage, built design and archaeology	There are nearly 6,000 listed buildings in the County, together with 485 scheduled ancient monuments, 147 conservation areas, 1 registered battlefield, 15 historic parks and gardens, and over 22,000 entries on the County Historic Environment record. 14 buildings listed at Grade I and II* are classified as being at risk (2008).	Minimal impact.
Population 2 (anti social behaviour, crime, litter and graffiti)	Between April 2007 and March 2008, 37,686 crimes were recorded in Worcestershire. This is a reduction of 5.86% compared to 2006/07, and 9.63% compared to 2005/06. The crime levels are highest in urban areas with the highest rate per 1000 population being recorded in Worcester City Centre. Over the last 4 years, the peak crime level occurred in May 2004, when over 4100 crimes were recorded. Crime levels have shown a general decline since with a fall of 18.5% over the four-year period. The lowest level was recorded in December 2007, when just over 2,600 crimes were recorded. The most common type of crime is criminal damage which accounted for 22.9% of all crime in 2007 - 2008. The complete crime figures are indicated below: **Crime by Category %** Criminal Damage 22.9% Other thefts 22.8% Violent Crime 21.2% Vehicle Crime 12.2% Non-domestic Burglary 7.5%	No impact.

Sustainability issues	Characteristics	Likely evolution of baseline without implementation of WCS
Material assets (including land use & local amenity)	Construction aggregates make up most of the mineral output of the County. Worcestershire provides about 1 million tonnes or 7% of the annual aggregates apportionment of the West Midlands region. Sand, gravel clay, moulding sand and limestone are the materials being commercially exploited both at present and in the foreseeable future. The main sand and gravel resources in the County occur in solid deposits in north Worcestershire, terrace deposits along the Rivers Severn and Avon and fan deposits to the south and east of Bredon Hill, close to the County boundary with Gloucestershire. The Abberley/Suckley/Malvern Hills, the edge of the Cotswolds near Broadway, and Bredon Hill contain the hard rock resources of the County, whereas brick clay is found near Hartlebury. The enjoyment of the countryside is a key pull factor for many visitors to the County. 148 countryside sites affording a recreation opportunity were identified in 2001.	Use of primary aggregates will continue to increase.

Annex C

Appraisal of Vision and Policies

Key:

Impacts	Significance	Probability of effects	Direct or indirect effects	Reversibility
+ positive impact - negative impact 0 no significant impact ? impact unknown Ø not relevant Multiple symbols are used to indicate differential scale of effects	Low significance Medium significance High significance	L low probability M medium probability H high probability	D direct effect I indirect effect	✓ reversible effect × not reversible ie permanent effect

Table C.1 Assessment of Vision

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	?	?	+	The vision explicitly promotes the waste hierarchy, with minimisation as a priority, high levels of recycling, recovering resources from the remainder and only landfilliing as a last resort. However, reuse is not mentioned, and should be included in item 4.	M	D	✓
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	?	?	+	By promoting the waste hierarchy the vision will support the reduction of greenhouse gas emissions from waste management activities. The vision does not address adaptation issues.	M	I	✓/×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Ø	The vision does not address land use issues			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	The vision does not address the spatial distribution of facilities or modes of waste transport therefore the effect on waste transport is unknown.	L	I	×
Growth with prosperity for all	?	?	+	Recognises the importance and	M	D	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.				contribution of waste management to the economy, although this will not be a major contribution to the knowledge-driven economy or skills base. Does not address the spatial distribution of waste facilities.			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	?	?	+	Directly aims to promote community-wide responsibility for waste.	M	D	×/✓
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	?	?	+	Allows for flexibility to respond to technological changes and promotes greater resource efficiency in waste management.	M	D	×
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	?	?	+	Use of waste as a fuel is promoted, as well as greater resource efficiency in waste management.	M	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	+	Aims to ensure no pollution from waste management activities or damage to natural assets. Water efficiency should be indirectly encouraged through the promotion of resource efficiency in waste management.	M	D/I	✓/×
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	Ø	Ø	Ø	The vision does not address the spatial distribution of facilities or access to services.			
Landscape 11. Safeguard and strengthen landscape character and quality.	?	?	+	The vision seeks to avoid damage to natural assets, which should include landscape assets.	M	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's	?	?	+	Aims to avoid damage to natural assets, which should include biodiversity assets.	M	D	✓

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.							
Health 13. Improve the health and well being of the population and reduce inequalities in health.	?	?	0	Aims to avoid adverse effects on human health and amenity.	M	D	✓
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant to Vision			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant to Vision			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	?	+/0	Aims to avoid damage to cultural assets, which should include the historic and built environment. Seeks to promote resource efficiency in waste management, but does not address issues of design quality.	M	D	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	?	?	+/?	By promoting the waste hierarchy, the vision will help to support the use of secondary aggregates thereby reducing the need for virgin minerals. Land use issues are not specifically addressed and therefore the impact on open space is unknown.	M/L	I	✓/×

Table C.2 Policy WCS1: Ensuring Sustainable Development

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	+	+	The policy explicitly promotes the waste hierarchy and also requires developments to maximise the use of recycled materials.	H	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	+	+	The policy has a strong emphasis on reduction of greenhouse gas emissions and adaptation to climate change, through design and construction of facilities, by requiring a minimisation of waste transport and by promoting the waste hierarchy.	H	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	?	?	?	The policy requires mitigation and adaptation to climate change but does not specifically require the minimisation of flood risk. This should be dealt with by more detailed development management policy.	L	D	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	+	+	+	The policy specifically requires the minimisation of waste transport.	H	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	Ø	Ø	Ø	Not relevant			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology	+	+	+	The policy will help to support markets for new technologies and innovation through support for renewable energy generation, higher energy and environmental standards in design, climate change adaptation and use of sustainable	M	D	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
initiatives.				construction materials in waste developments.			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	+	+	+	The policy explicitly promotes the generation of renewable energy and energy efficiency within waste developments.	H	D	×/✓
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	?	The policy does not specifically address the quality of air, water and soil, although the text indicates a desire to keep environmental impacts to a minimum. However, this is probably more appropriately dealt with in policy WCS11 on managing the impact of waste related development. Policy WCS1 could include a reference to the need for water efficiency.	L	I	×
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	Ø	Ø	Ø	Not relevant			
Landscape 11. Safeguard and strengthen landscape character and quality.	Ø	Ø	Ø	Not relevant			
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	Ø	Ø	Ø	Not relevant			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	?	?	?	The policy does not specifically address the health effects of waste facilities, although the text indicates a desire to keep social and environmental impacts to a minimum. However, this is probably more appropriately dealt with in policy WCS11 on managing the impact of waste related development.	L	I	×
Provision of housing 14. Provide decent affordable housing for all, of	Ø	Ø	Ø	Not relevant			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
the right quality and tenure and for local needs, in clean, safe and pleasant local environments.							
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	+	+	+	The policy directly promotes sustainable construction standards. Design standards are addressed in policy WCS11.	H	D	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	+	+	+	By promoting sustainable construction standards including the use of recycled materials, the policy will help to reduce demand for virgin mineral resources although the effect is not likely to be significant for the county overall.	H	I	×
Summary	The policy will help to promote the waste hierarchy and increase the sustainable use of resources in both the design and operation of waste facilities, helping to support the development of new environmental technologies and reduce demand for virgin materials. Waste transport should be minimised and greater energy efficiency is promoted and renewable energy generation required, thereby helping to reduce greenhouse gas emissions from current levels in waste management. The policy emphasises the need for climate change adaptation.						
Mitigation	Include water efficiency as a requirement of sustainable construction.						

Table C.3 Policy WCS2: Spatial Hierarchy

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	+	+	The policy aims to provide sufficient sites to divert MSW and C&I waste from landfill, thereby helping to promote the management of waste at higher levels of the hierarchy than currently.	H	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+/?	+/?	+/?	The policy will promote the reduction of greenhouse gas emissions through the facilitation of new developments to divert waste from landfill. It may also help to reduce emissions by locating facilities near to the main towns/city thereby reducing waste transport, however this depends on the location of sites which is not known at this stage.	H/M	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	?	?	?	By giving a high priority to locating development in Worcester, the policy may increase the pressure for development in flood risk areas. However, the likelihood of this will depend on the specific locations of development sites and on the results of a more detailed Strategic Flood Risk Assessment.	L	I	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	The policy aims to locate facilities near to the main towns/city which may help to reduce waste transport, however this depends on the location of new facilities which is not known at this stage.	M	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	0	0	0	Although the priority is for waste development to be located in urban areas, the policy also foresees the possibility of waste development in rural areas, thereby helping to spread the economic benefits of waste-related development. However, the contribution to rural economic regeneration is unlikely to be significant.	H	I	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	Ø	Ø	Ø	Not relevant to location of facilities			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	?	?	?	By aiming to locate facilities near to the main towns/city, the policy may help to reduce the use of energy for waste transport. However, this depends on where the facilities are located which is not known at this stage.	M	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	?	Dependent on the specific location of sites and sensitivities rather than the strategic approach, which are currently unknown.	L	D	×
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	0	0	0	The policy will facilitate the development of facilities to serve local areas, but the improvement of access to services is more dependent on the specific location of those facilities which is not addressed by the policy.	L		
Landscape 11. Safeguard and strengthen landscape character and quality.	?	?	?	Dependent on the specific location of sites and sensitivities rather than the strategic approach, which are currently unknown.	L	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	?	?	?	The effects on biodiversity and geodiversity are unclear at this stage, as these are largely dependent on the location of specific sites and sensitivities rather than strategic approach to locations. The potential for effects on European nature conservation sites is yet to be assessed in detail, but there	L	D	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
				are risks from development at a number of locations in the hierarchy, particularly Worcester which contains Lyppard Grange Ponds SAC, and Evesham, Pershore and Upton which are fairly close to Bredon Hills SAC.			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	Ø	Ø	Ø	Dependent on the location of specific sites and sensitivities rather than strategic approach to locations.			
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	?	?	Dependent on the specific location of sites rather than the strategic approach, which are currently unknown.	L	D	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	+/?	+/?	+/?	By giving priority to locating development in the main towns/city, the policy is likely to help to increase the focus on the use of previously developed land. However, it may also increase the pressure for development in the green belt, particularly with the priority on Worcester, Redditch, Bromsgrove, Kidderminster and Droitwich.	M	I	×
Summary	By aiming to provide sufficient sites to divert MSW and C&I waste from landfill, the policy will help to promote the management of waste at higher levels of the hierarchy than currently, reducing greenhouse gas emissions and facilitating the development of new technologies. The policy aims to locate facilities near to the main towns/city which may help to reduce waste transport and associated						

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
	emissions, however the significance of effects depends on the location of new facilities which at this stage is unknown. By giving priority to locating development in the main towns/city, the policy is likely to help to increase the focus on the use of previously developed land. However, it may also increase the pressure for development in the green belt, particularly with the priority on Worcester, Redditch, Bromsgrove, Kidderminster and Droitwich. The priority for Worcester may also increase the pressure for development in flood risk areas. However, the likelihood of this will depend on the specific locations of development sites and on the results of a more detailed Strategic Flood Risk Assessment. The effect on biodiversity is unclear at this stage, as it is largely dependent on the location of specific sites and sensitivities rather than strategic approach to locations. However, the potential for effects on European sites is yet to be assessed in detail, but there are risks from development at a number of locations in the hierarchy.						
Mitigation	To strengthen protection of the green belt, waste development should be regarded as inappropriate in the green belt except in very special circumstances.						

Table C.4 Policy WCS3: Future Waste Site Allocations

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	+	+	The policy aims to facilitate the development of new sites to divert waste from landfill, thereby helping to promote the management of waste at higher levels of the hierarchy than currently.	H	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	+	+	The policy will promote the reduction of greenhouse gas emissions through the facilitation of new developments to divert waste from landfill. It will also help to reduce emissions from transport by promoting more sustainable transport modes and methods, although the opportunities for this are likely to be limited. Climate change adaptation will be a matter for specific sites rather than broad locations.	H	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	?	?	?	The effect on flood risk depends on where the broad locations are, which is currently unknown.	L	I	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	+	+	+	The policy will require sustainable transport modes and methods to be implemented, although in reality the opportunities are likely to be limited. The most significant effects on transport are dependent on where the broad locations for development are, which are currently unknown.	L	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	Ø	Ø	Ø	Not relevant			
Participation by all	Ø	Ø	Ø	Not relevant			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.							
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	Ø	Ø	Ø	Not relevant			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	+	+	+	The policy will require sustainable transport modes and methods to be implemented which will encourage greater energy efficiency in waste management methods, although in reality the opportunities are likely to be limited.	L	I	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	?	The likelihood of effects on air quality depends on where the broad locations are, which is currently unknown. However, focusing development on Worcester, Kidderminster and Bromsgrove may increase the risk of effects on the AQMAs in those areas. Effects on soil and water quality are dependent on individual site sensitivities.	L	I	×/✓
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	0	0	0	Broad locations for HWRCs should be situated to improve access. This is not covered by the policy but will be addressed through policy WCS8.	L	D	×
Landscape 11. Safeguard and strengthen landscape character and quality.	+	+	+	AONBs will be specifically protected by the policy. The effects on other landscapes are dependent on the specific location of sites rather than the strategic approach.	H	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's	Ø	Ø	Ø	Dependent on the location of specific sites and sensitivities rather than broad			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.				locations.			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	Ø	Ø	Ø	Dependent on the location of specific sites and sensitivities rather than broad locations.			
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	Ø	Ø	Ø	Dependent on the location of specific sites and sensitivities rather than broad locations.			
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	Ø	Ø	Ø	Dependent on the location of specific sites and sensitivities rather than broad locations.			
Summary	By facilitating the development of new sites to divert waste from landfill, the policy will help to promote the management of waste at higher levels of the hierarchy than currently and reduce greenhouse gas emissions from waste management activities. Requiring sustainable transport modes and methods to be implemented will also help to reduce greenhouse gas emissions, although in reality the opportunities are likely to be limited and therefore the effects on waste transport could be minor. The most significant effects on transport are dependent on where the broad locations for development are, which are currently unknown. This could also affect the likelihood of impacts on flood risk and air quality which are similarly unknown.						

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Mitigation	Include text which recognises the need for HWRCs to be located where they will improve access to services.						

