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Buckinghamshire County Council

Sustainability Appraisal of the Minerals and Waste Core Strategy

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Executive summary

A Sustainability Appraisal (SA) is a mandatory process designed to promote sustainable development through the planning system, ensuring that relevant environmental, social and economic issues are considered when new Development Plan Documents (DPDs), such as this new Core Strategy, are being developed.

In order to assess the effects of the plan on the environment, society and the economy, twenty sustainability objectives were developed. These objectives seek to address a range of key issues and challenges that current face Buckinghamshire in relation to environmental, social and economic factors associated with minerals excavation and waste management, such as the potential for biodiversity of the living conditions of local people to be affected by mineral and waste infrastructure. These key issues and challenges come from a mixture of international, European, national and local plans and policies, information gathered about Buckinghamshire, previous responses to public consultations on relevant issues, and the experience of the County Council itself.

The sustainability objectives were then used to test the Core Strategy objectives to ensure they do not produce any significantly negative environmental, social or economic effects, and to improve them where gaps were found. Several recommendations for policy development were also made to minimise potential negative impacts and maximise positive benefits.

A range of policy options are discussed, together with the limitations of Buckinghamshire County Council's remit, which has an impact on the nature of the options than can reasonably consider. An explanation is given for why certain options were or were not considered, and for the options considered at previous stages of policy development, particularly as part of the Preferred Options edition of the Core Strategy in 2008, some of which were carried forward into the development of this Core Strategy. The Calvert proposals for a strategic waste complex, with two supporting waste transfer stations, was also examined in further depth.

A range of new options was considered, covering minerals, waste and more generic environmental issues. Several options recommended through this process were carried forward into detailed policy development.

The Core Strategy itself was also reviewed to assess the impact of its proposed policies. A range of potential effects were noted, as set out below.

The assessment demonstrates that the Core Strategy is likely to have a slight benefit in many areas, compared to the effects of the current BMWLP. This relates to sustainability objectives on human health and public safety, water, flood risk, road journey reduction and job opportunities. In many cases, this minor benefit results from new proactive measures being provided through new Core Strategy policy over and above the protective measures already contained within the existing BWMLP.

Some negative impacts are also noted. Minor negative scores are given against archaeology and heritage, and soils and geology SA objectives, mainly in light of the unavoidable risk of impacts on such features that could result from the additional development envisaged by the Core Strategy, and which cannot be guaranteed to be avoided through plan-level mitigation alone. This risk needs to be carried

forward to statutory SA/SEA monitoring and future planning and project development.

A moderate negative impact is recorded against landscape and townscape, mainly in recognition of the limitations to mitigation when dealing with larger waste facilities in particular, as envisaged by the Core Strategy in the Calvert proposals. Again, this is a risk of an impact which must be carried forward to statutory SA/SEA monitoring and to future planning and project development. Particular efforts should be made to minimise associated impacts, such as by using design 'best practice' and innovation.

A range of potential negative impacts are noted throughout the SA assessments, as shown in the various appendices, in association with numerous SA objectives at the individual site level, but the majority of sites will not be determined until the forthcoming Minerals DPD and Waste DPD are developed, so cannot be assessed in detail at present.

A notable benefit of the Core Strategy generally, which has resulted in positive impacts across several SA objectives as discussed below, can be found in the new policies it contains on high-quality design and climate change, and on environmental and recreational enhancement. These are significantly more proactive than BMWLP policies and could potentially result in a wide range of significant environmental and social benefits.

This SA had identified the opportunity for moderate positive effects related to living conditions and amenity, biodiversity, restoration, energy, community participation and individual responsibility and recreation. These are as a result of significantly more detailed and proactive policies of the new Core Strategy (as relevant to these areas) as compared to the current BMWLP baseline, and/or because of the indirect benefits from the change to more sustainable waste processes.

There are two areas identified as receiving the most significant, highly beneficial impacts – natural resource use, and sustainable minerals and waste management. This is mainly due to the Core Strategy proposing an overall 'step change' in waste management methods, which will move ever more waste further up the waste hierarchy.

The most prominent significant benefit of the Core Strategy regards climate change. The plan facilitates a significant move from landfill to other waste management solutions higher up the waste hierarchy, again representing a 'step change' in line with current UK Government policy. This will significantly reduce methane emissions from waste within the county. Although the proposals for dealing with residual waste at Calvert will likely increase the road transport distances associated with waste management (due in turn to the need to locate such a site outside of the Green Belt and Chilterns AONB), the methane emissions saved will more than offset any increase in carbon dioxide emissions from transport. The Core Strategy also directly prevents the creation of new methane-producing, non-hazardous landfill, and contains a specific policy seeking both climate change prevention and mitigation, all being a notable change from the existing BMWLP.

Overall, the Core Strategy is a significant advancement from the current BMWLP in terms of its sustainability. However, the overall success of the plan will depend upon its detailed implementation and further work to be carried out in future on the Minerals DPD, Waste DPD and site selection.

Mitigation measures were also identified to reduce potential future impacts as the Core Strategy was taken forward into further forthcoming DPD development and implementation.

The impact of the Core Strategy will and the suggested mitigation measures will need to be monitored in future, together with a range of other data, in order to assess whether the effects of the plan on the environment, communities and the economy are as predicted in the sustainability appraisal.

It should be recognised that, although the SA methodology has been developed to be as objective and robust as possible, there are a number of limitations and assumptions that may limit the accuracy of the results.

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1 Background

1.1 Sustainable Development, SA and SEA

Sustainable development, or sustainability, is at the core of the current planning system¹. The most frequently used definition of sustainable development is that of the Brundtland Commission²:

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

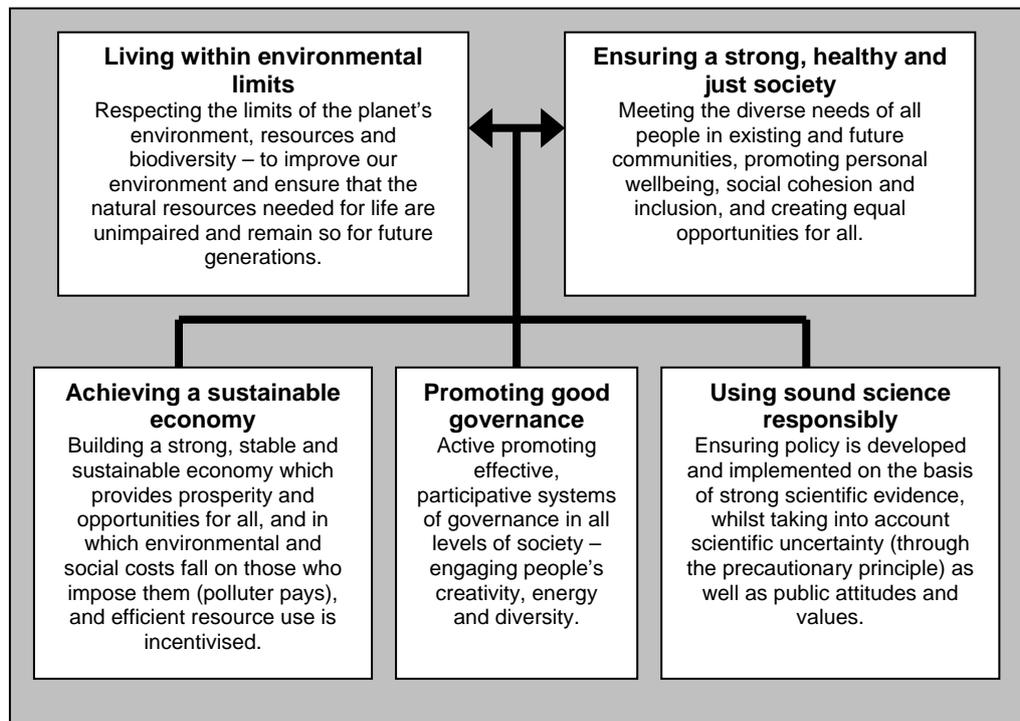
(World Commission on Environment and Development (The Brundtland Commission) (1987))

The UK Government has provided a more recent version of this:

The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising the quality of life of future generations.

(Securing the Future – UK Government Sustainable Development Strategy (2005))

The UK Government Sustainable Development Strategy (2005) and national Planning Policy Statement 10 (2011) set out five guiding principles of sustainable development:



¹ *Planning Policy Statement (PPS) 1: Delivering Sustainable Development (2005)* – Department for Communities and Local Government

² This definition is also cited in Planning Policy Statement 1

These principles will also underpin this Sustainability Appraisal.

Sustainability Appraisal (SA) is a mandatory process³ designed to promote sustainable development through the planning process, ensuring that relevant environmental, social and economic issues are considered when new Development Plan Documents (DPDs), such as this Core Strategy, are being developed.

The Sustainability Appraisal process also incorporates a Strategic Environmental Assessment (SEA); the European Strategic Environmental Assessment Directive⁴ states that an environmental assessment must be conducted when any new strategic plan, including Development Plan Documents such as this Core Strategy, are prepared. **Appendix A** highlights how the SEA Directive's requirements have been met in the production of this assessment.

1.2 Core Strategy

The Core Strategy is the key document in Buckinghamshire County Council's new Minerals and Waste Local Development Framework, which sets out the Council's planning strategies and planning policy framework for minerals extraction and waste management for the period to 2026. The Core Strategy establishes the amount of additional waste treatment facilities and mineral extraction that are needed in the county, identifies the general pattern of facilities needed and, for waste, identifies specific strategic sites where the most important of these facilities should be located. Further detail on these issues will be developed in future Development Plan Documents.

The document sets out the Council's vision of how minerals and waste development in Buckinghamshire should be by 2026, to be delivered through the achievement of 10 strategic objectives. These objectives are achieved through 24 key policies for minerals and waste development, which are set out in the Core Strategy; these will be supplemented by further, more detailed policies to be set out in future planning documents. These policies were based on a series of spatial options reviewed as part of the sustainability appraisal process and have been substantially revised following the 2008 public consultation.

³ Sustainability Appraisals are mandatory for new Development Plan Documents, such as this Core Strategy, under Section 39(2) of the planning and Compulsory Purchase Act 2004

⁴ European Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment", transposed into UK law by the Environmental Assessment of Plans and Programmes Regulations 2004

2 Sustainability Appraisal Process

2.1 Approach

This sustainability appraisal has been undertaken by Jacobs to assist Buckinghamshire County Council with the development of the Core Strategy in respect of seeking to ensure that the contents are as sustainable as possible. The latest Government advice has been followed, as set out on the Planning Advisory Service website⁵, in 'A Practical Guide to the Strategic Environmental Assessment Directive' (2006)⁶ and in the 'Companion Guide to Planning Policy Statement (PPS) 10' (2006)⁷. This report has been produced on the basis of desk-based assessment.

A scoping report was issued for consultation in 2006. This set out the sustainability objectives to be used to assess the plan. These were developed in light of the Buckinghamshire context to highlight key issues of relevance to minerals and waste planning in the county, using information from:

- A review of other plans, policies, programmes and initiatives
- A review of relevant baseline information
- Buckinghamshire County Council's own experience.

The Sustainability Appraisal Framework has been refined as the sustainability appraisal has progressed, mainly as a result of input from a range of consultees and from changes over time to the three key sources of information noted above. The full framework now includes sustainability objectives, decision-making criteria and indicators. The SA Framework is set out in Section 3 of this report.

The plan objectives, developed by Buckinghamshire County Council for the Core Strategy, were tested against the SA objectives, taking account of the decision-making criteria and the relevant current baseline. Recommendations were given for both amendments to the plan objectives and potential areas to consider in policy development. The assessment of the plan objectives is set out in Section 4 of this report.

