



CLIENT PROJECT REPORT CPR2103

Oxfordshire Minerals and Waste Local Plan: Core Strategy Sustainability Appraisal of the Proposed Submission Document

August 2015

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1 Introduction

1.1 Background to Sustainability Appraisal/Strategic Environmental Assessment

Oxfordshire County Council is currently reviewing its planning policies for mineral working and waste management and a new Oxfordshire Minerals and Waste Local Plan (MWLP) is being produced. The Local Plan must be subject to both Sustainability Appraisal and Strategic Environmental Assessment under the Planning and Compulsory Purchase Act (2004) and The Environmental Assessment of Plans and Programmes Regulations (2004) which implement European Directive 2001/42/EC, known as the Strategic Environmental Assessment (SEA) Directive.

Both the SA and the SEA processes help planning authorities to fulfil the objective of contributing to the achievement of sustainable development in preparing their plans through a structured assessment of the objectives and Local Plans against key sustainability issues.

Although the requirement to carry out both an SA and SEA is mandatory, it is possible to satisfy the requirements of both pieces of legislation through a single appraisal process. Government guidance for undertaking SEA and for SA of Development Plan Documents in particular outlines how the SA and SEA can be integrated into one process. The final output of the process is a combined Sustainability Appraisal and SEA Environmental Report which meets the regulatory requirements for SA and SEA and which will be published alongside the plan. For simplicity this report is referred to as the SA Report.

During the development of the minerals and waste planning documents the SA/SEA process has been undertaken both internally by OCC officers, and externally by appointed consultants. Between 2010 and 2012 the SA/SEA was undertaken by the consultants URS (formerly Scott Wilson). From November 2013 onwards the SA/SEA has been undertaken by TRL Ltd – the authors of this report. The SA/SEA work undertaken by URS was subject to both review and approval by OCC officers and to wide consultation. Where appropriate it is therefore integrated within this SA Report as it has provided the basis for the SA/SEA work undertaken from late 2013 onwards.

1.2 Purpose of this SA Report

This report documents the findings of the SA that has been undertaken on the Oxfordshire Minerals and Waste Local Plan: Part 1 – Core Strategy Proposed Submission Document (the Plan).

The SEA Regulations require the Environmental Report to clearly document findings of all stages of the SEA/SA process. The Report should show that the SEA Directive has been complied with and all components that meet these requirements should be easily identifiable. The reporting requirements and corresponding chapters contained in this report are shown below:

Chapter / Appendix	SEA Directive Requirement (abridged)
Chapter 2 Appendix A (Scoping Report)	Outline of contents, main objectives of the plan, and relationship with other relevant plans and programmes.
Chapters 3 and 4 Appendix A (Scoping Report)	Environment, social and economic baseline and likely evolution of the current state without implementation of the plan/ programme; any existing environmental, social and economic problems which are relevant to the plan or programme Documenting environmental characteristics of areas likely to be significantly affected.
Chapter 3 Appendix A (Scoping Report)	Environmental protection objectives set out in national and regional policies, its relevance to the plan/ programme and the way these objectives are considered in the SA process.
Chapters 5 and 6 Appendix D	The likely significant effects of the plan on the environment, including on issues such as biodiversity, water, soil, population, human health, material assets, cultural heritage, landscape and the inter-relationship between the above. This should consider secondary, cumulative and synergistic effects as well as taking into account the temporal nature and severity of predicted effects.
Chapters 6 and 7	Mitigation measures to offset any identified significant effect.
Chapters 5 and 6	Outline of reasons (through SA) for selecting alternatives (Initial Options) and documentation of difficulties encountered in the assessment.
Chapter 8	Description of monitoring arrangements proposed.
Non-Technical Summary document	Non-technical summary of information under all the above headings.
Appendix B and C	Consultation – results of the consultation of the previous SA Report for the Local Plan (Core Strategy).

1.3 Sustainability Appraisal (SA)

Sustainability Appraisals (SAs) are a process of evaluating the social, environmental, and economic implications of emerging strategies, policies and plans. This process is intended to make certain that plans and their goals¹ and policies are in accordance with the underlying principles of sustainable development. SA seeks to ensure that the five principles and four agreed priorities for sustainable development are addressed²:

Principles:

1. Living within environmental limits;
2. Ensuring a strong healthy and just society;
3. Achieving a sustainable economy;
4. Promoting good governance; and
5. Using sound science responsibly.

¹ Note that the term “objective” is used throughout this document in reference to SA/SEA objectives to be consistent with the vocabulary outlining these processes, despite the fact that they are not truly objectives.

² As set out in “Securing the Future: Delivering a UK sustainable development strategy”, DEFRA 2005.

Priorities:

- Sustainable consumption and production;
- Climate change and energy;
- Natural resource protection and environmental enhancement; and
- Sustainable communities.

1.4 Strategic Environmental Assessment (SEA)

European Union Directive 2001/42/EC requires that a formal Strategic Environmental Assessment (SEA) is undertaken for all plans and programmes which are likely to have significant effects on the environment. It aims:

"...to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment" (Article 1).

The Directive defines environmental assessment as a procedure comprising:

- The preparation of an Environmental Report on the likely significant effects of the draft plan or programme;
- Carrying out consultation on the draft plan or programme and the accompanying Environmental Report;
- Taking into account the Environmental Report and the results of consultation in decision making; and
- Providing information when the plan or programme is adopted showing how the results of the environmental assessment have been taken into account.

SEA is required to be undertaken alongside the preparation of the plan to which it relates to allow strategic alternatives to be formally incorporated into it at the earliest opportunity. This process, in conjunction with the requirements of the SA, should ensure that the environmental, social, and economic implications are fully integrated into emerging policies and strategies.

1.5 Methodology

The key stages of the SA/SEA process and when they have been undertaken during the development of the Plan are broadly presented in Table 1-1.

Table 1-1: Stages in the SA/SEA and Oxfordshire MWLP

Oxfordshire MWLP	SA/SEA Stages	Dates
Begin document preparation	<p>Stage A: Setting the context, establishing the baseline and deciding on the scope.</p> <p>A1: Identify other relevant policies, plans and document programmes, and sustainability objectives.</p> <p>A2: Collecting baseline information.</p> <p>A3: Identifying sustainability issues and problems.</p> <p>A4: Developing the SA framework.</p> <p>A5: Consulting on the scope of the SA (Scoping Report).</p>	<p>Consultation on the SA Scoping Report. August 2005.</p> <p>Consultation on the revised SA Scoping Report. April/May 2009.</p> <p>SA Scoping Report revised. May 2011.</p> <p>Consultation on the revised SA Scoping Report. December 2013/January 2014.</p> <p>SA Scoping Report update March-July 2015.</p>
<p>Preparation of Issues and Options (I&O) paper and consultation</p> <p>Preparation of preferred options, including consultation on possible preferred option</p>	<p>Stage B: Developing and refining options and assessing of effects.</p> <p>B1: Testing the DPD objectives against the SA framework.</p> <p>B2: Developing the DPD options.</p> <p>B3: Predicting the effects of the DPD.</p> <p>B4: Evaluating the effects of the DPD.</p> <p>B5: Considering ways of mitigating adverse effects preferred and maximising beneficial effects.</p> <p>B6: Proposing measures to monitor the significant effects of implementing the DPDs.</p>	<p>Consultation on Minerals and Waste Core Strategy (Issues and Options) and Interim SA Report. June 2006.</p> <p>Consultation on the Minerals and Waste Core Strategy (Preferred Options). February 2007.</p> <p>Preparation and then consultation on the SA of the Minerals and Waste Core Strategy (Preferred Options). February 2007.</p> <p>Preparation of the SA of the Minerals Spatial Strategy Options. May 2010.</p> <p>Preparation of the SA of the Revised Minerals Spatial Strategy Options. September 2010.</p> <p>Preparation of the SA of the Aggregates Apportionment Options. July 2011.</p> <p>Preparation and then consultation on the SA of the Minerals Preferred Strategy. August - October 2011.</p> <p>Consultation on the Minerals Planning Strategy Consultation Draft. September/October 2011.</p> <p>Preparation and then consultation on the SA of the Draft Waste Planning Strategy. September - October 2011.</p> <p>Consultation on the Waste Planning Strategy Consultation Draft. September/October 2011.</p> <p>Preparation of the SA of the Aggregates Apportionment Options – Addendum Report. March 2012.</p> <p>Preparation of the SA Report of the Proposed Submission Core Strategy. March 2012.</p> <p>Preparation of the Consultation Draft Core Strategy. 2013.</p>

<p>Public consultation on Preferred options and Development of the Core Strategy</p>	<p>Stage C: Preparing the Sustainability Appraisal Report. C1: Preparing the SA Report.</p> <hr/> <p>Stage D: Consulting on the preferred options of the DPD and SA Report. D1: Public participation on the preferred options of the DPD and the SA Report. D2 (i) Appraising significant changes. D2 (ii) Appraising significant changes resulting from representations. D3: Making decisions and providing Information.</p>	<p>Preparation of the SA Report of the Proposed Submission Core Strategy. March 2012. Preparation of the SA Report of the Consultation Draft Local Plan. January – February 2014. Preparation of the SA Report of the Proposed Submission Local Plan– July 2015 (this report).</p> <hr/> <p>Consultation on the Proposed Submission Core Strategy and accompanying SA Report. May – July 2012. Consultation on the Consultation Draft Local Plan and accompanying SA Report. February – April 2014. Consultation on the Proposed Submission Local Plan and accompanying SA Report. This consultation.</p>
<p>Submission of Core Strategy to Secretary of State</p>		<p>Submission SA Report. Indicative timing: November 2015.</p>
<p>Submission of DPD to Secretary of State</p>	<p>Stage E: Monitoring the significant effects of implementing the DPD. E1: Finalising aims and methods for monitoring. E2: Responding to adverse effects. Preparing the SEA Statement.¹</p>	<p>SA Statement (on adoption). Indicative timing: Summer 2016</p>

¹ The SEA Statement is required by the SEA Regulations.

1.6 Consultation

The SEA Directive requires consultation at various stages of the SA process, as indicated in Table 1-1. To date consultation has been undertaken at several stages as outlined below.

The first round of consultation was undertaken at the end of the scoping stage in August 2005. The aim of the scoping consultation was to ensure that all the relevant issues were identified and discussed at an early stage of the process so that they could be addressed during the SA and plan making.

In June 2006, consultation was undertaken on the Minerals and Waste Core Strategy Issues and Options, and the accompanying Interim SA Report. This was then followed in 2007, by consultation on the Minerals and Waste Core Strategy (Preferred Options), and the accompanying SA.

A further round of Scoping occurred in 2009, with a revised Scoping Report being consulted upon in April 2009. Details of the consultation, along with a summary of the comments received and how they have been addressed are included in Appendix A of the SA of the Pre Submission Minerals and Waste Core Strategy (March 2012).

During September and October 2011, consultation was carried out on the SA Reports of the Minerals and Waste Preferred Strategies. Details of the consultation, along with a summary of the comments received and how they were addressed are included in Appendix A of the SA of the Pre Submission Minerals and Waste Core Strategy (March 2012).

In May 2012, consultation was carried out on the SA Report of the Minerals and Waste Proposed Submission Document. The list of those who responded to this consultation, along with a summary of the comments received and how they have been addressed are included in Appendix B1.

A further revised version of the Scoping Report was consulted upon in December 2013/January 2014. The list of those who responded to the consultation, along with a summary of the comments received and how they have been addressed is included in Appendix B2 of this report.

The next round of consultation on the Oxfordshire Minerals and Waste Local Plan: Core Strategy Consultation Draft and its accompanying SA Report ran from February to April 2014. Comments from those who responded to this consultation and how these have been addressed are included in Appendix B3 accompanying this report.

1.7 Geographic and Temporal Scope

The spatial scope for the assessment is largely local (i.e. Oxfordshire); however the assessment takes into account potential regional impacts (such as on Gloucestershire, Berkshire, Swindon Borough, and Wiltshire) and national impacts, wherever appropriate. For example, the effect on CO₂ emissions is likely to have both local and national implications as any reduction will contribute to national targets, whereas effects on surface water quality may be most relevant to the regional water bodies as well as local water bodies, depending on presence of any such water features and on their existing quality. Effects on transport will also affect neighbouring authorities.

The SA/SEA examines plans across three temporal scales:

- Short term effects: effects expected in the next 1-5 years (i.e. up until 2020);
- Medium term effects: effects expected from 5 years until the end of the plan period (i.e. between 2020 and 2031); and
- Long term effects: effects expected after the life of the plan (i.e. post-2031).

1.8 Habitats Regulations Assessment

The Habitats Directive requires that planning authorities assess the likely effects of their plans, either alone or in combination with other plans and projects, on sites which have been designated as being of European importance for the habitat or species they support. In Oxfordshire there are seven sites designated as Special Areas of Conservation (SAC). A Habitats Regulations Assessment screening report (August 2011), prepared by the Council (to support the subsequently withdrawn Core Strategy), identifies the seven sites and the conservation objectives that apply to each and provides an assessment of the likely impacts on them.

The screening report suggested that there could potentially be an impact of mineral extraction near Oxford Meadows SAC and Cothill Fen SAC. Further work was commissioned to provide a hydrogeological assessment of mineral working in the

Eynsham / Cassington / Yarnton sharp sand and gravel area and the soft sand area north and south of the A420, west of Abingdon (part of the Corallian Ridge between Oxford and Faringdon). The consultants' report (January 2012) forms an addendum to the screening report. The report concluded that, with certain safeguards, mineral extraction could take place if required in these areas without being likely to have an effect on the SACs.

The County Council considered that this Habitats Regulations Assessment screening report and addendum were adequate to support the Consultation Draft Core Strategy.

Since that stage, the screening report has been reviewed in consultation with Natural England and a revised screening report (August 2015) has been prepared to support the Proposed Submission Document. This August 2015 report has concluded that there would be no significant effects on any of the SACs within, or in close proximity to Oxfordshire, providing that the Plan had incorporated recommended changes, including the amendment of SRAs to avoid overlap with required hydrogeological and hydrological buffer areas adjacent to the Oxford Meadows SAC and Cothill Fen SAC. These changes have been made and it has been concluded that the Plan would not have a likely significant effect on the SACs.

2 Minerals and Waste Local Plan – Core Strategy

2.1 Context

The existing Oxfordshire Minerals and Waste Local Plan was adopted by the County Council in July 1996. It contains detailed policies for the supply of minerals, the provision of waste management facilities and for the control of minerals and waste developments. Under the Planning and Compulsory Purchase Act 2004 many of the policies of this Plan have been 'saved' and currently form part of the development plan for Oxfordshire pending their replacement by policies in the new Minerals and Waste Local Plan.

The Minerals and Waste Local Plan – Core Strategy (MWLP) will provide the planning strategies and policies for the development that will be needed for the supply of minerals and management of waste in Oxfordshire over the period to 2030. It will set out policies to guide minerals and waste development over the plan period and common core policies which address development management issues relevant to both minerals and waste.

The Council has been preparing its revised Minerals and Waste Plan since 2006. Consultation on Issues and Options and Preferred Options was conducted during 2006 and 2007. Work was then reviewed in light of the publication of the revised Planning Policy Statement 12 in 2008 and guidance from Government Office on preparation of Development Frameworks.

In 2010, spatial options for the minerals strategy were generated and key stakeholders were consulted on these during February and March 2010. The output from this initial round of consultation was used to revise the options, and further consultation was undertaken in September 2010. A draft minerals' planning strategy was then consulted upon in September/October 2011, which also underwent SA. Previous to this, work was undertaken on aggregate apportionment options, with an SA being carried in July 2011. An addendum to this SA was later produced in March 2012.

A Waste Needs Assessment was prepared in 2010/2011 and options for a strategy for managing the County's waste and potential locations for waste management facilities were drawn up and were appraised in 2010/2011. A draft waste planning strategy was then consulted upon in September/October 2011, which also underwent SA.

In 2012, the Minerals and Waste Core Strategy Proposed Submission Document was prepared. This was consulted upon in May 2012, along with the accompanying SA Report. In October 2012, the County Council submitted an Oxfordshire Minerals and Waste Core Strategy to the Secretary of State for examination. This was intended to replace the 2006 Local Plan and had been the subject of widespread stakeholder engagement and public consultation. The Inspector appointed to carry out the independent examination of the Core Strategy raised issues over the adequacy of the evidence base in relation to the recently published National Planning Policy Framework (NPPF) and its compliance with the new duty to co-operate. In view of this, the examination was suspended in February 2013 and in July 2013 the County Council resolved to withdraw that plan and to prepare a revised Oxfordshire Minerals and Waste Local Plan.

At the end of 2013, Oxfordshire revised its Minerals and Waste Local Plan (Core Strategy). The plan provided the planning strategies and policies for the development that will be needed for the supply of minerals and management of waste in Oxfordshire over the period to 2030. It set out policies to guide minerals and waste development

over the plan period and common core policies which address development management issues relevant to both minerals and waste. A Consultation Draft Minerals and Waste Local Plan: Core Strategy was prepared and an SA Report accompanied the document. This document was consulted on between February and April 2014. Following a number of responses to this consultation, the Minerals and Waste Local Plan (Core Strategy) has been revised, taking into account the comments provided.

In 2014, the Waste Needs Assessment previously prepared in 2010/2011 underwent a critical review (conducted by BPP Consulting) to identify and rectify a number of weaknesses in the data. A revised Waste Needs Assessment 2015 has been prepared, taking that review into account. This updated assessment has been used to inform the preparation of the Core Strategy. Also in 2014, the Oxfordshire Local Aggregates Assessment 2014 was prepared (by LUC and Cuesta Consulting Ltd) and that new assessment has been used to inform the preparation of the Core Strategy. The findings of both the revised Waste Needs Assessment 2015 and the Local Aggregate Assessment 2014 have been incorporated into the Core strategy Proposed Submission Document.

2.2 Vision and objectives for minerals and waste

The Consultation Draft Core Strategy has been updated and amended to now become the Proposed Submission Document, published for representations in August 2015.

The Plan's vision and objectives (for minerals and waste) provide the basis for the development of the strategy, policies and proposals for minerals supply and waste management in Oxfordshire to 2031. Oxfordshire County Council has developed separate visions and objectives for the minerals and waste strategies which make up the MWLP. The objectives have been revised to take account of recent changes in national policy and comments made on the previously published plan.