Table C.5 Policy WCS4: Unallocated Sites

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	+	+	The policy will explicitly require proposals to be compatible with moving waste management up the waste hierarchy.	H	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	0	0	0	It is not clear that climate change mitigation and adaptation would be addressed by the policy. However, by requiring consideration of alternative sites, the policy could facilitate a comparison of the relative benefits of the site for waste transport effects.	L		
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	+	+	+	By requiring compliance with national policy, adverse effects on flood risk should be avoided.	M	D	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	Effects on transport are not covered by the policy. However, by requiring consideration of alternative sites, the policy could facilitate a comparison of the relative benefits of the site for waste transport effects.	L	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	Ø	Ø	Ø	Not relevant			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward investment	Ø	Ø	Ø	Not relevant			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.							
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	?	?	?	Energy efficiency is not addressed in the policy. However, by requiring consideration of alternative sites, the policy could facilitate a comparison of the relative benefits of the site for waste transport effects including energy consumption.	L	I	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	+	+	+	By requiring compliance with national, regional and local policy, adverse effects on air, water and soil should be avoided.	M	D	×
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	0	0	0	Locations for HWRCs should be situated to improve access. This is not covered by the policy but will be ensured through policy WCS8.	L	D	×
Landscape 11. Safeguard and strengthen landscape character and quality.	+	+	+	By requiring compliance with national , regional and local policy, adverse effects on landscape should be avoided.	M	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	+	+	+	By requiring compliance with national, regional and local policy, adverse effects on biodiversity and geodiversity should be avoided.	M	D	×
Health 13. Improve the health and well being of the population and reduce inequalities in health.	+	+	+	By requiring compliance with national, regional and local policy, adverse effects on health should be avoided.	M	D	×
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology	+	+	+	By requiring compliance with national	M	D	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.				policy, regional and local policy, adverse effects on the built and historic environment should be avoided. The quality and design of development are a matter for development management rather than the location of sites.			
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	+	+	+	The policy explicitly gives priority to the use of previously developed land. Although it will also make provision for development on greenfield land, it recognises the need to protect the countryside and its functions which should give protection to agricultural land and open space of recreational or amenity value.	H/M	D/I	×
Summary	The policy explicitly promotes the waste hierarchy. By requiring compliance with national, regional and local policy, adverse effects on air, water, soil, flood risk, landscape, the built and historic environment, biodiversity and geodiversity should be avoided. The policy explicitly gives priority to the use of previously developed land. Although it will also make provision for development on greenfield land, agricultural land and open space of recreational or amenity value should be protected. Effects on transport are not covered, however by requiring consideration of alternative sites, the policy could facilitate a comparison of the relative benefits of the site for waste transport effects including on emissions and congestion.						
Mitigation	Require a comparison of alternative sites in terms of the effects on waste transport distances.						

Table C.6 Policy WCS5: Waste Treatment Capacity

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+/0	++/0	++/0	The policy will explicitly require the management of waste at higher levels of the hierarchy than currently for MSW and C&I waste. However, the policy does not give any incentive to recycle/compost C&I waste where possible, or to recycle C&D waste.	H/L	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	++	++	By moving the management of waste up the waste hierarchy, the policy will support a reduction in greenhouse gas emissions through greater resource efficiency. Diverting biodegradable waste from landfill will also reduce emissions of methane from landfill. Waste transport could increase, but emissions are likely to be small in comparison with the reductions achieved through resource recovery.	H	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Ø	Not relevant			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	By increasing recycling and recovery, the policy may increase the need for waste transport by requiring multiple handling of waste streams. However, the significance of effects depends on where facilities are located which is not known at this stage. Minimisation of waste miles will be required by policy WCS1.	L	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	++	++	By providing the capacity to recycle and recover greater levels of waste, the policy will support the development of the waste sector and increase its economic	H	D	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
				contribution.			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	+	+	+	By providing the capacity to recycle and recover greater levels of waste, the policy will support the development of new resource-efficient technologies.	H	D	×
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	+	++	++	The policy requires recovery of value from MSW and C&I waste, and this is likely to include recovery of energy although this is not explicitly stated, leading to greater energy efficiency from waste management.	H	I	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	Ø	Ø	Ø	The likelihood and significance of impacts are dependent on where facilities are developed and operational standards.			
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	+	+	+	To achieve increased recycling performance the policy will indirectly require improved recycling services and better access to such services, although to a large extent this will be outside the scope of the WCS.	H	I	✓
Landscape 11. Safeguard and strengthen landscape character and quality.	Ø	Ø	Ø	The likelihood and significance of impacts are dependent on where facilities are developed and standards of construction and design.			
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	Ø	Ø	Ø	The likelihood and significance of impacts are dependent on where facilities are developed and standards of design and operation.			
Health 13. Improve the health and well being of the	Ø	Ø	Ø	The likelihood and significance of impacts are dependent on where facilities are			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
population and reduce inequalities in health.				developed and standards of design and operation.			
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	+	+	+	By requiring capacity to divert waste from landfill, the policy will support new enterprises which will require more skilled labour, although the number of jobs is likely to be small compared to the overall labour market in Worcestershire.	H	I	×
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	Ø	Ø	Ø	The likelihood and significance of impacts are dependent on where facilities are developed and standards of design and operation.			
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	?	?	?	The policy does not give any incentive to recycle increased levels of C&D waste and therefore the effect on substitution for primary minerals is unknown. This could be encouraged by providing capacity to achieve a target for recycling, eg 76% as in the BPEO. The likelihood and significance of impacts on land quality are dependent on where facilities are located.	L	D	×
Summary	The policy will explicitly require the management of waste at higher levels of the hierarchy than currently for MSW and C&I waste, increasing resource and energy efficiency and reducing greenhouse gas emissions. This will support the development of the waste sector and increase its economic contribution, and support the development of new resource-efficient technologies. However, the policy does not give any incentive to recycle/compost C&I waste where possible, or to achieve increased levels of recycling of C&D waste and therefore the effect on consumption of primary minerals is unclear. By increasing recycling and recovery, the policy may increase the need for waste transport by requiring multiple handling						

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
	of waste streams. However, the significance of effects depends on where facilities are located which is not known at this stage. It will also indirectly require improved recycling services and better access to such services, although to a large extent this will be outside the scope of the WCS.						
Mitigation	To encourage recycling of C&D waste, the policy could aim to provide capacity to achieve a target for recycling, eg 76% as in the BPEO. To encourage recycling/composting of C&I waste in preference to residual treatment, the policy could aim to provide capacity to achieve a recycling target eg 73% as in the BPEO.						

Table C.7 Policy WCS6: Safeguarding

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	+	+	The policy will support the management of waste above landfill by ensuring the availability and continued operation of sites to manage waste.	H	D	✓
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	0	0	0	Unlikely to have significant effects on climate change	L		
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	0	0	Unlikely to have significant implications for flood risk.	L		
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	Effects on waste transport are not clear, but are unlikely to be significantly affected if alternative sites are required to be in an equally sustainable location to the existing waste site.	L	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	Ø	Ø	Ø	Not relevant			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	Ø	Ø	Ø	Not relevant			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	0	0	0	Unlikely to have significant implications for energy generation and use.	L		
Natural resources 9. Protect and enhance the quality of water, soil and air.	0	0	0	Unlikely to have significant implications for air, water and soil quality if alternative sites are required to be in an equally sustainable location to the existing waste site.	L		
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	0	0	0	Access to HWRCs should be maintained through safeguarding of sites or by requiring alternative sites to be in an equally sustainable location. However, improvements are unlikely to be achieved.	M	D	×
Landscape 11. Safeguard and strengthen landscape character and quality.	0	0	0	Unlikely to have significant implications for landscape quality if alternative sites are required to be in an equally sustainable location to the existing waste site.	L		
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	0	0	0	Unlikely to have significant implications if alternative sites are required to be in an equally sustainable location to the existing waste site.	L		
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	Safeguarding should ensure that the risk of adverse effects on health and amenity are not increased by inappropriate development near to waste sites.	H	D	×
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	0	0	0	Safeguarding should ensure that the risk of adverse effects on local residential environments are not increased by inappropriate development near to waste sites.	H	D	×
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new	0	0	0	Unlikely to have significant implications if alternative sites are required to be in an equally sustainable location to the existing waste site.	L		

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
development proposals which respects local character and distinctiveness.							
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	0	0	0	Unlikely to have significant implications if alternative sites are required to be in an equally sustainable location to the existing waste site.	L		
Summary	The policy will directly support the management of waste at higher levels of the waste hierarchy than landfill by ensuring the availability and continued operation of sites to manage waste. Safeguarding should ensure that the risk of adverse effects on health and amenity and local residential environments are not increased by inappropriate development near to waste sites. Other effects are unlikely if alternative sites are required to be in more suitable and equally sustainable locations than existing sites.						
Mitigation	None						

Table C.8 Policy WCS7: Assessing the Waste Implications of New Development

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	++	++	The policy gives direct support to the waste hierarchy by requiring developers to demonstrate how waste will be reduced, reused and recycled, during both construction and operation.	H	D	✓
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	++	++	By facilitating the implementation of the waste hierarchy through construction and occupation of developments, the policy will help to reduce greenhouse gas emissions through greater resource efficiency.	H	I	✓
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Ø	Not relevant			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	+	+	+	Reduction of waste arisings will reduce the need for transport, and increased recycling of materials is likely to encourage more reuse of demolition materials onsite. Some materials will need to be transported offsite for recycling, but the tonnages involved are likely to be smaller in comparison to rubble and soil/subsoil.	M	D	✓
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	Ø	Ø	Ø	Not relevant			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	+	++	++	The policy will support greater civic responsibility by making it easier for the occupants of developments to recycle their waste.	M	I	✓
Technology, innovation and inward	+	+	+	By requiring waste audits and increased	L	I	✓

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.				focus on reuse and recycling, the policy will indirectly help to encourage more innovative ways of managing waste and may support the development of new technologies and markets for recycled products.			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	Ø	Ø	Ø	Not relevant			
Natural resources 9. Protect and enhance the quality of water, soil and air.	0	0	0	Unlikely to have significant effects. More strongly dependent on operational standards at waste management facilities.	M		
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	+	++	++	The policy requires developers to provide facilities for recycling and composting, which will help to improve access.	H	D	×
Landscape 11. Safeguard and strengthen landscape character and quality.	Ø	Ø	Ø	Not relevant			
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	Ø	Ø	Ø	Not relevant			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	Ø	Ø	Ø	Not relevant			
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+	++	++	The policy will support better designed developments in relation to the provision of waste facilities, and promote the adoption of sustainable construction methods in waste management.	H/L	D	×
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology	+	++	++	The policy will support better designed	H/L	D	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.				developments in relation to the provision of waste facilities, and promote the adoption of sustainable construction methods in waste management.			
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	+	+	+	By promoting waste minimisation, recycling and reuse in developments, the policy will help to increase the supply and use of secondary aggregates and help to conserve mineral reserves.	H	D	×
Summary	The policy gives direct support to the waste hierarchy during both construction and operation. This will help to reduce greenhouse gas emissions through greater resource efficiency, and may support the development of new technologies and markets for recycled products through greater adoption of sustainable construction techniques. The policy will help to increase the supply and use of secondary aggregates and help to conserve mineral reserves, and is likely to reduce the need for waste transport. Access to recycling facilities will be increased and the design of housing and other developments improved.						
Mitigation	None						

Table C.9 Policy WCS8: What Kind of Facilities Do We Need?

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	+	+	The policy gives direct support to the waste hierarchy by requiring developers to demonstrate that waste could not be managed at higher levels of the hierarchy.	H	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	+	+	By facilitating the implementation of the waste hierarchy, the policy will help to reduce greenhouse gas emissions through greater resource efficiency.	H	I	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Ø	Not relevant			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?/-	?/-	?/-	The effect on waste transport distances is unclear and dependent on the location of facilities which is not known. However, by promoting the waste hierarchy the policy may increase the need for waste transport by requiring multiple handling of materials and potentially longer transport distances to reprocessors. However, policy WCS1 requires waste transport to be minimised, and policy WCS2 will ensure facilities are located close to the main sources of arisings. Thermal treatment of waste will require a need to transport hazardous waste for disposal. The amount to be transported will depend on the technology employed, but for example could be an estimated 6,300 tonnes per annum from residual treatment of MSW[1]. The amount	L/H	I/D	×

(1) [1] From modelling work undertaken by ERM in 2009 of residual treatment options for Joint Municipal Waste Management Strategy

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
				of hazardous waste arising from residual treatment of C&I waste is unknown.			
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	+	+	The policy supports the development of waste management facilities, encouraging the growth and development of the waste sector in Worcestershire. Some facilities are likely to be promoted in rural areas to deal with biodegradable rural waste arisings.	H	D	×
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	+	+	+	The policy will support greater civic responsibility by improving access to recycling/disposal facilities at HWRCs.	H	I	×
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	+	+	+	By supporting the development of waste facilities, and by allowing flexibility to respond to new technologies, the policy will help to encourage the development of new and resource-efficient technologies.	H	D	×
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	+	+	+	By promoting anaerobic digestion, the policy will help to encourage the generation of renewable energy.	H	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	?	Likelihood of significant effects is unknown. More strongly dependent on specific locations of facilities and on operational standards.	L	I	×/✓
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	+	+	+	The policy requires provision of HWRCs in every principal and market town.	H	D	×
Landscape 11. Safeguard and strengthen landscape character and quality.	?	?	?	Likelihood of significant effects is unknown. More strongly dependent on specific locations of facilities and on operational standards.	L	I	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	?	?	?	Likelihood of significant effects is unknown. More strongly dependent on specific locations of facilities and on operational standards.	L	I	×
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	Significant health effects are unlikely if facilities are operated according to normal good practice standards. The development of facilities could have adverse impacts on residential amenity but this is dependent on site-specific sensitivities rather than the overall approach to provision of the required facilities.	H	D	✓
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	?	?	Likelihood of significant effects is unknown. More strongly dependent on specific locations of facilities and on operational standards.	L	I	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	?	?	?	Likelihood of significant effects is unknown. More strongly dependent on specific locations of facilities and on operational standards.	L	I	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Summary	The policy gives direct support to the waste hierarchy and indirectly to renewable energy generation, helping to reduce greenhouse gas emissions and greater resource efficiency. However, the effect on waste transport is unclear and could be increased by requiring multiple handling of materials and potentially longer transport distances to reprocessors and to transport hazardous waste to landfill. The growth and development of the waste sector in the county will be promoted, including in rural areas, and innovation in resource efficient technologies supported. Access to services at HWRCs will be improved.						
Mitigation	None at this stage						