A range of options was developed, both for the previous Preferred Options stage (2008) and for the current Core Strategy. The 2008 options, both policy and locational in nature, were briefly re-evaluated for this latest version of the Core Strategy to assess their continued validity. As the Core Strategy has evolved since the Preferred Options to form this 2011 version, the opportunity was taken to evaluate further potential policy options. The options were assessed against each of the SA objectives, taking account of the relevant current baseline and potential physical impacts at likely development locations, using the decision-making criteria to frame the discussion. The scoring methodology is set out below. The options review is set out in Section 5 of this report, together with details of how each of the options was taken forward into the development of the Core Strategy.

⁵ Last updated 03/09/09. This guidance replaces the Government guidance document 'Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents' (2005) – Department for Communities and Local Government

⁶ 'A Practical Guide to the Strategic Environmental Assessment Directive' (2006) – Department for Communities and Local Government

⁷ 'Planning for Sustainable Waste Management: A Companion Guide to Planning Policy Statement 1- Annex A: Practical Approaches to Sustainability Appraisal for Waste Management' – Department for Communities and Local Government.

During the development of the Core Strategy document, the effects of the plan were evaluated against the SA objectives, again utilising the scoring methodology set out below. As for the options, the plan was assessed against each of the SA objectives, taking account of the relevant current baseline and potential physical impacts at likely development locations, using the decision-making criteria to frame the discussion. This both informed policy as it developed and resulted in several minor revisions on final drafts of the Core Strategy. The final evaluation of the plan is set out in Section 6 of this report, highlighting any significant residual impacts and recommendations for future DPDs.

2.2 Scoring Method

The scoring methodology set out below was used to assess both the options and the effects of the Core Strategy.

Only valid options were assessed. Options with clear, obvious reasons for rejection have been disregarded without full appraisal; these are discussed in Section 5 of this report. (Note: the SEA Regulations require the assessment of ‘reasonable’ alternatives.)

Each remaining option and the Core Strategy itself were assessed against each of the 20 SA objectives, taking account of the relevant current and future baseline and potential physical impacts at likely development locations, using the decision-making criteria to frame the discussion. The SA objectives cover a range of social, environmental and economic issues and are detailed in the Sustainability Framework in Section 3 of this report. The detailed assessments of the options and the Core Strategy are set out in Sections 5 and 6 of this report respectively.

The following scoring system was used:

- ✓✓✓ Highly beneficial effect likely on the SA objective
- ✓✓ Moderate beneficial effect likely on the SA objective
- ✓ Minor beneficial effect likely on the SA objective
- N** Neutral or negligible effect on the SA objective
- ✗ Minor adverse effect likely on the SA objective
- ✗✗ Moderate adverse effect likely on the SA objective
- ✗✗✗ Highly adverse effect likely on the SA objective

The assessment has made some assumptions about the future baseline, including:

- current trends would generally continue (unless there are known interventions);
- development commitments (approved projects / adopted plans) would occur as planned;
- without the Core Strategy in place, the saved policies of the Buckinghamshire Minerals and Waste Local Plan (BMWLP) would continue to be applied until 2016, then end of the plan period; and

- national and international legislation and policy as relating to minerals and waste will continue as it exists currently.

This last assumption may be correct, however it has not been possible as part of the remit of this SA to forecast legislation and policy changes. However, it is expected that current levels of environmental protection will at least continue, and were this not to be the case, local planning would have to consider a direct response at that time, anyway. Hence, it is a reasonable assumption to base this SA upon.

An evaluation of certainty has also been added to this 2011 evaluation process to improve clarity from the 2008 version⁸:

CERTAINTY:

L	LOW	Assessment is based on speculation, due to incomplete or missing baseline data, lack of available research, or a potential random effect.
M	MEDIUM	Depends upon the way in which a policy is implemented on the ground, or the assessment relies upon a value judgement due to conflicting messages / effects.
H	HIGH	The effect is likely to occur as assessed, with little variation in degree and severity.

Detailed commentary has been included against each score to explain the thinking behind it.

Several issues have been taken into account in awarding the score, including:

- The risk of negative impacts on the baseline in the short, medium and long term;
- The opportunity for positive impacts on the baseline;
- The likelihood or certainty of the effect;
- The scale of the effect – how widespread it would be;
- Whether the effect would be temporary or permanent;
- Whether any adverse effects can be prevented, reduced or offset;
- Whether any positive effects can be enhanced;
- Whether any of the effects can be quantified in a meaningful way;
- Who or what the likely ‘winners’ and ‘losers’ are likely to be;
- Whether any of the effects are unclear or ambiguous – whether any further analysis is appropriate; and
- Whether there are any secondary, cumulative or synergistic impacts.

⁸ The 2008 version of the scoring methodology included ‘?’ to indicate highly uncertain effects being likely on the SA objective, and ‘D’ to indicate that the positive impact recorded relied upon mitigation or that the impacts depended upon how the DPD was implemented.

Definitions of direct, indirect, primary, secondary, cumulative, synergistic and also 'additive' and 'neutralising' are provided below. The examples are hypothetical, and only intended to illustrate the concepts.

Direct: the effect of an action on the receptor is directly as a result of that action – e.g. a project clears some mature trees in order to enable construction because they are in the way.

Indirect: the effect of an action on the receptor occurs via a resulting action (which may or may not be in the control of the party proposing the original action) – e.g. a project intends on supporting many employees, and the roads will need to be expanded to have enough capacity for employees to drive there efficiently, leading to the removal of mature trees either side of the road.

Primary: the effect of an action is via a singular pathway onto a receptor – e.g. a pollutant released into water, with a drain or runoff being the pathway, and water quality being the receptor.

Secondary (tertiary, quaternary, etc.): the effect of an action is via two or more pathways onto a receptor – e.g. a pollutant released into surface water, carried downstream, and released into an estuary where it harms shellfish, which are then eaten by birds which then become ill. The pathways are multiple – drain or rainwater runoff, river or stream, absorption by shellfish, consumption by birds. The receptors are also many, with the end receptors being birds.

Cumulative: the effects of different actions acting together on a common receptor, whether it be through strategies, plans, programmes or projects. Types of cumulative effect include:

- Neutralising: where effects counteract each other to reduce the overall effect – e.g. a project leads to increased traffic along a highway and thus greater congestion and air pollution, but another project is already being planned which will divert some of this future traffic to another route, thus reducing the concentration of pollutants at any one location;
- Additive: the simple sum of all the effects – e.g. two otherwise unrelated projects cause greater traffic and thus air pollution along a certain route, but it is expected that pollutant concentrations will remain within the established limit values for human and ecosystem health;
- Synergistic: where effects interact to produce a total effect greater than the sum of the individual effects, usually as performance / numbers go below or above a threshold or reach capacity – e.g. whilst a project in isolation does not increase traffic significantly, an otherwise unrelated project will combine with this to cause even greater traffic and thus air pollution along a certain route, and it is expected that pollutant concentrations will then exceed the established limit values for human and ecosystem health.

2.3 Consultation

Consultation has previously taken place on the SA Scoping Report and SA Reports for the Waste DPD and Minerals DPD, which were originally progressed in advance

of the Core Strategy but subsequently suspended following advice from the Government Office for the South East that the Core Strategy should be completed first. Work on the Waste DPD and Minerals DPD, including their accompanying sustainability appraisals, will be reviewed and finalised at a future date, in line with the agreed Local Development Scheme, which sets out the plan-making timetable. However, comments received as a result of the public consultation programme for these documents have been incorporated within the Sustainability Appraisal.

Public consultation also took place on the Preferred Options edition of the Core Strategy and the accompanying Sustainability Appraisal Report in 2008.

Each of these reports were sent to statutory consultees (Environment Agency, Natural England⁹ and English Heritage), the district councils within the county and to amenity groups and interested parties. The reports were also made available on Buckinghamshire County Council's website, at deposit points at the County Council and the four District Councils, and in libraries throughout the county.

Examples of changes made as a result of comments from previous rounds of consultation include:

- The baseline was improved to incorporate additional data which emerged as a result of the consultation process;
- Detailed site data and appraisals of site options were included as a result of advice from the then Government Office for the South East;
- Amendments were made to the SA objectives to incorporate concerns raised; and
- The weighting of SA objectives as removed following numerous comments from public consultees.

Several key changes were made as a result of comments arising from the most recent round of full public consultation on the Core Strategy and the associated Sustainability Appraisal in 2008 are:

- Minor amendments were made to the decision-making criterion to incorporate new information arising from the consultation and concerns raised by consultees;
- Topic papers were developed as part of the evidence base for both the Core Strategy and the SA including 'Waste', 'Minerals', 'Health', 'Climate Change' and 'Design' to cover key issues that consultation responses had shown to be unclear to consultees;
- Further studies were commissioned by Buckinghamshire County Council and additional data was gathered to fill gaps found in the evidence base for the Preferred Options version of the Core Strategy, some of which were highlighted by the consultation process;
- More precise certainty scoring was added and clearer information was provided on the assessment of impacts as part of the SA process, as

⁹ Formerly English Nature and the Countryside Agency – copies of the consultation reports were sent to both organisations when they existed as separate entities

consultation responses had indicated that the methodology used was not always clear;

- Further information has been added about the relationship between green belt and impacts upon the landscape in light of the lack of clarity highlighted by consultees; and
- Further detail was added to the 'non-options' element of the options section of the SA report to provide additional explanation as to the limitations Buckinghamshire County Council face in the development of the Core Strategy, as consultation responses showed that the extent of the council's remit on minerals and waste issues was not clear to consultees.

This SA report will be accompanying the latest Core Strategy when it goes out for public consultation in September 2011.

2.4 Difficulties Encountered

The length of time between the scoping report in 2006 and this Core Strategy in 2011 caused several challenges, in particular:

- Much of the baseline data and the review of other plans, policies and programmes of relevance required updating with each new edition of the report to ensure it was up-to-date;
- The 20 detailed SA objectives, kept from previous editions of the SA to ensure continuity, made it possible to thoroughly review the Core Strategy but led to some repetition of points at times. There is also some friction between 'performance' criteria and the requirement under the SEA Regulations to identify 'significant effects'. Although it was possible to ensure regulatory compliance, some consolidation may increase the efficiency of the process when taken forward to assess subsequent DPDs;
- The various decision-making criteria provide a useful aid to ensure impacts upon the achievement of each SA objective are thoroughly and consistently assessed; however, they can also lead to challenges in evaluating overall impacts due to differing issues being examined under the same heading, for example water pollution and water consumption under water; and
- Government advice and best practice on sustainability appraisals changed over the period, so amendments were required in methodology to ensure a suitable balance was achieved between continuity of process and the integration of best practice.

Further to the above, to ensure compliance with the SEA Regulations, it was important to ensure that **effects** against the current baseline (the BMWLP and the state of the environment) were assessed, and not the **performance** of the plan against the individual SA objectives in isolation. This therefore means that a neutral or negligible score ('N') shows that there is no change in the impact from the current BMWLP – a continuing impact; it does not mean that the Core Strategy itself will have no impact on the SA objective. Equally, a positive score shows an

improvement in the Core Strategy against the current BMWLP in relationship to the relevant SA objective.

The complexity of the various types of potential impacts involved also presents challenges. It is very difficult to concisely present a wide range of different types and, sometimes, conflicting impacts, including regarding geographical scale from local to global, and temporal scale from short term to long term.