2.2.1 Minerals planning Vision and Objectives

The proposed Vision for minerals planning in Oxfordshire in 2031 is that:

- a) There will be a sufficient supply of aggregate materials available to meet the development needs of the county with a world class economy, and make an appropriate contribution to wider needs, provided from the following sources (in order of priority):
 - secondary and recycled aggregate materials (where practicable);
 - locally produced sharp sand and gravel, soft sand, limestone and ironstone; and
 - import of materials such as hard crushed rock that are not available locally.
- b) Mineral workings and supply facilities will be located and managed to minimise:
 - the distance that aggregates need to be transported by road from source to market;
 - the use of unsuitable roads, particularly through settlements; and
 - other harmful impacts of mineral extraction, processing and transportation on Oxfordshire's communities and environment.
- c) Restored mineral workings will enhance the quality of Oxfordshire's natural environment and the quality of life for Oxfordshire residents by:
 - delivering a net gain in biodiversity, and making a significant contribution to establishing a coherent and resilient ecological network, through the creation of priority habitats at a landscape scale;
 - enhancing the green infrastructure within Oxfordshire, providing opportunity for access to the countryside and recreation activity; and
 - helping to reduce the risk of flooding and adding to flood storage capacity.

The Oxfordshire Minerals Planning Vision is supported by the following objectives which underpin the minerals strategy and policies in the plan:

- i. Facilitate the efficient use of Oxfordshire's mineral resources by encouraging the maximum practical recovery of aggregate from secondary and recycled materials for use in place of primary aggregates.
- ii. Make provision for a steady and adequate supply of sharp sand and gravel, soft sand and crushed rock over the plan period to meet the planned economic growth and social needs of Oxfordshire.
- iii. Make an appropriate contribution to meeting wider needs for aggregate minerals, having regard to the strategic importance of Oxfordshire's mineral resources, particularly sand and gravel.
- iv. Enable a continued local supply of limestone and ironstone for building and walling stone for the maintenance, repair and construction of locally distinctive buildings and structures, and of clay to meet local needs for engineering and restoration material.
- v. Provide a framework for investment and development by mineral operators and landowners through a clear and deliverable spatial strategy which is sufficiently flexible to meet future needs and has regard to existing and planned infrastructure.
- vi. Minimise the flood risk associated with minerals development and contribute to climate change mitigation and adaptation, including through restoration schemes which provide habitat creation as a mechanism for addressing climate change adaptation and additional flood storage capacity in the floodplain where possible.
- vii. Minimise the transport impact of mineral development on local communities, the environment and climate change by minimising the distance minerals need to be transported by road and encouraging where possible the movement of aggregates by conveyor, pipeline, rail and on Oxfordshire's waterways.
- viii. Protect Oxfordshire's communities and natural and historic environments (including important landscapes and ecological, geological and archaeological and other heritage assets) from the harmful impacts of mineral development (including traffic).
- ix. Provide benefits to Oxfordshire's natural environment and local communities through the restoration and aftercare of mineral workings at the earliest opportunity, in particular by contributing to nature conservation, enhancing the quality and extent of Conservation Target Areas, contributing to landscape character, improving access to the countryside, safeguarding local amenity, providing opportunities for local recreation and providing benefit to the local economy.
- x. Implement a biodiversity-led restoration strategy that delivers a net gain in biodiversity, and contributes to establishing a coherent and resilient ecological network, through the landscape-scale creation of priority habitat.
- xi. Safeguard important known resources of sharp sand and gravel, soft sand, crushed rock and fuller's earth to ensure that those resources are not needlessly sterilised and remain potentially available for future use and are considered in future development decisions.
- xii. Safeguard important facilities for the production of secondary and recycled aggregate, railhead sites for the bulk movement of aggregate into Oxfordshire by rail and other infrastructure to support the supply of minerals in Oxfordshire.

2.2.2 Waste planning Vision and Objectives

The proposed Vision for waste planning in Oxfordshire in 2030 is that:

- a) There will have been a transformation in the way that waste is managed in Oxfordshire, with:
 - Increased re-use, recycling and composting of waste;
 - Treatment (so far as is practicable) of all residual waste that cannot be recycled or composted; and
 - Only the minimum amount of waste that is necessary being disposed of at landfill sites.
- b) The county will remain largely self-sufficient in dealing with the waste it generates. An economically and environmentally efficient network of clean, well-designed recycling, composting and other waste treatment facilities will have been developed to recover material and energy from the county's waste and support its thriving economy.
- c) Waste management facilities will be distributed across the county, with larger-scale and specialist facilities being located at or close to Oxford and other large towns, particularly the growth areas, and close to main transport links, and with smaller-scale facilities serving more local areas. Facilities will be located and managed to minimise the use of unsuitable roads, particularly through settlements, and other harmful impacts of waste management development on Oxfordshire's communities and environment. This network of waste management facilities will have helped to build more sustainable communities that increasingly take responsibility for their own waste and keep to a minimum the distance waste needs to be moved within the county.

The Oxfordshire Waste Planning Vision is supported by the following objectives which underpin the waste strategy and policies in this plan:

- i. Make provision for waste management (including residual waste disposal) capacity that allows Oxfordshire to be net self-sufficient in meeting its own needs for municipal solid waste, commercial and industrial waste, and construction, demolition and excavation waste.
- ii. Make provision for facilities for the management of agricultural waste, waste water, hazardous waste and radioactive waste produced in Oxfordshire, recognising that specialist facilities for hazardous and radioactive wastes often require provision at a sub-national or national level.
- iii. Support initiatives that help reduce the amounts of waste produced and provide for the delivery, as soon as is practicable, of waste management facilities that will drive waste away from landfill and as far up the waste hierarchy as possible; in particular facilities that will enable increased re-use, recycling and composting of waste and the recovery of resources from remaining waste.
- iv. Seek to provide for waste to be managed as close as possible to where it arises, and encourage other areas to become net self-sufficient in meeting their own waste needs, to:
 - minimise the distance waste needs to be transported by road;
 - reduce adverse impacts of waste transportation on local communities and the environment; and
 - enable communities to take responsibility for their own waste.
- v. Provide for a broad distribution of waste management facilities to meet local needs across Oxfordshire and make more specific provision for larger facilities that are needed to serve the whole or more substantial parts of the county or a wider area.

- vi. Seek to ensure that waste management facilities required in Oxfordshire are provided as an integral part of the infrastructure of the county and where possible are located to enable local employment and local use of energy (heat and power) recovered from waste.
- vii. Seek to maintain opportunity for necessary disposal of residual waste from Oxfordshire and other areas in operational landfill sites.
- viii. Avoid the unnecessary loss of green field land when making provision for sites for waste management facilities, giving priority to the re-use of previously developed land.
- ix. Protect Oxfordshire's communities and natural and historic environments (including important landscapes and ecological, geological and archaeological and other heritage assets) from the harmful impacts of waste management development (including traffic).
- x. Secure the satisfactory restoration of temporary waste management sites, including landfills, where the facility is no longer required or acceptable in that location.

3 Environmental and sustainability planning context

3.1 Introduction

This section summarises the findings from the SA scoping stage. The scoping process seeks to ensure that the Sustainability Appraisal encompasses the key sustainability issues relevant to the county in the context of the development plan system. This section provides the environmental and sustainability context by:

- Examining the relationship of the Minerals and Waste Local Plan (Core Strategy) with other policies, plans and programmes, to identify all relevant environmental protection objectives and to identify potential conflicts to be addressed within the plan-making process; and
- Assembling baseline data on the current and future state of the county for the environment and sustainability topics which may be affected by the Local Plan (Core Strategy).

In August 2005, the first version of the Scoping Report was consulted upon. This was then subsequently updated in 2006. In April/May 2009, a revised version of the Scoping Report was consulted upon. The responses received, along with actions taken in response were reported in Appendix A of the Sustainability Appraisal Report on the Pre Submission Core Strategy (March 2012).

This Scoping Report was the subsequently revised again in May 2011. In December 2013, the Scoping Report was again revised and re-consulted. This was further updated (March – July 2015) following the comments received from consultees and to integrate new/updated baseline information. A copy is included in Appendix A of this SA Report. The list of those who responded to the consultation along with a summary of the comments received and how they have been addressed are included in Appendix B.

3.2 Review of policies, plans and programmes

The SEA process requires authorities to review the requirements of policies, plans and programmes (PPPs) relevant to the content of the Plan to outline:

- The relationship of the Local Plan (Core Strategy) with other relevant plans and programmes; and
- The environmental protection objectives- established at international, community or Member State level- relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.

To fulfil this requirement, a review of the relevant plans, policies and programmes (henceforth referred as PPP review) has been carried out to identify environmental objectives which may provide constraints or synergies with the plan being formulated. The PPP review has selectively considered guidance at international, national regional, county and local level. It has not attempted to provide a detailed review but rather has focussed on strategic environmental, social or economic policies and objectives relevant to the appraisal of the Plan and particular specific environmental protection objectives established at international and national levels. This satisfies the SEA Directive which requires that reference must be made to environmental objectives.

The most recent PPP review can be found in the December 2013 Scoping Report. This was updated as part of the SA process in February 2014 and again in March-July 2015 and is included as Appendix A of this SA Report. A summary of the PPP review is presented below.

3.2.1 Summary of Review of other Plans and Programmes

Together, plans can be constraints (i.e. set formal limitations, policy contexts, requirements) or can be sources of useful background information as part of evidence gathering. These act together in a hierarchy where a sequence of precedence is established in a nesting, or tiering of plans. A review of other relevant policy documents is required to establish environmental, economic and social objectives that they contain, and it allows opportunities and synergies to be identified, as well as potential conflicts between aims, objectives or detailed policies. This review also highlighted sustainability drivers relevant to the Local Plan.

The Local Plan (Core Strategy) has a direct or indirect relationship with number of national, regional and local policies, plans and programmes and is likely to support or interact with these policies.

A full list of plans and programmes which have been considered is included in Appendix 1 of the Scoping Report. Many of these plans exist in a hierarchy; from international and European plans, national policies and guidance, through to local policies and plans. This review has sought to avoid duplication by only reviewing the most up to date or relevant plan and to distil the environmental objectives that are most relevant to the Plan. The analysis of the plans is provided in Appendix 2 of the Scoping Report.

The key messages from PPP review are as follows:

- The need to ensure that average distances travelled and traffic congestion are not exacerbated by minerals and waste HGVs, and that these vehicles do not worsen air quality in identified AQMAs, or reduce quality of life for local residents.
- Avoid damage to, and where possible proactively contribute towards the protection and enhancement of international, national and locally designated conservation sites, including SACs, SSSIs, NNRs, Local Wildlife Sites as well as BAP Priority Species and Habitats and nationally and locally important geological features.
- The need to proactively plan for post mineral restoration and for after use of temporary waste sites, to protect, maintain, enhance or restore biodiversity.
- The need to protect the functional floodplain and to take into account the hydrological implications of proposed mineral and waste developments, including assessing flood risk, effects of abstraction or de-watering, potential pollution, groundwater changes before identifying sites for minerals and waste development.
- The need to protect and conserve all aspects of the historic environment and particularly internationally and nationally important historic features, including archaeology.
- The need to ensure a steady supply of mineral materials for local markets, to meet the demand generated by planned and existing development identified in

each of the District and City Councils' plans, and to contribute to markets identified outside the county.

- The need to maintain a land bank of permitted reserves for aggregate minerals in line with national policy.
- Waste management policies should support sustainable waste management measures to encourage a reduction in the amount of waste arisings going to landfill in Oxfordshire.
- Soils should be used in a sustainable manner and the Plan should seek to protect the best and most versatile agricultural land.
- The need to maximise the use of secondary and recycled aggregates to reduce the amount of land won aggregates that need to be extracted.
- Restoration of mineral workings should not increase the risk of bird strike.
- The need to provide waste management facilities to allow the county to be net self-sufficient in the treatment and/or disposal of its waste arisings and to contribute towards meeting the need for facilities to manage residual waste from other areas outside the county over the plan period.
- Minerals and waste policies should enable minerals extraction and secure the recovery of waste without endangering human health or residential amenity in local communities.

The policy framework is dynamic, and as a result new plans may emerge during the Local Plan preparation process. Those that are relevant will be added to Appendices 1 and 2 of Appendix A (Scoping Report) and any relevant objective added to the list above and published as part of the SA.

3.3 Baseline data

A key step in the SA process is establishing the current state of the environment and its likely evolution in the future without implementation of any plan. This process assists in the identification of sustainability and environmental issues/opportunities in the County. It is also important to consider the implications of the Local Plan (Core Strategy) in its wider context. Baseline data is required to establish the present state of the County and its surrounding area and will be used subsequently for comparative purposes when monitoring and evaluating the Local Plan.

A practical approach is generally taken to data collection bearing in mind data availability and trend analysis, following which the actual data and gaps in information to consider in the future are reported at the scoping stage. This reporting also takes into account uncertainties in the data.

Baseline data collection is a continuous process that informs SA production. The Scoping Report produced in April 2009, has been updated in May 2011, December 2013 and March-July 2015 based on new information having become available and consultation comments received.

The Scoping Report issued for consultation in December 2013, and subsequently updated following consultation comments, reported baseline information under environmental, social and economic themes. The data was organised under the following headings: Population; Human Health; Biodiversity and Geodiversity; the Built and

Historic Environment; Landscape; Water Quality and Resources; Climate Change; Air Quality; Transport; Minerals; Waste; Land Use; Soils and Resources; and Economy.

This report has been further updated following consultation on the Consultation Draft SA Report in February – March 2014 and the most recent version is included as Appendix A to the report.

The baseline data provides an evidence base for identifying sustainability issues in Oxfordshire, as well as a mechanism for identifying alternative ways of dealing with them. The information helped the development of the SA Framework, and will provide a basis for predicting and monitoring the effects of the Plan. In order to assess how the Local Plan (Core Strategy) will contribute to sustainable development, it is essential to understand the present economic, environmental and social baseline of the County, and to predict how they may progress without implementation of the Plan. Prediction of future trends can be highly uncertain but key trends identified from the available baseline data, and therefore potential sustainability issues were identified and discussed in the Scoping Report. Key issues and opportunities are discussed in Section 4 of this report.

3.4 Evolution of the baseline without the plan

The SEA regulations require that information is provided on "...the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan". It is recognised that the future baseline or the 'business as usual' scenario is difficult to describe, as trend data is often not available. However where possible the trends in the future baseline have been described in the baseline review and this is included in Section 3 of the Scoping Report in Appendix A.

In forecasting the 'business as usual' scenario it is necessary to determine what this means and what assumptions the scenario has been based on. Within this SA the business as usual scenario has been taken to mean a continuation of the current Minerals and Waste Plan.

4 Environmental and sustainability issues and SA/SEA framework

4.1 Identifying environmental and sustainability issues

The review of plans and programmes affecting the county, and the collation of the baseline data informed the identification of a series of environmental problems or issues that could be addressed by, or affect the strategies and measures developed in the Local Plan (Core Strategy). Such issues, problems and opportunities have been identified through:

- Review of relevant policies and plans;
- Review of the baseline data;
- Officer knowledge of the county; and
- Responses to the various Scoping Report and SA Report consultations.

The sustainability issues were identified during the scoping in 2009, and have since been revised in light of updated baseline data (in 2011, 2013 and 2015) and taking account of comments received during the consultation on the Consultation Draft Core Strategy in spring 2014. Table 4-1 presents the key sustainability issues and opportunities for Oxfordshire.

Table 4-1: Key sustainability issues and opportunities in Oxfordshire

Key sustainability issues and opportunities in Oxfordshire
Population growth will lead to increased waste production and demand for waste management facilities and for aggregates for construction, across the whole county.
Economic growth in Oxfordshire should be encouraged and minerals and waste development could support this through the provision of opportunities for unskilled labour.
Tourism represents an important part of Oxfordshire's economy. Minerals and waste development could detract from initiatives to encourage people to visit the whole county, not just Oxford. However, post mineral restoration could create opportunities for rural development and recreational facilities.
Climate change poses a threat to parts of the county through flooding. Minerals and waste development could meet this challenge not only by managing the positive and negative aspects of development in the floodplain, but also by encouraging working practices that minimise greenhouse gas emissions.
Increased traffic generation on both motorways and major roads in the county leads to congestion and contributes towards a reduction in air quality. Minerals and waste development should balance reducing air pollution by employing the 'proximity principle' with ensuring that minerals and waste transport minimises environmental impacts by using suitable roads.
Nine Air Quality Management Areas have been identified in Oxfordshire, where levels of NO ₂ from traffic exceed recommended government levels. Minerals and waste developments need to manage their transport routes in order to reduce the negative impact on air quality, and to avoid exacerbating pollution levels in existing AQMAs.
Oxfordshire has low rainfall levels and the Thames Water area is one of the most water stressed in the country. Population growth will increase demand for water. The review of abstraction licences by the Environment Agency may result in smaller numbers of licences being permitted. Thames Water has proposed that it build a new reservoir in Oxfordshire to meet rising demand; this may result in increased demand for aggregate for a temporary period.
Minerals and waste development could negatively impact on the biodiversity value of certain areas. Restoration of minerals sites may be constrained by the designation of airfield safeguarding zones across much of Oxfordshire, which reduce the risk of bird strike to aircraft. It may also be constrained by a lack of available inert fill to restore sites to uses such as reed bed or wet woodland.
Mineral and waste development offers opportunities to improve access to rural areas, create recreational facilities, and contribute towards habitat creation in the county and biodiversity gains.
Oxfordshire includes parts of three Areas of Outstanding Natural Beauty which will need to be protected from adverse effects of minerals and waste development. This provides a constraint as to where new and extended operations can be located.
Oxfordshire is a county which has a rich historic environment. Minerals and waste development could result in the loss or destruction of some of the heritage assets of the county such as Scheduled Ancient Monuments and other significant archaeological assets.
Oxfordshire has plentiful reserves of sand and gravel, having approximately one third of the unconstrained gravel resource in the South East region. Identifying sites for mineral extraction should take into account the cumulative effect of extensive mineral working on local communities and the transport infrastructure.
The extraction of plentiful reserves of sand and gravel in the county must be balanced against the potential loss of best and most versatile agricultural land which could result from extraction.
Water quality in Oxfordshire's rivers could be improved. Minerals and waste development could contribute to the pollution of water courses and groundwater.
Significant provision needs to be made for secondary aggregate and recycled waste management facilities to continue to increase the amount of secondary aggregate and recycled waste which can be managed in the County.