Table C.10 Policy WCS9: Landfill

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	+	+	The policy gives direct support to the waste hierarchy by requiring developers to demonstrate that waste could not be managed at higher levels of the hierarchy.	H	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	0	+	+	By facilitating the implementation of the waste hierarchy, the policy will help to reduce greenhouse gas emissions through greater resource efficiency. The policy also requires the collection and use of landfill gas for energy recovery which will reduce emissions of methane.	H	I/D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	0	0	The policy will probably ensure that flood risk is not affected by landfill development. However, the wording should be clarified so that this applies to any landfill development, not just inert landfill.	H/L	D	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	Restricting the development of non-inert landfill sites has an uncertain effect on waste transport distances. It may encourage the management of waste closer to the source of arisings, but will also require multiple handling of waste materials. Allowing the development of inert landfill capacity in the county may enable waste to be disposed of nearer than would be the case with alternatives outside Worcestershire, however the significance of impacts depends on the specific locations. Policy WCS1 requires waste miles to be minimised.	L	I	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	0	0	0	Significant effects are unlikely			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	+	+	By restricting the development of non-inert landfill, the policy will support the development of more resource-efficient technologies.	H	D	×
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	0	+	+	By promoting landfill gas recovery and energy generation, the policy will help to encourage the generation of renewable energy.	H	D	✓
Natural resources 9. Protect and enhance the quality of water, soil and air.	0	+	+	It is envisaged that the policy will allow for the restoration of land and require the protection of water quality. The wording should be clarified so that this applies to any landfill development, not just inert landfill.	H/L	D	×
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	Ø	Ø	Ø	Not relevant			
Landscape 11. Safeguard and strengthen landscape character and quality.	0	+	+	Landscape character would be explicitly required to be considered by developers, therefore significant adverse effects should be unlikely. The wording should be clarified so that this applies to any landfill development, not just inert landfill.	H/L	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and	0	+	+	Developers would be explicitly required to comply with Worcestershire's Biodiversity and Geodiversity Action Plans, and the setting or condition of nearby features,	H/L	D	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
enhanced.				therefore significant adverse effects should be unlikely. The wording should be clarified so that these conditions will apply to any landfill development, not just inert landfill.			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	Significant health effects are unlikely if facilities are operated according to normal good practice standards. The development of facilities could have adverse impacts on residential amenity but this is dependent on site-specific sensitivities rather than the overall approach to provision of the required facilities.	H	D	×/✓
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	0	+	+	Developers would be explicitly required to address the setting or condition of nearby features, therefore significant adverse effects should be unlikely. The wording should be clarified so that these conditions will apply to any landfill development, not just inert landfill.	H/L	D	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and	?	?	?	By facilitating the development of inert landfill capacity, the policy may reduce the incentives to recycle C&D waste. The policy is likely to allow development to restore previously developed or derelict land, helping to maximise its reuse. Biodiversity interest will be specifically	L	I	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
biodiversity interest.				required to be protected, although valued open space is not.			
Summary	The policy gives direct support to the waste hierarchy which will help to encourage more resource-efficient technologies. It will also reduce greenhouse gas emissions, as will the requirement to collect and use landfill gas for energy recovery which will reduce emissions of methane and support the generation of renewable energy. The policy will probably ensure that adverse effects are avoided on water quality, flood risk, landscape character, biodiversity, geodiversity and the built and historic environment, and that previously developed land is reused and restored. However, the wording should be clarified so that this applies to any landfill development, not just inert landfill. Restricting the development of non-inert landfill sites has an uncertain effect on waste transport distances. It may encourage the management of waste closer to the source of arisings, but will also require multiple handling of waste materials. Allowing the development of inert landfill capacity in the county may reduce incentives to recycle C&D waste and increase the use of secondary aggregates.						
Mitigation	To increase incentives to recycle C&D waste, the WCS should commit to recycling targets eg 76% recycling of C&D waste as in the BPEO. Include in policy a requirement to take account of recreational and amenity value of the land.						

Table C.11 Policy WCS10: Energy from Waste

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	0	0	Although the policy facilitates energy recovery and recovery of value from by-products, it does not directly support progression of waste management up the waste hierarchy, as proposals could relate to AD (composting), thermal treatment or disposal. However, commitment to the waste hierarchy should be ensured through policy WCS8.	M	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	+	+	By maximising energy recovery and the recovery of value from by-products, the policy will help to reduce greenhouse gas emissions through reducing the need to consume virgin/fossil resources and by reducing emissions of landfill gas.	H	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Ø	Not relevant			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	Ø	Ø	Ø	Not relevant			
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	0	0	0	Significant effects are unlikely			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward	+	+	+	By promoting energy recovery, the policy	H	I	×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.				will support the use of more resource-efficient technologies, although this is unlikely to give a significant stimulus to innovation.			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	+	+	+	The policy gives a strong emphasis on increasing energy efficiency by promoting recovery, and will also help to promote renewable generation from landfill gas and anaerobic digestion. The use of CHP wherever practicable should be promoted.	H	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	+	+	+	The policy is likely to require that pollution is avoided.	H	D	✓
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	Ø	Ø	Ø	Not relevant			
Landscape 11. Safeguard and strengthen landscape character and quality.	Ø	Ø	Ø	Not relevant			
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	Ø	Ø	Ø	Dependent on sensitivities at particular sites rather than overall approach to permitting energy recovery.			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	The policy is likely to require that health risks are avoided.	H	D	×/✓
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	Ø	Ø	Ø	Dependent on sensitivities at particular sites rather than overall approach to permitting energy recovery.			
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	Ø	Ø	Ø	Dependent on sensitivities at particular sites rather than overall approach to permitting energy recovery.			
Summary	By maximising energy recovery and the recovery of value from by-products, the policy will help to reduce greenhouse gas emissions through reducing the need to consume virgin or fossil resources and by reducing emissions of landfill gas. Energy efficiency will be promoted and the generation of renewable energy encouraged.						
Mitigation	The use of CHP wherever practicable should be promoted.						

Table C.12 Policy WCS11: Managing the Impact of Waste Related Development

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	Ø	Ø	Ø	Not relevant			
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	Ø	Ø	Ø	Not relevant. Addressed in policy WCS1.			
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	+	+	+	The policy is likely to make direct reference to Strategic Flood Risk Assessments and flood management policies.	H	D	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	The policy is likely to require developments to accord with the provisions of the Local Transport Plan. However, this should be strengthened to ensure that developments do not significantly impact on the road network given that some are likely to generate large numbers of vehicle movements. Minimisation of waste transport distances will be addressed in policy WCS1.	M	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	Ø	Ø	Ø	Not relevant			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward investment	Ø	Ø	Ø	Not relevant			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.							
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	Ø	Ø	Ø	Not relevant. Addressed in policy WCS1.			
Natural resources 9. Protect and enhance the quality of water, soil and air.	+	+	+	The policy is likely to require that unacceptable impacts on air, water and soil are prevented.	H	D	✓
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	Ø	Ø	Ø	Not relevant			
Landscape 11. Safeguard and strengthen landscape character and quality.	+	+	+	Landscape character is likely to be protected through reference to designations and the Worcestershire Landscape Character Assessment.	H	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	+	+	+	Biodiversity and geodiversity are likely to be protected through reference to designated areas and Action Plans.	H	D	✓/×
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	The policy is likely to require that adverse effects on amenity are minimised, but could usefully include a reference to light pollution. Health impacts are unlikely if facilities are operated in accordance with good practice standards.	H	I	×/✓
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of	Ø	Ø	Ø	Not relevant			

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
the workforce.							
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	+	+	+	The policy is likely to require protection of cultural and historic assets.	H	D	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	Ø	Ø	Ø	The location of sites and effects on land use are addressed in policy WCS4.			
Summary	The policy is likely to require that adverse impacts are prevented on air, water, soil, flood risk, landscape, biodiversity, geodiversity and cultural and historic assets. Adverse effects on amenity are likely to be avoided, although light pollution is not addressed. The control of potential effects of waste transport on congestion should be strengthened to given that some developments are likely to generate large numbers of vehicle movements.						
Mitigation	Include a requirement to avoid adverse effects on amenity from light pollution, and to require developers to avoid or minimise adverse effects on the congestion.						

Table C.13 Other Matters of Concern

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	+	+	Policy to encourage local recyclable collection points will promote the waste hierarchy. Policy on landfill mining could facilitate recovery of resources.	H	D	✓
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+/0	+/?	+/?	By promoting the waste hierarchy, a policy on local recyclable collection points would help to reduce greenhouse gas emissions. Policy on restoration and aftercare should require landfill gas collection and use for energy generation.	H/M	I	✓
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	?	?	?	Policy on permitted development rights could assist in controlling any adverse effects on flood risk. Information to support this could be specifically required.	L	D	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	+/-	+/-	+/-	Effects on transport are mixed. Policy on permitted development rights may help to reduce waste being transported around the county. Encouraging local recyclable collection points could reduce the distance householders need to travel to reach them. Policy on landscaping and noise mounds is likely to require waste to be transported rather than left on-site. However, in all cases the quantities involved are likely to be relatively small.	L/M	D	✓/×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	Ø	Ø	Ø	Not relevant			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of	+	+	+	By encouraging recyclable collection points, policy would provide more opportunities for people to take responsibility for recycling their waste.	M	I	✓

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
life, encouraging pride and social responsibility in the local community.							
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	Ø	Ø	Ø	Not relevant			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	?	?	?	Policy on restoration and aftercare should require landfill gas collection and use for energy generation.	L	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	?	Policy on permitted development rights could assist in controlling any adverse effects on soil and water quality. Information to support this could be specifically required. Landfill mining could have detrimental impacts on water quality and control of effects should be included in policy.	L	D	×
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	+	+	+	Policy to encourage local recyclable collection points would help to increase access to recycling services.	M	D	✓
Landscape 11. Safeguard and strengthen landscape character and quality.	+/?	+/?	+/?	Landscape character is likely to be protected by policy on restoration of sites, and on control of landscaping and noise mounds. Control of landscape impacts should be included in policy on landscape mining and permitted development rights.	H/L	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	+/?	+/?	+/?	Policy on restoration and aftercare should have benefits for biodiversity, whereas landfill mining could have adverse effects and should be controlled. Policy on permitted development rights could assist in controlling any adverse effects on	H/L	D	✓/×

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
				biodiversity and geodiversity and information to support this could be specifically required.			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	+	+	+	Policy on recyclable collection points and on landfill mining would specifically aim to avoid adverse effects on the amenity of residents.	H	D	✓
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	?	?	Policy on permitted development rights could assist in controlling any adverse effects on the historic environment and information to support this could be specifically required. Policy on control of recyclable collection points could also reduce the risk of adverse impacts on cultural, built or historic assets.	M/L	D	×/✓
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	?	?	?	Policy on permitted development rights could assist in controlling any adverse effects on agricultural land and information to support this could be specifically required.	L	D	×
Summary	The waste hierarchy would be promoted by some aspects of additional matters, specifically through encouraging local recyclable collection points and by facilitating landfill mining. This will help to increase resource efficiency and reduce greenhouse gas emissions. Emissions would also be reduced and renewable energy generation increased through a requirement for landfill gas recovery and use for energy generation in policy on restoration and aftercare.						

SA objectives	Short term	Med term	Long term	Description	Prob	Dir/Ind	Rev?
	The proposed additional policy areas could assist in minimising adverse effects on flood risk, water quality, soil quality, geodiversity, biodiversity, the built and historic environment although these are not explicitly addressed. Policy would explicitly seek to prevent adverse effects on amenity and landscape and to capture biodiversity benefits.						
Mitigation	Policy on restoration and aftercare should include a requirement to recover and use landfill gas for energy generation. Policy on permitted development rights should require information to assist in controlling effects on flood risk, soil and water quality, landscape, biodiversity, geodiversity, historic assets. Landfill mining should specifically seek to control the risk of detrimental effects on water quality, landscape and biodiversity. Policy on control of recyclable collection points should seek to reduce the risk of adverse impacts on cultural, built or historic assets.						

Annex D

Options Appraisal

Key:

Impacts	Significance	Probability of effects	Direct or indirect effects	Reversibility
+ positive impact - negative impact 0 no significant impact ? impact unknown Ø not relevant Multiple symbols are used to indicate differential scale of effects	Low significance Medium significance High significance	L low probability M medium probability H high probability	D direct effect I indirect effect	✓ reversible effect × not reversible ie permanent effect

Table D.1 Assessment of Approach to Urban or Rural Development

SA objectives	B1 Urban	B2 Mixed	B3 Rural	Comments	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	Ø	Ø	Ø	Not relevant to spatial distribution of facilities			
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	?	-	Option B1 is likely to minimise waste transport by providing facilities closest to the source of arisings, thus reducing the impact on the climate. The effect of option B2 is unclear compared to existing locations of facilities which include rural landfill. Option B3 would require the greatest amount of waste transport. However, the significance of effects depends on locations which are not known at this stage.	L	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	?	?	?	Depends on location of specific sites. To ensure a positive impact, consideration of flooding issues will need to be incorporated into developing preferred options.	L	I	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	+	?	-	It is assumed that the majority of waste arisings would be in the urban areas. Therefore, waste development in urban areas would minimise the need for waste transport. The effect of option B2 is unclear compared to existing locations of facilities which include rural landfill. Option B3 would	L	D	×

SA objectives	B1 Urban	B2 Mixed	B3 Rural	Comments	Prob	Dir/Ind	Rev?
				require the greatest amount of waste transport. However, the significance of effects depends on locations which are not known at this stage.			
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	+	+	Waste facilities can provide economic benefits wherever they are located. However the contribution to urban and rural economic regeneration will be small.	H	D	×
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant to spatial distribution of facilities			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	Ø	Ø	Ø	Not relevant to spatial distribution of facilities			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	Ø	Ø	Ø	Not relevant to spatial distribution			
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	?	New waste facilities have the potential to have negative or positive impacts on natural resources, i.e. water, soil and air in both urban and rural locations. To mitigate any negative impacts, site selection criteria should consider these impacts. Suitable mitigation measures could also be incorporated at the planning application stage.	L	D/I	×/✓
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	++	+	+	Each spatial option would help to enhance provision and public access to local recycling and HWRC sites. This is more likely to improve with a focus on urban areas although there is no information available on where need is located currently.	M	D	×
Landscape 11. Safeguard and strengthen landscape character and quality.	0/?	-/?	-/?	Waste development in urban locations is less likely to have a negative impact on landscape character and quality than rural developments, and may in some circumstances enhance it depending specific site conditions and on design quality. Such	L	D	×

SA objectives	B1 Urban	B2 Mixed	B3 Rural	Comments	Prob	Dir/Ind	Rev?
				developments in rural locations might adversely impact the quality of landscape although this also depends on the location of specific sites, type of facility and quality of design. To mitigate these impacts good design should be incorporated at the planning application stage.			
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	0	-	-	Waste development in urban locations is less likely to have a negative impact on biodiversity and geodiversity than developments in rural locations, although this depends to a large extent on issues at particular sites. To mitigate the impacts, these factors need to be taken into account in the site selection stage and good design should be incorporated at the planning application stage.	L	D/I	×/✓
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	It is unlikely that there will be any significant health issues associated with waste facilities.			
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	?	?	The WCS has the potential to deliver well designed, resource efficient and high quality built environment but the significance of effects depends on specific site sensitivities and applies to both urban and rural developments. To mitigate any negative impacts on the historic and cultural environment, appropriate measures, including good design, need to be taken into account in the site selection stage and planning application stage.	L	I	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets	+	-	- -	Facilities in urban locations are more likely to	M	D	×

SA objectives	B1 Urban	B2 Mixed	B3 Rural	Comments	Prob	Dir/Ind	Rev?
18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.				safeguard land assets and open spaces and focus development on previously developed land. This could also be achieved in rural areas if incorporated into criteria for site identification.			