Long-term impacts are particularly challenging to evaluate. It is not possible to account for factors such as technologies and lifestyles that may exist in the longer term, for example more than 30 years into the future. Current trends are therefore assumed to continue, unless specific evidence is available to the contrary.

2.5 Limitations

Several problems were encountered in compiling the information that informs the sustainability appraisal, in particular the good quality of baseline data for some issues.

The following data gaps were identified at the Preferred Options stage (2008):

- A lack of up-to-date data for some issues – the data available is a few years old, so more recent data would be preferable;
- A lack of good quality data on all waste types – the only type of waste for which accurate data is currently available is household waste;
- A lack of detailed information on agricultural land quality (Agricultural Land Classification data);
- A lack of local trend data for Air Quality Management Areas (AQMAs); and
- A lack of usable information on water quality in each stretch of river within the county.

These data gaps have now been addressed as additional data has become available since the last version of the proposed Core Strategy was reviewed. However, one further data gap has been identified:

- Only high-level landscape impact data is available for the Calvert, London Road and High Heavens sites as detailed Landscape and Visual Impact studies will not be produced until a later date for these sites.

These data gaps will need to be addressed by Buckinghamshire County Council at a future date.

It should be noted that the sustainability appraisal has been undertaken as a purely desk-based exercise, without any site visits being undertaken so it has not been possible to verify the site-based data provided.

In addition to the above data gaps, the change of Government to the Conservative-Liberal Coalition in 2010, a few months before publication of the Core Strategy, has resulted in notable political uncertainty on the future of national policy, in particular

national planning policy. A new National Planning Framework is to be produced, replacing much of the current national planning policy. A draft has recently been published and an associated consultation process is under way. There is therefore still considerable uncertainty as to the final format of the National Planning Framework as the consultation process could potentially result in significant changes to the draft document.

It should also be noted that the SA process is inherently subjective. Several measures have been included to ensure the process is as robust as possible, including:

- Gathering a range of quantitative baseline data to ensure statements are based on up-to-date information;
- Including certainty scoring to make it clear how likely it is that the predicted impact will come to fruition;
- Involving numerous parties in developing and reviewing the SA to take on board a wide range of views and ensure evaluations are accurate; and
- Incorporating the responses of consultees into the evaluation to add local and specialist knowledge and further expertise.

3.1 Sustainability Issues and Challenges

In order to develop the Sustainability Appraisal Framework, against which to assess the Buckinghamshire Minerals and Waste Core Strategy (MWCS), a range of information was gathered as part of the Scoping Report stage of the sustainability appraisal in 2006 to identify the key sustainability issues and challenges for Buckinghamshire:

- a. *Key objectives, issues and targets* contained in a wide range of relevant plans, policies, programmes and initiatives, at international, European, national and local levels, including national planning policy, the UK Sustainable Development Strategy, local Sustainable Community Strategies and the Municipal Waste Management Strategy for Buckinghamshire;
- b. *Current baseline and predicted future trends* in Buckinghamshire, as relevant to the minerals and waste context; and
- c. *Buckinghamshire County Council's own experience.*

3.2 Sustainability Framework

From the list of key issues and challenges for Buckinghamshire, a series of sustainability objectives were derived, forming a Sustainability Appraisal Framework. This framework was then used to evaluate a series of alternative options as part of the development of the Development Plan Documents.

The Framework does not cover all sustainability issues, such as crime or education, as minerals and waste planning has a minimal impact in these areas due to its limited remit. The Framework concentrates on those areas where minerals and waste planning is likely to have most effect.

3.3 Alterations to the Sustainability Appraisal Framework

3.3.1 Alterations to the Evidence Base

All of the above information used to formulate the Sustainability Appraisal Framework has been reviewed and updated as part of the production of each version of the Sustainability Appraisal, most recently for the MWCS Preferred Options (2008) and for this current version, to ensure the data used is as up-to-date as possible.

The latest review of key objectives, issues and targets contained in other plans, policies, programmes and initiatives is documented in the '*Other Plans, Policies, Programmes and Initiatives Topic Paper*' (Topic Paper 3), with a full list of the documents reviewed contained in **Appendix B** to this report.

The updated baseline, including future trends, is contained in the '*Spatial Context Topic Paper*' (Topic Paper 7), which covers the following topics:

- A. Population, homes and employment
- B. Population spread
- C. Transport network
- D. Air quality
- E. Water and flooding
- F. Soils and agricultural land quality
- G. Minerals deposits
- H. Biodiversity and geodiversity
- I. Landscape
- J. Green Belt
- K. Historic environment
- L. Recreation

New in-depth descriptions of the minerals context and the waste context are detailed in the '*Minerals Topic Paper*' (Topic Paper 6) and the '*Waste Topic Paper*' (Topic Paper 5), which have been produced by Buckinghamshire County Council in response to issues raised in the 2008 public consultation. A separate detailed '*Climate Change Topic Paper*' (Topic Paper 1) has also been produced, together with a '*Design Topic Paper*' (Topic Paper 4) and a '*Health Topic Paper*' (Topic Paper 10). Area Statements (Topic Paper 9) have also been prepared which provide a summary of the baseline information relevant to each site allocation and a number of principles and recommendations in considering development proposals.

It is, however, acknowledged that the above information may need to be further revised and updated following the current consultation process and into the future and that new documents or information of relevance will emerge; the baseline will therefore need to be regularly reviewed and updated as part of the on-going monitoring process, as detailed in Section 7 of this report.

3.3.2 Alterations to the Sustainability Appraisal Framework

The identification and updating of key issues and challenges for Buckinghamshire has been informed by the revisions to the above information sources, together with the results of the various consultation exercises that have taken place with relevant stakeholders and the public. The changes to the key issues and challenges are highlighted in **Appendix C** to this report.

The SA objectives were altered prior to the MWCS Preferred Options (February 2008) public consultation as a result of input from consultees. In addition, more detailed decision-making criteria and monitoring indicators were added to the Framework.

Following the 2008 consultation, the decision-making criteria have been revised in this current edition of the SA to take account of consultees' comments and new national priorities, such as green infrastructure. Four of the SA objectives have also been slightly revised to ensure they include both positive and negative elements to clarify the scores allocated to them. No SA objectives have been added or removed to ensure continuity. The changes to the SA objectives and decision-making criteria are highlighted in **Appendix C** to this report.

3.4 The Latest SA Framework

The latest SA Framework is set out in Table 3.1 below.

The baseline data referred to under the 'Source' heading can be found in the Topic Papers which form the baseline for both the Core Strategy and the Sustainability Appraisal.

A range of indicators have been developed in association with each SA objective; these are contained in the 'Indicators' column. The SA objectives from the previous version of the SA have been amended and updated in line with Buckinghamshire County Council's latest monitoring proposals and the revisions to the decision-making criteria. A range of contextual indicators have also been provided to give a general comparative baseline for Buckinghamshire as a county, rather than in association with minerals and waste activities.

Table 3.1: Sustainability Appraisal Framework

Key issues and challenges	SA objective	Indicators
<p><u>Air Quality</u> Air quality targets at European and national level need to be met. Air quality in Buckinghamshire is generally good, but Air Quality Management Areas (AQMA) have been identified in several parts of the county, mainly associated with road transport emissions. Vehicle movements associated with minerals and waste facilities and the facilities themselves can add to emissions within the county. Localised impacts, including dust, need to be taken into account. Potential impacts on human health and the environment need to be taken into account (links with other SA objectives).</p> <p><i>Source:</i></p> <ul style="list-style-type: none"> • <i>European, national, regional and local air quality policy and plans (Other plans, policies and programmes)</i> • <i>Air quality data (baseline)</i> • <i>Numerous consultees, including local councils (Public consultation)</i> <p><i>A map showing the location of the AQMAs in the county can be found in the Spatial Context Topic Paper (TP7), together with further details of the county's air quality baseline.</i></p>	<p>SA1: To protect and enhance air quality</p> <p><i>Decision-making criteria:</i></p> <p><i>a. Will it have a positive or negative impact on the existing air quality baseline, including any AQMAs?</i></p> <p><i>b. Will it increase or decrease the emissions of air pollutants from the site?</i></p> <p><i>c. Will it increase or decrease the emissions of air pollutants from transport?</i></p>	<p><i>Contextual indicators:</i></p> <p>1/1: Number of AQMAs within Buckinghamshire</p> <p>1/2: Air quality in Buckinghamshire in comparison to National Air Quality Standard</p> <p><i>SA indicators:</i></p> <p>1/1: Number of complaints received about air quality issues (including odours and dust) associated with new (a) waste facilities and (b) minerals workings.</p> <p>1/2: Number of days when local air quality targets exceeded at, or close to, (a) waste sites and (b) minerals extraction sites.</p> <p>1/3: Number of waste management sites in or close to AQMAs</p>
<p><u>Climate Change</u> Climate change is an internationally recognised issue and a key Government priority. Buckinghamshire needs to play its part in minimising impacts on climate change and in being prepared for the impacts climate change may have on Buckinghamshire. Potential impacts from and on climate change in relation to minerals and waste activities need to be considered. Key issues are the production of methane from landfill, which is a significant greenhouse gas contributing to climate change, carbon dioxide emissions from transport associated with minerals and waste activities, and emissions from the extraction and</p>	<p>SA2: To avoid additional climate change emissions, seek their reduction, and reduce the future effects of climate change based on predictions</p> <p><i>Decision-making criteria:</i></p> <p><i>a. Will it have a positive or negative impact on the emissions of carbon dioxide from minerals and waste transportation in the county?</i></p> <p><i>b. Will it reduce methane emissions from landfill in the county?</i></p> <p><i>c. Will it contribute to a reduction in carbon</i></p>	<p><i>Contextual indicators:</i></p> <p>Total CO₂e (carbon dioxide equivalent) emissions in the county.</p> <p><i>SA indicators:</i></p> <p>2/1: Level of methane or carbon dioxide equivalent emissions from waste facilities in the county</p> <p>2/2: Level of carbon dioxide emissions from (i) minerals transportation and (ii) waste transportation in the county</p>

Key issues and challenges	SA objective	Indicators
<p>processing of minerals. The emissions from landfill have been identified as the most significant contributor to climate change made by this sector, notably outweighing other sources of emissions.</p> <p>Source:</p> <ul style="list-style-type: none"> • International, European, regional and national climate change policy (Other plans, policies and programmes) • Climate change and flood risk data, including Climate Change Topic Paper (TP1) and Buckinghamshire Strategic Flood Risk Assessment (SFRA) (Baseline) • Numerous consultees, including local residents and local councils (Public consultation) <p>Details of the impacts on and from climate change in relation to minerals and waste activities in the county can be found in the Climate Change Topic Paper (TP1).</p>	<p><i>dioxide emissions from traditional forms of energy generation?</i></p> <p><i>d. Will it contribute to or cope with the increased risk of flooding predicted as a result of climate change?</i></p> <p><i>e. Will it provide a carbon sink?</i></p> <p><i>f. Will it contribute to a negative or positive impact on the emissions of carbon dioxide from mineral extraction?</i></p>	<p>2/3: Level of carbon dioxide emissions from waste facilities in the county</p> <p>2/4: Proportion of proposals for new facilities that have included proposals for minimising impacts on and effects from climate change as part of their planning application</p> <p>2/5: Number of waste sites accommodating (i) renewable energy installations or (ii) biomass cultivation (also CS indicator for Policy CS22).</p>
<p><u>Living Conditions and Amenity</u></p> <p>There is a potential for significant disturbance to residents living, or people working, in close proximity to minerals and waste sites or on associated transport routes from associated negative impacts, such as noise, dust, odour and visual impact.</p> <p>Source:</p> <ul style="list-style-type: none"> • National, regional and local policy (Other plans, policies and programmes) • Numerous consultees, including local residents and local councils (Public consultation) <p>A map showing the location of key minerals deposits (sand and gravel) in relation to areas of population and a map showing the location of current waste sites in relation to areas of population is shown in the Spatial Context Topic Paper (TP7) and Waste Topic Paper (TP5) respectively.</p>	<p>SA3: To protect the living conditions and amenities of local residents and people working in local businesses from the adverse effects of minerals and/or waste development, and seek enhancements where possible</p> <p><i>Decision-making criteria:</i></p> <p><i>a. Will there be any amenity impacts (including noise, dust, light, vermin and odour) on sensitive receptors (including residents and workers)?</i></p> <p><i>b. Will there be any improvement or degradation of the quality of the surroundings (including open spaces) where people live as a result of site development or transport routes?</i></p> <p><i>c. Will there be any positive or adverse economic impact on land and premises in residential use?</i></p>	<p><i>Contextual indicators:</i></p> <p>None – will be site specific</p> <p><i>SA indicators:</i></p> <p>3/1: Proximity of (a) minerals and (b) waste treatment sites to sensitive receptors</p> <p>3/2: Number of complaints from residents on issues of noise, vibration, dust, odour, litter and other direct environmental impacts of new (a) waste management facilities or (b) minerals extraction.</p> <p>3/3: Ambient noise levels at waste sites</p> <p>3/4: Number of recorded fly-tipping incidents</p>