4.2 Environmental and sustainability objectives

Current guidance on SA/SEA of land use and spatial plans advocates the use of objectives in the appraisal process. This section provides an outline of the objectives, criteria and indicators, organised under a SA Framework that was developed during the Scoping Stage and used in subsequent stages to appraise the Local Plan. It has been updated as a result of consultation comments received, but not to the extent that it would alter any of the previous findings of the SA. This framework includes broad sustainability objectives, criteria explaining the broader objective in a more localised manner and indicators.

The sustainability objectives are quite distinct from the Local Plan objectives. They focus on outcomes, and define the basis for achieving social, economic and environmental sustainable development in Oxfordshire. They have been compiled using information from the review of relevant plans and programmes, baseline review and review of key issues.

The purpose of the framework for the SA/SEA, set out in Table 4-3, is to provide a way in which the effects of the plan can be described, analysed, and compared. This process involves considering the content of the Local Plan (Core Strategy) against identified SA/SEA objectives. The indicators that are selected for monitoring will be finalised later in the SA/SEA process and agreed upon adoption of the Local Plan (Core Strategy). The sustainability objectives used in this SA have been the subject of consultation with other specialist officers within the Council, Council Members through the Minerals and Waste Cabinet Advisory Group (and its predecessor Working Group); and with the statutory consultees, Natural England, English Heritage³ and the Environment Agency.

Following the most recent consultation of the Draft Local Plan (Core Strategy) in February 2014, it was decided that SA Objective 2⁴ should be split into two separate objectives to enable better assessment of the different aspects of that objective. As seen in Table 4-3, there is now SA Objective 2a which relates to landscape issues and SA Objective 2b which relates specifically to cultural heritage. These two objectives are independent of one another and despite having a 'lower level' of numbering; they carry the same weight as all the other objectives. The numbering of 2a and 2b was used simply to avoid the potential confusion that could occur, for example when looking back at previous drafts in the SA/SEA process, if all the subsequent objectives had to be renumbered to enable the objective on heritage to be labelled as SA objective 3.

Table 4-2 shows how the requirements of the SEA Directive to consider a range of topics are met through the inclusion of the SA objectives.

³ Now Historic England

⁴ 'Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings'

Table 4-2: The Relevance of the SA Objectives to the SEA Directive Topics

SEA Directive Topic	SA Objectives
Biodiversity, flora and fauna	1
Population	7,8
Human health	8
Soil	9
Water	3,6
Air	4,5,7
Climatic factors	5,6,7
Material assets	10,11,12
Cultural heritage Inc. archaeological & architectural	2b
Landscape	2a

To complement the strategic objectives, Table 4-3 lists the sub-objectives which offer more detailed appraisal criteria, which are more specific to the preparation of the Oxfordshire Minerals and Waste Local Plan (Core Strategy). The final column consists of indicators by which to assess the effects of the Plan. Assessment of the Plan needs to be undertaken iteratively during its preparation and over the whole Plan period.

Table 4-3: SA Framework

SA Objective	Appraisal Criteria/Sub-objectives	Possible Indicators
<p>1 To protect, maintain, and enhance Oxfordshire's biodiversity and geological diversity including natural habitats, flora and fauna and protected species</p>	<p>Will the Plan protect, maintain and enhance UK BAP Priority Habitats?</p> <p>Will the Plan conserve and enhance internationally, nationally and regionally important sites of nature conservation importance?</p> <p>Will the Plan protect, maintain and enhance UK BAP Priority Species?</p> <p>Will the Plan contribute to the aims of the Conservation Target Areas?</p> <p>Will the Plan protect and conserve geological SSSIs and Local Geology Sites?</p>	<p>Number/percentage of permitted applications for minerals and waste development which include a restoration scheme which contributes to the objectives of Oxfordshire Habitats Plans for the creation of calcareous grasslands, lowland acid grassland and reedbeds.</p> <p>Number/percentage of planning applications which have an impact on designated sites or BAP habitats.</p> <p>Number/percentage of permitted applications which result in restoration of favourable recovering condition or buffering of designated areas through appropriate habitat creation.</p> <p>Number/percentage of permitted applications for minerals and waste development which include a restoration scheme which contributes to the objectives of Oxfordshire Species Plans.</p> <p>Contribution of the Local Plan policies to Conservation Target Areas for restoration of minerals and waste management sites.</p> <p>Number/percentage of permitted applications which include conditions for the protection or enhancement of Local Geology Sites or geological SSSIs.</p>
<p>2a To protect and enhance landscape character and local distinctiveness</p>	<p>Will the Plan conserve and enhance Oxfordshire's AONBs & their settings and take into account guidelines associated with specific landscape types?</p> <p>Will the Plan respect, maintain and strengthen local character and distinctiveness?</p>	<p>Minerals and waste development where the anticipated residual landscape impact is neutral or positive.</p> <p>Number/percentage of permitted applications for minerals and waste development which include conditions for the protection or restoration of statutory or non-statutory landscape designations.</p>

SA Objective	Appraisal Criteria/Sub-objectives	Possible Indicators
2b To conserve and enhance the historic environment, heritage assets and their settings	<p>Will the Plan protect, conserve and/or enhance heritage assets and the historic/prehistoric environment of Oxfordshire?</p> <p>Will the Plan contribute to the better management of heritage assets?</p> <p>Will the Plan improve the quality of the historic environment?</p> <p>Will the Plan provide for increased access to and enjoyment of the historic environment?</p> <p>Will the Plan alter the hydrological conditions of water-dependent heritage assets, including paleo-environmental deposits?</p> <p>Will the Plan provide for increased understanding and interpretation of the historic environment?</p> <p>Will the Plan secure a supply of local building and roofing materials?</p>	<p>Number/percentage of planning applications where archaeological investigations were required prior to approval.</p> <p>Number/percentage of applications where archaeological mitigation strategies were developed and implemented.</p> <p>Number/percentage of permitted applications for Minerals and Waste development which include conditions for the protection or enhancement of the historic and prehistoric environment in Oxfordshire.</p> <p>Area of highly sensitive historic landscape characterisation type(s) which have been altered and their character eroded.</p>
3 To maintain and improve ground and surface water quality	<p>Will the Plan affect groundwater quality?</p> <p>Will the Plan affect surface water quality?</p>	<p>Number of permitted applications affecting source protection zones 2 and 3.</p> <p>Number of permitted applications which assess the risk of contamination of groundwater.</p> <p>Number of sites within 50m of a watercourse.</p> <p>Number of permitted applications requiring abstraction licences.</p>
4 To improve and maintain air quality to levels which do not damage natural systems	<p>Will the Plan lead to increased traffic congestion in built up areas?</p> <p>Will Plan lead to increased dust and/or odours?</p>	<p>Number of permitted applications with routeing agreements which avoid AQMAs.</p> <p>Survey of trip generation to civic amenity sites.</p> <p>Number of complaints relating to dust/odours.</p>
5 To reduce greenhouse gas emissions to reduce the cause of climate change	<p>Will the Plan lead to a decrease in production of greenhouse gases such as CO₂ and methane?</p>	<p>Proportion of waste and aggregates transported by rail or water.</p> <p>Quantity of biodegradable wastes diverted from landfill.</p>

SA Objective	Appraisal Criteria/Sub-objectives	Possible Indicators
6 To reduce the risk of flooding	Will the proposal seek to maintain or reduce flood risk?	<p>Number of permitted sites for minerals and waste development within the flood plain (flood zone 3a)</p> <p>Number of sites that are permitted within flood risk zone as identified by the NPPF and Technical Guidance to NPPF.</p> <p>Number of proposals approved against the recommendation of EA advice.</p> <p>Number of mineral restoration schemes identified for flood attenuation.</p>
7 To minimise the impact of transportation of aggregates and waste products on the local and strategic road network	<p>Will the Plan reduce distances travelled by road?</p> <p>Are sites in the Plan well located in relation to surrounding settlements for waste, or markets for minerals?</p> <p>Will the waste facilities or mineral operation serve local needs?</p> <p>Does the Plan facilitate HGV routeing agreements and developer contributions for infrastructure improvements?</p>	<p>Distances travelled by road from new applications to settlements (waste) or markets (minerals).</p> <p>Number of sites with rail/water access.</p> <p>Number of sites with suitable access to appropriate roads.</p> <p>Average distances travelled to waste recycling sites.</p>
8 To minimise negative impacts of waste management facilities and mineral extraction on people and local communities	<p>Will the Plan have impacts which could have a harmful effect on human health?</p> <p>Will the Plan result in loss of amenity through visual impact, noise, dust or vibration for local communities?</p> <p>Will the Plan provide opportunities for enhancement of local amenity and access to the countryside?</p>	<p>Number of permitted applications for mineral or waste development within 250m of sensitive receptors (settlements).</p> <p>Number of sites for mineral or waste development within 250m of sensitive receptors (settlements).</p> <p>Number of noise complaints relating to minerals and waste processing and transportation.</p> <p>Number of permitted applications with restoration conditions which enhance local amenity and /or improve access to the countryside.</p>
9 To protect, improve and where necessary restore land and soil quality	<p>Will the Plan affect high grade agricultural land?</p> <p>Will the Plan lead to soil pollution or contamination?</p>	<p>Area of high grade agricultural land lost to minerals and waste development.</p> <p>Incidences of land contamination related to minerals and waste development.</p>

SA Objective	Appraisal Criteria/Sub-objectives	Possible Indicators
10 To contribute towards moving up the waste hierarchy in Oxfordshire	Will the Plan increase the amount of waste re-used, recycled or recovered?	Amounts of waste recycled and recovered.
11 To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	Will the Plan reduce the need for waste to be transported outside Oxfordshire for treatment or disposal? Will the Plan reduce the need for Oxfordshire to import aggregates?	Number of permitted applications for waste management to meet targets to achieve net waste self-sufficiency. Number of permitted applications which contribute to meeting minerals supply requirement.
12 To support Oxfordshire's economic growth and reduce disparities across the county	Will the Plan encourage the provision of more locally based skills and facilities? Will the Plan generate new jobs for the county? Will the Plan support and encourage the growth of small and medium size business?	Number of direct jobs created in the waste/mineral sector per year. Number of new mineral and waste permissions.

4.3 Compatibility of the SA/SEA objectives

A compatibility assessment of the SA/SEA objectives was undertaken at the scoping stage in order to identify whether there were any incompatibilities or tensions between certain objectives. Where potential incompatibilities have been identified these have been taken into account when undertaking the assessment process and appropriate mitigation measures or alternative approaches in the Local Plan considered. Details of the compatibility analysis can be found in Table 4-4 below.

Symbol	Compatibility
+	Objectives compatible
0	Objectives not related
-	Objectives incompatible
?	Mitigation measures may need to be taken to satisfactorily achieve both objectives

Table 4-4: Compatibility of SA Objectives

	Biodiversity and geodiversity	Landscape	Historic environment	Water quality	Air quality	Greenhouse gas emissions	Flooding	Transport	Population and health	Land and soil quality	Waste hierarchy	Self-sufficiency	Economic growth
Biodiversity and geodiversity	?	+	+	+	+	+	+	0	0	+	0	0	?
Landscape	+	?	+	+	0	0	0	0	0	0	0	0	?
Historic environment	+	+	?	+	0	0	0	0	0	0	0	0	?
Water quality	+	0	+	?	+	0	+	+	+	+	0	0	?
Air quality	+	0	0	+	?	+	+	+	+	+	+	0	?
Greenhouse gas emissions	+	0	0	0	+	?	+	+	+	+	+	+	?
Flooding	0	0	0	+	0	+	?	0	+	+	+	0	0
Transport	0	+	0	0	+	+	0	?	+	0	+	+	?
Population and health	0	+	0	+	+	0	0	+	?	0	+	+	?
Land and soil quality	+	0	0	0	0	0	+	+	0	?	0	0	0
Waste hierarchy	0	0	0	0	+	+	+	+	+	0	?	+	+
Self-sufficiency	0	0	0	0	0	+	0	+	+	0	+	?	+
Economic growth	?	?	?	?	?	-	?	?	?	?	+	+	?

4.4 Inter-relationships between SA/SEA objectives

During the SA/SEA assessment the SA/SEA objectives should not be considered in isolation as many inter-relationships exist that need to be taken into account. Some of these relationships are clear cut and easy to understand, for example reduced greenhouse gas emissions and improved air quality which would both result from transport modal shift to more sustainable travel modes. Others however can be less obvious, but are equally important and need to be understood when assessing the Local Plan (Core Strategy). For example there are inter-relationships between climate change adaptation measures and improvement in human health, from improved safety associated with reducing the risk of properties flooding, through to reduced levels of stress and improved well-being resulting from improvements to energy efficiencies of homes.

Close inter-relationships exist between environmental topics such as air quality, water quality, soil and biodiversity, with improvements or degradation to one often resulting in a similar effect on the other related media/topics. For example increased air pollution can have adverse effects on soil, water quality, and biodiversity through acidification. These effects can then cause issues relating to landscape degradation.

4.5 Compatibility of the Minerals Planning Vision and Objectives with the SA/SEA Objectives

A compatibility assessment (Table 4-5) has been undertaken of the proposed Minerals Planning Strategy Vision and Objectives (see Section 2.2.1) with the Sustainability Appraisal Objectives. The following table provides an explanation of the symbols used in the compatibility assessment.

Symbol	Compatibility
+	Objectives compatible
0	Objectives not related
-	Objectives incompatible
?	The objective relationship is unknown or is dependent on implementation

Table 4-5 Compatibility assessment between the SA objectives and the Minerals Planning vision and objectives

SA Objectives (abridged)													
Minerals Planning Strategy+ vision and objectives													
	SA1 Biodiversity and geodiversity	SA2a Landscape	SA2b Historic environment	SA3 Water quality	SA4 Air quality	SA5 Greenhouse gas emissions	SA6 Flooding	SA7 Transport	SA8 Population and health	SA9 Land and soil quality	SA10 Waste hierarchy	SA11 Self-sufficiency	SA12 Economic growth
Vision	+	+	+	+	+	+	+	+	+	+	+	+	+
Objective i	0	0	0	0	0	+	0	?	?	+	+	+	+
Objective ii	?	?	?	?	?	?	?	?	?	?	0	+	+
Objective iii	?	?	?	?	?	?	?	?	?	?	0	+	+
Objective iv	?	+	+	?	?	+	0	+	?	?	0	+	+
Objective v	0	0	0	0	0	0	0	+	0	0	0	+	+
Objective vi	+	+	+	+	0	+	+	+	+	+	0	?	+
Objective vii	?	?	?	?	+	+	?	+	+	?	0	?	?
Objective viii	+	+	+	+	+	+	+	+	+	+	0	0	+
Objective ix	+	+	+	+	+	+	+	0	+	+	0	0	+
Objective x	+	+	?	?	?	+	?	0	0	?	0	+	+
Objective xi	?	?	?	?	+	+	?	+	+	?	+	+	+
Objective xii	?	?	?	?	?	?	?	+	?	?	0	+	+

Overall, the proposed vision and objectives were found to be compatible with the SA objectives. The Minerals Planning Vision was found to be compatible with all of the SA objectives. For example, restored minerals workings that will enhance the quality of Oxfordshire's natural environment and the quality of life for Oxfordshire's residents is compatible with SA objectives SA1 (biodiversity and geodiversity), SA2a (landscape), SA2b (historic environment), and SA8 (population and health). Locating and managing minerals workings to minimise the distance that aggregates need to travel and other harmful impacts on the environment is compatible with SA objectives SA3 (water quality), SA4 (air quality), SA5 (greenhouse gas emissions), SA7 (transport), and SA9 (land and soil quality). Ensuring that there will be sufficient supply of aggregate materials is compatible with SA objectives SA11 (self-sufficiency) and SA12 (economic growth).

The minerals planning objectives seek to manage Oxfordshire's mineral planning needs in a way that protects the valued natural environment (Objectives vi, vii and viii), contributes to economic growth (Objectives i, ii, iii, iv, and v), as well as ensuring communities are provided with adequate facilities to meet anticipated needs (Objectives x and xi). This has resulted in compatibilities with many of the SA objectives, although some uncertain relationships have been identified.

The relationship between Objectives ii and iii, which allow for the provision of aggregates, and the environmental and social SA objectives, is uncertain, as much of the effect will be dependent on the location of the workings and the mitigation measures put in place to reduce any adverse effects. The same also goes for Objective iv which provides for non-aggregate minerals, although for this plan objective more compatibilities have been identified, as the objective should for example allow for the provision of limestone and ironstone for maintaining and restoring locally distinctive buildings and structures, which is compatible with SA2a (landscape) and SA2b (historic environment).

Uncertain compatibility has been noted for Objectives vii and xi with SA objectives SA1 (biodiversity and geodiversity), SA2a (landscape), SA2b (historic environment), SA3 (water quality), SA6 (flooding) and SA9 (land and soil quality) as any new transport infrastructure could adversely affect these objectives, although the effects will be dependent on location.

4.6 Compatibility of the Waste Planning Vision and Objectives with the SA/SEA Objectives

A compatibility assessment (Table 4-6) has also been undertaken of the proposed Waste Planning Strategy Vision and Objectives (see Section 2.2.2) with the Sustainability Appraisal Objectives. The following table provides an explanation of the symbols used in the compatibility assessment.