Table D.2 Assessment of Approach to Centralised or Dispersed Facilities

SA objectives	D1 Centralised	D2 Mixed	D3 Dispersed	Comments	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+++	++	+	By centralising facilities on a single site the WCS could give greater encouragement to managing waste at higher levels of the hierarchy by facilitating symbiosis between waste management activities. However, the significance of the contribution to the waste hierarchy may be relatively small.	L	I	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	?	?	?	The effect on greenhouse gas emissions is unclear. Centralised facilities could increase opportunities for use of CHP which can help to reduce greenhouse gas emissions. They could also reduce waste transport by co-locating facilities, while dispersed facilities could also reduce waste transport by locating facilities close to the source of arisings. The significance of effects arising from transport depends on specific locations of sites, including in relation to the source of arisings.	L	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	0	0	Depends on location of specific sites. To ensure a positive impact, consideration of flooding issues will need to be incorporated into site selection criteria.			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	The effect on waste transport is unclear. Centralised facilities can reduce waste transport by co-locating facilities, while dispersed facilities could also reduce waste transport by locating facilities close to the source of arisings. The significance of effects depends on specific locations of sites, including in relation to the source of arisings.	L	D	×
Growth with prosperity for all	+++	++	+	Having centralised facilities would	H	D	×

SA objectives	D1 Centralised	D2 Mixed	D3 Dispersed	Comments	Prob	Dir/Ind	Rev?
5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.				encourage the development of symbiotic businesses which can increase the economic contribution from waste management activities.			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	+	++	+++	All options will promote Worcestershire taking responsibility for the waste produced by the county. The more dispersed the facilities are, the more the responsibility will be spread among different communities.	H	I	×
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	+++	++	+	Centralised waste management facilities would provide more opportunities for the use of new technologies and inward investment as all the necessary infrastructure would be located in the same area and industrial symbiosis encouraged.	H	D	×
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	++	+	?	Centralised waste management facilities would provide more opportunities for use of energy generated by waste management facilities, including CHP which is classed as renewable. Energy capture should be encouraged wherever appropriate. However, none of the options are technology specific at this stage.	L	I	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	?	New waste facilities have the potential to have a negative impact on natural resources, i.e. water, soil and air, depending on particular sensitivities at individual sites. Suitable mitigation measures could also be incorporated at the planning application stage.	L	D/I	✓/×
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	0	0	0	Unlikely to affect access to services.			

SA objectives	D1 Centralised	D2 Mixed	D3 Dispersed	Comments	Prob	Dir/Ind	Rev?
Landscape 11. Safeguard and strengthen landscape character and quality.	- -	-	?	Centralised facilities may have a greater cumulative impact on landscape, although the significance of impacts depends on individual sites and types of facilities proposed.	L	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	?	?	?	Significance of impacts depends on individual sites and types of facilities proposed. Suitable mitigation measures, including good design, could also be incorporated at the planning application stage.	L	D/I	×/✓
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	It is unlikely that there will be any significant health issues associated with waste facilities.			
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	0	0	0	These options are unlikely to have a significant impact on skills levels of the workforce.			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	?	?	All the options have the potential to deliver well designed, resource efficient and high quality built environment. The significance of any impacts on the historic and cultural environment depends on particular site sensitivities. Appropriate measures, including good design, need to be taken into account in the site selection stage and planning application stage.	L	I	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile	?	?	?	Depends on conditions at particular sites and should be incorporated into criteria for site identification.	L	I	×

SA objectives	D1 Centralised	D2 Mixed	D3 Dispersed	Comments	Prob	Dir/Ind	Rev?
agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.							

Table D.3 Assessment of Approach to Small or Large Facilities

SA objectives	C1 Large	C2 Mixed	C3 Small	Comments	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	Ø	Ø	Ø	Not relevant to spatial distribution of facilities			
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+++/?	++/?	+/?	Larger facilities will provide greater energy generation efficiency thus providing the greatest reduction in greenhouse gas emissions. The significance of effects on waste transport distances depends on the locations of sites in relation to the sources of arisings. However, it is possible that a larger number of smaller facilities could minimise the transport of waste, thus minimising greenhouse gas emissions from transport. However, emissions from transport are likely to be much smaller than emissions from waste processing. A mix of large and small facilities would deliver a more balanced approach to waste management, by reducing transportation and distances, but still providing the benefits of economies of scale.	H/L	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	?	?	?	Depends on location of specific sites. To ensure a positive impact, consideration of flooding issues will need to be incorporated into site selection criteria.	L	I	×
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	?	?	The significance of effects on waste transport distances depends on the locations of sites in relation to the sources of arisings. However, it is possible that a larger number of smaller facilities could minimise the transport of waste.	L	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	++	+++	Waste facilities can provide economic benefits wherever they are located, and a larger number of smaller sites will spread the benefits more widely. However the contribution to economic regeneration will be small.	H	I	×
Participation by all	+	++	+++	All options will promote Worcestershire taking	H	I	×

SA objectives	C1 Large	C2 Mixed	C3 Small	Comments	Prob	Dir/Ind	Rev?
6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.				responsibility for the waste produced by the county. The more small facilities there are, the more the responsibility will be spread among different communities.			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	Ø	Ø	Ø	Not relevant to spatial distribution of facilities			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	+++	++	+	Large waste management facilities will enable greater energy generation efficiency. To ensure a positive impact, energy capture should be encouraged wherever appropriate. However, none of the options are technology specific at this stage.	H	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	?	New waste facilities have the potential to have a negative impact on natural resources, i.e. water, soil and air, depending on particular sensitivities at individual sites. Suitable mitigation measures could also be incorporated at the planning application stage.	L	D/I	×/✓
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	0	0	0	Access to services is unlikely to be significantly affected by size and distribution of facilities.			
Landscape 11. Safeguard and strengthen landscape character and quality.	- -	-	?	Larger facilities are likely to have a greater impact on landscape, because these might be more difficult to mitigate. Suitable mitigation measures, including good design, could also be incorporated at the planning application stage. However landscape impacts depend on individual sites and types of facilities proposed.	L	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	?	?	?	Impacts depend on individual sites and types of facilities proposed rather than size of facility. Suitable mitigation measures, including good design, could be incorporated at the planning application stage.	L	D/I	×/✓
Health 13. Improve the health and well being of the	0	0	0	It is unlikely that there will be any significant health issues associated with waste facilities.			

SA objectives	C1 Large	C2 Mixed	C3 Small	Comments	Prob	Dir/Ind	Rev?
population and reduce inequalities in health.							
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant to size of facility.			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	?	?	All the options have the potential to deliver well designed, resource efficient and high quality built environment. The significance of any impacts on the historic and cultural environment depends on particular site sensitivities. Appropriate measures, including good design, need to be taken into account in the site selection stage and planning application stage.	L	I	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	?	?	?	Depends on conditions at particular sites and should be incorporated into criteria for site identification.	L	I	×

Table D.4 Assessment of Approach to Green Belt

SA objectives	A1 Inappropriate	A2 Appropriate on PDL	A3 Appropriate anywhere	Comments	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	Ø	Ø	Ø	Not relevant to location of development			
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	?	+	++	By relaxing the restrictions on development in the green belt, the WCS could make it more likely that development could be delivered close to some of the larger settlements, particularly Redditch, Kidderminster and Bromsgrove. This could help to reduce greenhouse gas emissions from waste transport.	M	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Ø	Effects depend on individual site sensitivities rather than policy approach to green belt.			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	?	+	++	By relaxing the restrictions on development in the green belt, the WCS could make it more likely that development could be delivered close to some of the larger settlements, particularly Redditch, Kidderminster and Bromsgrove. This could help to reduce waste transport distances.	M	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	Ø	Ø	Ø	Not relevant to green belt policy.			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that	Ø	Ø	Ø	Not relevant.			

SA objectives	A1 Inappropriate	A2 Appropriate on PDL	A3 Appropriate anywhere	Comments	Prob	Dir/Ind	Rev?
affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.							
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	Ø	Ø	Ø	Not relevant to green belt policy.			
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	Ø	Ø	Ø	Not relevant to green belt policy.			
Natural resources 9. Protect and enhance the quality of water, soil and air.	Ø	Ø	Ø	Not relevant to green belt policy.			
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	?	?	?	By relaxing the restrictions on development in the green belt, the WCS could make it more likely that development could be delivered closer to some of the larger settlements, particularly Redditch, Kidderminster and Bromsgrove. This may help to improve public access to waste facilities although there is no information available about where need currently arises.	L	D	×
Landscape 11. Safeguard and strengthen landscape character and quality.	+	+	+	By ensuring development is in accordance with green belt objectives, including on preserving and enhancing landscapes, all the options should ensure that landscape character is safeguarded. Option A2 may help to improve landscapes by improving derelict sites. However, significance of impacts is dependent on the landscape sensitivities of individual sites.	M	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks	+	+	+	By ensuring development is in accordance with green belt objectives,	M	D/I	×/✓

SA objectives	A1 Inappropriate	A2 Appropriate on PDL	A3 Appropriate anywhere	Comments	Prob	Dir/Ind	Rev?
of habitats are conserved and enhanced.				including on securing nature conservation interest, all the options should ensure that biodiversity is safeguarded. However, significance of impacts is dependent on the particular biodiversity value of individual sites, including in comparison to the biodiversity value of alternative sites outside the green belt.			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	By ensuring development is in accordance with green belt objectives, including on providing opportunities for public access and outdoor sport and recreation, all the options should ensure that opportunities for healthy recreation are safeguarded although health will not be improved. However, significance of impacts is dependent on the accessibility and use of individual sites.	M	D	×
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	Ø	Ø	Ø	Not relevant to green belt policy			
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets	0/0	-/+	- -/0	Relaxing restrictions on development in	H	D	×

SA objectives	A1 Inappropriate	A2 Appropriate on PDL	A3 Appropriate anywhere	Comments	Prob	Dir/Ind	Rev?
18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.				the green belt is likely to result in a reduction in land of green belt value, even though all options require development to be in accordance with green belt objectives and therefore should protect open spaces of recreational and amenity value and retain land in agricultural use. Option A2 should help to focus development on previously developed land.			

Table D.5 Assessment of Approach to Allocating Facilities to Locational Hierarchy

SA objectives	Size	Broad kind	Specific type	Comments	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	Ø	Ø	Ø	Not relevant to spatial distribution of facilities			
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	+	+	By specifying the size of facility that would be appropriate to different towns in the locational hierarchy, the WCS would have some control over the distances travelled by waste and therefore over emissions of greenhouse gases from transport. By specifying the broad kind of facility or the specific type would help to ensure that facilities of the type needed are provided close to the source of arisings. It is not clear whether there is a significant difference between the options, and would depend on where facilities would be located and of what type.	L	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Ø	Dependent on conditions at specific locations rather than distribution of facilities.			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	+	+	+	By specifying the size of facility that would be appropriate to different towns in the locational hierarchy, the WCS would have some control over the distances travelled by waste. By specifying the broad kind of facility or the specific type would help to ensure that facilities of the type needed are provided close to the source of arisings. It is not clear whether there is a significant difference between the options, and would depend on where facilities would be located and of what type. Greater control would be achieved through specifying a combination of size and type.	L	D	×
Growth with prosperity for all	+	+	+	All options will contribute to regeneration and	H	D	×

SA objectives	Size	Broad kind	Specific type	Comments	Prob	Dir/Ind	Rev?
5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.				provide business opportunities in the waste sector in urban and rural areas.			
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Ø	Not relevant			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	+	+	0	Specifying size or broad type of facility will be flexible to allow innovative technologies to come forward. Specifying the specific type is likely to restrict innovation.	M	D	×
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	+	+	+	By specifying the size of facility that would be appropriate to different towns in the locational hierarchy, the WCS would have some control over the distances travelled by waste and therefore over transport energy consumption. By specifying the broad kind of facility or the specific type would help to ensure that facilities of the type needed are provided close to the source of arisings. It is not clear whether there is a significant difference between the options, and would depend on where facilities would be located and of what type.	L	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	Ø	Ø	Ø	Dependent on issues at individual sites and specific developments rather than the locational strategy.			
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	0	+	+	By specifying by broad or specific type, the WCS could ensure that access to HWRCs is improved where needed. However, this is also ensured through draft policy WCS8.	M	D	×
Landscape 11. Safeguard and strengthen landscape character and quality.	Ø	Ø	Ø	Dependent on issues at individual sites and specific developments rather than the locational strategy.			
Biodiversity, geodiversity, flora and fauna	Ø	Ø	Ø	Dependent on issues at individual sites and			

SA objectives	Size	Broad kind	Specific type	Comments	Prob	Dir/Ind	Rev?
12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.				specific developments rather than the locational strategy.			
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	0	Options are unlikely to significantly affect health if developments are operated in accordance with permit conditions and good operational standards.	H	I	✓
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the workforce.	Ø	Ø	Ø	Not relevant			
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	Ø	Ø	Ø	Dependent on issues at individual sites and specific developments rather than the locational strategy.			
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	Ø	Ø	Ø	Dependent on issues at individual sites and specific developments rather than the locational strategy.			

Table D.6 Assessment of Approach to Determining C&I Capacity Needs

SA objectives	Regional targets	BPEO targets	Comments	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	++	The BPEO gives greater support to the waste hierarchy than meeting RSS targets by requiring 73% recycling of C&I waste, whereas the RSS does not specify the required recycling level and therefore a higher level of residual treatment is likely than with the BPEO.	H	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	++	By moving waste up the waste hierarchy, the BPEO strategy will reduce the climate change impacts of waste management.	H	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Not relevant to target tonnages for waste management.			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	-	- -	Moving waste management up the waste hierarchy is likely to require more waste transport due to the need for multiple handling of process outputs instead of a single trip to landfill. The BPEO is likely to require more waste transport with higher amounts of recyclates to handle.	H/M	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	+	Both options will move waste up the waste hierarchy and so increase the economic contribution from waste management activities.	H	D	×
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Not relevant to the BPEO strategy.			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology	+	+	Both options will move waste up the waste hierarchy and so would encourage the use of new technologies, innovation and inward investment.	H	D	×

SA objectives	Regional targets	BPEO targets	Comments	Prob	Dir/Ind	Rev?
initiatives.						
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	++	+	The regional targets are likely to provide more opportunities for energy generation and use compared to meeting BPEO targets, as the level of residual treatment is likely to be higher. Energy capture should be encouraged wherever appropriate.	H	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	?	?	The approach to targets itself does not impact on natural resources, however the requirement for new facilities could have effects on water, soil and air quality. The significance of effects is dependent on conditions at specific sites and on operational standards.	L	D/I	×/✓
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	0	0	The approach to targets has no impact on access to services.			
Landscape 11. Safeguard and strengthen landscape character and quality.	?	?	The approach to targets itself does not impact on landscape, however the requirement for new facilities could have effects on landscape. The significance of effects is dependent on conditions at specific sites and on the type of facility.	L	I	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	?	?	The approach to targets itself does not impact on biodiversity or geodiversity. However the requirement for new facilities could have effects through the need for new developments. The significance of effects is dependent on conditions at specific sites and on operational standards.	L	I	×/✓
Health 13. Improve the health and well being of the population and reduce inequalities in health.	+	+	Increasing the diversion of waste from landfill will help to reduce the risk of any health effects from landfill sites, although the scale of effects is very small. There is no significant difference between the options.	L	D	×
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Not relevant			
Population (learning and skills)	Ø	Ø	Not relevant			