Key issues and challenges	SA objective	Indicators
<p><u>Human Health and Public Safety</u> Potential safety problems have been identified in relation to the location of minerals and waste facilities near aerodromes, in particular increased risk of bird strike and disturbance to air flow. Potential human health and public safety issues associated with minerals and waste operations and associated transport movements have raised notable concerns amongst those in close proximity to sites and transport routes. Minerals and waste activities can also be associated with ground instability, which can have safety implications.</p> <p>Source:</p> <ul style="list-style-type: none"> • International, national and local minerals and waste policy (Public consultation) • (Public consultation) • Numerous consultees, including local residents and local councils, BAA Safeguarding Team, General Aviation Awareness Council and Defence Estates Safeguarding Team (Public consultation) <p>Potential health impacts associated with minerals and waste activities and details of how they are monitored and regulated are set out in the Health Topic Paper (TP10).</p>	<p>SA4: To avoid adverse impacts on human health and ensure public safety with regard to minerals and waste activities, seeking positive benefits where possible</p> <p><i>Decision-making criteria:</i></p> <ol style="list-style-type: none"> Will there be a positive or negative impact on human health from relevant sites or transport routes? Will there be a positive or negative impact on public safety from relevant sites or transport routes? Will it potentially cause or be affected by land instability? Will activities on site be monitored?¹⁰ 	<p><i>Contextual indicators:</i> AS FOR SA3</p> <p><i>SA indicators:</i> AS FOR SA3</p>
<p><u>Biodiversity</u> There are numerous sites of biodiversity value in the county with designations ranging from the international to the local level; these need to be protected and, where possible, enhanced. Protected species may also be present on sites, so potential impacts from proposed uses will need to be considered. Biodiversity Opportunity Areas exist throughout the county where targeted action will have the greatest benefit through the maintenance, restoration and creation of BAP (Biodiversity Action Plan) priority habitats.</p> <p>Source:</p>	<p>SA5: To protect and enhance biodiversity and create new habitats</p> <p><i>Decision-making criteria:</i></p> <ol style="list-style-type: none"> Are there any designated or non-statutory nature conservation sites that may be affected? If designated, to what level (European, national, local etc) is the designation? Is there any evidence of protected species that may be affected? Will there be any opportunities for enhancing or recovering wildlife resources? 	<p><i>Contextual indicators:</i> 5/1: Number of biological and geological SSSIs in Buckinghamshire which are in 'favourable' or 'recovering' condition in comparison to national target (also 7/3) 5/2: Percentage of Buckinghamshire protected by (a) any level of habitat designation (international, national or local) and (b) only international or national habitat designation.</p>

¹⁰ The Environment Agency regulates waste facilities, so it has been assumed that this will occur so a separate decision-making criterion will not be required.

Key issues and challenges	SA objective	Indicators
<ul style="list-style-type: none"> • European, national, regional and local policy (Other plans, policies and programmes) • Presence of numerous sites within the county designated for their biodiversity value, presence of numerous protected species within the county, and identification of numerous Biodiversity Opportunity Areas within the county (Baseline) • Numerous consultees, including local Wildlife Trusts (Public consultation) • Experience of Buckinghamshire County Council <p>Details of the current County biodiversity baseline are contained in the Spatial Context Topic Paper (TP7), together with a map of Biodiversity Opportunity Areas.</p>	<p>d. Will there be any potential to contribute to BAP (Biodiversity Action Plan) targets?</p> <p>e. Will there be any opportunities to create new habitats and/or green infrastructure of biodiversity value?</p>	<p>SA indicators:</p> <p>5/1: Number of designated sites adversely affected by (a) waste management facilities and (b) minerals extraction sites.</p> <p>5/2: Number of sites where biodiversity has been created or enhanced as a result of waste management or minerals extraction activities.</p> <p>5/3: Change in priority habitats and species (by type) on minerals and waste sites in the county.</p> <p>5/4: Change in areas of biodiversity importance as a result of minerals and waste development (also CS¹¹ indicator for Policy CS18/CS19/CS22 and CS23)</p> <p>5/5: Number of proposals granted planning permission in designations of international / national importance against Minerals Planning Authority (MPA) or Waste Planning Authority (WPA) approval (also CS indicator for Policy CS18) (also 6/3 & 7/3).</p> <p>5/6: Number of proposals granted planning permission in designations of local importance against MPA or WPA approval (also CS indicator for Policy CS19) (also 6/4 & 7/4)</p> <p>5/7: Increasing contribution to local Biodiversity Action Plan (BAP) targets from minerals restoration schemes and waste development (also CS indicator for Policy CS22 and 23)</p> <p>5/8: Number of former mineral workings identified for ecological,</p>

¹¹ CS = Core Strategy

Key issues and challenges	SA objective	Indicators
<p><u>Archaeology and the Historic Environment</u> There are numerous sites, buildings and areas of archaeological and/or historic importance throughout Buckinghamshire. There is potential for damage to occur to such features from minerals extraction and the development of waste management facilities in close proximity. They require protection, but opportunities may also arise for enhancement.</p> <p>Source:</p> <ul style="list-style-type: none"> • National, regional and local policy (Other plans, policies and programmes) • Presence of important archaeological sites, buildings and areas of historic importance within the county (Baseline) • County Archaeologist (Public consultation) • Experience of Buckinghamshire County Council <p>Further details of Buckinghamshire’s historic environment can be found in the Spatial Context Topic Paper (TP7).</p>	<p>SA6: To protect areas of archaeological importance and conserve and, where appropriate, enhance the historic environment</p> <p><i>Decision-making criteria:</i></p> <p>a. Are there any sites of archaeological importance that can be positively or negatively affected?</p> <p>b. Are there any historic landscapes that can be positively or negatively affected?</p> <p>c. Are there any listed buildings that can be positively or negatively affected?</p> <p>d. Are there any conservation areas that can be positively or negatively affected?</p>	<p>heritage or amenity value (also CS indicator for Policy CS22) (also 6/5 & 13/2).</p> <p><i>Contextual indicators:</i></p> <p>6/1: Number of the following within the county: (a) Scheduled Monuments, (b) registered historic parks and gardens, (c) listed buildings, (d) conservation areas.</p> <p><i>SA indicators:</i></p> <p>6/1: Number of features of archaeological importance which have been adversely affected by (a) waste management facilities and (b) minerals extraction sites.</p> <p>6/2: Number of features of heritage significance which have been adversely affected by (a) waste management facilities and (b) minerals extraction sites.</p> <p>6/3: Number of proposals granted planning permission in designations of international / national importance against Minerals Planning Authority (MPA) or Waste Planning Authority (WPA) approval (also CS indicator for Policy CS18) (also 5/5 & 7/3).</p> <p>6/4: Number of proposals granted planning permission in designations of local importance against MPA or WPA approval (also CS indicator for Policy CS19) (also 5/6 & 7/4).</p> <p>6/5: Number of former mineral workings identified for ecological, heritage or amenity value (also CS indicator for Policy CS22) (also 5/8 & 13/2).</p>

Key issues and challenges	SA objective	Indicators
<p><u>Soils and Geology</u> There is potential for damage to occur to soil resources and sites of geological interest, including designated sites, within the county from minerals extraction and waste management facilities, including through disturbance and pollution. Best and most versatile agricultural land, found in certain parts of the county, should be conserved. High quality soils and important geological features require protection, but opportunities may also arise for enhancement.</p> <p><i>Source:</i></p> <ul style="list-style-type: none"> • <i>European, national and regional soil and geology policy (Other plans, policies and programmes)</i> • <i>Presence of significant soil resources and of sites of geological interest within the county (Baseline)</i> • <i>Natural England (Public consultation)</i> • <i>Experience of Buckinghamshire County Council</i> <p><i>Further details of the county’s soils, agricultural land quality and geodiversity can be found in the Spatial Context Topic Paper (TP7).</i></p>	<p>SA7: To protect and seek to improve soil resources and quality, and protect and enhance sites of geological interest</p> <p><i>Decision-making criteria:</i></p> <p><i>a. Will it increase or decrease land contamination?</i></p> <p><i>b. Will it impact upon good quality soil resources? Will it improve or degrade soil quality, including of agricultural soils?</i></p> <p><i>c. Will it involve development on previously used land?</i></p> <p><i>d. Will there be a positive or negative impact any sites designated for their geological importance? If so, what is the level of their designation?</i></p>	<p><i>Contextual indicators:</i></p> <p>7/1: Percentage of Buckinghamshire with higher quality agricultural land (ALC Grades 1 (excellent) and 2 (very good))¹²</p> <p>7/2: Percentage of development on previously developed land within Buckinghamshire</p> <p>7/3: Number of biological and geological SSSIs in Buckinghamshire which are in ‘favourable’ or ‘recovering’ condition in comparison to national target (also 5/2).</p> <p><i>SA indicators:</i></p> <p>7/1: Loss of agricultural land by grade to (a) waste sites and (b) minerals extraction.</p> <p>7/2: Grade of restored land as compared with the site pre-void creation (also CS indicator for Policy CS22 and CS23).</p> <p>7/3: Number of proposals granted planning permission in designations of international / national importance against Minerals Planning Authority (MPA) or Waste Planning Authority (WPA) approval (also CS indicator for Policy CS18) (also 5/5 & 6/3).</p> <p>7/4: Number of proposals granted planning permission in designations of local importance against MPA or WPA approval (also CS indicator for Policy CS19) (also 5/6 & 6/4).</p>

¹² High quality agricultural land also includes Grade 3a but this data cannot be separated from the rest of Grade 3 so cannot be included.