Table 4-6: Compatibility assessment between the SA objectives and the Waste Planning vision and objectives

SA Objectives (abridged)	Waste Planning Strategy vision and objectives												
	SA1 Biodiversity and geodiversity	SA2 Landscape	SA2b Historic environment	SA3 Water quality	SA4 Air quality	SA5 Greenhouse gas emissions	SA6 Flooding	SA7 Transport	SA8 Population and health	SA9 Land and soil quality	SA10 Waste hierarchy	SA11 Self-sufficiency	SA12 Economic growth
Vision	?	?	?	?	+	+	?	+	?	?	+	+	+
Objective i	?	?	?	?	?	+	?	+	?	?	+	+	+
Objective ii	?	?	?	?	?	?	?	?	?	?	0	+	0
Objective iii	?	+	?	+	?	+	?	?	?	?	+	+	+
Objective iv	+	+	+	+	+	+	+	+	+	+	0	+	+
Objective v	?	?	?	?	?	+	?	?	?	?	0	+	+
Objective vi	0	0	0	0	0	+	0	?	+	0	0	+	+
Objective vii	?	?	?	0	?	?	?	?	?	?	-	+	+
Objective viii	+	+	?	?	?	?	?	?	?	+	0	0	+
Objective ix	+	+	+	+	+	?	+	?	+	+	0	0	0
Objective x	+	+	+	+	+	+	+	+	+	+	0	0	+

Overall, the proposed vision and objectives were found to be either compatible or having an uncertain relationship with the SA objectives. One incompatibility was found between objective vii making provision for landfill and SA 10 (waste hierarchy), although it is recognised that it is not possible to recycle and treat all waste and the Plan must therefore make provision for some disposal. Other objectives seek to limit waste to landfill.

The Waste Planning Vision was found to be compatible with objectives SA4 (air quality), and SA5 (greenhouse gas emissions) due the distribution of waste management facilities close to sources of waste arisings. The vision is also compatible with objectives SA10 (waste hierarchy), SA11 (self-sufficiency) and SA12 (economic growth). Uncertain relationships have been identified with the other environmental objectives as the need for waste management facilities could have an effect on these objectives depending on the location of the facilities. Similar uncertain relationships have also been identified with Objectives i, ii, iii, v, vi and vii which support the provision of waste management facilities.

The relationship between Objectives ix and x and the SA objectives have been identified as compatible or neutral. Avoiding loss of greenfield land and protecting Oxfordshire's communities and natural/historic environments is compatible with the environmental and social objectives.

5 Development of the Local Plan (Core Strategy)

5.1 Introduction

In order to be considered 'sound' a Local Plan needs to be positively prepared, justified, effective and consistent with national policy. The proper consideration of options is key to developing a justifiable plan; the National Planning Policy Framework emphasises that Local Plans must be the most appropriate strategy when considered against the reasonable alternatives.

During the development of the Minerals and Waste Local Plan (Core Strategy) a wide range of options has been considered for delivering the plan objectives across the full range of planning issues within the scope of the Local Plan (Core Strategy).

The first stage of this process was the consultation on the Issues and Options in June 2006, with several subsequent rounds of plan preparation and consultation having followed. All of the options considered throughout the development of the Local Plan (Core Strategy) have been subject to sustainability appraisal. See Table 1-1 for an outline of the various reports that have been produced to date.

The following sections provide a summary of the various options considered (in chronological order), how and when they were appraised along with information on where these assessments can be accessed. A greater level of detail for each planning stage is provided in Appendix C of this report.

In addition, Appendix B of the Pre Submission SA Report (March 2012) provides a summary of the options considered throughout the plan development to date, with reasons being provided for selecting the preferred options/rejecting alternative options. It also provides a summary of the appraisal undertaken on the minerals spatial options (2010), the aggregates apportionment options (2011 and 2012), the waste spatial options (2011), other spatial options considered, and the minerals and waste preferred policies (2011). That SA Report can be accessed via the Oxfordshire County Council website at:

<http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>

5.2 Minerals and Waste Core Strategy Issues and Options (2005 - 2006)

In the initial stage during the preparation of the Core Strategy, Oxfordshire County Council identified 16 issues that the Minerals and Waste Core Strategy should address and considered a range of options to do this. A total of 95 options were considered and these were subject to SA in August 2005, with the findings documented in an Interim Sustainability Appraisal Report.

No significant effects were identified for any of the minerals or waste options considered whilst various recommendations were made for consideration at the next steps.

Within the SA of the Minerals and Waste Core Strategy Preferred Options (February 2007) the recommendations from the issues and options appraisal were summarised (Section 6.2, February 2007), and the reasons for rejecting all of the other options considered were identified (Appendix 2, February 2007).

The Minerals and Waste Core Strategy (Issues and Options) Consultation document, along with the Interim SA Report, are available via the Oxfordshire County Council website at: <http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

5.3 Minerals and Waste Core Strategy Preferred Options (February 2007)

Following consultation on the Issues and Options (see above), and taking into account the outcomes of the Issues and Options SA, draft Preferred Options were identified and an amended set of Preferred Options was published for consultation in February 2007.

The Core Strategy Preferred Options consultation document set out the County Council's preferred options for addressing each of the key issues that had previously been identified.

The Preferred Options were subject to SA in February 2007, with the findings documented in a Sustainability Appraisal Report. Appendix 3 of the 2007 SA Report contained detailed comments made by the appraisal group on the Preferred Options.

Appendix C provides details of the preferred options assessed and the significant effects identified.

The Minerals and Waste Core Strategy (Preferred Options) Consultation document, along with the accompanying SA Report, are available via the Oxfordshire County Council website at: <http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

5.4 Minerals Spatial Strategy Options (May 2010)

In 2010, the Council identified draft spatial strategy options for the location of future areas for the extraction of sharp sand and gravel, soft sand, and crushed rock.

Based on the sub-regional apportionment for sand and gravel, the Council calculated that Oxfordshire needed to plan for 1.82 million tonnes per annum (mtpa) over the plan period. This was split between soft sand and sharp sand and gravel based on the historical production figures (over the last three years).

Based on the above split, the Council identified that it needed to plan for 21.511 million tonnes of sharp sand and gravel (net requirement) to meet the need to 2026. In order to deliver this net requirement the Council drafted three spatial strategy options. The possible options (detailed in Appendix C) were to concentrate working; disperse it; or to phase development.

The options for soft sand and crushed rock are also provided in Appendix C.

A Sustainability Appraisal of the emerging options was undertaken. The options were assessed against the SA framework that had been developed in the revised Scoping Report 2009. A summary of the assessment is provided in the Appendix C. In terms of significant effects the following were identified for the 'concentration strategy' for sharp sand and gravel:

- In relation to the transport SA objective, option 1a was predicted to have a significant adverse effect related to impacts on the road network in the area from

an increase in work in the area given that it is already currently experiencing congestion.

- In relation to the land and soil quality SA objective, option 1a was predicted to have a significant positive effect because restoration would contribute to the creation of wildlife conservation and improved recreational areas.
- In relation to the 'contributing to minerals provision', 'promoting efficient use of natural resources', and 'economic growth' SA objectives for each of three options potential significant positive effects were identified.

For the sharp sand and gravel 'dispersal' and 'phasing' options, and the options for soft sand and crushed rock, significant positive effects were predicted in relation to the SA objectives for 'contributing to minerals provision', 'promoting efficient use of natural resources', and 'economic growth'.

The full findings of the SA can be found in the Minerals Spatial Strategy SA Report which is available via the Oxfordshire County Council website at:

<http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

5.5 Minerals Spatial Strategy Revised Options (September 2010)

Following consultation on the Minerals Spatial Strategy Options with key stakeholders in July 2010, refinements were made, resulting in the development of revised options in September 2010. The key changes (as reported in the September 2010 SA Report) are summarised below (and provided in more detail in Appendix C):

- The extent of the areas in each of the options has been reduced.
- Sites which are designated for their national environmental or landscape importance have been removed from the options and smaller sites which fall within these option areas will be given policy protection in the Core Strategy.
- The phased approach for sand and gravel has been changed to address the need for mineral working only during the plan period; and has more of a focus on moving to new areas of working.
- Both the concentration on existing working areas approach and the new areas of working approach for sand and gravel are concentration strategy options; and are not related to the location of demand.
- Possible new areas of working are not included in the same option as concentration on existing working areas, to provide greater distinction between options.
- The dispersed working approach for sand and gravel seeks to disperse working across all available resource and is not related to the location of demand.

Sharp sand and gravel

Following the revocation of the South East Plan the Council were guided to work with the aggregates apportionment in the March 2010 Proposed Changes to South East Plan Policy M3, which set a sand and gravel figure of 2.1 mtpa for Oxfordshire. The Council opposed the figure, believing it to be unreasonably and unrealistically high, intending to gather information and evidence, and develop a methodology to produce a locally derived assessment of the quantity of sand and gravel that should be supplied. As an

interim approach they adopted a flexible approach with regard to the amount of sand and gravel it needed to plan for, to meet demand to 2026, using a range between 1.1 and 1.6 mtpa.

The revised options were as follows:

Option 1: Concentration on Existing Working Areas (a refinement of the previous option 1c) See Appendix C for the areas included in this option.

Option 2: Concentration on New Working Areas (identifies new areas where working would be concentrated, to replace existing areas of working). See Appendix C for the areas included in this option.

Option 3: Dispersed Working (amended to provide for working to take place within any of the areas of potential sand and gravel resource, so that it is a truly dispersed option). The areas included in this option are specified in Appendix C.

Soft sand

The soft sand option has been revised to now include an area of resource at Duns Tew in the north of the county. The area in the south west of the county has been reduced to two smaller areas located close the A420.

Crushed rock

The revised option was made up of three areas based around existing limestone working areas. The areas included in the option are covered in Appendix C.

A Sustainability Appraisal of the revised options was undertaken by URS using the established SA Framework. The full findings of the SA can be found in the Minerals Spatial Strategy SA Report which is available via the Oxfordshire County Council website at:

<http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

Significant positive effects were identified as follows:

- In relation to the transport SA objective for each of the sharp sand and gravel options, due to the potential for alternatives to road (rail and river);
- In relation to the land and soil quality SA objective for Option 1 for sharp sand and gravel, as restoration would contribute to wildlife conservation and improved recreational activities; and
- In relation to the 'contributing to minerals provision', 'promoting efficient use of natural resources', and 'economic growth' SA objectives for each of the sharp sand and gravel options, as well as the options for soft sand, and crushed rock.

Significant negative effects were identified for one of the SA objectives, related to local amenity, as Options 1 and 3 for sharp sand and gravel may result in cumulative effects on local communities living close to the proposed areas, where extraction is already taking place, or has taken place in the past. The SA noted that careful consideration of access and routing, as well as impacts on the local communities (congestion, noise and air) would be required at the site selection and planning application stages to facilitate mitigation of adverse effects where applicable.

A summary of the SA findings is provided Appendix C.

5.6 Aggregates Apportionment Options (July 2011)

In order to inform the preparation of emerging policies on minerals supply, OCC commissioned consultants (Atkins) to produce a robust local assessment of the quantities of sand and gravel and crushed rock that need to be supplied from local quarries over the period to 2030. The assessment was also to consider the potential supply of secondary and recycled materials.

Four methods of predicting future aggregates demand in Oxfordshire were adopted by the consultants, and these together with the associated sub-regional apportionments are shown in Table 5-1 below. This table also includes the Council's recommended apportionment (based on the average outcomes of methods 2 and 4) and the SE Plan apportionment.

Table 5-1: Sub regional apportionment levels considered

Sub regional apportionments	Sand and gravel	Crushed rock	Secondary and recycled aggregates
Atkins method 1: 2003 sub-regional apportionment methodology on regional total of 11.12 mtpa	1.53	n/a	n/a
Atkins method 2: median past sales with smoothing	1.29	0.62	0.64
Atkins method 3: housing proxy for demand	1.58	0.81	0.88
Atkins method 4: population proxy for demand	1.23	0.64	0.69
OCC preferred/recommended (Cabinet Feb 2011)	1.26	0.63	0.67
SE Plan (May 2009)	1.82	1.0	0.9

Full details of the SA assessment methodology and its findings can be found in the SA of the Aggregates Apportionment Options which is available via the Oxfordshire County Council website at:

<http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

Overall, the SA found that all of the options for sharp sand and gravel have potential for some impacts on the environment, as well as on the surrounding communities. However, Option 3 included working in more areas and earlier on in the plan period, which meant it was likely to have more sustainability impacts in the short/medium and longer term compared to Options 1 and 2.

In terms of the assessment for the soft sand options, the Council identified that the strategy for working soft sand would be to concentrate production in three existing areas (specified in Appendix C). The key issues from the Sustainability Appraisal, identified for the broad areas proposed, are outlined in Appendix C. No significant effects were identified.

For crushed rock, the various apportionment levels would be met from working in the three existing areas. The key issues from the Sustainability Appraisal, identified for the broad areas proposed are outlined in Appendix C. No significant effects were identified.

Finally, looking at the apportionment for secondary and recycled aggregates, the location of facilities to meet this was not known at the time. Therefore it was not considered possible for the SA to take into account the spatial implications of the apportionment options. A summary of the findings for secondary and recycled aggregates when tested against the SA objectives can be found in Appendix C.

5.7 Waste Spatial Strategy Options (August 2011)

As part of the development of the waste strategy, the Council prepared spatial strategy options for all of the key waste streams. A Sustainability Appraisal of the options was undertaken using the established SA Framework. The options assessed are detailed in Appendix C.

Full details of the assessment methodology and the findings of the assessment can be found in the SA of the Waste Spatial Strategy Options which is available via the Oxfordshire County Council website at:

<http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

The SA identified significant adverse effects for the following options:

- For 'Low Level Radioactive Waste Management' Option D in relation to SA objective SA5 'greenhouse gas emissions' and SA7 'transport' as the assessment assumed that the landfill site outside of the County would be situated further from the sources of waste arising when compared to in-county sites.

Significant positive effects were identified for the following options:

- For 'Recycling of MSW' related to SA11 'waste hierarchy', as the option makes additional provision for recycling; and
- For 'Residual Treatment of C&I waste', Option 1 in relation to SA12 'economic growth' as the option provides for economies of scale that would attract investment by the private sector.

5.8 Minerals Planning Strategy (September 2011)

In September 2011, OCC consulted on its Draft Minerals Planning Strategy for the period to 2030, consisting of a set strategic policies, and common policies (covering both minerals and waste development). All of the elements within the planning strategy were assessed against the objectives within the SA Framework. Appendix C shows the draft policies that were assessed in the appraisal. The SA Report, with details of the assessment, can be accessed via the Oxfordshire County Council website at:

<http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

Significant positive effects were identified for the following minerals policies (a more detailed summary can be found in Appendix C):

- Policy M1 in relation to the SA objectives related to GHG emissions, land and soil quality, and waste hierarchy.
- Policies M2 and M3 in relation to the SA objective related to contributing to minerals needs.
- Policy M4 in relation to the SA objectives on air quality, ghg emissions, transport and economic growth.

- Policy M5 in relation to the SA objective related to contributing to minerals needs and economic growth.
- Policy M6 in relation to the SA objectives related to biodiversity/geodiversity, landscape and the historic environment, water quality, transport, population and health, and land and soil quality.

Significant positive effects were also identified for the following common Core Policies: C1, C2, C4, C5, C6, C7 and C8, generally against their directly related SA objective (e.g. Policy C4: Biodiversity and geodiversity against SA1 'biodiversity').

No significant adverse effects were identified.

5.9 Waste Planning Strategy (September 2011)

In September 2011, OCC consulted on its Draft Waste Planning Strategy for the period to 2030, consisting of a set strategic policies, and common policies (covering both minerals and waste development). All of the elements within the planning strategy were assessed against the objectives within the SA Framework. Appendix C shows the draft policies that were assessed in the appraisal. The SA Report, with details of the assessment, can be accessed via the Oxfordshire County Council website at: <http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

Significant positive effects were identified for the following waste policies: W1 against SA11 'self-sufficiency' as the policy directly supports this objective, and W3 against SA10 'waste hierarchy' as the policy seeks to make provision for additional recycling, composting and recovery of resources and minimise disposal.

Significant positive effects were also identified for the following common Core Policies: C1, C2, C4, C5, C6, C7 and C8, generally against their directly related SA objective.

No significant adverse effects were identified.

5.10 Aggregates Apportionment Options Addendum (March 2012)

Following on from the Aggregates Apportionment Options considered in July 2011, two further options for sharp sand and gravel were assessed in March 2012. These options arose as a result of consultation responses received on the July 2011 report and consider the effect of reducing working in West Oxfordshire after 2020.

Post 2020 there were two possible spatial options for reducing the level of working in West Oxfordshire. Option 1b would result in reducing working in the LWV (0.25 mtpa) and ECY (0.18 mtpa), with the difference made up from sites from Cholsey, Clifton Hampden and Stadhampton. Option 1c would result in a reduced level of working in LWV (0.43mtpa), a cessation of working in ECY altogether (0.0mtpa), with the difference made up from sites in Cholsey, Clifton Hampden and Stadhampton. Further details of the options can be found in the Addendum SA Report which can be accessed via the Council website at: <http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>.

In terms of significant effects, the assessment note that Option 1b was likely to have more significant adverse effects on local communities than Options 1a or 1c, as it included working in five different areas, compared to four for the other options, and therefore would affect more local communities. Options 1b and 1c, which see the shifting of the sand and gravel industry to south Oxfordshire, provide an opportunity to generate

significant new jobs and economic activity due to the construction of the substantial new infrastructure that would be required to service sites in Cholsey, Stadhampton and Clifton Hampden.

5.11 Minerals and Waste Core Strategy Proposed Submission Document (May 2012) – subsequently withdrawn

In May 2012, OCC consulted on its Minerals and Waste Core Strategy Proposed Submission Document for the period to 2030, consisting of a set of strategic policies for minerals and waste, and common core policies (covering both minerals and waste development).

All of the elements within the document were assessed against the objectives within the SA Framework. The appraisal generally found that the policies supported the majority of the SA objectives, although there was some uncertainty identified, for example due to the unknown location of sites for waste management.

Significant positive effects were identified for the following policies (with a brief explanation of the effects provided in Appendix C):

- Policy M1 in relation to the SA objectives related to ghg emissions (SA5), land and soil quality (SA9), and waste hierarchy (SA10).
- Policies M2, M3 and M5 in relation to the SA objective related to contributing to minerals needs (SA11).
- Policy M4 in relation to the SA objectives on transport (SA7) and economic growth (SA12).
- Policy M6 in relation to the SA objective related to contributing to minerals needs (SA11).
- Policy M7 in relation to the SA objectives related to biodiversity/geodiversity (SA1), landscape and the historic environment (SA2), water quality (SA3), flooding (SA6), population and health (SA8), and land and soil quality (SA9).
- Policies W1 and W4 in relation to the SA objective related to enabling Oxfordshire to be self-sufficient in its waste management (SA11).
- Policy W3 in relation to the SA objectives for ghg emissions (SA5) and waste hierarchy (SA10).
- Policy W5 in relation to the SA objectives related to enabling Oxfordshire to move up the waste hierarchy (SA10) and be self-sufficient in its waste management (SA11).
- Policy W6 in relation to the objective on land and soil quality (SA9).
- Policy W7 in relation to the objective related to enabling Oxfordshire to be self-sufficient in its waste management (SA11).