SA objectives	Regional targets	BPEO targets	Comments	Prob	Dir/Ind	Rev?
15. Raise the skills level and qualifications of the workforce.						
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	?	The approach to targets itself does not impact on cultural heritage, built design and archaeology. However the requirement for new facilities could have effects through the need for new developments. The significance of effects is dependent on conditions at specific sites and on the type of facility proposed.	L	I	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	?	?	The approach to targets itself does not impact on land assets such as open spaces and agricultural land. However, the requirement for new facilities may have effects through the need for new waste developments. The significance of effects is dependent on conditions at specific sites.	L	I	×

Table D.7 Assessment of Approach to Determining C&D Capacity Needs

SA objectives	No targets	BPEO targets	Comments	Prob	Dir/Ind	Rev?
Waste 1. Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	+	++	The BPEO gives greater support to the waste hierarchy by requiring 76% recycling of C&D waste. Without a target this level may still be achieved, although it is less likely.	M	D	×
Climate Change 2. Reduce causes of and adapt to the impacts of climate change.	+	++	By increasing the level of recycling of C&D waste, the BPEO is likely to reduce greenhouse gas emissions through reducing the need to extract and transport virgin minerals and making recycled materials available closer to the user.	M	D	×
Flooding 3. Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	Ø	Ø	Not relevant to target tonnages for waste management.			
Traffic and transport 4. Reduce the need to travel and move towards more sustainable travel patterns.	-	- -	Increasing the level of recycling of C&D waste is likely to reduce the impacts of transport by reducing the demand for virgin minerals and making recycled materials available closer to the user.	M	D	×
Growth with prosperity for all 5. Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	0	0	Unlikely to make a significant difference to the economy.	H		
Participation by all 6. Provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	Ø	Ø	Not relevant.			
Technology, innovation and inward investment 7. Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	0	Unlikely to make a significant difference to the development of new technologies.	H		

SA objectives	No targets	BPEO targets	Comments	Prob	Dir/Ind	Rev?
Energy generation and use 8. Promote energy efficiency and energy generated from renewable energy and low carbon sources.	+	++	By increasing the level of recycling of C&D waste, the BPEO is also likely to reduce fuel consumption and increase energy efficiency by reducing the demand for virgin minerals and making recycled materials available closer to the user.	M	D	×
Natural resources 9. Protect and enhance the quality of water, soil and air.	0	0	Unlikely to affect air, water or soil quality	H		
Access to services 10. Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	Ø	Ø	Not relevant			
Landscape 11. Safeguard and strengthen landscape character and quality.	?	?	Higher recycling of C&D waste will reduce the need for extraction of virgin minerals and for inert landfill capacity, therefore decreasing the potential for landscape impacts from extraction and landfill. However, it may also reduce the availability of materials to fill and restore minerals sites or other brownfield sites. The balance of likely effects is unknown, and the significance is dependent on conditions at specific sites.	L	D	×
Biodiversity, geodiversity, flora and fauna 12. Conserve and enhance Worcestershire's biodiversity and geodiversity and ensure networks of habitats are conserved and enhanced.	?	+	Higher recycling of C&D waste will reduce the need for extraction of virgin minerals and for inert landfill capacity, therefore decreasing the potential for biodiversity and geodiversity impacts from extraction and landfill. However, the significance is dependent on conditions at specific sites.	L	D	×
Health 13. Improve the health and well being of the population and reduce inequalities in health.	0	0	Unlikely to have significant health impacts			
Provision of housing 14. Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	Ø	Ø	Not relevant			
Population (learning and skills) 15. Raise the skills level and qualifications of the	Ø	Ø	Not relevant			

SA objectives	No targets	BPEO targets	Comments	Prob	Dir/Ind	Rev?
workforce.						
Cultural heritage, built design and archaeology 16. Conserve and enhance the historic and built environment and seek well-designed, resource efficient, high quality built environment in new development proposals which respects local character and distinctiveness.	?	+	Higher recycling of C&D waste will encourage greater resource efficiency in construction through the use of recycled aggregates. It will also reduce the need for extraction of virgin minerals and for inert landfill capacity, therefore decreasing the potential for adverse effects on cultural and historic assets. However, the significance of any effects is dependent on conditions at specific sites.	L	D	×
Population (antisocial behaviour, crime, litter and graffiti) 17. Reduce crime, fear of crime and antisocial behaviour.	Ø	Ø	Not relevant			
Material assets 18. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.	?	+	Higher recycling of C&D waste will reduce the need for extraction of virgin minerals, helping to safeguard reserves. It will also reduce the need for mineral extraction sites and for inert landfill capacity, therefore decreasing the potential for adverse effects on agricultural and greenfield land. However, the significance of any effects is dependent on conditions at specific sites.	H/L	D	×

Annex E

Effects Arising from Other Plans and Strategies

1 INTRODUCTION

This annex sets out the findings of a review of other plans and programmes of relevance to the WCS. It summarises the contents of each of those plans and programmes which have either been adopted or are reasonably likely to be adopted, and which could potentially give rise to effects in combination with the WCS. The purpose of the review was to inform an assessment of the likely cumulative impacts of arising from the WCS and other plans acting in combination.

1.1 RSS PHASE TWO REVISION (PREFERRED OPTION)

West Midlands Regional Spatial Strategy Phase Two Revision Draft Preferred Option, West Midlands Regional Assembly, December 2007

The key challenges for the RSS are:
a) adopting positive measures to address the relative decline in the Regional economy in both urban and rural areas
b) reversing the movement of people and jobs away from the Major Urban Areas (MUAs) and ensuring there is a greater equality of opportunity for all
c) tackling road and rail congestion and
d) achieving a more balanced and sustainable pattern of development across the Region, including the rural areas.

The outward movement of people and jobs away from the MUAs is increasingly recognised as an unsustainable trend, increasing the pressures on the environment, encouraging the development of greenfield sites, increasing the need for car-based travel and creating dangers of abandonment and greater social polarisation.

Outside the MUAs, new development will be focused in and adjacent to towns which are most capable of balanced and sustainable growth to complement the role of the MUAs. Ten Settlements of Significant Development (SSD) are defined as locations for this purpose which include Redditch and Worcester. The same principles will apply to development in other urban areas and market towns. In each case, the aim will be to meet local and sub-regional economic and social needs in the most sustainable way without attracting investment or migration from the MUAs.

Beyond the MUAs, therefore, the following policy principles will apply:
a) provision for housing will generally be concentrated in SSDs, although some peripheral development of other settlements may need to be considered in LDDs, as part of an overall approach to the development of sustainable communities, provided this does not undermine the renaissance of the MUAs;
b) rural renaissance across all rural areas in the Region, with a key role for market towns and larger villages, recognising the purpose of the Rural Regeneration Zone in the west of the Region;
c) a balanced network of vital and vibrant town and city centres as the strategic focus for major retail, leisure and office developments, acting as service centres for their rural hinterlands;
d) transport networks improved to resolve existing transport infrastructure problems, assist the economic objectives of the strategy, reduce social exclusion and improve access to services and opportunities by serving movements between and within towns and cities, towns and their rural hinterlands, and

within the rural areas.

The growth of Worcester City will need to extend beyond its administrative boundaries and this will need to be strategically managed between the authorities of Worcester City, Malvern Hills and Wychavon to ensure that development takes place at optimum locations (i.e. particularly avoiding areas of potential flood risk) and that necessary transport and other supporting infrastructure is provided. This may require a small scale green belt adjustment.

Outside of Worcester, further development in the County will be focused within other larger settlements and market towns acting as strategic locations for housing as well employment growth. In Redditch, limited development capacity within the town itself will require extensions to the urban area, including provision in adjoining Districts with implications for Greenbelt. Any greenfield extensions will also need to be appropriately managed and phased, to ensure new housing provision does not encourage migration from Birmingham and the Black Country.

Local authorities and other agencies in Kidderminster, Redditch and Worcester should seek to improve prospects in local regeneration areas by bringing forward regeneration policies and programmes. Where possible access should be improved between concentrations of local deprivation and need within these towns and areas of economic opportunity.

City, town and district centres and in particular including Worcester, Kidderminster and Redditch should be enhanced to play a leading role in urban renaissance programmes in order to provide services for local communities, a sense of identity and as drivers of economic growth.

The RRZ will be the primary focus for rural regeneration in the West Midlands. Local authorities should work with the RRZ Partnership Board to identify initiatives which have spatial implications and to develop policies in their development plans to facilitate those initiatives. Priority will be given to supporting existing businesses and attracting appropriate new economic activity, improving accessibility to jobs and services and promoting rural diversification. Market towns have a key role in helping to regenerate rural areas, as a focus for sustainable economic and housing development and by providing services and other facilities to their rural hinterlands.

In the following locations, local authorities must jointly consider the most appropriate locations for development before producing or revising LDDs:

- Birmingham and Bromsgrove in relation to Birmingham;
- Redditch, Bromsgrove and Stratford-upon-Avon in relation to Redditch
- Worcester, Malvern Hills and Wychavon in relation to Worcester.

Table 1.1 Housing Proposals for Worcestershire 2006-2026

Planning Area	Total (Net)	Indicative Annual Average
Worcestershire	36,600	1,830
Bromsgrove (e)	2,100	105
Redditch (e)	6,600	330
Malvern Hills (f)	4,900	245
Worcester City (f)	10,500	525
Wychavon (f)	9,100	455
Wyre Forest	3,400	170

e) Redditch Figure of 6,600 includes 3,300 in Redditch and 3,300 adjacent to Redditch town in Bromsgrove and/or Stratford-upon-Avon Districts.
f) Of the figure of 10,500 for Worcester; 3,200 will be within Worcester City and 7,300 will be adjacent to the City within the surrounding districts of Malvern Hills and Wychavon.

Levels of new house building across the Region will be phased to seek to ensure that there is, overall, an increasing level of housing provision in the period up to 2016. Sites which are on previously developed land should be phased early in the plan period and, in most circumstances, prior to the phasing of greenfield sites. The development of any greenbelt sites should generally be phased late in the plan period and after further investigation as to whether they constitute the most sustainable form of development in the local area and represent exceptional circumstances.

The MUAs will be the primary focus for additional investment in sustainable economic growth. Sustainable economic growth will also be promoted in the rest of the Region including the SSDs to ensure an appropriate balance between new housing and new employment land provision. The rural areas of the Region will also be supported through the sustainable modernisation and diversification of the rural economy.

High-Technology Corridors (HTC) are identified within which cluster developments, closely linked to the Region's critical research and development capabilities and advanced technologies, will be promoted. These include the Birmingham to Worcestershire (Central Technology Belt). New developments within the HTCs should be focused on the MUAs and at specific nodes which include Bromsgrove, Droitwich, Worcester and Malvern.

Local Planning Authorities should make provision for a continuing five-year reservoir of readily available employment land outside town centres throughout the plan period and where appropriate make provision for likely longer-term employment land requirements

Table 1.2 ***Employment Land Provision, hectares***

Planning Area	Rolling five-year reservoir	Indicative long-term requirements
Worcestershire	96	288
Bromsgrove	7	21
Redditch	17 (f)	51 (g)
Malvern Hills	11	33
Worcester City	27 (h)	81 (i)
Wychavon	23	69
Wyre Forest	11	33

(b) In these districts discussions will be required to ensure that cross-boundary issues are resolved. Includes Stratord.
(f) Of which 8 ha will be provided within Bromsgrove and/or Stratford the distribution to be determined through discussions and agreement on preparation of Core Strategies.
(g) Of which 24 ha will be provided within Bromsgrove and/or Stratford the distribution to be determined through discussions and agreement on preparation of Core Strategies.
(h) Of which 9 ha will be provided within Malvern and Wychavon, the balance to be determined by a joint Core Strategy.
(i) Of which 27 ha will be provided within Malvern and Wychavon, the balance to be determined by a joint Core Strategy.

New RIS will be required to meet the needs of the Birmingham to Worcestershire HTC. Sites should be in the order of 25–50 hectares.

Local development plans should include policies that support the further development and success of key Regional tourism and cultural assets including historic town and city centres such as Worcester, The Malvern Hills and the Cotswolds that lie within the West Midlands Region.

RSS defines a network of 25 town and city centres, including Worcester, Kidderminster and Redditch, which will be the preferred location for major retail developments, uses which attract large numbers of people including major cultural,

indoor sport, tourist, social, leisure and community venues and large scale office developments. Local authorities should plan for the construction of the following amounts of additional gross comparison retail floorspace within each centre within the network of strategic town and city centres:

Table 1.3 Comparison Retail Floorspace Requirements 2006-2026, m^2

Planning Area	2006-2021	2021-2026
Worcester	55,000	30,000
Kidderminster	25,000	10,000
Redditch	30,000	20,000

In other centres, local authorities should be proactive in encouraging appropriate development to maintain and enhance their function as town and district centres, in particular convenience shopping, local service and facility provision, day-to-day comparison shopping.

Local authorities should plan for the construction of the following amounts of new office development (square metres gross) within or on the edge of each of the centres within the network of strategic town and city centres for the period 2006-2026.

Table 1.4 Office Development Requirements 2006-2026, m^2 gross

Planning Area	
Worcester	55,000
Kidderminster	40,000
Redditch	45,000

Transport

A strategic Park and Ride location is identified at Worcester Parkway at the crossing of the Worcester/Oxford and Birmingham/Cheltenham railways. A potential location has been identified at Bromsgrove.

High priority is given to investment in the maintenance, management and selective improvement of the strategic transport network in order to maintain accessibility for essential movements, including freight, within and through the Region. Consideration should be given to:
i) optimising the use of existing infrastructure across all modes;
ii) ensuring capacity is safeguarded by appropriate selection of development location, minimising the need for local movements to use the strategic network
iii) adopting the priorities for investment in strategic networks (Active Traffic Management for M5/M6/M42 motorway box, Strategic Park & Ride sites, improved access to regeneration sites, and growth areas), ensuring the investments are not undermined by inappropriate development
iv) ensuring that motorways and trunk roads are managed and improved to operate effectively as part of the national transport network, including the use of appropriate demand management techniques to improve journey time reliability
v) road building only after all other solutions have been examined and where proposals support other objectives of the WMRSS; and
vi) ensuring the Region is provided with an improved and integrated rail network to encourage greater use of rail, particularly for longer distance travel both within the Region and beyond.

Potential Contribution to Cumulative Effects
The projected housing growth and increased number of jobs will lead to increased resource consumption, including of energy and water, increased waste generation and increased greenhouse gas emissions. The improvements planned to infrastructure in order to accommodate the growth will also consume additional resources. The demand for development land will increase, particularly around Worcester and Redditch, but also Kidderminster and Bromsgrove as key towns in the strategic network. There is likely to be additional pressure on PDL available for development in the medium term. Traffic levels are likely to rise due to the additional households and economic growth, which may also contribute to reduced air quality. Congestion may be reduced by the investment in transport infrastructure and demand management measures, although this is uncertain. Improvements to the rail network are promoted.

Connecting To Success: West Midlands Economic Strategy, Advantage West Midlands, December 2007

The region needs to increase businesses' engagement in global markets in order to drive up their competitiveness and provide wider opportunities. Businesses will need to continuously improve their competitiveness, productivity, market profile and local supply chain linkages so they can take advantage of new product and market opportunities.