Key issues and challenges	SA objective	Indicators
<p><u>Landscapes and Townscapes</u> Minerals and waste operations can have significant impacts on landscapes and townscapes. There are several sites designated as of landscape or townscape value within the county, particularly the Chilterns AONB, which covers a large percentage of the southern half of Buckinghamshire; these need to be protected, and where possible enhanced. A notable percentage of Buckinghamshire is Green Belt; although Green Belt is not a landscape or townscape designation, it can have an indirect impact on landscape and townscape by maintaining openness, preventing urban sprawl, and preserving the setting and special character of historic towns. However, it can also result in negative impacts, such as increasing urban development outside of the Green Belt, and preserving poor quality landscapes that may benefit from a degree of sensitive development.</p> <p><i>Source:</i></p> <ul style="list-style-type: none"> • <i>National, regional and local landscape policy (Other plans, policies and programmes)</i> • <i>Presence of the Chilterns AONB and other areas designated as of landscape and townscape value within the county, and presence of Green Belt within the county (Baseline)</i> • <i>Numerous consultees, including Natural England, local residents and local councils (Public consultation)</i> <p><i>Further details of the county landscape can be found in the Spatial Context Topic Paper (TP7), together with a map showing the location of the Chilterns AONB and the Green Belt.</i></p>	<p>SA8: To conserve and enhance the quality and distinctiveness of landscapes and townscapes, in particular the AONB</p> <p><i>Decision-making criteria:</i></p> <p><i>a. Will it have a positive or negative impact on landscapes or townscapes of national or local importance, such as the AONB, in terms of both character and visual impact?</i></p> <p><i>b. Will it have a effect on Green Belt (e.g. maintaining extent, openness) that will impact positively or negatively upon the landscape?</i></p> <p><i>c. Will there be any opportunities to create green infrastructure of landscape / townscape value?</i></p>	<p><i>Contextual indicators:</i></p> <p>8/1: Percentage of Buckinghamshire designated as Area of Outstanding Natural Beauty (AONB)</p> <p>8/2: Percentage of Buckinghamshire designated as local landscape areas</p> <p><i>SA indicators:</i></p> <p>8/1: Number of (a) waste management facilities and (b) minerals extraction works within designated landscape areas, by type</p> <p>9/1: Number of proposals granted planning permission in the Chilterns AONB against Minerals Planning Authority (MPA) / Waste Planning Authority (WPA) approval (also CS indicator for Policy CS21).</p>
<p><u>Natural Resources</u> The importance of conserving and carefully using natural resources is recognised at international and national level. Buckinghamshire needs to play its part in avoiding the wasteful use of natural resources and in increasing the use of alternatives to offset the need to use primary materials; minerals and waste are of particular relevance to this</p>	<p>SA9: To avoid the wasteful use of natural resources and to encourage the use of alternatives to primary materials</p> <p><i>Decision-making criteria:</i></p> <p><i>a. Will it facilitate an increase in the level of waste materials reused, recycled and/or</i></p>	<p><i>Contextual indicators:</i></p> <p>As SA indicators, but compared to national averages.</p> <p><i>SA indicators:</i></p> <p>9/1: Total waste arising, by sector</p> <p>9/2: Proportion of waste recycled, by</p>

Key issues and challenges	SA objective	Indicators
<p>issue. The predicted growth in the economy and population in the county will increase pressure on natural resources.</p> <p>Source:</p> <ul style="list-style-type: none"> • <i>International, European, national and regional policy (Other plans, policies and programmes)</i> • <i>Growth projections (Baseline)</i> <p><i>A map showing the location of key minerals deposits (sand and gravel) in relation to areas of population and a map showing the location of current waste sites in relation to areas of population are shown in the Spatial Context Topic Paper (TP7) and Waste Topic Paper (TP5) respectively, together with details of predicted areas of growth.</i></p>	<p><i>composted?</i></p> <p><i>b. Will it avoid the wasteful use of natural resources?</i></p> <p><i>c. Will it encourage the use of alternatives to primary materials?</i></p>	<p>sector</p> <p>9/3: Proportion of waste composted, by sector</p> <p>9/4: Proportion of waste sent to landfill, by sector</p> <p>9/5: Proportion of Construction and Demolition waste recycled as aggregates</p> <p>9/6: Amount of (a) secondary and (b) recycled aggregate produced in the Minerals Planning Authority (MPA) area in tonnes per annum (also CS indicator for Policy CS6)</p> <p>9/7: Amount of additional Construction and Demolition (C&D waste) recycling or secondary processing capacity (a) permitted per annum; (b) operational; (c) life of consent (also CS indicator for Policy CS6)</p> <p>9/8: Percentage of C&D waste recycled at mineral sites (also CS indicator for Policy CS6)</p> <p>9/9: Percentage of recycled aggregate produced at permanent facilities (also Plan indicator for Policy CS6)</p> <p>9/10: Number of waste audits submitted against the number of relevant planning applications (also CS indicator for Policy CS8)</p> <p>9/11: Breakdown of capacity of new recycling and composting facilities – (a) new permitted capacity and (b) new operational capacity by each District (also CS indicator for Policy CS10).</p>

Key issues and challenges	SA objective	Indicators
<p><u>Water</u> Water quality varies across the county and water resources are becoming increasingly scarce. Minerals and waste operations have the potential to pollute water bodies and disrupt flow. They can also use water as part of their processes. Such resources must therefore be protected and, if possible, improved.</p> <p>Source:</p> <ul style="list-style-type: none"> • International, European, national, regional and local minerals and waste and water policy (Other plans, policies and programmes) • Water resources, water quality and water use data (Baseline) • Experience of Buckinghamshire County Council <p>Further details of the county's water baseline are contained in the Spatial Context Topic Paper (TP7).</p>	<p>SA10: To protect water resources and seek to improve water quality</p> <p><i>Decision-making criteria:</i></p> <p>a. Will there be an increase or decrease in water quality (e.g. through the discharge of pollutants to water)?</p> <p>b. Will there be an increase or decrease in water consumption from facilities?</p> <p>c. Will it have a positive or negative effect on waterbodies and Water Framework Directive objectives?</p> <p>d. Will there be a positive or negative impact on water flow?</p>	<p><i>Contextual indicators:</i></p> <p>10/1: Water quality of (a) rivers and (b) groundwater in Buckinghamshire in comparison to national average</p> <p>10/2: Availability of water for abstraction from (a) rivers and (b) groundwater in Buckinghamshire in comparison to national average</p> <p><i>SA indicators:</i></p> <p>10/1: Water quality of rivers in close proximity to waste or minerals sites.</p> <p>10/2: Water quality of groundwater in close proximity to waste or minerals sites.</p> <p>10/3: Number of incidents of water pollution (including pollution of abstraction points) deriving from waste or minerals facilities.</p> <p>10/4: Number of planning permissions granted contrary to Environment Agency advice on flooding and water quality grounds (also CS indicator for Policy CS19 & CS22) (also 11/2).</p>
<p><u>Flood Risk</u> Most new development, including that associated with minerals and waste operations, has the potential to increase flood risk. Although flooding is not a substantial problem within the county, climate change is predicted to increase flood risk; there are some locations in the county where flood risk is problem. It is therefore important to avoid increasing and, where possible, seek to reduce flood risk.</p> <p>Source:</p> <ul style="list-style-type: none"> • International, national, regional and local policy (Other plans, policies and programmes) • Flood risk data, including Buckinghamshire Strategic 	<p>SA11: To avoid increasing and, where possible, reduce flood risk</p> <p><i>Decision-making criteria:</i></p> <p>a. Will it contribute to an increase in flood risk on site or elsewhere?</p> <p>b. Will it contribute to a reduction in flood risk on site or elsewhere?</p> <p>c. Is the proposed use suitable in the flood zone of the site according to Planning Policy Statement (PPS) 25?</p>	<p><i>Contextual indicators:</i></p> <p>11/1: Percentage of Buckinghamshire in (a) Flood Zone 2 and (b) Flood Zone 3.</p> <p><i>SA indicators:</i></p> <p>11/1: Number of waste or minerals sites within indicative flood plains.</p> <p>11/2: Number of planning permissions granted contrary to Environment Agency advice on flooding and water quality grounds (also CS indicator for Policy CS19 & CS22) (also 10/4).</p>

Key issues and challenges	SA objective	Indicators
<p><i>Flood Risk Assessment (Baseline)</i></p> <p><i>Further details of the county's flood baseline are contained in the Spatial Context Topic Paper (TP7) and the Buckinghamshire Strategic Flood Risk Assessment (SFRA).</i></p>		
<p><i>Mineral Resources</i></p> <p>Commercially viable deposits of sand and gravel and Chiltern brick clay are only found in certain parts of Buckinghamshire. Minerals are finite resources and so need to be conserved and used carefully; however, it is also important to ensure that potential minerals sites remain accessible for future use. The potential to extract mineral deposits can be lost (sterilised) by non-mineral related development. Buckinghamshire needs to play its part in ensuring supplies of minerals are available for use by future generations by safeguarding resources.</p> <p><i>Source:</i></p> <ul style="list-style-type: none"> • <i>International, European, national and regional policy (Other plans, policies and programmes)</i> • <i>Minerals data (Baseline)</i> <p><i>A map showing the location of minerals deposits within the county is shown in the Spatial Context Topic Paper (TP7), together with further details of the types of minerals available. More detailed information can also be found in the Minerals Topic Paper (TP6).</i></p>	<p>SA12: To conserve mineral resources and prevent their sterilisation</p> <p><i>Decision-making criteria:</i></p> <p><i>a. Will it help to conserve minerals resources for potential use by future generations?</i></p> <p><i>b. Will it result in or prevent sterilisation so that future generations can still potentially access deposits?</i></p>	<p><i>Contextual indicators:</i></p> <p>12/1: Proportion of Buckinghamshire with viable minerals deposits.</p> <p><i>SA indicators:</i></p> <p>12/1: Number of permitted planning applications for waste facilities which would be likely to sterilise economic mineral deposits</p> <p>12/2: Amount of sand and gravel sterilised by LPAs granting planning permission for non-mineral development within the Minerals Safeguarding Area (MSA) against Minerals Planning Authority (MPA) approval (also CS indicator for Policy CS1)</p> <p>12/3: Amount of sand and gravel extracted prior to non-mineral development within the MSA (also CS indicator for Policy CS1)</p> <p>12/4: Amount in tonnes of mineral extraction granted planning permission against MPA approval (also CS indicator for Policy CS1 and CS2)</p> <p>12/5: Amount in tonnes of non-aggregate mineral extraction granted planning permission (also CS indicator for Policy CS3)</p> <p>12/6: Number of proposals for non-aggregate mineral extraction granted planning permission against MPA</p>

Key issues and challenges	SA objective	Indicators
		approval (also CS indicator for Policy CS3 and CS4) 12/7: Extraction compared to previous years (also CS indicator for Policy CS3).
<p><u>Restoration and After Use</u> Minerals and waste sites, including those in Buckinghamshire, can have significant adverse impacts upon sites, habitats and green spaces during their lifetime; however, their development and end of use can mark opportunities to contribute towards the enhancement of environmental assets, including biodiversity, historic environment, landscape, recreation and soil quality. Aylesbury Vale has been identified as having a green infrastructure deficit that restoration and after use can contribute towards reducing.</p> <p>Source:</p> <ul style="list-style-type: none"> • National, regional and local policy (Other plans, policies and programmes) • Numerous consultees, including local residents and local councils (Public consultation) • Experience of Buckinghamshire County Council <p>Further details of minerals and waste restoration opportunities can be found in the Minerals Topic Paper (TP6) and the Waste Topic Paper (TP5). Details of areas identified as having a green infrastructure benefit are given in the Spatial Context Topic Paper (TP7), together with further details of the county's recreation baseline.</p>	<p>SA13: To promote the effective restoration and appropriate after use of minerals and waste sites</p> <p><i>Decision-making criteria:</i></p> <p>a. Will any potential restoration result in enhancing or recovering wildlife resources?</p> <p>b. Will any potential restoration contribute to local BAP targets?</p> <p>c. Will any potential restoration / after use provide recreational, amenity or leisure opportunities for local people?</p> <p>d. Will restoration result in improvements to soil quality?</p> <p>e. Will any potential restoration provide opportunities for enhancing green infrastructure and contributing to reducing the green infrastructure deficit in Aylesbury Vale?</p>	<p><i>Contextual indicators:</i> None – site specific</p> <p><i>SA indicators:</i> 13/1: Number and proportion of sites (a) restored to beneficial use and (b) with detailed plans in place for restoration 13/2: Number of former mineral workings identified for ecological, heritage or amenity value (also CS indicator for Policy CS22 and CS23) (also 5/8 & 6/5).</p>
<p><u>Sustainable Management of Minerals and Waste</u> The sustainable management of both minerals and waste can contribute to minimising the amount of natural resources used, waste produced, and a more efficient use of resources and increased energy generation, for example through recycling or using waste as an energy source, and minimise associated negative impacts, such as potential pollution. It is important that Buckinghamshire play its part</p>	<p>SA14: To contribute positively to the sustainable management of waste and minerals</p> <p><i>Decision-making criteria:</i></p> <p>a. Are the proposals in line with the waste hierarchy?</p> <p>b. Will it contribute to or encourage waste minimisation?</p>	<p><i>Contextual indicators:</i> AS FOR SA9 & SA12</p> <p><i>SA indicators:</i> AS FOR SA9 & SA12</p>