A significant negative effect was identified for Policy M5 against SA3 'ground and surface water quality' as clay is usually located below sand and gravel and therefore extraction of clay could result in the modification of surface flows to watercourses and alteration of groundwater seepages, flushes or spring flows, particularly where there is the presence of underlying aquifers such as in the LWV and ECY areas.

The common core policies were found to be broadly in line with the SA objectives, with significant positive effects being identified for C1, C2, C4, C5, C6, C8 and C9, generally for their related SA objectives.

The SA Report with full details of the assessment can be accessed via the Oxfordshire County Council website at:

<http://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>

5.12 Oxfordshire Minerals and Waste Local Plan: Core Strategy Consultation Draft (February 2014)

In February 2014, OCC consulted on the Draft Local Plan (Core Strategy) intended to replace the current Minerals and Waste Local Plan. This built on relevant work done in the preparation of the previous (withdrawn) plan, including the responses to the Proposed Submission Document (May 2012) and the consultation on draft documents in September 2011 and before. This new plan was prepared taking into consideration all the iterations to the emerging options.

All of the elements within the document were assessed against the objectives within the SA Framework. The appraisal generally found that the policies were likely to have overall positive effects across the different sustainability objectives.

A number of significant positives were identified:

Policy M1 in relation to the SA objectives on land and soil quality (SA9) and waste hierarchy (SA10).

Policy M2 in relation to the objective on waste and mineral management (SA11).

Policy M3 in relation to the objective on waste hierarchy (SA10).

Policy M5 in relation to the SA objectives on transport (SA7) and economic growth (SA12).

Policy M6 in relation to the objective on flooding (SA6).

Policy M7 in relation to the objective on waste and mineral management (SA11).

Policy M8 in relation to the SA objectives on biodiversity and geodiversity (SA1); landscape and the historic environment (SA2); ground and surface water quality (SA3) and population and health (SA8).

Policy W1 in relation to the objective on waste and mineral management (SA11).

Policy W3 in relation to the SA objectives on greenhouse gas emissions (SA5) and waste hierarchy (SA10).

Policy W4 in relation to the objective on waste and mineral management (SA11).

Policy W6 in relation to the objective on land and soil quality (SA9).

Policy W7 in relation to the objective on waste and mineral management (SA11).

The common core policies were found to be broadly in line with the SA objectives, with significant positive effects being identified for C2, C3, C4, C5, C6, C7, C8, C10 and C11 generally for their related SA objectives.

No significant negative effects were identified.

Further detail is provided in Appendix C and the full Consultation Draft SA Report (February 2015) can be accessed via the Oxfordshire County Council website at:

<https://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy#revisedminerals>

Based on the work undertaken on all the previous stages described in Sections 5.2 to 5.12 above the preferred strategy and policies for minerals and waste development, along with the supporting Core Policies have now been prepared. The assessment undertaken on this Proposed Submission Document is described in Section 6.

6 Assessment of the Core Strategy Proposed Submission Document

6.1 Introduction

A Core Strategy Proposed Submission Document has now been prepared taking into consideration all the iterations to the emerging options and the consultation comments received on the previously submitted Pre Submission Core Strategy (March 2012) and comments on the Consultation Draft Core Strategy and this has now been appraised.

The appraisal approach utilises the SA/SEA Framework Objectives that were developed for the revised Sustainability Appraisal Scoping Report 2013. This SA Framework has been updated as a result of consultation comments received on the Scoping Report and the SA Report for the Consultation Draft Core Strategy.

6.2 Assessment methodology

The Sustainability Appraisal has been documented using a standard matrix to record the likely effects of policies upon each SA objective. All of the SA Objectives have been afforded the same level of importance in this assessment, with no weighting of objectives having been used.

The appraisal used the assessment 'scoring' criteria as outlined in Table 6-1. The effects were also forecast in terms of their:

- Permanence (permanent or temporary);
- Scale (local (within the County), regional (affecting local neighbouring authorities), or national/international (affecting UK or a wider global impact));
- Duration (in the short term (0-5 years), medium term (5 years to the end of the Plan period in 2031) or long term (After life of plan (post 2031)); and
- Reversibility (reversible effect (environmental effect that can be reversed, for example an incident of water pollution can be cleaned up over time), or irreversible effect (environmental effect that cannot be reversed such as the loss of a historic feature or the loss of agricultural soil due to permanent development)).

Where appropriate the assessment also identified cumulative/synergistic effects, cross-boundary effects and interrelationships between the SA objectives.

Table 6-1: Assessment Criteria

Significance Assessment	Description
++	The option is likely to have a significant positive effect
+	The option is likely to have a positive effect which is not significant
0	No effect / no clear link
?	Uncertain or insufficient information on which to determine effect
-	The option is likely to have a negative effect which is not significant
--	The option is likely to have a significant negative effect
+/-	The option is likely to have some positive and some negative effects

6.2.1 *Cross boundary effects*

Where mineral extraction activities in Oxfordshire are based close to the borders of other local authorities (counties and boroughs), for example the sand and gravel site in Caversham close to Reading Borough, there are likely to be effects felt in these neighbouring areas. In cases of very close proximity, it is possible that all the direct effects forecast for the plan area (air quality, noise, water quality etc.) could also be experienced in the neighbouring authority. Where there is a greater distance involved, effects could still be encountered, for example increased traffic associated with minerals haulage, and changes in hydrology.

6.2.2 *Inter-relationships*

The SEA topics cannot be considered in isolation from one another, as there are a variety of inter-relationships that exist. Air quality is a topic which cuts across most of the other SEA topics, with proven links between air quality and human health (respiratory problems). It can also have indirect effects on biodiversity, soil and water quality, and the condition of heritage assets, whilst there is a more direct link between traffic emission causing poor air quality and the emissions of CO₂.

Minerals and waste operations may show inter-related effects on criteria such as biodiversity, air quality, greenhouse gas emissions, landscape and townscape depending on where they are located, how the development takes shape/is designed, the processes involved and how it is accessed.

Positive effects can also occur from inter-relationships, for example, protecting landscape quality and/or soil, may lead to habitats and species being indirectly protected.

6.2.3 *Update to Assessment Methodology*

The criteria and assessment matrices used for undertaking the assessment are largely consistent with those used for previous rounds of sustainability appraisal on the minerals and waste planning documents, undertaken by the consultants URS prior to 2013 and subsequently by TRL. Where the assessments have remained unchanged from the assessments undertaken before 2013 the URS text has been retained, or in some case slightly modified to make them consistent with the current assessment.

However, for this new round of assessment the methodology has been expanded to provide more detailed consideration of the duration of effects (short, medium and long term), permanence of effects and reversibility of effects. In addition the original SA objective 2 that covered both the landscape and heritage topics has now been split into two separate objectives (see Section 4.2).

The reversibility of the effects relates to whether the impacts of a particular policy can be reversed or are irreversible. This is particularly important for negative impacts, which if found to have irreversible effects, may require greater mitigation measures to be put in place. Effects on environmental sustainability objectives can be irreversible as the environment or a historic asset cannot be fully returned to its original state following the cessation of the minerals and waste activities. An environmental effect that can be reversed might be an incident of water pollution can be cleaned up over time.

The permanence of effects has also been incorporated into the most recent round of assessment. Effects that continue after mineral and waste activities have ceased are deemed permanent and those effects that only occur whilst mineral and waste activities are taking place are classed as temporary. An example of a temporary effect would be increased noise and dust associated with the operation of a quarry that would stop when the quarry is closed. An example of a permanent effect would be the impact on the landscape at a minerals working site, where it is not returned to its previous condition.

Based on the methodology described above, all Local Plan policies were assessed and the results presented as detailed assessment matrices in Appendix D.

6.3 Summary of the assessment

The sections that follow summarise the results of the assessments for each Local Plan element, followed by a summary of the assessment by SA objective (including any cumulative, synergistic and secondary effects).

6.3.1 Minerals Planning Strategy

6.3.1.1 Vision and Objectives

A detailed assessment has not been undertaken on the Minerals Planning Vision and Objectives (listed in Section 2.2.1) but instead they have been assessed for their compatibility with the SA objectives. This is detailed in Section 4.5 of this report.

6.3.1.2 Summary of Policy Assessments

Table 6-2 below provides a summary of the assessments carried out for each of the minerals planning policies. These are split by duration of effects (short, medium and long term).

Table 6-2: Summary table of assessments of the Minerals Planning Policies

Plan Elements (abridged)	Duration (Short/Medium/Long term)	SA/SEA Objectives (abridged)												
		1	2a	2b	3	4	5	6	7	8	9	10	11	12
		Biodiversity & Geodiversity	Landscape	Historic Environment	Water Quality	Air Quality	Greenhouse Gas Emissions	Flood Risk	Transport Effects	Population & Health	Soils	Waste Hierarchy	Self-sufficiency	Economic Growth
Policy M1: Recycled and Secondary Aggregate	ST	+	+	+	+	?	?	?	?	?	+	+	+	+
	MT	+	+	+	+	?	?	?	?	?	+	++	+	+
	LT	+	+	+	+	?	?	?	?	?	+	++	+	+
Policy M2: Provision for working aggregate minerals	ST	?	?	?	?	?	+	?	+	+/?	?	0	+	+
	MT	?	?	?	?	?	+	?	+	+/?	?	0	++	+
	LT	?	?	?	?	?	+	?	+	+/?	?	0	++	+
Policy M3: Principal locations for working aggregate minerals	ST	+/-	-/?	-/?	+/-	0	+	0	-	-/?	+	0	+	+
	MT	+/-	-/?	-/?	+/-	0	+	+	-	-/?	+	0	++	+
	LT	+/-	-/?	-/?	+/-	0	+	+	-	+/?	+	0	++	+
Policy M4: Sites for working aggregate minerals	ST	+	+	+	+	+	+	+	+	+	+	0	0	+
	MT	+	+	+	+	+	+	+	+	+	+	0	0	+
	LT	+	+	+	+	+	+	+	+	+	+	0	0	+
Policy M5: Working of Aggregate Minerals	ST	?	?	?	?	?	?	?	?	?	?	0	+	+
	MT	?	?	?	?	?	?	?	?	?	?	0	+	+
	LT	?	?	?	?	?	?	?	?	?	?	0	+	+
Policy M6: Aggregates rail depots	ST	0	0	0	0	+	+	+/-	++	0	0	0	0	+
	MT	0	0	0	0	+	+	+/-	++	+	0	0	0	++
	LT	+/?	+/?	+/?	+/?	+	+	+/-	++	+	0	0	0	++
Policy M7: Non-aggregate mineral working	ST	+/-	+/-	+/-/?	+/-	0	?	?	-	-/?	+/?	0	0	+
	MT	+/-	+/-	+/-/?	+/-	0	?	?	-	-/?	+/?	0	0	+
	LT	+/-	+/-	+/-/?	+/-	0	?	?	-	-/?	+/?	0	0	+
Policy M8: Safeguarding mineral resources	ST	0	0	0	0	0	0	0	0	0	0	0	0	0
	MT	0	0	0	0	0	0	0	0	0	0	0	+	0
	LT	0	0	0	0	0	+	0	+	0	0	0	++	+
Policy M9: Safeguarding mineral infrastructure	ST	0	0	0	0	0	+	0	+	0	0	0	+	+
	MT	0	0	0	0	0	+	0	+	0	0	0	+	+
	LT	0	0	0	0	0	+	0	+	0	0	0	+	+
Policy M10: Restoration of mineral workings	ST	0	0	0	0	0	0	0	0	0	0	0	0	0
	MT	+	+	+	+	0	0	+	0	+	+	0	0	+
	LT	++	++	++	++	0	0	++	0	++	+	0	0	+

6.3.1.3 Policy M1: Recycled and Secondary Aggregate

Policy M1 seeks to maximise the contribution to aggregate supply from recycled and secondary aggregates. In so doing the policy will reduce the amount of waste being generated and will therefore have a significant positive effect in relation to SA10.

Production of secondary/recycled aggregates is recognised as having environmental effects broadly similar to those caused by processing of primary aggregates. The nature of any adverse effects will depend to a large extent on the exact location of sites for secondary and recycled aggregates. If these facilities exist in close proximity to active mineral workings there could be negative cumulative effects upon nearby receptors from increased traffic bringing material to sites and effects such as noise and dust which would need to be considered at the planning application stage.

The adverse effects arising from the operation of temporary mobile units associated with individual developments are likely to be temporary and of a more local nature than from those facilities which hold long term consents. The application of the common core policies to any individual applications should assist in mitigating any adverse effects.

The policy will support Oxfordshire's economic growth over the long term and in particular growth of the local economy, as recycling facilities are often located at existing quarries and landfills, thus continuing to support local jobs and businesses. Any new sites could also potentially increase local jobs and support local business.

By encouraging the production and supply of recycled and secondary aggregate this policy makes a positive contribution to Oxfordshire's local needs for aggregates. It also helps to achieve self-sufficiency in waste management. This supports SA11, self-sufficiency.

6.3.1.4 Policy M2: Provision for working aggregate minerals

The effects which might arise from a particular volume of mineral working in the County are difficult to predict based on the figures within the LAA alone, as it is the spatial implications, i.e. the location and distribution of mineral working sites which will mainly determine the effects. The proposed spatial distribution of this is appraised through Policy M3. There is also uncertainty as to when sites in the landbank will be brought forward for extraction. In recent years, the recession has caused working of existing sites to be extended and implementation of new permissions to be delayed. As a result uncertain effects have been identified for many of the SA objectives.

The policy makes provision to enable the supply of aggregate minerals from land-won sources within Oxfordshire to meet the requirement identified in the most recent Local Aggregate Assessment. Significant positive effects have therefore been identified for SA11.

Basing the provision on the requirements in the most recent LAA, as opposed to a fixed amount for the plan period, provides the flexibility for extraction to be increased if demand exists, thereby supporting economic growth objectives.

It is however recognised that effects in the longer term are more uncertain i.e. sites chosen to deliver the strategy may not come forward and other sites which may or may not be more constrained might then be needed. This uncertainty would be addressed through policy monitoring and the implementation of the common core policies when planning applications come forward.

Enabling Oxfordshire to meet the aggregate requirements set out in the LAA will avoid the need to import aggregates into the County, with associated benefits in terms of reducing growth in greenhouse gas emissions (SA5) and reducing long-distance transport effects (SA7).

6.3.1.5 Policy M3: Principal locations for working aggregate minerals

A significant positive effect was identified for this policy in the medium to long term for self-sufficiency (SA11), as the policy (like M2) makes provision to enable the supply of aggregate minerals from land-won sources within Oxfordshire in order to meet the requirement identified in the most recent Local Aggregate Assessment. There are also other positive effects likely from this policy, as the extraction of minerals in these areas could offer opportunities to increase flood storage capacity, thereby reducing the risk of

flooding in these areas (SA6). The SRAs for sharp sand and gravel extraction are also well located in terms of proximity to the markets and provide potential for investment and job creation which supports the SA12 (economic growth).

The Strategic Resource Areas that are identified in Policy M3 for the extraction of sharp sand and gravel, soft sand and crushed rock have environmental constraints that could result in adverse effects against the objectives for biodiversity (SA1), landscape (SA2a), heritage assets (SA2b) and water (SA4). However the criteria in Policies M4, M10 and the common core policies will ensure that these effects are either avoided or mitigated.

The extraction of minerals from the SRAs identified in the policy will inevitably result in some adverse effects on local communities, particularly through transportation effects in Oxfordshire and the wider area. However minerals can only be worked where they exist in the ground and therefore there is not the possibility of dispersing extraction across the County. The other policies in the Plan will help to mitigate adverse effects of extraction in the SRAs and will also seek to enhance the environment wherever possible, particularly through restoration activities. Restoration is predicted to have beneficial effects on the soils and 'population and health' objectives (SA8 and SA9).

6.3.1.6 Policy M4: Sites for working aggregate minerals

The criteria within Policy M4 will help to ensure that the adverse effects that are associated with working aggregate minerals will be reduced or avoided. Positive effects have therefore been predicted in relation to SA1 – SA9 inclusive. Element b) of this policy will support the local economy, through the location of sharp sand and gravel workings close to the demand areas in the County. This will have a positive effect on SA12.

6.3.1.7 Policy M5: Working of Aggregate Minerals

Policy M5 is largely procedural and will itself not result in direct effects against the majority of objectives. Effects relating to the allocation of sites have been assessed for Policies M3 and M4 and the assessment provided below is therefore focused on the effects that would result from extraction outside the allocated sites. The majority of these effects are uncertain as much will depend on the size and location of the sites involved.

Positive effects have been identified for the SA objectives relating to self-sufficiency (SA11) and economic growth (SA12), as allowing mineral extraction in certain cases, so that needs identified under Policy M2 are met and mineral sterilisation is avoided, should help to prolong Oxfordshire's self-sufficiency in aggregate supply and support the local economy.

6.3.1.8 Policy M6: Aggregates rail depots

Policy M6 seeks to safeguard the necessary infrastructure and enables new aggregate rail depots to be developed in suitable locations, reducing the long term cumulative adverse effects on the environment, local communities and local road network experienced by long distance transport of aggregates by road. Significant positive effects have therefore been identified for objective SA7. Safeguarding and encouraging this type of infrastructure also supports sustainable growth of the Oxfordshire economy and as a result significant positive effects have also been identified for objective SA12.

Bulk transportation by rail is likely to have positive long term effects on population and health and environmental objectives compared with transportation by road, including a reduction in greenhouse gas emissions (SA5).

6.3.1.9 Policy M7: Non-aggregate mineral working

Seeking to concentrate clay extraction in areas where sharp sand and gravel working is currently taking place or has taken place recently, or may take place in the future has the economic advantages of using existing infrastructure as well as a skilled local labour force. It also presents opportunities for co-ordinated large-scale restoration projects which would in the longer term lead to a degree of beneficial effects for the local communities (through recreation and leisure opportunities) as well as for biodiversity. There is also potential for building stone quarrying to have a positive effect by supplying local materials that can be used to repair and maintain historic buildings (SA2b). However, there is still potential for ongoing cumulative negative effects throughout the plan period on transport and the local communities (SA7 and SA8), especially with regard to traffic and amenity issues as a result of the concentration of working clay alongside sharp sand and gravel, unless these adverse effects are appropriately mitigated when new planning permissions are sought. The effects of chalk, building stone, fuller's earth and oil/gas exploration and extraction will be dependent on the location of sites and the distances that materials need to be transported.