The focus will be upon:
- Creating new businesses both to develop economic activity and inclusion, and to attack some new and valuable markets;
- Growth and development in existing businesses, particularly those in the mid-sized bracket;
- Stimulating new strategic industries for both products and services in growth and value added markets.
- Increasing the value of international trade carried out by West Midlands businesses, expanding the number of businesses succeeding in overseas markets and generate a stronger flow of inward investment to the region.

The Economic Strategy targets spatial interventions on three primary areas:
- Areas of multiple market failure – the Regeneration Zones which represent concentrations of deprivation and disadvantage within the region; the areas of greatest need and market failure;
- Concentrations of knowledge assets – including the High Technology Corridors, represent key mechanisms for promoting regional-scale growth while supporting development and opportunity within the major urban areas, and represent agglomerations of innovative potential to support the diversification of our economy into higher value added sectors;
- Birmingham – as the major economic driver within the West Midlands economy, hosts an agglomeration of essential economic assets and needs to remain economically competitive. It is a global city and gateway to the region as a whole, and aims to be resource-efficient and low-carbon, taking advantage of, and resilient to, climate change.

The RES will also focus more limited resources on a number of other settlements and locations:
- Market towns, which act as important centres within rural economies, stimulating employment, investment and services in the rural areas. Sustaining this success will be essential in ensuring the long-term viability and contribution of our rural economy.

- Locations facing economic change or responding to opportunity These locations may not need significant support and overall the allocation of resources will continue to be concentrated in those areas of greatest need.

Long-term shifts in the region's environmental impact must be driven by changes in underlying patterns of consumption and demand. Changes in patterns of travel, waste production, energy use and overall consumption will encourage businesses to adapt their methods and stimulate the supply of lower-impact goods and services. The RES seeks to stimulate a proactive and ambitious business response to the economic opportunities of the low-carbon agenda by exploiting new markets and ways of working, and by responding ambitiously to the challenges of energy and resource efficiency and climate change adaptation.

The built environment and wider infrastructure needs to build in resilience to climate impacts. We will also need to improve the standards of our new and renewed built environment. We need to encourage people at home and in their workplaces to stimulate demand for more sustainable goods, services, and working practices.

The Strategy will seek to improve the levels of business ICT adoption, help the region's business maximise the ever-increasing market opportunities in this field, increase the quantity and quality of ICT advisers/suppliers, develop the ICT skills of the workforce, and maintain a competitive broadband infrastructure across the region.

Travel demand is expected to grow and travel patterns to become more diverse in the future, placing even greater pressure on the transport infrastructure. It is essential to take a coordinated approach to housing and employment land development across urban and rural communities in a way that reduces transport demands and energy use.

It is important to encourage both the adoption of sustainable forms of transport and improvements to transport networks and services to help people access jobs and support business competitiveness, as well as reducing the environmental impact. The RES seeks to improve the efficiency, reliability and capacity of the region's transport and communication networks, making the best use of existing networks, increasing the availability of public transport, and maximising the use of technology and new infrastructure where required and appropriate. In supporting Birmingham International Airport in enabling long-distance business travel, it will be essential to manage the carbon impact of such travel so that the low-carbon ambitions for the region can still be met. It is equally important to ensure that the region is resilient to climate change impacts as they happen.

The region has pockets of deep and interlocking deprivation, the most substantial of which are located in our major urban areas and have been targeted through the Regeneration Zones. The RES seeks to regenerate and support the sustainable development and growth of the most deprived areas, developing links with economic and employment opportunity.

The region has a significant and increasing amount of brownfield and derelict land that is often not attractive for private investment. Forecast changes in economic structure suggest the number of such sites will grow. Several areas will require focused attention to avoid the risk of such sites detracting from our ambitions. It is essential to ensure that development aims to bring brownfield land back into use in a constructive way that contributes to meeting wider regional objectives.

The RES seeks to accelerate the attraction, relocation and retention of visitors, people and businesses to the region by promoting the high quality of life and strong

heritage, natural environment and cultural offer, as well as tourism and rural assets, to maximise benefits for the region as a whole.

Potential Contribution to Cumulative Effects
The RES seeks to promote economic growth *inter alia* through increasing the business base and by attracting people to the region. It also aims to increase international trade and travel. This will increase the demand for travel and increase energy, water and other resource consumption and waste generation, while at the same time the RES aims to promote more sustainable travel behaviour and greater resource efficiency and to reduce carbon emissions. The overall balance of effects on travel, water and energy consumption, greenhouse gas emissions and waste generation is uncertain. Air quality may reduce through increased demand for transport, although this may be offset to a certain extent by more sustainable transport patterns. The Focus on Regeneration Zones and High Technology Corridors is likely to support increased economic activity and demand for employment land in Malvern, Worcester, Droitwich and Bromsgrove and to a more limited extent in the rural north west of the county. Increased amounts of brownfield land should be brought back into beneficial use, although the likely locations of sites within the region are not known.

1.2 LOCAL PLANS

South Worcestershire Joint Core Strategy Preferred Options Consultation Document, September 2008

New development should be located in accordance with the following settlement hierarchy:

- Worcester will be the focus for strategic housing and employment development and city centre development with the objective of maintaining and enhancing its sub-regional role as a major retail, leisure, university and tourist centre.
- Malvern, Droitwich Spa, Evesham offer the greatest range of services and employment opportunities and other facilities outside of Worcester
- Tenbury Wells, Upton-upon-Severn, Pershore offer a wide range of services, facilities, employment and town centres serving the wider rural communities

Development throughout the rural areas will be restricted to that required to meet local needs generated from within the rural areas themselves and as an aid to rural regeneration. Development within the open countryside (beyond development boundaries) will be strictly controlled.

The total amount of development will be as follows.

Table 1.5 Development Allocations

District	Indicative Housing Requirements (Dwellings)	Indicative Employment Requirements (Hectares)
Worcester		
Worcester urban extensions/adjacent to Worcester, including Fernhill Heath	10,853	41 ha
Regional Investment Site		25 ha
Malvern Hills		
Malvern	1,600	17 ha
Tenbury Wells	100	
Upton-upon-Severn	100	

Category 1 & 2 villages	500	
Wychavon		
Droitwich	1,750	10 ha
Evesham	2,300	10 ha
Pershore	1,000	5 ha
Villages	1050	

Worceseter
Worcester's housing needs and employment needs will be accommodated by:

- Infill development within the city,
- Limited Greenfield extension at Kilbury Drive immediately outside the City Boundary,
- Major urban extensions to the west and north west, and south and south east of the city, and
- Limited Greenfield development in the vicinity of Fernhill Heath.

Central to the spatial strategy will be the priority implementation of the Integrated Transport Strategy for Worcester including strategic park and ride sites, quality bus corridors incorporating extensive bus priority, quality cycle and pedestrian routes, a new city centre bridge and the dualling of the Southern Link Road. Rail halts will be pursued to the north, south and west, in the longer term together with a Worcestershire Parkway at Norton.

3,200 dwellings can be accommodated within the city boundary. The remaining 7,300 dwellings will be accommodated in two new urban extensions. One of these urban extensions would be located to the west/north west of the city and would accommodate approximately 3,500 dwellings together with 16 hectares of employment, a local centre to include, health care, retail, community and leisure facilities, provision for the emergency services and two schools. Transport infrastructure requirements are the development of a park and ride site to the west, a rail halt in the Rushwick area and the dualling of the Southern Link Road. These would require significant improvements in the rail infrastructure. It will be important that a route for a future north-west city by-pass is not constrained by this proposed development.

The second of the new urban extensions will be located to the south/south east of the city for approximately 3,000 dwellings together with 25 hectares of employment, a local centre to include community, primary health care, retail, emergency services and leisure facilities together with one or two schools. This would require the dualling of the Southern Link Road, the possible development of a railway halt at Battenhall/Norton with long-term link to a Worcestershire Parkway station at Norton, the development of bus park and ride off the A38. Evidence from the rail authorities at this time suggests that the development of a Parkway station is not likely to occur until the end of the plan period so at this time the provision of development in that location would not be sustainable. However, it would open up longer-term growth opportunities using the rail corridor.

500 dwellings could be accommodated as a greenfield extension to the north west of Fernhill Heath outside the Green Belt. Development will be associated with the provision of a range of shopping, social, health, and community facilities and a school. A rail halt at Fernhill Heath would enable rail park and ride. However, significant signalling improvements are required to the rail line to make this possible.

There is support for a new concept of a 'community sports hub' on the northern edge of Worcester in the Hindlip area. This would require good sustainable transport links not only into Fernhill Heath but also to Worcester to ensure easy access by other means than the private car.

The remaining 300 dwellings will be built on a greenfield site adjacent to the urban area at Kilbury Drive to the south east of Worcester, which will enable local improvements to facilities, public transport and public open space.

There is evidence to support the identification of a 25 hectare Regional Investment Site in the vicinity of junction 6 on the M5 motorway. This will require substantial improvements at Junction 6, but could accommodate the needs of larger investors or for indigenous growth.

The city centre will remain the focus of the expanded community for shopping, leisure, tourism and commerce and education. 55,000m^2 of city centre office space should be provided in Worcester.

The implementation of the integrated transport strategy envisages a new city centre bridge.

Malvern
There is a need to find land for up to 1,600 dwellings and up to 17 hectares of employment land within or on the edge of Malvern. The majority of the growth will be in the form of sustainable urban extensions to the north and/or east of Malvern, with a mix of uses to deliver housing, employment and associated community facilities. Development will need to be supported by new transport infrastructure.

The Malvern Hills Science Park would continue to be the leading location in South Worcestershire with regard to the Research and Development sector and that this sector will require further land allocations into the future. One or two large sites will be required in Great Malvern town centre to accommodate 5,000sqm of non-food goods floorspace needed over the next 10 years.

Accessibility to Malvern from its rural hinterland will be enhanced through improvements to sustainable transport infrastructure to ensure better access to the services for the rural population. This will include more frequent and reliable train services brought about by upgrading the single track line from Hereford to Worcester and bus priority measures within the town. There will also be a Park and Ride utilising the existing rail corridor between Malvern and Worcester and rail enhancements.

Droitwich
Broad locations for development are:
- Town centre – retail, residential and employment.
- South – residential and mixed use development comprising 1500 dwellings at the Area of Development Restraint referred to as Copcut Lane and greenfield sites either side of Chawson Lane. Residential development, comprising 250 dwellings on greenfield land referred to as the north of Pulley Lane.
- The south of the town should provide employment land in the Area of Development Restraint to satisfy the town's role as a centre in the Central Technology Belt

Up to 2,000 square metres of comparison goods retail floorspace between 2012 and 2017 will be provided for in the town centre.

Infrastructure needs include improved public transport to Birmingham and Worcester and increased parking capacity at Droitwich Spa railway station.

Evesham
The following are broad locations for development:
- Town Centre - employment, residential and retail
- East (within the A46T) residential development comprising 1500 on greenfield sites either side of Offenham Road;

- South West – residential development comprising 800 on greenfield site off Pershore Road, Hampton;
- South – employment 10ha at Vale Business Park.

Tenbury Wells
There is a need to provide up to 100 dwellings in Tenbury Wells over the period to 2026. The majority of employment land is situated north of the river, in Burford, and it is considered that the existing employment sites in Malvern Hills District should be the focus for small-scale local needs employment growth only. There is also scope to make more intensive use of the existing land at Tenbury Business Park, to the south of the town. Scope may exist to identify land, for small starter type units/live work units. Development of the former Cattle Market site for commercial uses, including retail, employment uses, and / or for recreation, leisure and community uses will be encouraged where these are of a scale and size appropriate to the location and compatible with flood policy.

Upton on Severn
Tunnel Hill with Holly Green/ Ryall should be a focus for limited housing growth for Upton-upon-Severn, for up to 100 dwellings. Employment opportunities will be small scale, but there will be scope for some growth in jobs at Upton marina. There may be scope for small-scale employment growth for small workshops or live/work units in Tunnel Hill.

Pershore
Development in Pershore will take place in the following broad locations:
• South west – residential comprising 150 dwellings off Three Springs Road;
• North – residential comprising 400 dwellings off Station Road;
• North east – residential comprising 450 dwellings either side of Wyre Road;
• North east – employment 10ha at Keytec 7;
• Town Centre – retail, comprising up to 2,000 sq metres;

Infrastructure improvements include the link from the A44/Wyre Piddle By-pass roundabout to Keytec 7 Business Park. This will also help to alleviate the congestion hotspot at the Pinvin/A44 junction.

Potential Contribution to Cumulative Effects
The planned housing development and economic growth in Worcester, Malvern, Droitwich and Evesham will lead to increased consumption of resources, increased waste generation and increased greenhouse gas emissions. There may be potential competition for previously developed land for new housing development and employment land, particularly within Worcester, and there could potentially be increased pressure for development in areas constrained by flood risk. Urban extensions will lead to a loss of open space which may be of value, but may present opportunities for CHP use. Economic and housing development in Worcester, Droitwich and Malvern may create competition for potential sites and increase traffic in the area, although planned infrastructure improvements may help to reduce traffic growth or alleviate the pressures. Plans are in place for road improvements and schemes to promote more sustainable travel patterns. Changes in transport patterns and traffic levels are likely to affect air quality, although the direction of change is unknown. This could potentially give rise to adverse effects on ecosystems particularly from developments in Worcester but the likelihood of effects is unknown.

The Council's Strategic Housing Land Availability Assessment identifies significant amounts of suitable and available land that can deliver considerably more housing than what is required within the Preferred Option of the RSS. Areas of potential growth are identified on the key diagram on the northern and western fringes of Bromsgrove, on the outskirts of Redditch, and in Hagley, Catshill, Alvechurch and Wythall. A minimum of 700 new homes will be provided on the East works site to be delivered via the Longbridge Area Action Plan.

Economic growth will primarily be focused on Bromsgrove Town and Longbridge. An Area Action Plan has been developed for the site of the former car plant at Longbridge. The aim is that Longbridge will be redeveloped into an exemplar sustainable, employment led, mixed use development. Exceptionally employment may be permitted on the edge of Bromsgrove where there is evidence to suggest this is of wider economic and community benefit. Sites in other settlements may be permitted where this achieves a better balance between housing and employment and has the potential to reduce commuting.

The Local Development Framework will promote the following:

- New technology opportunities as part of the 'Central Technology Belt', including Longbridge and Bromsgrove Technology Park.
- Small scale office and mixed use schemes within Bromsgrove Town Centre.
- Limited employment development in rural areas that help to maintain the vitality and viability of villages whilst not encouraging migration from Major Urban Areas.

Bromsgrove District Council will work towards reducing the need to travel by car and assist in delivering a sustainable transport network covering the extent of the District, on both east/west and north/south axes. The Council will continue to work to secure a new and improved Bromsgrove Railway Station.