Key issues and challenges	SA objective	Indicators
<p>in sustainably managing its waste and minerals. Population expansion and economic growth in the county, the level of which is currently uncertain, could increase demand for minerals and the capacity required to deal with the county's waste sustainably. The design and construction of developments can also assist with the sustainable management of minerals and waste through the reuse of on-site demolition and excavation materials, minimising the amount of waste produced, increasing the use of alternative construction materials and reducing the amount of primary natural resources used. To ensure sustainability, flexibility will be needed to take account of future changes in technologies, mineral extraction and waste management processes, and demand for resources and waste management capacity.</p> <p><i>Source:</i></p> <ul style="list-style-type: none"> • <i>International, European, national, regional and local policy (Other plans, policies and programmes)</i> • <i>Growth projections (Baseline)</i> • <i>Numerous consultees, including local residents, local councils and minerals operators (Public consultation)</i> <p><i>Further information about minerals activities and waste management and likely future trends for Buckinghamshire can be found in the Minerals Topic Paper (TP6) and Waste Topic Paper (TP5) respectively.</i></p>	<p><i>c. Will it contribute to an increase in the level of reuse, recycling or composting?</i></p> <p><i>d. Will it contribute to a reduction or increase in the proportion of waste landfilled?</i></p> <p><i>e. Will it contribute to enabling the county's waste to be managed within the county?</i></p> <p><i>f. Will it increase the use of secondary and recycled aggregates?</i></p> <p><i>g. Is it flexible to account for future changes in technology, processes or needs?</i></p>	
<p><u>Energy</u></p> <p>Traditional methods of generating energy have led to the production of significant carbon dioxide emissions, which contribute to climate change, and use finite non-renewable resources. It is therefore important to both use energy efficiently in mineral extraction and waste management processes and seek to produce energy from renewable and low carbon sources; it is important that Buckinghamshire play its part in this. Little energy is currently produced in Buckinghamshire through waste activities.</p>	<p>SA15: To use energy efficiently and to increase the production of energy from renewable and low carbon sources</p> <p><i>Decision-making criteria:</i></p> <p><i>a. Will it use energy efficiently?</i></p> <p><i>b. Will it contribute to an increase in the production of energy from renewable and low carbon sources?</i></p> <p><i>c. Will any energy (heat / electricity) be produced?</i></p> <p><i>d. Will any energy produced (heat / electricity)</i></p>	<p><i>Contextual indicators:</i></p> <p>15/1: Amount of energy, by type, produced from waste within Buckinghamshire, compared to the national average.</p> <p><i>SA indicators:</i></p> <p>15/1: Amount of energy, by type, produced from waste</p> <p>15/2: Percentage of waste facilities that produce energy utilising (a) heat and (b) electricity locally</p>

Key issues and challenges	SA objective	Indicators
<p>Source:</p> <ul style="list-style-type: none"> • <i>International, European, national, regional and local climate change and energy policy (Other plans, policies and programmes)</i> • <i>Energy generation data (Baseline)</i> • <i>Numerous consultees, including local residents (Public consultation)</i> <p><i>Further details of the contribution that minerals and waste activities can make to energy efficiency and energy generation can be found in the Minerals Topic Paper (TP6) and the Waste Topic Paper (TP5).</i></p>	<p><i>be used locally?</i></p>	<p>15/3: Waste facilities achieving energy efficiency certification (also CS indicator for Policy CS22)</p> <p>15/4: Number of waste sites accommodating renewable energy installations or (ii) biomass cultivation (also CS indicator for Policy CS22).</p> <p>.</p>
<p><u>Road Journey Reduction</u></p> <p>Many of Buckinghamshire’s roads are already congested, mainly as a result of the high level of car ownership and use within the county. Road traffic also contributes to public safety, air quality and climate change problems. Minerals and waste are currently transported around and through the county mainly by road, thereby contributing to the problem; it is therefore important to minimise the number and length of these road journeys. The use of Buckinghamshire’s waterways and rail network should also be considered, although such infrastructure is only present in limited parts of the county or is not currently viable.</p> <p>Source:</p> <ul style="list-style-type: none"> • <i>National, regional and local transport policy (Other plans, policies and programmes)</i> • <i>Transport and traffic data (Baseline)</i> • <i>Numerous consultees, including local residents and local councils (Public consultation)</i> <p><i>Details of the county’s transport infrastructure as relevant to minerals and waste activities can be found in the Spatial Context Topic Paper (TP7), together with a relevant map.</i></p>	<p>SA16: To minimise the number and length of road journeys associated with waste management facilities and minerals workings</p> <p><i>Decision-making criteria:</i></p> <ol style="list-style-type: none"> <i>Will it increase or decrease the kilometres travelled by waste or minerals by road?</i> <i>Will it have a positive or negative impact on traffic congestion?</i> <i>Will there be a positive or negative impact on local infrastructure?</i> <i>Will there be an increase or reduction in the number of movements of waste or minerals?</i> <i>Will it reduce reliance on the car?</i> <i>Will it reduce the need to travel?</i> 	<p><i>Contextual indicators:</i></p> <p>16/1: List of strategic roads within Buckinghamshire that are recognised as congested.</p> <p><i>SA indicators:</i></p> <p>16/1: Accessibility of (a) waste facilities and (b) minerals sites by non-car/lorry modes.</p> <p>16/2: Modal split of waste / minerals traffic.</p> <p>16/3: Kilometres travelled by road to and from (a) waste and (b) minerals sites.</p> <p>16/4: Total amount of mineral transported by rail (exports / imports / intra-county movements, including hard rock) (also CS indicator for Policy CS7).</p> <p>16/5: Planning consent granted on rail aggregates depot site not for the transportation of minerals (also CS indicator for Policy CS7).</p> <p>16/6: Identification of new rail aggregate depots / wharves (also CS indicator for Policy CS7).</p>

Key issues and challenges	SA objective	Indicators
<p><u>Community Participation and Individual Responsibility</u> Community participation is recognised internationally, nationally and locally as an important element of sustainable development. Individual people and businesses also play a significant role in waste production and minerals use. It is therefore important that Buckinghamshire’s minerals and waste planning policy recognises both these aspects and ensures public waste sites are accessible for all, and that individuals and businesses are encouraged to reduce their waste and increase their recycling and composting, and to use alternative building materials.</p> <p>Source:</p> <ul style="list-style-type: none"> • International, national, regional and local policy (Other plans, policies and programmes) • Numerous consultees, including neighbouring authorities and local residents (Public consultation) • Experience of Buckinghamshire County Council <p>Further details of public and business interactions with minerals and waste activities in the county can be found in the Minerals Topic Paper (TP6) and the Waste Topic Paper (TP5).</p>	<p>SA17: To maximise community participation in minerals and waste issues and individual responsibility for their own waste production and minerals use</p> <p><i>Decision-making criteria:</i></p> <ul style="list-style-type: none"> a. Will it facilitate good and equitable access to waste services for all? b. Will it increase or decrease opportunities for public and/or business participation? c. Will it increase or decrease opportunities for education and awareness raising on minerals and waste issues? d. Will it enable individuals and organisations to take responsibility for their own waste – e.g. through local management? e. Will it enable Buckinghamshire to achieve net-self sufficiency for minerals and/or waste? 	<p><i>Contextual indicators:</i></p> <p>17/1: Percentage of households in Buckinghamshire participating in household recycling collections compared to the national average.</p> <p><i>SA indicators:</i></p> <p>17/1: Percentage of households participating in household recycling collections.</p> <p>17/2: The number of waste audits submitted against the number of planning applications (also Policy CS indicator for CS8).</p>
<p><u>Recreation</u> Minerals and waste operations, including those in Buckinghamshire, can potentially cause significant damage and disruption to resources valued for recreation, including public rights of way and open spaces. These impacts can, however, be minimised and there is potential for recreational resources to be created and enhanced through planning processes.</p> <p>Source:</p> <ul style="list-style-type: none"> • National, regional and local access and recreation policy (Other plans, policies and programmes) • Recreational data (Baseline) • Numerous consultees, including local residents and local councils (Public consultation) 	<p>SA18: To protect, enhance and create (where possible) resources valued for recreation, including public rights of way</p> <p><i>Decision-making criteria:</i></p> <ul style="list-style-type: none"> a. Will there be any impact on resources valued for recreation, including public rights of way? b. Will there be any opportunities to create green infrastructure of recreational value, including public rights of way? 	<p><i>Contextual indicators:</i></p> <p>18/1: Length (in km) of public rights of way, including footpaths, bridleways and National Trails, in Buckinghamshire.</p> <p><i>SA indicators:</i></p> <p>18/1: Number of new Rights of Way permitted on minerals and waste sites (i) implemented; (ii) Rights of Way paths diverted (S106); (iii) replacement Rights of Way routes (in km) (also CS indicator for Policy CS23)</p> <p>18/2: Number of green spaces with</p>