Clay, chalk, building stone and fuller's earth extraction, plus and oil/gas exploration could have positive effects on the local economy.

The strategic resource areas that are identified in Policy M3 for the extraction of sharp sand and gravel, and hence could be used for clay extraction under Policy M7, have environmental constraints that could result in adverse effects resulting against the objectives for biodiversity (SA1), landscape (SA2a), heritage assets (SA2b) and water (SA4). Extraction of chalk/fuller's earth, along with exploration for oil and gas, could also have an adverse effect on these objectives. Effects will be dependent on the location of sites; however the criteria in policies M4, M10 and the common core policies will ensure that these effects are either avoided or mitigated.

6.3.1.10 Policy M8: Safeguarding mineral resources

The policy recognises that in-situ mineral resources should not be sterilised by non-mineral development and that mineral deposits are finite and scarce resources that should be safeguarded for the long term, including unknown future requirements for an increasing population and economic growth. Significant positive effects are therefore likely in the long-term with regards to SA objective 11. Safeguarding proven resources is likely to ensure non mineral development is not prevented unduly. This policy should also support Oxfordshire's economic growth. This policy is also likely to indirectly help to reduce the need to import minerals from elsewhere and could therefore potentially help to reduce adverse effects from transportation (SA7) and reduce greenhouse gas emissions (SA5).

As the policy is safeguarding mineral resources for the future and preventing sterilisation, not permitting extraction in these areas, effects upon SA objectives relating to the environment are likely to be neutral.

6.3.1.11 Policy M9: Safeguarding mineral infrastructure

Through the safeguarding of mineral infrastructure positive effects have been identified for Policy M9 for the SA objectives relating to greenhouse gas emissions (SA5), transport (SA7), self-sufficiency (SA11) and economy (SA12). These effects relate to the support that the policy provides to Oxfordshire remaining self-sufficient in terms of aggregate provision and processing. No effects are predicted for the other SA objectives.

6.3.1.12 Policy M10: Restoration of mineral workings

The requirement for timely and phased restoration, to a high standard, to an after-use appropriate to the location and aiming to provide for a net gain in biodiversity should have a positive or significant positive long term effect on many of the SA objectives as it provides an opportunity to create or restore habitats and biodiversity, restore landscape character, improve water and soil quality; and address possible amenity effects on local communities arising from the after-use of minerals sites. It also provides opportunities to develop new local amenity facilities, such as sport and recreational uses which can provide new business opportunities and reduce disparities in access to such facilities for rural communities.

The consideration of opportunities to protect and/or improve geodiversity provides further support to objective SA1, as does the consideration of recreational impacts on SACs. The policy also recognises that mineral working in the flood plain can offer opportunities to increase flood storage capacity and reduce the risk of flooding, having a significant positive effect in the long term for SA6.

Long term management is important however, to maintain long term benefits and this policy supports this by considering how restoration, aftercare and after use of the site is secured in the long term.

6.3.2 Waste Planning Strategy

6.3.2.1 Vision and Objectives

A detailed assessment has not been undertaken on the Waste Planning Vision and Objectives (listed in Section 2.2.2) but instead they have been assessed for their compatibility with the SA objectives. This is detailed in Section 4.6 of this report.

6.3.2.2 Summary of Policy Assessments

Table 6-3 below provides a summary of the assessments carried out for each of the waste planning policies. These are split by duration of effects (short, medium and long term).

Table 6-3: Summary table of assessments of the Waste Planning Policies

Plan Elements (abridged)	Timescale (Short/Medium/Long term)	SA/SEA Objectives (abridged)												
		1	2a	2b	3	4	5	6	7	8	9	10	11	12
		Biodiversity & Geodiversity	Landscape	Historic Environment	Water Quality	Air Quality	Greenhouse Gas Emissions	Flood Risk	Transport Effects	Population & Health	Soils	Waste Hierarchy	Self-sufficiency	Economic Growth
Policy W1: Oxfordshire waste to be managed	ST	?	?	?	?	?	+	?	+	?	?	0	++	+
	MT	?	?	?	?	?	+	?	+	?	?	0	++	+
	LT	?	?	?	?	?	+	?	+	?	?	0	++	+
Policy W2: Oxfordshire waste management targets	ST	+/?	+/?	+/?	?	?	+	?	?	?	+	+	+	+
	MT	+/?	+/?	+/?	+/?	?	++	?	?	?	+	++	+	+
	LT	+/?	+/?	+/?	+/?	?	++	?	?	?	+	++	+	+
Policy W3: Provision for waste management capacity	ST	?	?	?	?	?	+	?	?	?	?	+	++	+
	MT	?	?	?	?	?	+	?	?	?	?	+	++	+
	LT	?	?	?	?	?	+	?	?	?	?	+	++	+
Policy W4: Locations for facilities to manage the principal waste	ST	?	?	?	?	?	+	?	+	?	?	0	0	0
	MT	?	?	?	?	?	+	?	+	?	?	0	0	0
	LT	?	?	?	?	?	+	?	+	?	?	0	0	0
Policy W5: Siting of waste management facilities	ST	0	0	?	?	?	+	?	+	?	+	0	0	+
	MT	+/?	+/?	?	?	?	+	?	+	?	++	0	0	+
	LT	+/?	+/?	?	?	?	+	?	+	?	++	0	0	+
Policy W6: Landfill	ST	+/?	+	0	+	?	+/?	0	?	?	+/-	0	++	+
	MT	+/?	+	0	+	?	+/?	0	?	?	+/-	0	++	+
	LT	+/?	+	0	+	?	+/?	0	?	?	+	0	++	+
Policy W7: Management and disposal of hazardous waste	ST	?	?	?	?	?	?	0	?	?	?	?	+/?	+
	MT	?	?	?	?	?	?	0	?	?	?	?	+/?	+
	LT	?	?	?	?	?	?	0	?	?	?	?	+/?	+
Policy W8: Management of agricultural waste	ST	0	?	?	0	?	0	0	0	?	0	+	0	0
	MT	+	?	?	+/?	?	+	0	+/?	?	+/?	+	0	0
	LT	+	?	?	+/?	?	+	0	+/?	?	+/?	+	0	0
Policy W9: Management and disposal of radioactive waste	ST	0	0	0	0	0	0	0	0	?	0	0	+	0
	MT	0	0	0	0	0	0	0	0	?	0	0	+	+
	LT	0	0	0	0	0	0	0	0	?	0	0	+	+
Policy W10: Management and disposal of waste water/sewage	ST	?	?	?	0	0	0	0	0	0	0	0	0	0
	MT	?	?	?	+	0	0	+	0	+	+	0	0	0
	LT	?	?	?	+	0	0	+	0	+	+	0	0	0
Policy W11: Safeguarding waste management sites	ST	0	0	0	0	0	0	0	0	0	0	0	0	0
	MT	0	0	0	0	0	+	0	+	0	0	0	+	+
	LT	0	0	0	0	0	+	0	+	0	0	0	+	+

6.3.2.3 Policy W1: Oxfordshire waste to be managed

This policy directly supports SA objective 11 on self-sufficiency as it seeks to enable Oxfordshire to be net self-sufficient in the management of its principal waste streams and therefore significant positive effects have been identified.

When assessed against the SA objectives, Policy W1 also supports the SA objectives relating to reducing greenhouse gas emissions and minimising the transport effects of transporting waste as making local provision for waste management facilities should

reduce the distances travelled. This will also benefit areas outside of Oxfordshire that might otherwise have experienced adverse effects associated with export of waste from the county. It is also supportive of local economic growth as development of new facilities to deliver the required capacity would create new job opportunities in Oxfordshire. Uncertainty regarding effects upon other environmental objectives will depend upon where the waste provision will be located, however other policies in the plan, in particular W5 and the common core policies, should provide appropriate mitigation to minimise and adverse effects.

6.3.2.4 Policy W2: Oxfordshire waste management targets

Policy W2 sets waste management targets to provide for maximum diversion of waste from landfill. This policy supports SA5 as diverting waste from landfill (especially bio-degradable waste) would reduce the amount of methane associated with landfilling of such waste. It also supports the management of waste in line with the waste hierarchy as it sets provision for additional recycling, composting and recovery capacity and enables Oxfordshire to become self-sufficient in its waste management by reducing the proportion of waste disposal by landfill. Therefore, significant positive effects have been identified against these objectives in the medium and long term.

The policy also requires that all proposals for the management of all types of waste should demonstrate that the waste cannot reasonably be managed through a process that is higher up the waste hierarchy than that proposed. There are likely to be positive effects upon SA12 on supporting the local economy as facilities required to meet the set targets enhance the local economy and offer potential to create local jobs both direct and indirectly.

The targets to significantly reduce the proportions of waste going to landfill will reduce the land-take needed to manage waste, which will have positive implications for the soils objective (SA9) and a reduction in landfill could also have a positive effect on water quality (SA3) in the medium and long term by reducing the risk of groundwater pollution. There may also be positive implications for the other environmental objectives as a result of a reduction in land-take; however effects will depend upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.

6.3.2.5 Policy W3: Provision for waste management capacity and facilities required

Policy W3 seeks to make provision for additional waste management capacity therefore enabling the County to be self-sufficient in its waste management, a significant positive effect has therefore been identified against this objective (SA11).

Effects upon the majority of SA objectives are dependent upon where this provision is located as its focus is ensuring that there is sufficient capacity to deal with Oxfordshire's waste arisings to 2030. This issue is addressed by Policies W4, W5 and the common core policies and the effects are more likely in the medium to long term when further capacity may be required.

Positive effects are likely on SA10 relating to moving waste up the waste hierarchy (by encouraging new facilities for re-use, recycling and composting of waste and for treatment of food waste) and the proposed capacity is also assessed as having an

indirect positive effect on the local economy through the provision of new waste management facilities which are likely to create new job opportunities.

New facilities for re-use, recycling and composting of waste and for treatment of food waste could divert waste from landfill which will help to reduce the levels of methane generated by this type of waste management, supporting SA5 on greenhouse gas emissions. The policy also requires that waste be recovered at one of the nearest appropriate installations which will help to reduce greenhouse gas emissions from waste transportation.

6.3.2.6 Policy W4: Locations for facilities to manage the principal waste streams

Policy W4 outlines the provision of different types of waste management facilities in Oxfordshire and their broad locations. Provision of facilities close to waste arisings of the County's future growth areas is likely to have positive effects on SA5 and SA7 as it should minimise adverse effects associated with waste transportation, and help to reduce associated greenhouse gas emissions. However, it is recognised that there will be differing effects according to the exact location and type of facilities. It is noted that the policy refers to the criteria in Policy W5 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.

6.3.2.7 Policy W5: Siting of waste management facilities

Policy W5 provides guidance on the siting of waste management facilities. It prioritises land that is already in permanent waste management or industrial use, is previously developed, derelict or underused, involves existing agricultural buildings and their curtilages, active minerals workings, and at waste water treatment works. The use of previously developed or derelict land could lead to the restoration of land which may have been previously contaminated. This would have significant positive effects for SA9 (soils) in the medium and long term, and avoiding the use of greenfield land would also reduce the impact of this policy on soils.

This policy has the potential for indirect positive effects on protection of nature conservation by prioritising the use of land that is already used for waste or mineral purposes; is previously developed, derelict, or underused; or involves existing agricultural buildings, thereby reducing development of green field land which is likely to host local biodiversity. However it should be noted that previously developed land and derelict land, as well as existing agricultural buildings, can provide important habitats. The likely effects will be dependent upon the implementation of the policy in conjunction with the common core policies which are expected to help mitigate adverse effects.

Use of derelict buildings and development of previously developed sites can also help improve the local landscape. Proposals in the Green Belt may have negative effects upon the landscape, but these will only be permitted where very special circumstances are demonstrated. The effects will be dependent upon landscape mitigation and therefore the implementation of Policy C8 will assist in mitigating any potential negative effects. The supporting text of Policy C8 notes that small scale waste management facilities, for local needs, could be acceptable within AONBs, where the development would not compromise the objectives of the designation. It also notes that proposals for waste development within or in close proximity to AONBs will need to be considered against Policy C8, which should help to mitigate any adverse effects. Effects on the environmental objectives will be dependent upon development locations, although giving

priority to previously developed, derelict or underused land and avoiding the use of green field land should help to minimise the impacts on archaeological sites (SA2b, historic environment).

Allowing waste management facilities in the Green Belt where there are very special circumstances would reduce the need to transport some of the waste arising from such localities thereby having positive implications for transport effects (SA7) and contributing to a reduction in greenhouse gas emissions (SA5). However, the sites are likely to be only serving local needs and so effects will be minor.

The requirement to restore temporary sites in accordance with Policy M10 could result in environmental enhancements.

6.3.2.8 Policy W6: Landfill

Permission will not be granted for new landfill sites for non-hazardous waste and existing non-hazardous landfills may be extended in terms of their life. This is likely to prolong any negative effects on areas affected by existing landfill sites, however it will reduce the potential for adverse effects upon other areas of the County that would otherwise have been affected by new sites.

By making local provision for inert landfilling and non-hazardous landfill capacity, Policy W6 should have a significant positive effect by allowing for County self-sufficiency with respect to the disposal of waste via landfill (SA11). Whilst Policy W6 does not support SA objective 10 on moving waste up the hierarchy, as landfill does not lead to more waste being recycled or recovered, it is recognised that although seen as the option of last resort, landfill must be adequately planned for as it still has a role to play in waste management and permission will only be granted for inert landfilling where material cannot be recycled. Making local provision for inert landfilling has the potential to create local job-opportunities (SA12).

Providing for inert landfill especially for restoration purposes is assessed as having positive effects on improving land quality (SA objective 9) and also landscape quality (SA objective 2a), however the potential for existing non-hazardous landfill sites to extend in life may have negative effects on the restoration of sites in the short to medium term. Enabling the provision of facilities to manage leachate will have a positive effect on water quality (SA3) as it will help to reduce the risks of groundwater and watercourse contamination.

The potential transport and climate mitigation effects of the proposed approach are difficult to assess without knowing the location of sites for inert landfilling, although restricting new non-hazardous landfill sites in accordance with Oxfordshire's need is likely to be positive in relation to greenhouse gas emissions, as the amount of methane per annum will decrease. This should be addressed during the planning stage to ensure that sites are located close to sources of waste arisings.

The policy makes provision for waste from other areas to be disposed of in Oxfordshire's landfills. In the longer term declining amounts of waste are expected and this could have a potential positive effect on the levels of greenhouse gas emissions generated by landfills in the County.

The common core policies should help to address any potential adverse effects on the built and natural environment.

6.3.2.9 Policy W7: Management and disposal of hazardous waste

Oxfordshire is a net exporter of hazardous waste. The Council acknowledges that the County should be as self-sufficient as is reasonably possible in managing hazardous waste. However, due to the specialist nature of these types of waste management facilities, they currently tend to serve larger catchment areas than a single County. Oxfordshire estimates that additional capacity could be required for approximately 50,000 tpa of hazardous waste produced in the County. Policy W8 does not specifically provide for additional hazardous waste management capacity in Oxfordshire but supports applications designed to meet Oxfordshire's hazardous waste management needs and those that are required to meet a need for waste management that is not adequately provided for elsewhere.

The likely effects upon many of the SA objectives are uncertain as they depend upon the exact location and type of management proposed, however the common core policies are expected to ensure the mitigation of significant adverse effects if applications come forward in Oxfordshire. The policy supports self-sufficiency (SA11) and encourages facilities that are designed to deal with hazardous waste arising in Oxfordshire. Making local provision for management and disposal of hazardous waste also has the potential to create local job opportunities, supporting SA12.

6.3.2.10 Policy W8: Management of agricultural waste

By encouraging the treatment of agricultural waste within agricultural units, Policy W8 should result in positive effects against the SA objectives for biodiversity (SA1), water (SA3), greenhouse gas emissions (SA5), transport (SA7), soils (SA9) and waste hierarchy (SA10). However there remains some uncertainty over these effects as they are dependent on the treatment processes and how they differ from the way that the waste is currently managed. Uncertain effects are predicted for landscape (SA2a) and historic environment (SA2b) as effects will be dependent on the type, scale and location of the facilities. There is also uncertainty relating to the effects relating to the air quality (SA4) and population (SA8) objectives – the uncertainty relates to how odour issues could either improve or worsen depending on the type of facility and how the treatment differs from current practices.

6.3.2.11 Policy W9: Management and disposal of radioactive waste

Storage of radioactive waste at Harwell (from Harwell and Culham) pending removal to a national disposal facility would lead to some waste from Culham being transported to Harwell, although the effect on greenhouse gas emissions is likely to be neutral due to the distance travelled (approximately 7 miles) and the quantities of waste to be moved (expected to be small). As a result of this, the policy supports SA objective 11 as it would allow Oxfordshire to be self-sufficient in meeting its radioactive waste storage needs. Cleaning up the Harwell site for employment and education purposes (to be part of the Harwell Science and Innovation Campus) also supports SA objective 12 as it supports future jobs in the area and therefore economic growth.

In addition, any proposals would have to be made in accordance with Policy W6 and the common core policies, therefore the effects are neutral for the majority of the SA objectives.

6.3.2.12 *Policy W10: Management and disposal of waste water and sewage sludge*

New facilities could have an adverse effect on the SA objectives on biodiversity (SA 1), landscape (SA 2a) and the historic environment (SA 2b); however the effects will be dependent on the location of the facilities. The common core policies however should help to mitigate any adverse effects.

Providing new facilities for waste water and sewage sludge could help to maintain and improve ground and surface water quality and soil quality by reducing the likelihood of sewers flooding during extreme weather events and contaminating water sources. This could also have positive effects on communities by reducing risks to health and wellbeing that may result.

New additional capacity for waste water could reduce the risk of flooding, particularly sewer flooding thereby having a positive effect on SA6.