Bromsgrove District will seek to accommodate the following cross boundary requirements in conjunction with Stratford-on-Avon District Council to meet the housing and employment land provision for Redditch Borough:

- Approximately 3,300 dwellings in Bromsgrove and/or Stratford-on-Avon Districts adjacent to Redditch Town.
- 8ha rolling five year reservoir employment land provision in Bromsgrove and/or Stratford-on-Avon Districts adjacent Redditch Town.
- 24ha indicative long-term requirement employment land provision in Bromsgrove and/or Stratford Districts adjacent to Redditch Town.

All developments must use sustainable decentralised zero or low carbon energy generation such as CHP or district heating schemes. Where such a scheme is not viable, a secure, zero or low-carbon energy infrastructure or contribution ensuring connection to future district heating scheme is required.

Potential Contribution to Cumulative Effects

The planned housing development and economic growth in Bromsgrove, Longbridge and the outskirts of Redditch will lead to increased consumption of resources, increased waste generation and increased greenhouse gas emissions, and may contribute to reduced air quality in Bromsgrove from higher levels of traffic. There is unlikely to be competition for land for new housing development, but there may be competition for employment land, particularly in Bromsgrove and around Redditch. The draft Core Strategy gives significant support to the use of CHP use in new developments.

Redditch town is the Main Settlement as it provides the highest level pf services/facilities provision and it is also designated as a Settlement of Significant Development, Local Regeneration area and Strategic Centre. Astwood Bank offers a range of services and facilities and is therefore a Sustainable Settlement and the lower level of facilities offered in Feckenham means it can only be considered as a Local Needs Settlement.

Provision is made for the supply of 2,243 dwellings to be delivered between 2006 and 2026 within Redditch Borough. Development will be favoured which is phased accordingly as follows:
i. brownfield sites, within a defined settlement; followed by,
ii. greenfield sites within a defined settlement.

In exceptional circumstances, locations adjacent to the Redditch urban area on land currently designated as Green Belt, but where the purposes for Green Belts were designated would not be compromised will be considered.

In order to support the regeneration of Redditch Town Centre and to resolve accessibility concerns in and around the Town Centre, four parcels of land within and on the periphery of Redditch Town Centre have been identified and amalgamated for consideration as one Strategic Site. Three of the parcels of land including land at Prospect Hill, Edward Street and Church Road have each been the subject of a Supplementary Planning Document as individual sites. The fourth parcel of land is currently known as Car Park number 4 which serves Kingfisher Shopping Centre.

- Church Road / North West Quadrant is the preferred location for convenience and comparison retail as part of a mixed-use development also incorporating food and drink and leisure developments;
- Edward Street is appropriate for office use. Convenience retail uses are also appropriate if it can be demonstrated that convenience retail cannot be accommodated at Church Road / North West Quadrant;
- Car Park Number 4 is suitable for retail use only;
- Prospect Hill should provide a mixed-use development of offices and residential uses.

The Core Strategy promotes the redevelopment of Church Hill, Winyates, Matchborough and Woodrow District Centres. Any redevelopment proposals must promote the vitality, viability and sustainability of these District Centres. The Woodrow Strategic Site must incorporate significant residential development.

Land to the rear of the Alexandra Hospital should deliver significant employment land.

A Strategic Site incorporating the Abbey Stadium and adjoining lands is appropriate for assembly and leisure, hotels, ancillary retail and food & drink facilities and training and other facilities.

Total provision for about 27 hectares of employment land is made within the Borough including land at Ravensbank in Bromsgrove District for the period up to 2026. Sites other than those provided may come forward for development, redevelopment or change of use. Proposals for employment development which generate substantial HGV movements will be restricted to locations which have suitable and proper access to a nearby primary distributor road.

The Borough Council will seek to encourage emerging high technology industries which foster innovation and help develop high technology and research clusters, particularly towards the western side of the Borough.

The town centre is the preferred location for major retail developments, large scale leisure, tourist, social and community venues and large scale office uses, and other uses that attract large numbers of people. The Council aims to achieve at least 45,000 sq m of new office floorspace within the Town Centre by 2026. The Borough Council seeks to plan for approximately 30,000sqm of comparison floorspace for the period up until 2021 and aim to make provision for an additional 20,000sqm floorspace between 2021 and 2026.

Tier 2 District Centres – Matchborough, Winyates, Woodrow, Church Hill, Headless Cross, Crabbs Cross, Batchley, Lodge Park and Astwood Bank should provide day to day needs, supported by a limited range of other shops and non-retail services serving their local communities.

Primarily Open Space will be protected and, where appropriate, enhanced to improve their quality, value, multi-functionality and accessibility. Proposals involving a loss or partial loss of Open Space will be assessed against specific criteria.

Transport will be co-ordinated to improve accessibility and mobility, so that sustainable means of travel, reducing the need to travel by car and increasing public transport use, cycling and walking should be implemented. A Transport Assessment would be required where development proposals impact on the Primary Route Network. The Borough Council will only permit proposals with no additional pressure on existing infrastructure, impacts are minimised on the existing infrastructure required to support it; and appropriate investment is secured to mitigate the cumulative impact on infrastructure. This includes impacts on open space and recreation, enhancement to Redditch railway, Bordesley Bypass, public transport routes.

Potential Contribution to Cumulative Effects
The planned housing development and economic growth in Redditch will lead to increased consumption of resources, increased waste generation and increased greenhouse gas emissions. There is likely to be competition for land for new employment development. Although the draft Core Strategy will only permit proposals where impacts on transport infrastructure can be minimised and requires mitigation of impacts, the envisaged growth is nevertheless likely to lead to an increase in traffic around the borough and require greenfield development.

Core Strategy Preferred Options Paper, Wyre Forest District Council, January 2009

Objectives include:

- To continue to develop Kidderminster as the strategic centre and to enhance the unique roles of Stourport-on-Severn and Bewdley as market towns
- To support the development of an accessible, integrated, sustainable transport network and to promote sustainable freight transport.

Aims to accommodate 3400 dwellings on allocated urban brownfield sites principally within Kidderminster but also within Stourport. Limited development will be permitted in Bewdley and rural villages, focusing on affordable housing to meet local needs. Sites will be identified for the following purposes:

- Kidderminster: retail, commercial leisure, large scale office, residential, employment
- Stourport: retail, local services, residential, small scale business
- Bewdley: retail, small scale business, residential

Indicative levels are given showing the following distribution of new housing: Kidderminster 50-60%, Stourport 30-35%, Bewdley 10-15%

The employment Land Review Study indicated that Wyre Forest has sufficient land available to meet its employment needs to 2026. Kidderminster and particularly the Stourport Road Employment Corridor will remain the main focus for employment land provision, with the British Sugar Site a key site for employment development. A range of sites will also be provided at Stourport. Current employment land in other parts of the district will be safeguarded.

Kidderminster town centre will meet the district's need for 25,000m^2 of retail space to 2021 and 40,000m^2 of office space to 2026.

The Preferred Option is to:
- Identify the indicative line of the Stourport Relief Road as a long-term scheme and seek contributions through Community Infrastructure Levy
- Progress feasibility work into proposals for an A451/Hoobrook link road
- Address the provision of a new link road as part of regeneration proposals for the Horsefair area of Kidderminster
- Support the building of a new Kidderminster railway station building and improved access to the station for all modes of transport
- Making stronger connections between the railway station and town centre

The use of CHP will be encouraged on appropriate large scale developments.

Potential Contribution to Cumulative Effects
The planned housing development and economic growth in Kidderminster, Stourport and Bewdley will lead to increased consumption of resources, increased waste generation and increased greenhouse gas emissions. There is unlikely to be competition for land for new employment development. Although the planned growth will lead to increased levels of traffic, the draft Core Strategy contains plans for a number of schemes which will help to reduce demand and increase capacity particularly for the Stourport Road Employment Corridor site. Air quality in Kidderminster may be adversely affected by the planned levels of growth although this may be offset to an extent by road improvements in the Horsefair area and rail access improvements.

Worcestershire's Local Transport Plan 2006-2011, Worcestershire County Council,

Objectives include:

- To deliver improvements against all of the four shared priorities for transport in priority order: improving accessibility, tackling congestion, improving road safety, and improving air quality.
- To promote sustainable development, and ensure economic success is not limited by transport availability – in particular to support the Regional Economic Strategy, the delivery of the Central Technology Belt, and supporting regeneration in those areas with the greatest degree of need.

The strategy includes the following aims:

- Minimise the impact of all modes of transport upon the local environment, and seek to reduce vehicle emissions arising from transport activity within Worcestershire.
- Ensure that traffic congestion within Worcestershire does not constrain economic activity within the County, reduce the impact of congestion upon local communities, and ensure that the environmental impact of congestion is minimised.
- Ensure that land use decisions take full account of transport issues and that community facilities are located to minimise the need for travel for their users.
- Support the future development of the County through initiatives such as the Central Technology Belt, and Market Towns Transportation Initiative.
- Undertake major transportation studies for the Worcester and Wyre Forest areas to identify the most appropriate future transport strategy to allow future development of these areas
- To improve passenger transport and walk/cycle networks to ensure people can make essential journeys by bus, rail, on foot and by bike as easily and cheaply as possible.
- To make passenger transport the mode of choice for all or part of a journey through improvements to the overall package offered to the public.
- To ensure that facilities are located in places easily accessible by their users, and that good accessibility is maintained in the future.

Measures to tackle the worst congestion hotspots are included in the Area strategies. Better systems are being put in place to co-ordinate road-work, provide accurate information to travellers, and make best use of technology to manage traffic demands as well as promoting sustainable travel.

Table 1.6 Issues and Strategy to Deal with Congestion Hotspots

Area	Issues	Strategy
Countywide	Limited crossings of the River Severn creates congestion at these locations.	Asset Management Plan. Worcester Study. Wyre Forest Study. Intelligent Transport System strategy. Traffic Management Act.
Worcester	A4440 Southern Link 86% over capacity. City centre congestion limits attractiveness of centre.	A4440 WSL Improvements. Project Express. Sustainable Travel Town. Worcester Study. Worcester Parkway.
Wyre Forest	Congestion in Stourport and Kidderminster constrains access to employment sites and contributes to air quality problems.	Market Towns Transport Initiative in Stourport. AQMA – Bewdley and Kidderminster. Wyre Forest Study. Wyre Forest Bus Quality Partnership.
Bromsgrove	Congestion on A38 especially at M42 J1 contributes to air quality problem.	Bromsgrove Rail Station and service improvements. Bromsgrove Town Centre. M42 J1 AQMA remedial measures. Longbridge Access Strategy.
Evesham	Congestion in High Street creates town centre environmental problems.	Market Towns Transport Initiative in Evesham. Vale of Evesham Freight Quality Partnership.

Area strategies are as follows:

Bromsgrove:
- In partnership with District and Town Councils, create improvements to High Street and bus station.

- Increase rail passenger capacity for commuting to Birmingham.
- Improve strategic accessibility to Longbridge area.
- Traffic management at M42 J1 to relieve congestion.

Malvern Hills
- Using accessibility mapping to identify gaps in public transport services and work with partners to improve passenger transport links to essential services.
- Worcester transportation study.
- Improvement in parking at both Malvern stations with view to Malvern Link operating as a strategic park & ride.
- Improve and promote sustainable travel opportunities to main tourism and leisure destinations.

Redditch
- Bus Quality Partnership and accessibility mapping to identify most appropriate improvements to bus network.
- In partnership with Warwickshire County Council identify a transport strategy to improve A435.
- Transport strategy for north Redditch including a Bordesley bypass and a site travel plan for Abbey Stadium development.
- Improvements to footpath and subway networks.

Worcester City
- Sustainable Travel Towns Initiative – improving walking, cycling and public transport infrastructure, promoting health and environmental benefits of choosing not to use the car.
- Project Express – aimed at reducing the impact of car traffic in the city centre – high quality and high frequency services with a network of park and ride facilities
- In short term junction improvements to improve flows and safety.
- Create an attractive city centre environment with pedestrian priority linking the university, shopping centre, cathedral, riverside park and promenade.
- Worcester Transportation Study to relieve traffic pressures on the two river crossings and ensure sufficient capacity of transport network to accommodate city expansion.
- Construct a Parkway station at the intersection of the Worcester to London and Birmingham to Bristol railway lines.

Wychavon
- Accessibility mapping will identify gaps in the passenger transport network and improvements made accordingly.
- Improve high street by rationalizing on street parking, cycle lanes, bus stop improvements, improved pedestrian crossings, reconfiguration of carriageway.
- Signal improvements at crossroads and seek developer funding for a link road to Wyre Piddle bypass.
- Vale of Evesham Freight Quality Partnership identify and implement measures to minimise impact of HGVs on local towns and villages encouraging use of strategic road network wherever possible.
- Improvements to Pershore high street to discourage through traffic & divert to A44 and address pedestrian safety issues.
- Encourage sustainable tourism through improved public transport & cycling links.

Wyre Forest
- Improve accessibility to and within Kidderminster station and improve connectivity to town centre and bus network.
- Through Bus Quality Partnership identify and implement improvements to passenger transport network.

- With Stourport Forward partners identify and implement a package of measures to reduce congestion and improve the environment of Stourport town centre.
- Work with Highways Agency to develop future strategies for the management of the A456 and A449.
- Transportation study to identify a transport strategy to support the economic regeneration of Stourport road employment corridor to form basis of major scheme bid for 2011–16.
- Identify and implement traffic management measures to reduce nitrogen dioxide levels from traffic emissions to below the declaration level for an Air Quality Management Area.

Potential Contribution to Cumulative Effects
The Local Transport Plan contains a range of measures to reduce demand for road space and implement capacity improvements. Benefits should be particularly secured in Worcester, Kidderminster, Stourport, Bromsgrove and Longbridge, but there may also be potential benefits for any waste developments at Evesham, Bewdley Malvern and Pershore. Air quality improvements may be secured particularly in Bewdley, Kidderminster and Bromsgrove.

Herefordshire Unitary Development Plan, Herefordshire Council, March 2007

Waste
The sustainable and efficient management of waste will be sought by basing waste management decisions on the Best Practicable Environmental Option (BPEO) Assessment results, the principles of the waste hierarchy (including reduction and minimisation, re-use, recovery, recycling and landfill), the proximity principle and regional local self-sufficiency.

Housing
A four tier housing location strategy has been adopted. Most provision will be concentrated in Hereford (the first tier) and the market towns (the second tier) principally from a combination of allocated sites, urban capacity sites and some urban extensions. The third tier locates housing on allocation sites in the more sustainable main villages. In addition, there will be some windfall development mainly on capacity sites in these villages. The fourth tier of the strategy caters for other rural housing needs essentially through windfall developments on infill plots in named smaller settlements. The distribution of housing is as follows: Hereford 3,781 dwellings; Leominster 1,037 dwellings; Ross-on-Wye 693 dwellings; Ledbury 956 dwellings; Bromyard 480 dwellings; Kington 275 dwellings; Main villages 3,044 dwellings; Wider rural area 1,918 dwellings.