Key issues and challenges	SA objective	Indicators
<ul style="list-style-type: none"> • <i>Experience of Buckinghamshire County Council</i> <p><i>Details of the county's recreation baseline can be found in the Spatial Context Topic Paper (TP7).</i></p>		<p>multi-functional benefits to community (in Ha) (also CS indicator for Policy CS23).</p>
<p><u>Employment Land</u> Buckinghamshire currently has a strong local economy; however, to maintain this it is important to have sufficient land and premises available for employment use. It is therefore important that minerals and waste operations avoid causing any adverse economic impact on land and premises in employment use to enable local businesses to continue to be successful. Benefits to local businesses should also be sought, including reducing current impacts from sites and transport routes and ensuring waste management facilities are constructed to handle business waste.</p> <p><i>Source:</i></p> <ul style="list-style-type: none"> • <i>National, regional and local economic policy (Other plans, policies and programmes)</i> • <i>Local economic data (Baseline)</i> • <i>Numerous consultees, including local councils (Public consultation)</i> <p><i>Details of the county's economic baseline can be found in the Spatial Context Topic Paper (TP7).</i></p>	<p>SA19: To avoid adverse economic impacts on land and premises in employment use and seek to benefit such businesses where possible</p> <p><i>Decision-making criteria:</i></p> <p>a. <i>Will there be any adverse economic impacts on land and premises in employment use? (e.g. from land take or the need for businesses to relocate or from the transport routes used)?</i></p> <p>b. <i>Will there be any benefits for local businesses and landowners?</i></p>	<p><i>Contextual indicators:</i></p> <p>19/1: Percentage of land in Buckinghamshire in or proposed for employment use.</p> <p><i>SA indicators:</i></p> <p>19/1: Number of complaints from commercial uses in close proximity to waste or minerals sites relating to the operation of those facilities.</p> <p>19/2: Number of businesses relocating in order to move away from new waste facilities, and rate of take-up of any sites thus vacated.</p> <p>19/3: Amount of employment land lost to waste management facilities and minerals sites.</p>
<p><u>Job Opportunities</u> Buckinghamshire currently has higher levels of employment than the national average, which is projected to continue. The mineral and waste industries directly contribute a relatively small number of job opportunities within the county. The provision of construction aggregate (sand and gravel) and of adequate capacity for commercial wastes contributes to the efficiency of the county's economy and, therefore, employment. The Chilterns AONB also contributes to tourism-related business. It is therefore important that minerals and waste operations within the county do not harm local employment and instead</p>	<p>SA20: To maintain or improve job opportunities within the county</p> <p><i>Decision-making criteria:</i></p> <p>a. <i>Will there be a resulting reduction in or creation of jobs in the waste or minerals industry?</i></p> <p>b. <i>Will there be a positive or negative impact on jobs opportunities in non-waste or non-minerals businesses?</i></p>	<p><i>Contextual indicators:</i></p> <p>20/1: Percentage of the working age population of Buckinghamshire in employment, compared to the national average.</p> <p><i>SA indicators:</i></p> <p>20/1: Estimated number of jobs gained or lost due to the creation of new waste facilities or minerals sites within the county.</p>

Key issues and challenges	SA objective	Indicators
<p>contribute positively to job opportunities.</p> <p><i>Source:</i></p> <ul style="list-style-type: none"> • <i>National, regional and local economic policy (Other plans, policies and programmes)</i> • <i>Local employment data (Baseline)</i> • <i>Numerous consultees, including local councils (Public consultation)</i> <p><i>Details of the county's economic baseline and details of the job opportunities that the minerals and waste opportunities provide can be found in the Spatial Context Topic Paper (TP7).</i></p>		

4.1 Core Strategy Objectives

The Core Strategy strategic objectives have been completely revised following the 2008 public consultation. The ten current Core Strategy objectives are now as follows:

Strategic Objectives

SO1: Improving the Sustainability of Minerals Development

To identify sufficient land to enable Buckinghamshire’s currently agreed apportionment for sand and gravel to be maintained in a steady supply over the plan period, whilst reducing the quantity of primary minerals needed by increasing levels of aggregates recycling and the use of alternatives to primary materials.

SO2: Improving the Sustainability of Waste Management

To support waste prevention and reuse, and identify sufficient land to manage an equivalent amount of waste to that generated within Buckinghamshire, so as to deliver a county-wide network of improved existing and new facilities to maximise local recycling and composting, and ensure value by energy recovery for the remaining waste whilst moving away from Buckinghamshire’s current over-reliance on landfill disposal.

SO3: Safeguarding of Existing Minerals Resources

To protect the county’s mineral resources within the Thames Valley, where the richest deposits of sand and gravel are to be found, and potentially viable resources in north Buckinghamshire from development which would prevent their future use.

SO4: Spatial Distribution of Minerals Development

To give priority to the improved use or extension of existing sites in Buckinghamshire, before considering new locations to minimise the use of land for minerals extraction activities in the county and to help protect natural resources.

SO5: Transportation of Minerals

To protect existing and potential future locations for minerals transportation infrastructure from alternative uses to improve connection between minerals sites and growth areas.

SO6: Spatial Distribution of Waste Development

To enable strategic waste capacity to be provided in the county to co-locate facilities, minimise waste movements and make the best use of a limited number of site opportunities.

SO7: Safeguarding of Existing Waste Sites

To protect Buckinghamshire’s existing waste management sites and sites suitable for future waste management infrastructure from alternative uses.

SO8: Transportation of Waste

To utilise planned improvements in transport infrastructure and enable the development of new strategic waste transfer facilities which will improve connectivity between the north and south of the county and enable the more efficient movement of waste.

SO9: Protection of the Green Belt and AONB

To protect the Green Belt and the Chilterns AONB within Buckinghamshire from unnecessary minerals and waste development.

SO10: Protecting and Enhancing the Environment

To protect and enhance the human, historic and natural environment, by minimising and mitigating potential negative impacts and by seeking positive benefits from minerals and waste development in the county.

4.2 Testing the Plan Objectives

The objectives of the Preferred Options version of the Core Strategy were tested against the SA objectives to ensure the plan’s objectives were sustainable. Following the Preferred Options consultation in February 2008 (the last round of public consultation), the plan has evolved, with Core Strategy objectives being updated and amended. These latest plan objectives have been reviewed against the SA objectives to ensure the plan’s objectives continue to be sustainable. The results are set out in the table below.

As can be seen from Table 4.1, the Core Strategy objectives raise several potential areas for conflict with SA objectives. This is unsurprising considering the nature of the minerals and waste activities concerned. It will therefore be essential to identify any negative impacts of particular significance in the review of options and effects of the proposed plan, and to indicate a range of mitigation measures to potentially minimise any such impacts. Detailed policy wording in the Core Strategy or the subsequent Minerals DPD and Waste DPD, as appropriate, particularly with regard to SO10 (‘Protecting and enhancing the environment’), that covers the recommendations highlighted below, will also improve the compatibility of the strategic objectives with the sustainability objectives.

Key	
✓	Compatible
N	Neutral / No relationship
*	Potential conflict

Effects of the SA on the Plan

The SA team were given an opportunity to review the plan objectives early in their development. This resulted in significant changes from initial drafts to ensure the wording indicated the intention of the plan to provide for more sustainable minerals and waste planning.

Plan objective SO10 was amended during the testing of the plan objectives against the SA objectives to include the protection and enhancement of the ‘human’ environment as a result of concerns raised by the SA team that the plan objectives did not specifically seek to avoid adverse impacts on the living conditions of local communities.

The testing of the plan objectives against the SA objectives has resulted in several policy recommendations to take forward into the development of Core Strategy policies, and potentially Minerals DPD and Waste DPD policies, as set out in the following table.

Table 4.1: Testing the Plan objectives against the SA objectives

Core Strategy Strategic Objectives →	SO1: Improving the Sustainability of Minerals Development	SO2: Improving the Sustainability of Waste Management	SO3: Safeguarding of Existing Minerals Resources	SO4: Spatial Distribution of Minerals Development	SO5: Transportation of Minerals	SO6: Spatial Distribution of Waste Development	SO7: Safeguarding of Existing Waste Sites	SO8: Transportation of Waste	SO9: Protection of the Green Belt and AONB	SO10: Protecting and Enhancing the Environment
SA Objectives										
SA1. Air quality	x	✓/x	N	✓/x	✓	✓	✓/x	✓	x	N
Comments to SA1	<p>SO1 is potentially incompatible with SA1, although effects could be moderated by SO10. SO9 is potentially incompatible with SA1 as by preventing development in substantial designated sites, this may force sites to be located beyond and increase transport distances and emissions. SO2, SO4 and SO7 are potentially incompatible with SA1, depending on how they are implemented. Again effects should be moderated by SO10.</p> <p>Policies should seek to minimise pollution from mineral extraction and waste management. Include policy wording requiring prior agreement of access and route plans before development for all waste and minerals sites, to include consideration of air quality impacts.</p> <p style="text-align: right;">Cumulative impact on SA1: ✓/x</p>									
SA2. Climate change	✓/x	✓	N	✓/x	✓	✓	✓/x	✓	x	✓
Comments to SA2	<p>SO9 is potentially incompatible with SA2 as by preventing development in substantial designated sites, this may force sites to be located beyond and increase transport distances and emissions. SO1, SO4 and SO7 are potentially incompatible with SA2, depending on how they are implemented. However, climate change impacts from minerals extraction could potentially be reduced with the increased use of secondary materials (also part of SO1). Climate change impacts from waste management should be notably reduced by diverting waste from landfill (SO2), with associated reductions in methane production, which would more than offset any increases in emissions from transportation mileage. SO5 and SO8 could also help to reduce transport mileage and associated emissions.</p> <p>Recommend policy wording with regard to SO10 seeking use of alternative methods to road borne transport, more energy efficient operations, and the use of renewable and low-carbon energy sources to reduce greenhouse gas emissions. Include policy on design to minimise impacts on and ensure adaptation to climate change, including increasing the increasing flood risk predicted.</p> <p style="text-align: right;">Cumulative impact on SA2: ✓</p>									
SA3. Living conditions and amenities	x	✓/x	N	✓/x	✓/x	x	✓/x	N	✓/x	✓
Comments to SA3	<p>SO1 and SO6 are potentially incompatible with SA3. SO2, SO4, SO5, SO7 and SO9 are also potentially incompatible with SA3, depending on how they are implemented. SO8 evaluation assumes applications for newly permitted transportation routes would have to ensure impacts on local communities are minimised. However, SO10 specifically seeks the protection and enhancement of the human environment, thereby directly addressing SA3 in terms of protecting and enhancing living conditions and amenities.</p> <p>Recommend policy wording with regard to SO10 that ensures local communities and those working in local businesses are not adversely affected by the development that</p>									

Core Strategy Strategic Objectives →										
SA Objectives	SO1: Improving the Sustainability of Minerals Development	SO2: Improving the Sustainability of Waste Management	SO3: Safeguarding of Existing Minerals Resources	SO4: Spatial Distribution of Minerals Development	SO5: Transportation of Minerals	SO6: Spatial Distribution of Waste Development	SO7: Safeguarding of Existing Waste Sites	SO8: Transportation of Waste	SO9: Protection of the Green Belt and AONB	SO10: Protecting and Enhancing the Environment
	results from minerals and waste planning, and which seeks enhancements to the natural and historic environment and the provision of positive community benefits.									
	Cumulative impact on SA3: ✓/✗									
SA4. Human health and public safety	N	✓/✗	N	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓
Comments to SA4	<p>SO2, SO4, SO5, SO6, SO7, SO8 and SO9 are potentially incompatible with SA4, depending on how they are implemented. SO10 specifically seeks to protect and enhance the human environment, which should include impacts on human health and public safety.</p> <p>Recommend policy wording with regard to SO2, SO6, SO7 and SO10 with reference to minimising pollution from mineral extraction, waste processing, and transportation of minerals and waste. Recommend policy wording requiring a health impact assessment, covering site and transportation impacts, for any minerals or waste development proposal that is likely to have significant potential health impacts.</p>									
	Cumulative impact on SA4: ✓/✗									
SA5. Biodiversity	✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓
Comments to SA5	<p>SO1 is potentially incompatible with SA5 as there are likely to be initial negative impacts from the new minerals and waste development envisaged. SO2, SO3, SO4, SO5, SO6, SO7 SO8 and SO9 are potentially incompatible with SA5, depending on how they are implemented. However, effects could be effectively moderated by SO10, which seeks both protection and potential benefits for the natural environment.</p> <p>Recommend policy wording to ensure that biodiversity is protected and seek to enhance and increase biodiversity habitats as a result of the implementation of the Minerals and Waste Core Strategy.</p>									
	Cumulative impact on SA5: ✓/✗									
SA6. Archaeology and the historic environment	✗	✗	N	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✗	✓
Comments to SA6	<p>SO1, SO2 and SO9 are potentially incompatible with SA6 as there are likely to be negative impacts from new the minerals and waste development envisaged, depending upon the sites involved; with regard to SO9, the protection of the green belt and AONB could put cumulative pressure on built areas where there is a greater extent of history of human activity. SO4, SO5, SO6, SO7 SO8 and SO9 are potentially incompatible with SA6, depending on how they are implemented. However, effects could be effectively moderated by SO10, which seeks both protection and potential benefits for the historic environment.</p> <p>Recommend policy wording to ensure that features of historic significance are protected, including sites of archaeological importance, historic landscapes, listed buildings and conservation areas.</p>									
	Cumulative impact on SA6: ✓/✗									