A lack of waste water treatment capacity can act as a block or brake to development. Allowing additional capacity to enable planned development to be taken forward should support economic growth by allowing new developments to go ahead. Positive effects have therefore been identified for SA12.

6.3.2.13 *Policy W11: Safeguarding waste management sites*

Policy W11 relates to the safeguarding of waste management sites against other forms of development. This policy does not affect most SA objectives as it specifically seeks to ensure that safeguarded sites are not lost to other development. It is however assessed as having a positive indirect effect on enabling Oxfordshire to be self-sufficient in its waste management (SA11). This is because the policy would ensure that there are available sites within Oxfordshire suitable for waste management uses which provide potential developers with local site alternatives which in turn would lead to facilities being developed within Oxfordshire close to the source of waste arising. This would also support SA12 by helping to retain local jobs associated with the waste industry, thus supporting the local economy. The policy would also have potential for indirect positive effects on objectives SA5 and SA7 on reducing greenhouse gas emissions and transport related effects.

6.3.3 Common Core Policies for Minerals and Waste

Summary of Policy Assessments

Table 6-4 below provides a summary of the assessments carried out for each of the common core policies for minerals and waste. These are split by duration of effects (short, medium and long term).

Table 6-4: Summary table of assessments of the Common Core Policies for Minerals and Waste

Plan Elements (abridged)	Timescale (Short/Medium/Long term)	SA/SEA Objectives (abridged)												
		1	2a	2b	3	4	5	6	7	8	9	10	11	12
		Biodiversity & Geodiversity	Landscape	Historic Environment	Water Quality	Air Quality	Greenhouse Gas Emissions	Flood Risk	Transport Effects	Population & Health	Soils	Waste Hierarchy	Self-sufficiency	Economic Growth
Policy C1: Sustainable Development	ST	?	?	?	?	?	0	?	0	?	?	?	+	+
	MT	?	?	?	?	?	0	?	0	?	?	?	+	+
	LT	?	?	?	?	?	0	?	0	?	?	?	+	+
Policy C2: Climate Change	ST	+	+	0	0	?	++	+	?	?	0	0	+	+
	MT	+	+	0	0	?	++	+	?	?	0	0	+	+
	LT	+	+	0	0	?	++	+	?	?	0	0	+	+
Policy C3: Flooding	ST	+	0	0	+	0	0	++	0	+	?	0	+	+
	MT	+	0	0	+	0	0	++	0	+	?	0	+	+
	LT	+	0	0	+	0	0	++	0	+	?	0	+	+
Policy C4: Water Environment	ST	+	+	0	++	0	0	+	0	+	+	0	0	+
	MT	+	+	0	++	0	0	+	0	+	+	0	0	+
	LT	+	+	0	++	0	0	+	0	+	+	0	0	+
Policy C5: Local environment, amenity and economy	ST	+	+	+	+	+	0	0	+	++	+	0	0	0
	MT	+	+	+	+	+	0	0	+	++	+	0	0	0
	LT	+	+	+	+	+	0	0	+	++	+	0	0	0
Policy C6: Agricultural land and soils	ST	+	0	0	0	0	0	0	0	0	++	0	0	0
	MT	+	+	0	0	0	0	0	0	0	++	0	0	0
	LT	+	+	0	0	0	0	0	0	0	++	0	0	0
Policy C7: Biodiversity and Geodiversity	ST	++	+	0	+	0	0	+	0	+	+	0	0	0
	MT	++	+	0	+	0	0	+	0	+	+	0	0	0
	LT	++	+	0	+	0	0	+	0	+	+	0	0	0
Policy C8: Landscape	ST	+	++	+	0	0	0	0	0	+	0	0	0	0
	MT	+	++	+	0	0	0	0	0	+	0	0	0	0
	LT	+	++	+	0	0	0	0	0	+	0	0	0	0
Policy C9: Historic environment and archaeology	ST	0	0	++	0	0	0	0	0	+	0	0	0	0
	MT	0	0	++	0	0	0	0	0	+	0	0	0	0
	LT	0	0	++	0	0	0	0	0	+	0	0	0	0
Policy C10: Transport	ST	?	?	?	+	++	++	0	++	++	+	0	+	+
	MT	?	?	?	+	++	++	0	++	++	+	0	+	+
	LT	?	?	?	+	++	++	0	++	++	+	0	+	+
Policy C11: Rights of way	ST	0	0	0	0	0	0	0	+	+	0	0	0	0
	MT	0	0	0	0	0	0	0	+	++	0	0	0	0
	LT	0	0	0	0	0	0	0	+	++	0	0	0	0

6.3.3.1 Policy C1: Sustainable Development

Taking a more positive approach to minerals and waste development in Oxfordshire, as required by the policy, has the potential to lead to approvals for minerals and waste development which in the absence of this policy (and paragraph 14 of the NPPF) may otherwise have been rejected on the grounds of sustainability constraints. This could have associated adverse effects (albeit non-significant effects) on a number of environmental objectives, including those on biodiversity, landscape, water quality, air

quality, flooding and soils. Uncertain effects have therefore been identified for these objectives. Taking a more proactive approach could also result in adverse effects on local communities, and similarly uncertain effects have been identified for this objective.

Positive effects have been identified in relation to the objectives SA11 and SA12 as the policy could allow for the development of waste management facilities and minerals workings, beyond those included in the Local Plan. Any such additional development is likely to result in positive effects on the local economy, and enable Oxfordshire to be self-sufficient in terms of its waste management and contributing to minerals LAA provisions.

6.3.3.2 Policy C2: Climate Change

Significant positive effects have been identified with regards to SA5 as a result of the requirement to adopt a low carbon approach and consider measures to minimise greenhouse gas emissions. It could be that by requiring developments to take a low carbon approach and consider measures to minimise greenhouse gas emissions, the miles driven to transport aggregates and waste products on the road network will be reduced, thereby having a positive effect on SA4 (air quality), SA7 (transportation), SA8 (population and health) and SA9 (land and soil quality), however the effects are considered to be uncertain.

Ensuring that minerals and waste developments take account of climate change over the life of development, including in restoration proposals, could have a positive effect on biodiversity and landscape. For example, by providing habitats that will allow species to adapt to climate change, or by ensuring that any habitats created as part of restoration proposals can cope with or adapt to the changing climate – i.e. to ensure the success of the restoration proposal in the long-term.

This policy supports SA6 by requiring proposals for minerals or waste development, including restoration proposals, to take into account of climate change for the lifetime of the development and to provide flexibility for future adaptation to the impacts of climate change. It is assumed that this in part refers to the need to mitigate flooding.

Positive effects have been identified for objectives SA11 and SA12 as requiring that minerals and waste developments take account of climate change over the life of development should help to ensure that they can continue to contribute towards enabling Oxfordshire to be self-sufficient in its waste management and towards Oxfordshire's locally agreed figure and can continue to contribute to Oxfordshire's economic growth..

6.3.3.3 Policy C3: Flooding

Policy C3 should have significant positive effects on SA6 (flooding) as it directly supports the objective. The policy should also have a number of indirect positive effects on the SA objectives which relate to the protection of valued habitats, flora and fauna, soil and water quality, local communities and businesses – by preventing damage, disruption and distress caused by flood risk, which might arise if these risks were not appropriately mitigated when new minerals or waste development takes place.

6.3.3.4 *Policy C4: Water environment*

Significant positive effects have been identified for objective SA3 (water), as the policy directly supports that objective. Policy C4 has an indirect positive effect on many of the SA objectives, as maintaining water quality and quantity is an essential precursor to the proper functioning of ecosystems, landscapes, and businesses. Positive effects have also been identified for SA8 (local communities) due to the link of that objective with water supply and also the recreational value of water resources.

6.3.3.5 *Policy C5: Environmental and amenity protection*

Policy C5 seeks to protect the environment, residential amenity and other sensitive receptors from unacceptable adverse effects. The 'environment' and 'other sensitive receptors' can be construed to include those SEA elements covered by the SA objectives, including biodiversity, landscape character, historic and built heritage, air, water and people. The policy specifically covers noise, dust, visual intrusion, light pollution, traffic, air quality, odour, vermin, birds, litter, mud on the road, vibration, surface or ground contamination, tip and quarry-slope stability, differential settlement of quarry backfill and subsidence, as well as any cumulative effect from development. Significant positive effects have been identified with regards to SA8 (communities) whilst there are also positive effects for SA7 (transport) as the policy aims to minimise the adverse effects associated with traffic from minerals and waste activities.

6.3.3.6 *Policy C6: Agricultural land and soils*

Policy C6 is likely to have a significant positive effect upon SA objective 9 (soils) and an indirect positive effect on the objectives SA1 and SA2a, which relate to biodiversity and local landscape character. Effects on other SA objectives are expected to be neutral.

6.3.3.7 *Policy C7: Biodiversity and Geodiversity*

Policy C7 directly supports SA1 relating to biodiversity and geodiversity and significant positive effects on the objective are therefore predicted. Minor positive effects have been predicted for SA2a, in relation to the link between biodiversity and landscape character and local distinctiveness, whilst indirect positive effects on water quality, flood risk, land and soil quality, and population and health have also been identified due to their interrelationships with biodiversity. The requirement for long term management arrangements to be clearly set out should help to maintain the positive effects in the longer term. Effects on the other SA objectives are expected to be neutral.

6.3.3.8 *Policy C8: Landscape*

Policy C8 directly supports SA objective 2a 'landscape' and therefore significant positive effects have been predicted for that objective. A minor positive effect on objective SA2b, relating to the historic environment, has also been predicted due to the potential benefits for historic landscapes. An indirect positive effect has been identified on objective SA1 relating to the protection of biodiversity and natural habitats. Positive effects have also been identified with regards to objective SA8 in relation to the benefits to local communities that would result from landscape protection and enhancement. Effects on other SA objectives are expected to be neutral.

6.3.3.9 *Policy C9: Historic environment and archaeology*

Policy C9 has been assessed as having a significant positive effect on SA objective 2b as it will protect the County's historic environment from inappropriate minerals and waste developments and it also seeks to achieve enhancements to the historic environment wherever possible. The policy also should have indirect positive effects on local communities (SA objective 8). There is no direct relationship between this policy and the other SA objectives and therefore effects on those objectives are expected to be neutral.

6.3.3.10 *Policy C10: Transport*

Policy C10 is expected to have a significant positive effect in relation to objectives SA4 (air quality), SA5 (greenhouse gas emissions), SA7 (transport) and SA8 (local communities) associated with reductions in transport impacts, whilst indirect positive effects have been identified for objectives SA3 (water quality) and SA9 (land and soil quality) by addressing the adverse effects on water and soils which can arise through the transportation of minerals causing pollution through runoff. The policy is also expected to have indirect positive effects on self-sufficiency in waste management and sustainable minerals provision (SA11) and economic growth (SA12).

Uncertain effects have been identified with regards to objectives SA1 (biodiversity), SA2a (landscape) and SA2b (heritage) as the installation of alternative infrastructure could have adverse effects - although they will be dependent on the location.

6.3.3.11 *Policy C11: Rights of way*

Enhancements to the public rights of way network should have a significant positive effect on local communities (SA8) and indirect positive effects on the local road network by encouraging people to make local trips on foot or bicycle, reducing traffic conflicts on local roads (SA7).

The supporting text notes that public access to restored mineral workings should be carefully managed so as to not impact adversely on any sensitive habitats and species in the restored area.

6.4 **Cumulative effects**

Cumulative effects are those effects which, though they may be small in relation to one policy, may combine across a whole plan (or in association with other plans) to produce an overall effect which is more significant. Also considered in this section are synergistic effects, which are those effects where the combined effect is greater than the sum of the individual effects, and secondary (or indirect) effects which are those that are not a direct result of the plan, but occur away from the original effect or as a result of a complex pathway.

In relation to the implementation of the Core Strategy policies, cumulative effects have been examined by SA Objectives (or groups of SA Objectives) as a way of identifying the effects on the receptors that are associated with each of the sustainability topics.

6.4.1 SA1: Biodiversity

Whilst the operation of minerals and waste facilities has the potential to result in some adverse cumulative effects on local biodiversity in the short-medium term, the measures in the common core policies, in particular Core Policy C7, along with the restrictions placed by Policy M4 and the restoration requirements of Policy M8 provide the potential for cumulative positive effects in the long-term. There is potential for positive synergistic effects on biodiversity and water management if restoration schemes in close proximity to one another are implemented.

6.4.2 SA2a: Landscape

Whilst the operation of minerals and waste facilities has the potential to result in some adverse cumulative effects on local landscapes in the short-medium term, the measures in the common core policies along with the requirements of Policies W6 (Siting of waste facilities) and Policy M4 (Working of aggregate minerals) should help to avoid and mitigate these effects. The aim of the waste strategy to minimise waste arisings along with reducing the amount of waste sent to landfill will contribute towards the protection of local landscapes. In addition to the consideration given to landscape within these specific minerals and waste policies, Core Policy C8 will help to ensure that the landscape is protected and where possible enhanced.

6.4.3 SA2b: Historic environment

The operation of minerals and waste facilities has the potential to result in some adverse cumulative effects on heritage assets, with some potentially being of a permanent nature (e.g. the loss of archaeological heritage). However Core Policy C9 will help to protect the County's historic environment from inappropriate minerals and waste developments. In addition, by seeking to achieve enhancements to the historic environment wherever possible, the policy should help further reduce the overall effects of minerals and waste on the County's heritage assets.

6.4.4 SA3: Water quality

Minerals extraction has the potential to cause adverse effects on surface and ground water resources. Core Policies C3 and C4 will however help to reduce the potential for adverse water quality effects. In the long-term the restoration of mineral sites could have positive implications for local water quality.

6.4.5 SA4: Air quality

The transportation of minerals and waste by road will inevitably lead to emissions of pollutants from HGVs. However, the distribution of extraction sites and waste facilities across the county will help to avoid any one particular area being overly-exposed to such emissions. There will also be air quality issues associated with the minerals and waste operations (non-transport emissions related) such as dust created by extraction and vehicle traffic. Core Policies C5 and C10 will help to reduce the potential for adverse air quality effects.

6.4.6 SA5: Greenhouse gas emissions

Minerals extraction and waste management operations inevitably lead to greenhouse gas emissions (ghg) emissions. The strategic and core policies in the plan, particularly Core Policy C2, should help to limit increases in emissions by distributing aggregate extraction across the county so it can serve local markets; providing a similar approach for waste facilities by locating facilities close to waste arisings; encouraging the use of rail for minerals transportation; reducing the amount of waste going to landfill; and adopting a low carbon approach for new development.

6.4.7 SA6: Flood risk

Minerals extraction operations have the potential to increase local flood risk. This risk should be avoided through the requirements of Core Policy C3. In addition Policy M8 considers the issue of increasing flood storage capacity within restoration schemes. The overall effect on flood risk of implementing the Core Strategy could therefore be positive.

6.4.8 SA7: Transport

The transport of minerals and waste by road will inevitably result in adverse effects on local air quality, local communities, and on a global scale increased ghg emissions. The Core Strategy aims to reduce these effects through distribution of extraction sites and waste facilities across the county in order to reduce 'distance travelled'; encouraging a shift from rail and other non-road transport for minerals; and requiring lorry routes to be used. Core Policy C10 is specifically aimed at reducing the harmful impacts of transport on the communities in the county and neighbouring areas.

6.4.9 SA8: Population and health

Communities in close proximity to minerals and waste operations, as well as those living on transportation routes are likely to be adversely affected by operations, such as through dust, odour and noise. The distribution of mineral sites and waste facilities across the county should help to prevent any one particular community or group of communities from being disproportionately over-exposed to these adverse effects. The common core policies seek to mitigate any adverse effects, particularly Core Policy C5, whilst in the medium-long term Policy M8 could provide amenity benefits and countryside access as part of restoration schemes. The reduction of the amount of waste being sent to landfill will also result in benefits to local amenity.

6.4.10 SA9: Soil and land-use

The Core Strategy aims to limit the amount of greenfield land required for new minerals and waste operations by encouraging the use of secondary and recycled aggregate, thereby reducing the need for primary extraction on greenfield sites, and the siting of new waste facilities on previously developed land. Common Policy C6 provides specific requirements to reduce adverse effects on soils.

6.4.11 SA10: Waste hierarchy and SA11: Self-sufficiency

Key objectives of the Core Strategy are for Oxfordshire to move its waste up the hierarchy and for the county to be as self-sufficient as is possible for waste management

and minerals supply. The strategic policies in Core Strategy will help to achieve those objectives.

6.4.12 SA12: Economic growth

The policies within the Core Strategy combine to provide the potential to contribute positively towards Oxfordshire's economic growth. The supply of minerals is a key factor in supporting economic growth, particularly in relation to the provision of new housing and employment developments that are being planned across the county.

6.5 Difficulties encountered in undertaking the assessment

Although a range of local and regional information and studies were available to inform the assessment process, due to the nature of some of the policies some effects were recorded as uncertain.

The main uncertainty relates to the nature of impacts likely to arise as a result of minerals working and waste facilities located within the various areas identified. The strategic nature of the appraisal and the broad nature of the areas make it difficult to predict with certainty the likely impacts of development in these areas. This report has defined the potential effects of development based on currently available information. The eventual impacts will depend for example on the location of specific sites relative to sensitive receptors, the scale of proposed development, the nature and type of operations, and proposed mitigation measures.

The development of the Minerals and Waste Local Plan: Part 2 – Site Allocations Document will enable a more detailed consideration of the effects likely to result from minerals or waste activities and particular locations. This more detailed assessment will have a greater level of certainty than the assessment of the high level strategy and policies in this Part 1 Core Strategy.

7 SA/SEA influence on the development of the Local Plan (Core Strategy)

7.1 Introduction

A key role of the SA/SEA is to provide recommendations as to how the sustainability performance of a plan can be improved. The Local Plan (Core Strategy) includes a range of policies that seek to prevent and where possible enhance the environment and overall sustainability of development. The SA/SEA has built on this by identifying a range of recommendations as to how the Local Plan (Core Strategy) and its earlier versions/stages, can maximise its performance against the range of sustainability topics. Some of these recommendations seek to mitigate potential adverse effects, whilst others look to build on some of the opportunities that are provided by the County's natural environment.