Employment
The UDP makes provision for 100 hectares of land for employment development, which includes land allocations in a range of locations throughout the County and existing planning permissions. In addition to the larger scale allocations, policies will permit suitable employment development in the rural areas which are consistent in scale with their location, in order to help ensure balanced communities and to secure rural regeneration. The following sites are identified for employment development: Rotherwas Industrial Estate, Hereford(14.3ha); Moreton on Lugg depot, Moreton on Lugg; Legion Way, Hereford; Leominster Enterprise Park, Leominster; Land north of railway viaduct, Ledbury; Land north and east of Lower Road Trading Estate, Ledbury (4ha); land south of Linton Trading Estate, Bromyard (5.2ha); land north of petrol filling station, Overross, Ross-on-Wye (1.2ha); Gooses Foot Industrial Estate, Kingstone (2.1ha); Tram Inn, Allensmore (0.7ha); Land north of A40, Model Farm, Ross-on-Wye (10.0ha); Land east of Whitestone Business Park, Withington (2.9ha)

Minerals

- Aggregates: Shobdon, Portway and Moreton Camp are likely to be operational beyond 2011, easily able to supply 283,000 tonnes pa between them and to provide a choice of operators. This provides an adequate productive capacity for the Plan period.
- Crushed rock: Leinthal Earls, Perton and Nash Scar are expected to be operational in the medium to long term

Potential Contribution to Cumulative Effects
The UDP promotes the BPEO for Herefordshire and Worcestershire for managing its waste arisings. Although it also promotes the proximity principle and "regional local self-sufficiency" it is likely that municipal waste will be transported to Worcestershire for management. No other cumulative effects are likely to arise from the UDP.

Birmingham Unitary Development Plan 2005 (incorporating adoptions), Birmingham City Council, October 2005

Waste

The Council will adopt a sustainable approach to waste management which seeks to ensure that adequate facilities exist for the treatment and disposal of waste within the City, achieving the best balance of social, environmental and economic costs and benefits, and taking account of the following principles:

- Consideration of the best practicable environmental option for each waste stream;
- Regional self sufficiency;
- The proximity principle; and
- The waste hierarchy.

No new sites have been specifically allocated in the Plan for the management, treatment and processing of household wastes. Existing municipal waste sites are considered to have sufficient capacity to deal with anticipated levels of household waste arisings throughout the Plan period, and to have sufficient flexibility to accommodate any Materials Recycling Facilities (MRFs) that may be required by the City Council during the lifetime of the Plan. Although there is likely to be a demand for new commercial waste treatment and processing facilities in Birmingham during the Plan period, at present it is not possible to quantify this with any accuracy.

At present, there is only one landfill site operating within the City boundary at Minworth Sewage Works. No further sites suitable for landfill have been identified at present, and it is unlikely that there will be scope for large-scale landfill operations in Birmingham in the foreseeable future.

More than 65% of the City's household waste is processed at the energy from waste plant in Tyseley. However, it is acknowledged that, where it is a practical and viable option, the re-use or recycling of waste products is preferable to incinerating waste. The City Council will therefore investigate alternative options for processing household waste which would reduce the need for it to be incinerated, such as expanding the kerbside collection of recyclable materials, and developing a new Materials Recycling Facility.

Housing

A number of sites have been identified for new housing development including the following:

- Griffin Close, Bristol Road South, Northfield - 7.6ha, 286 dwellings
- Monyhull Hospital - about 15ha, about 600 dwellings
- Rubery/ Hollymoor - about 25ha, about 800 dwellings

- Land at Allens Croft - 5.1ha, no. of dwellings to be determined

Transport
The UDP promotes integration of transport modes where possible, through the provision of interchange facilities such as provision of Park and Ride facilities in and around Birmingham, and the investigation of a "Parkway" station in the vicinity of Longbridge including park and ride facilities.

The Great Barr or Kingstanding to Northfield/Longbridge corridor will be subject to investigation in relation to light rail/light rapid transit

The Bristol Road (A38) is one of the priorities for improvements to the strategic road network, to provide good access to major areas of activity within the corridor (University of Birmingham, Longbridge and Hospitals) and improve conditions in Northfield and Selly Oak Centres, through provision of relief roads for these centres. The Bristol Road is also vital to the effective operation of the proposed A38 Corridor Strategy for high technology development.

Land at Station Road, Kings Norton and at Longbridge will be reserved for future railfreight use.

Potential Contribution to Cumulative Effects
Developments near to Longbridge have the potential to conbribute to cumulative effects in combination with any waste developments in or near Longbridge. In particular, increased traffic is likely from the housing growth in the Longbridge area, although transport infrastructure improvements may help to reduce the demand for road space. There is no indication at this stage whether cumulative effects from traffic are likely, as the scale, location and type of any waste development in Longbridge is currently unknown.

Waste Development Framework Core Strategy Revised Spatial Options, Warwickshire County Council, June 2008

The Revised Spatial Options document sets out the previous preferred option in response to key issues for waste management, and invites comments on these:

- For MSW: to adopt a strategy whereby a qualitative and quantitative approach based on the waste hierarchy, the principles of proximity and self-sufficiency and the sub-regional need for municipal waste strategies is used to determine the location and mix of municipal waste treatment facilities.
- For C&I: to adopt strategies aimed at delivering the waste hierarchy and the principles of proximity and self-sufficiency in order to meet the sub-regional need, that would reduce the amount of industrial and commercial waste that is sent for final disposal.
- For C&D: to adopt strategies aimed at delivering the waste hierarchy and the principles of proximity and self-sufficiency that would limit the amount of waste sent for final disposal and developers would be expected to re-use construction and demolition wastes in new build where practicable.
- For hazardous waste: to adopt a quantitative and geographic approach taking into account the principles of proximity and self-sufficiency to establish the type of facility and general location for hazardous waste facilities.

In addition to waste management location options, Warwickshire County Council must also identify an appropriate scale for waste management facilities. Following earlier consultation the preferred option for addressing this issue was to adopt policy based on providing flexible local waste facilities scaled to meet most of the

requirements of each local district, or a pair of adjoining districts, supported by specialist facilities scaled to meet the counties or sometimes wider need to treat particular materials.

A series of spatial options are presented for the strategic approach to locating waste facilities, but no preferred option is identified and no specific sites are identified.

Potential Contribution to Cumulative Effects
There is potential for cross-border movements of waste between Redditch and Warwickshire, particularly the Stratford-upon-Avon District, however the likely potential for cumulative effects is unknown at this stage, as the locations, scale and type of any development in Redditch or Warwickshire as a whole are currently unknown.

Gloucestershire Waste Local Plan 2002-2012, Gloucestershire County Council, October 2004

Identifies 15 preferred local sites and 6 preferred strategic sites.

Local sites are identified in: Gloucester (4); Lydney (2); Cinderford; Calmsden; Frampton on Severn; Moreton Valence; Moreton in Marsh; Elmstone Hardwicke; Staverton; Mitcheldean; Bishop's Cleeve.

Strategic sites are identified in: Gloucester (2); Bishop's Cleeve (2); Moreton Valence; Sharpness. The Moreton Valence site is identified for: Waste to Energy Recovery; Materials Recovery Facility; Inert Recovery and Recycling; Metals Recycling; Household Waste Recycling Centre; Anaerobic Digestion; Waste Transfer Station; Composting. The Sharpness site is identified for Waste to Energy Recovery (not including incineration); Materials Recovery Facility; Inert Recovery and Recycling; Metals Recycling; Household Waste Recycling Centre; Anaerobic Digestion; Waste Transfer Station; Composting

The Plan includes the following objectives:

- To achieve a more sustainable waste management system by using the Best Practicable Environmental Option methodology in decision making, and taking into account the guiding principles of the Waste Hierarchy, Proximity Principle and Regional Self Sufficiency;
- To minimise adverse environmental impacts resulting from the handling, processing, transport and disposal of waste.
- To minimise the environmental impacts of transporting waste by applying the proximity principle, and encouraging more sustainable means of transport for the re-use, recovery and disposal of waste;

Proposals for waste development, which are likely to involve transportation beyond the county boundary will only be permitted where they are necessary to achieve regional self-sufficiency unless they comprise the BPEO for the waste stream.

The Plan also notes the Structure Plan Policies on waste from the Adoped Plan, November 1999, including that regional self-sufficiency is promoted, and development intended to primarily cater for Gloucestershire's waste will be encouraged in the appropriate locations.

Potential Contribution to Cumulative Effects
None identified.

Waste Core Strategy Preferred Options, Gloucestershire County Council, January 2008

Strategic objectives include the following:

- To make the best use of Gloucestershire's waste by encouraging competitive markets for goods made from recycled materials and obtaining a benefit (value) from left over (residual) waste materials.
- To reduce the environmental impacts of transporting waste by managing the majority of Gloucestershire's waste within a reasonable distance from its source of arising, and to encourage the use of sustainable means of transporting waste.

Major waste facilities will be located in the central area of Gloucestershire proximate to the main urban areas along the M5 corridor. Smaller supporting facilities will be dispersed around the County. Four options are proposed for identifying areas of search for strategic waste management facilities, one of which covers most of the county. No preferred option is identified, and no specific sites are identified.

The strategy of the County Council is to reduce current rates of landfill of non-hazardous biodegradable waste and inert material, thereby husbanding the existing landfill voidspace. No sites or areas of search are identified for new landfill facilities.

Potential Contribution to Cumulative Effects
None identified.

Shropshire Core Strategy: Policy Directions, Shropshire County Council, August 2009

Waste Management Infrastructure Proposed Policy Direction – Key Elements:

- Commit to facilitating the provision of sufficient capacity to manage an equivalent quantity of waste to that generated in Shropshire;
- Support the provision of additional commercial waste management services and infrastructure to help reduce the burden of waste costs on the local economy;
- Commit to delivering the regional waste apportionment targets set out in the RSS partial review;
- Identify a spatial pattern (broad locations) for future waste facilities based on a combination of existing and new locations which are accessible and close to the main urban areas;
- Wherever practicable, co-locate and integrate new waste facilities or space in the design of new development.

Ten sites, amounting to up to 30 hectares of land, remain available in the 'saved' Waste Local Plan and are therefore potentially available as locations which have previously been identified as being 'suitable in principle' for waste management development. A number of sites are identified for allocation as waste and minerals sites. These include two waste sites on the south east edge of Ludlow and one a few miles to the east of Bridgnorth. A minerals site is also allocated to the east of Bridgnorth.

Strategic Planning for Minerals Proposed Policy Direction – Key Elements:

- Define Mineral Safeguarding Areas to avoid other forms of development resulting in the unnecessary sterilisation of mineral resources;
- Identify 'broad locations' within which sites can be allocated in the 'Site Allocations and Development management Policies DPD for the future working of sand and gravel, at a combination of existing and new mineral sites, and on the

basis of proximity to markets, sufficient to provide an appropriate share of our sub-regional apportionment;

A number of sites are identified for allocation as minerals sites, including one site to the east of Bridgnorth.

Potential Contribution to Cumulative Effects
There is the potential for cumulative effects arising from any waste developments near Ludlow and Bridgnorth, in combination with any waste developments in Tenbury and Kidderminster respectively, in particular on air quality and biodiversity. Cumulative effects from transport are possible but unlikely.

Solihull Unitary Development Plan 2006 Written Statement, Solihull Metropolitan Borough Council, February 2006

The Council will support proposals for waste management activities that meet a number of criteria, including that the proposal can be demonstrated to be the best practicable environmental option (BPEO) having regard to the waste hierarchy, the proximity principle and regional self-sufficiency, and the key sustainability principles set out in this Plan. No sites for waste development are identified in the UDP.

The UDP designates a number of sites for housing development, including:
- 40ha of land at Dickens Heath for 1150 new dwellings.
- 3.5 ha of land at Former Solihull College, Radbourne Road for 95 new dwellings
- 1.4 ha of land at 465 Stratford Road, Shirley for 50 new dwellings

It also identifies several parcels of land to meet possible long-term housing needs, including the following:
- Lowbrook Lane/Tilehouse Lane, Tidbury Green (22.7 ha)
- Tidbury Green Farm (11.2 ha)
- Tanworth Lane, Cheswick Green (12.5 ha)
- Aqueduct Road, Solihull Lodge (8.9 ha)
- Braggs Farm Lane, Dickens Heath (2.4 ha)
- North of Braggs Farm, Dickens Heath (1.4 ha)

The UDP designates Blythe Valley Business Park as a Regional Investment Site (RIS), and designates 21 hectares of land as an extension to the RIS. It also designates land at Stratford Road/Dog Kennel Lane for business development within Class B1 of the Use Classes Order

Potential Contribution to Cumulative Effects
Developments in the south of Solihull Metropolitan Borough (from housing and additional growth at Blythe Valley Business Park) are likely to increase traffic on the M42, which could potentially affect any waste developments in Redditch and possibly Bromsgrove. There is also the potential for this growth to give rise to cumulative effects with waste development on air quality and possibly also on biodiversity. However, the likelihood of any effects is unknown at this stage, as the locations, scale and type of any waste development are currently unknown.

Draft Core Strategy, Stratford-on-Avon District Council, October 2008

For the purposes of promoting and regulating development, and also to reflect the wider function of settlements the following hierarchy is applied:

1. Main Town: Stratford-upon-Avon: Housing and employment development will take place at the specific locations and through small-scale schemes on suitable sites within or adjacent to the built form of the town. Large-scale retail, office and leisure development should take place within or adjacent to the town centre. Such proposals elsewhere in or on the edge of the urban area will require thorough assessment to make sure that a more appropriate site is not available and that no harm would be caused to the role of the town centre.
2. Main Rural Centres, including Alcester, Bidford-on-Avon, Henley-in-Arden and Studley: Housing and employment development will take place at the specific locations identified in the Core Strategy and through small-scale schemes on suitable sites within or adjacent to each settlement. The role of these settlements as service centres is supported through the provision of improved shopping and community facilities to meet the day-to-day needs of local people.
3. All other settlements: Small-scale community-led schemes which meet a housing or employment need identified by a local community are encouraged.

Sites identified for housing development include the following:

- Sites comprising 10 or more dwellings with planning permission at 31.03.08:
  - Alcester Priory Road (14 dwellings)
  - Bidford-on-Avon Friday Furlong, Waterloo Road (149 dwellings)
  - Studley Alcester Road (20 dwellings)
- Sites within settlements identified in Strategic Housing Land Availability Assessment published in February 2008:
  - Alcester Meadow View/Hospital (20 dwellings)
  - Bidford-on-Avon Former United Carriers, Waterloo Road (15 dwellings)
  - Bidford-on-Avon Tower Hill/Court Way (15 dwellings)
  - Studley Eagle Building, New Road (15 dwellings)
  - Henley-in-Arden Former Cattle Market, Warwick Road (40 dwellings)

In relation to land on the eastern edge of Redditch, approximately 11.7 hectares of land at Winyates Green Triangle will be released for employment development to meet the needs of Redditch.

Potential Contribution to Cumulative Effects

Housing developments at Bidford-on-Avon could potentially give rise to cumulative effects from traffic growth on the A46 in combination with any waste developments in or near Evesham. However, the likelihood of effects is currently uncertain, as the location, type and scale of any waste developments are unknown at this stage. Employment growth to the north east of Redditch could similarly give rise to cumulative effects on traffic in combination with any waste developments in or near to Redditch, although the likelihood of effects is also unknown for the same reason.

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