7.2 SA/SEA stages

To date the SA/SEA had had a range of influences on the development of the Local Plan (Core Strategy). Close liaison between the planning officers and SA/SEA consultants has meant that the SA/SEA has provided input at many stages during the development of the Local Plan (Core Strategy).

When the Local Plan (Core Strategy) is adopted it will be accompanied by an SEA Adoption Statement which will need to describe how the Core Strategy has been influenced by the SA/SEA. Influences to date include the following:

- Production of the SA/SEA Scoping Report (and its various revised versions) identified issues that the Core Strategy will need to help address. The information within the Scoping Report will also contribute to the Local Plan evidence base;
- Assessment and providing recommendations for additions and changes at the following stages:
 - Spatial Strategy Options for Minerals and Waste (2010)
 - Aggregates Apportionment Options (2011 and 2012)
 - Minerals and Waste Preferred Strategies (2011)
 - Pre Submission Local Plan (2012)
 - Consultation Draft Local Plan (Core Strategy) (2014)
 - Core Strategy Proposed Submission Document (2015)

7.3 Recommendations

The following tables provide details of recommendations to improve the Plan that have been identified through the SA process since 2013. It should be noted that other recommendations were made by the previous SA consultants during the assessment of the Pre Submission Local Plan (March 2012) and the draft documents that led up to the production of that Plan.

Table 7-1 outlines recommendations made on an initial version of the Consultation Draft Local Plan in December 2013 and the actions taken in response. Policy amendments are shown in underlined text.

Table 7-2 outlines the recommendations made during the assessment of the Consultation Draft Local Plan in January 2014.

Table 7-1: Recommendations made on the initial consultation draft (December 2013)

Policy	Recommendation	Action taken by OCC
M8: Restoration of mineral workings (Now Policy M10 in the Core Strategy Proposed Submission Document 2015)	Add a bullet on bird-strike	Revised policy: Minerals workings shall be restored to a high standard and in a timely and phased manner to an after-use that is appropriate to the location and aims to provide for a net gain in biodiversity, taking into account: <ul style="list-style-type: none"> the characteristics of the site prior to mineral working; the character of the surrounding landscape; the amenity of local communities including opportunities to provide for local amenity uses; the capacity of the local transport network; flood risk and opportunities for increased flood storage capacity; <u>bird strike risk and aviation safety;</u> the conservation and enhancement of biodiversity appropriate to the local area; and opportunities to protect and/or improve geodiversity. Planning permission will not be granted for mineral working unless satisfactory proposals have been made for the restoration, aftercare and after-use of the site, including where necessary the means of securing them in the longer term.
C5: General environmental and amenity protection	Expand so it is clear to what effects the policy is referring. For example noise, dust, odour, lighting, vibration etc.	Revised policy: Proposals for minerals and waste development shall demonstrate that they will not have an unacceptable adverse impact on the environment, residential amenity and other sensitive receptors, <u>including from noise, dust, visual intrusion, light pollution, traffic, air quality, odour, vermin, birds, litter, vibration, tip and quarry-slope stability, differential settlement of quarry backfill, subsidence and the cumulative impact of development.</u>
C7: Biodiversity and Geodiversity	Add reference to internationally protected sites.	Revised policy: Minerals and waste development should conserve and, where possible, enhance biodiversity. <u>Sites and species of international nature conservation importance (e.g. Special Areas of Conservation and European Protected Species) will be given the highest level of protection.</u> Development shall ensure that: <ul style="list-style-type: none"> there is no adverse effect on a Site of Special Scientific Interest, either individually or in combination with other development; irreplaceable habitats, including ancient woodland and aged or veteran trees are not lost or harmed; no damage is caused to sites locally designated for the purposes of nature conservation and/or geological interest, including: <ul style="list-style-type: none"> Local Nature Reserves; Local Wildlife Sites;

- Local Geology Sites;
- Sites of Local Importance for Nature Conservation.

Development shall avoid harm to protected, priority or notable species and habitats.

All proposals for mineral working and landfill shall demonstrate how the development will make an appropriate contribution to the maintenance and enhancement of local habitats, biodiversity or geodiversity (including fossil remains and trace fossils), contributing to the objectives of the Conservation Target Areas wherever possible. Satisfactory long-term management arrangements for restored sites shall be clearly set out and included in proposals. These include a commitment to ecological monitoring and remediation (should habitat creation and/or mitigation prove unsuccessful).

Table 7-2: Recommendations made in the assessment of the Consultation Draft Local Plan (January 2014)

Policy	Related SA Objective	Recommendations
M3: Locations for working aggregate minerals	(7) To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	Further assessment on access and suitability of roads to accommodate increased HGV traffic is recommended at the site selection stage.
M6: Non-aggregate mineral working (Now Policy M7 in the Core Strategy Proposed Submission Document 2015)	(3) To maintain and improve ground and surface water quality.	This policy should follow a similar approach to Policy M4 by including wording relating to the prevention of adverse effects on the Oxford Meadows SAC from the extraction of non-aggregate minerals. [The original recommendation also included Cothill Fen SAC, however this SAC is not affected by non-aggregate mineral extraction.]
M8: Restoration of mineral workings (Now Policy M10 in the Core Strategy Proposed Submission Document 2015)	General recommendation	Although it is noted that the supporting text states that in larger workings restoration can commence before working has ended, it is recommended that the policy wording is strengthened at the next planning stage to encourage restoration to start as early as possible on all minerals sites. To further enhance the contribution that restoration can make to improve the local environment, it is recommended that reference be made in policy to encourage restoration schemes to link in to the green infrastructure strategies that are in place at a local authority level.

Policy	Related SA Objective	Recommendations
C4: Water environment	(1) To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	The sustainability of the policy would be improved by replacing the word "unacceptable" with "significant", in order to be consistent with the terminology in the EIA regulations. An "unacceptable adverse effect" has not been defined and this creates a level of ambiguity in the policy.
	(3) To maintain and improve ground and surface water quality.	
	(8) To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	
C5: Environmental and amenity protection	(2) Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	The sustainability of the policy would be improved by replacing the word "unacceptable" with "significant", in order to be consistent with the terminology in the EIA regulations. An "unacceptable adverse effect" has not been defined and this creates a level of ambiguity in the policy.
	(3) To maintain and improve ground and surface water quality.	
	(4) To improve and maintain air quality to levels which do not damage natural systems.	
	(8) To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	
	(9) To protect, improve and where necessary restore land and soil quality.	

Further recommendations have been made in relation to policy wording and the supporting text during this most recent assessment of the Proposed Submission Document. Some of these recommendations have been taken into account in the preparation of the Proposed Submission Document, whilst other recommendations will be taken into account during the next stages of the planning process.

8 Monitoring

8.1 Introduction

The SEA Directive requires that the significant environmental effects of implementing a plan are monitored so that appropriate remedial actions can be taken if required.

The monitoring put in place needs to fulfil the following requirements:

- To monitor the significant effects of the plan;
- To monitor any unforeseen effects of the plan;
- To ensure that action can be taken to reduce / offset the significant effects of the plan; and
- To provide baseline data for the next SEA and to provide a picture of how the environment / sustainability criteria of the area are evolving.

The monitoring measures recommended in this report should be considered draft as this is based on assessment of the Consultation Draft Local Plan (Core Strategy), which may be altered after the public consultation or the baseline position may change at the time of adoption of this framework. Additionally the framework should be flexible to adapt to any changes in monitoring methods.

8.2 Approach to monitoring

The SEA Directive (Article 10 (1)) allows for existing monitoring arrangements to be used if appropriate. Monitoring may cover several plans or programmes as long as sufficient information about environmental effects is provided for the individual plans or programmes.

Monitoring measures need not always relate to quantitative indicators, but could include, for example, monitoring to ensure that any Environmental Impact Assessments of major projects incorporate the recommendations made in the SEA.

A range of potential monitoring indicators are described below in Table 8-1 based on the indicators identified in the SA Framework. Indicators identified for monitoring the Local Plan (Core Strategy) will also be considered for inclusion in the monitoring framework where appropriate.

The monitoring measures are likely to require alteration as the Local Plan develops. Any such alterations will be documented in the SEA Statement which will be prepared to accompany the adoption of the Local Plan (Core Strategy).

8.3 Monitoring requirements

The monitoring requirements typically associated with the SA/SEA process are recognised as placing heavy demands on authorities with SA/SEA responsibilities. For this reason, it is proposed that the monitoring framework will focus on those aspects of the environment that are likely to be significantly impacted upon, or where the impact is uncertain.

The assessment identified no significant adverse effects. Significant positive effects were identified against the following objectives which will need to be monitored:

- SA1 'Biodiversity and geodiversity' in relation to M10: Restoration of minerals workings in the long term and C7: Biodiversity and geodiversity across all timescales (short, medium and long term).
- SA2a 'Landscape' in relation to M10: Restoration of minerals workings in the long term and C8: Landscape across all timescales.
- SA2b 'Historic Environment' in relation to M10: Restoration of minerals workings in the long term and C9: Historic environment and archaeology across all timescales.
- SA3 'Ground and surface water quality' in relation to M10: Restoration of minerals workings in the long term and C4: Water environment across all timescales.
- SA4 'Air quality' in relation to C10: Transport across all timescales.
- SA5 'Greenhouse gas emissions' in relation to W2: Oxfordshire waste management targets in the medium and long term, C2: Climate change across all timescales and C10: Transport across all timescales.
- SA6 'Flood risk' in relation to M10: Restoration of minerals workings in the long term and C3: Flooding across all timescales.
- SA7 'Transport effects' in relation to M6: Aggregate rail depots and C10: Transport, both across all timescales.
- SA8 'Population and health' in relation to M10: Restoration of minerals workings in the long term, C5: Environmental and amenity protection and C10: Transport across all timescales and C11: Rights of way in the medium and long term.
- SA9 'Land and soil quality' in relation to W5: Siting of waste management facilities in the medium and long term and C6: Agricultural land and soils across all timescales.
- SA10 'Waste hierarchy' in relation to M1: Recycled and secondary aggregate and W2: Oxfordshire waste management targets, both in the medium and long term.
- SA11 'Self-sufficiency' in relation to M2: Provision for working aggregate minerals and M3: Principal locations for working aggregate minerals in the medium and long term, M8: Safeguarding minerals resources in the long term, and W1: Oxfordshire waste to be managed, W4: Locations of facilities to manage the principal waste and W6: Landfill all across the short, medium and long term.
- SA12 'Economic growth' in relation to M6: Aggregate rail depots in the medium and long term.

Potential monitoring indicators for each of the SA objectives based on those included in the SA Framework in the Scoping Report and the Minerals and Waste Annual Monitoring Report 2012 are provided in Table 8-1.

Table 8-1: Proposed monitoring indicators

SA Objective	Potential Indicators
<p>1 To protect, maintain, and enhance Oxfordshire's biodiversity and geological diversity including natural habitats, flora and fauna and protected species</p>	<p>Number/percentage of permitted applications for minerals and waste development which include a restoration scheme which contributes to the objectives of Oxfordshire Habitats Plans for the creation of calcareous grasslands, lowland acid grassland and reedbeds.</p> <p>Number/percentage of planning applications which have an impact on designated sites or BAP habitats.</p> <p>Number/percentage of permitted applications which result in restoration of favourable recovering condition or buffering of designated areas through appropriate habitat creation.</p> <p>Number/percentage of permitted applications for minerals and waste development which include a restoration scheme which contributes to the objectives of Oxfordshire Species Plans.</p> <p>Contribution of the Local Plan policies to Conservation Target Areas for restoration of minerals and waste management sites.</p> <p>Number/percentage of permitted applications which include conditions for the protection or enhancement of Local Geology Sites or geological SSSIs.</p>
<p>2a Protect and enhance landscape character and local distinctiveness</p>	<p>Minerals and waste development where the anticipated residual landscape impact is neutral or positive.</p> <p>Number/percentage of permitted applications for minerals and waste development which include conditions for the protection or restoration of statutory or non-statutory landscape designations.</p>
<p>2b Conserve and enhance the historic environment, heritage assets and their settings</p>	<p>Number/percentage of planning applications where archaeological investigations were required prior to approval.</p> <p>Number/percentage of applications where archaeological mitigation strategies were developed and implemented.</p> <p>Number/percentage of permitted applications for Minerals and Waste development which include conditions for the protection or enhancement of the historic and prehistoric environment in Oxfordshire.</p> <p>Area of highly sensitive historic landscape characterisation type(s) which have been altered and their character eroded.</p>
<p>3 To maintain and improve ground and surface water quality</p>	<p>Number of permitted applications affecting source protection zones 2 and 3.</p> <p>Number of permitted applications which assess the risk of contamination of groundwater.</p> <p>Number of sites within 50m of a watercourse.</p> <p>Number of permitted applications requiring abstraction licences.</p>
<p>4 To improve and maintain air quality to levels which do not damage natural systems</p>	<p>Number of permitted applications with routeing agreements which avoid AQMAs.</p> <p>Survey of trip generation to civic amenity sites.</p> <p>Number of complaints relating to dust/odours.</p>
<p>5 To reduce greenhouse gas emissions to reduce the cause of climate change</p>	<p>Proportion of waste and aggregates transported by rail or water.</p> <p>Quantity of biodegradable wastes landfilled.</p>

SA Objective	Potential Indicators
6 To reduce the risk of flooding	<p>Number of permitted sites for minerals and waste development within the flood plain (flood zone 3a).</p> <p>Number of sites that are permitted within flood risk zone as identified by the NPPF and Technical Guidance to NPPF.</p> <p>Number of proposals approved against the recommendation of EA advice.</p> <p>Number of mineral restoration schemes identified for flood attenuation.</p>
7 To minimise the impact of transportation of aggregates and waste products on the local and strategic road network	<p>Distances travelled by road from new applications to settlements (waste) or markets.</p> <p>Number of sites with rail/water access.</p> <p>Number of sites with suitable access to appropriate roads.</p> <p>Average distances travelled to waste recycling sites.</p>
8 To minimise negative impacts of waste management facilities and mineral extraction on people and local communities	<p>Number of permitted applications for mineral or waste development within 250m of sensitive receptors (settlements).</p> <p>Number of sites for mineral or waste development within 250m of sensitive receptors (settlements).</p> <p>Number of noise complaints relating to minerals and waste processing and transportation.</p> <p>Number of permitted applications with restoration conditions which enhance local amenity and /or improve access to the countryside.</p>
9 To protect, improve and where necessary restore land and soil quality	<p>Area of high grade agricultural land lost to minerals and waste development.</p> <p>Incidences of land contamination related to minerals and waste development.</p>
10 To contribute towards moving up the waste hierarchy in Oxfordshire	<p>Permissions granted for secondary and recycled aggregates supply.</p> <p>Capacity of secondary and recycled aggregates supply facilities.</p> <p>Actual or estimated annual percentages of municipal, commercial & industrial and construction, demolition & excavation wastes composted, recycled, treated and landfilled.</p> <p>Existing and permitted waste management capacity for composting, recycling and residual treatment of municipal, commercial & industrial and construction, demolition & excavation wastes relative to actual or estimated amounts of wastes to be managed.</p> <p>Amounts of waste recycled and recovered.</p>
11 To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	<p>Number of permitted applications for waste management to meet targets to achieve net waste self-sufficiency.</p> <p>Number of permitted applications which contribute to meeting LAA provision.</p>
12 To support Oxfordshire's economic growth and reduce disparities across the county	<p>Number of direct jobs created in the waste/mineral sector per year.</p> <p>Number of new mineral and waste permissions.</p> <p>Number of minerals sites with rail access.</p> <p>Number of applications for new rail aggregate depots.</p> <p>Number of permitted aggregates rail depots in Oxfordshire.</p>

The final monitoring plan will be published in the SA/SEA Statement, alongside the adopted Local Plan (Core Strategy). The SA monitoring will be published as part of the Annual Minerals and Waste Monitoring Report which will be the responsibility of Oxfordshire County Council.

9 Next steps

9.1 Consultation on the SA Report

The SEA Regulations set specific requirements for consultation with the Statutory Environmental Bodies, the public and other interested parties (these could include NGO's and community groups for example). This SA Report will be published for consultation alongside the Oxfordshire Minerals and Waste Local Plan Part 1 – Core Strategy Proposed Submission document and will be made available to all interested parties so that they can provide a response to the contents of the Plan and the accompanying SA Report.

Copies of the SA documents can be found on the Council's website: <https://www.oxfordshire.gov.uk/cms/public-site/minerals-and-waste-policy>.

Comments on the SA report should be sent in writing to:

By email: mineralsandwasteplanconsultation@oxfordshire.gov.uk

By post: Minerals & Waste Core Strategy Consultation
Environment & Economy
Planning Regulation (Minerals & Waste)
Oxfordshire County Council
Speedwell House
Speedwell Street
Oxford
OX1 1NE

The closing date for responses is **30 September 2015**.

All comments received will be publicly available. When the consultation period has finished, the comments received will be considered during the next stage of the SA/SEA process.

9.2 Pre Submission, Submission and Examination

Following consultation on the Proposed Submission Plan, the SA will need to assess any changes that are proposed to be made to the Plan as it is finalised prior to Submission. If major changes are required this would require an additional round of consultation.

At the Submission Stage, the Proposed Submission SA Report (this report) will be updated, most likely through the production of an SA Report Addendum, and will be submitted alongside the Local Plan Part 1 Core Strategy and other supporting documentation for an independent examination to be undertaken by a planning inspector. If the examination inspector recommends changes to be made to the Plan, a sustainability appraisal of these changes will be undertaken if they will affect the findings detailed in the SA Report.

9.3 SA/SEA Adoption Statement

When the Local Plan Part 1 Core Strategy is adopted it will be accompanied by a SA/SEA Statement.

In line with the SEA Regulations, the SA/SEA Statement will provide the following information:

- How environmental considerations have been integrated into the plan;

- How the SA Report has been taken into account;
- How opinions expressed in relation to the consultations on the plan/ programme and SA Report have been taken into account;
- The reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and
- The measures that are to be taken to monitor the significant environmental effects of the implementation of the plan or programme.

9.4 Post Adoption

Following the adoption of the Local Plan Part 1 Core Strategy there will be a need to undertake SA/SEA monitoring of the significant effects identified. It is envisaged that this monitoring will take place alongside the monitoring of the Local Plan itself and be published as part of the Annual Monitoring Report for Minerals and Waste which will be the responsibility of Oxfordshire County Council.