Core Strategy Strategic Objectives →	SO1. Improving the Sustainability of Minerals Development	SO2. Improving the Sustainability of Waste Management	SO3. Safeguarding of Existing Minerals Resources	SO4: Spatial Distribution of Minerals Development	SO5: Transportation of Minerals	SO6: Spatial Distribution of Waste Development	SO7: Safeguarding of Existing Waste Sites	SO8: Transportation of Waste	SO9: Protection of the Green Belt and AONB	SO10: Protecting and Enhancing the Environment
SA Objectives										
SA7. Soils and geology	x	x	N	✓/x	✓/x	✓/x	✓/x	N	✓	✓
Comments to SA7	<p>SO1 and SO2 are potentially incompatible with SA7 as there are likely to be negative impacts from new the minerals and waste development envisaged, depending upon the sites involved. SO4, SO5, SO6, SO7 SO8 and SO9 are potentially incompatible with SA7, depending on how they are implemented. However, effects could be effectively moderated by SO10, which seeks both protection and potential benefits for the natural environment. In addition, SO9 would encourage the use of brownfield land, which should be beneficial.</p> <p>Recommend policy wording to ensure that features of geological importance are protected and seek to improve soil quality as part of restoration proposals.</p> <p style="text-align: right;">Cumulative impact on SA7: ✓/x</p>									
SA8. Landscapes and townscapes	x	✓/x	N	✓/x	✓/x	x	x	✓/x	✓	✓
Comments to SA8	<p>SO6 and SO7 are potentially incompatible with SA8 as there are likely to be negative impacts from the new waste development envisaged, with co-location leading to more intensive development on sites. SO1 is also potentially incompatible with SA8 as there are likely to be negative impacts from the mineral workings envisaged, although it is recognised that this will be temporary in nature. SO2, SO4, SO5 and SO8 are potentially incompatible with SA8, depending on how they are implemented. However, effects could be effectively moderated by SO9 and SO10, which seek to protect the AONB and seek both protection and potential benefits for the natural environment.</p> <p>Recommend policy wording on protection of landscapes and townscapes.</p> <p style="text-align: right;">Cumulative impact on SA8: ?</p>									
SA9. Natural resource use	✓	✓	✓	✓	N	N	✓	N	N	N
Comments to SA9	<p>Strategic objectives are directly compatible with SA9 and help to facilitate its achievement.</p> <p style="text-align: right;">Cumulative impact on SA9: ✓</p>									
SA10. Water	✓/x	✓/x	N	✓/x	✓/x	✓/x	✓/x	✓/x	✓/x	✓
Comments to SA10	<p>SO1, SO2, SO4, SO5, SO6, SO7 SO8 and SO9 are potentially incompatible with SA10, depending on how they are implemented. However, effects could be effectively moderated by SO10, which seeks both protection and potential benefits for the natural environment.</p> <p>Recommend policy in relation to SO10 that seeks to avoid or minimise adverse impacts on water resources / waterbodies. Policy should ensure there is no deterioration in the status of any relevant waterbodies and should seek to improve status where possible, all in line with the requirements of the Water Framework Directive. Also recommend policy on design which seeks the efficient use of water.</p> <p style="text-align: right;">Cumulative impact on SA10: ✓/ x</p>									
SA11. Flood risk	✓/x	✓/x	N	N	N	N	N	N	N	✓

Core Strategy Strategic Objectives →	SO1: Improving the Sustainability of Minerals Development	SO2: Improving the Sustainability of Waste Management	SO3: Safeguarding of Existing Minerals Resources	SO4: Spatial Distribution of Minerals Development	SO5: Transportation of Minerals	SO6: Spatial Distribution of Waste Development	SO7: Safeguarding of Existing Waste Sites	SO8: Transportation of Waste	SO9: Protection of the Green Belt and AONB	SO10: Protecting and Enhancing the Environment
SA Objectives										
Comments to SA11	SO1 and SO2 could have a positive or negative on flood risk. Requirements of Planning Policy Statement (PPS) 25 will ensure compatibility with SA11 for most sites.									
Cumulative impact on SA11: N										
SA12. Mineral resources	✓	N	✓	✓	✓	✓/x	N	N	✓/x	N
Comments to SA12	SO6 and SO9 are potentially incompatible with SA12, depending on how they are implemented and the location of waste sites in relation to safeguarded minerals sites. However, the effects of negative impacts are moderated by SO1 and SO3 which seek the protection of minerals deposits and encourage the use of secondary alternatives. SO4 and SO5 also play a key role in ensuring that minerals are not effectively sterilised and can be viably extracted where they are located.									
Cumulative impact on SA12: ✓										
SA13. Restoration and after use	N	N	N	N	N	N	N	N	N	✓
Comments to SA13	Strategic objectives are neutral on restoration and after-use, with the exception of SO10, which seeks 'positive benefits' from minerals and waste development, which would be achieved through effective restoration and after use. Recommend inclusion of a policy requiring a high standard of restoration and after-use for sites, including enhancement measures such as improving green infrastructure and contributing to the achievement of local Biodiversity Action Plan (BAP) targets, to maximise restoration and after-use potential.									
Cumulative impact on SA13: ✓										
SA14. Sustainable management of waste and minerals	✓	✓	✓	✓	✓	✓	✓	✓	✓	N
Comments to SA14	Strategic objectives are directly compatible with SA14.									
Cumulative impact on SA14: ✓										
SA15. Energy	N	✓	N	N	✓/x	✓/x	N	N	N	N
Comments to SA15	SO2 specifically seeks the recovery of energy from waste, but the level of energy efficiency will depend upon whether the heat and/or electricity produced can be used locally. SO5 and SO6 – level of compatibility with SA15 depends on whether location of facilities and transportation mode results in an overall increase or decrease in the amount of energy used for transporting minerals and waste. Recommend policy on design to ensure energy is used efficiently and that the production of energy from renewable and low carbon sources is sought. Seek the local use of any energy produced, where possible, including related waste management processes.									
Cumulative impact on SA15: ✓/x										
SA16. Road journeys	✓/x	✓	N	N	✓	✓	N	✓	✓/x	N
Comments to SA16	SO1 and SO9 are potentially incompatible with SA16, depending on the location of minerals and waste sites. However, potential incompatibility moderated by SO5 and SO8. Recommend policy wording with regard to SO10 to encourage alternative modes of									

Core Strategy Strategic Objectives →										
SA Objectives	SO1: Improving the Sustainability of Minerals Development	SO2: Improving the Sustainability of Waste Management	SO3: Safeguarding of Existing Minerals Resources	SO4: Spatial Distribution of Minerals Development	SO5: Transportation of Minerals	SO6: Spatial Distribution of Waste Development	SO7: Safeguarding of Existing Waste Sites	SO8: Transportation of Waste	SO9: Protection of the Green Belt and AONB	SO10: Protecting and Enhancing the Environment
	transport and the provision of locally based facilities to reduce road journeys and mileage associated with minerals and waste management. Recommend policy under SO10 seeking route plan for minerals and waste facilities to seek to avoid areas of traffic congestion, and minimise the number and length of road journeys.									
	Cumulative impact on SA16: ✓									
SA17. Community participation and individual responsibility	N	✓	N	N	N	N	N	N	N	N
Comments to SA17	Strategic objectives are mainly neutral with regard to SA17 compatibility, although local facilities proposed by SO2 would appear compatible. Recommend policy wording seeking waste audits for any development activity in the county to maximise associated participation and responsibility for waste produced. Also recommend policy wording seeking waste education and awareness-raising benefits from the development of waste facilities where possible to encourage community participation in waste management.									
	Cumulative impact on SA17: N									
SA18. Recreation	✓/x	✓/x	✓/x	✓/x	x	✓/x	x	x	✓	✓
Comments to SA18	SO5, SO7 and SO8 are potentially incompatible with SA18 as they may prevent potential leisure uses on sites but offer limited direct opportunities for enhancement in themselves. SO1, SO2, SO3, SO4 and SO6 are potentially incompatible, depending on the eventual location of minerals and waste sites. SO10 could potentially help to moderate effects of other strategic objectives if recreation is included within the definition 'positive benefits to the human environment', but it is reasonable that specific wording on recreation would not be included within a strategic objective. Recommend policy in relation to SO10 that specifically protects important recreation features and seeks relevant enhancements.									
	Cumulative impact on SA18: ✓/x									
SA19. Land and premises in employment use	✓/x	✓/x	✓/x	✓	✓/x	✓/x	✓/x	✓/x	✓/x	✓/x
Comments on SA19	Safeguarded sites may already be in, or come forward for development as, their protected minerals / waste use, which would provide employment. However, SO5 and SO7 are potentially incompatible with SA19 as they could prevent more economically beneficial alternative employment uses on the sites concerned. SO3 is potentially incompatible with SA19, but would depend on whether the minerals on site could be excavated prior to site development, thus enabling any proposed employment land use to proceed. SO1, SO2, SO6, SO8, SO9 and SO10 are potentially incompatible with SA19, depending on the location of minerals and waste sites in relation to land under or proposed for employment use. Recommend policy under SO10 that ensures that land and premises in employment use are not adversely affected by minerals and waste planning.									
	Cumulative impact on SA19: ✓/x									

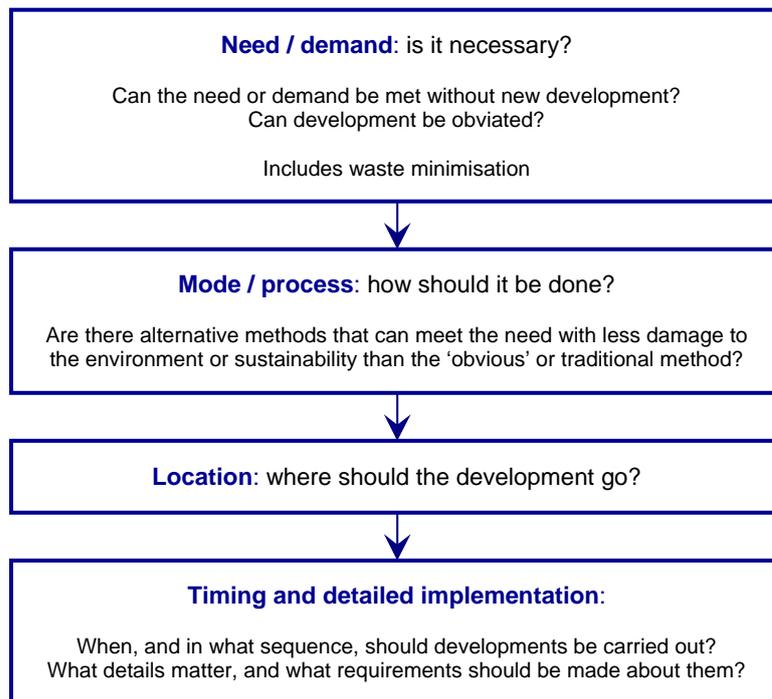
Core Strategy Strategic Objectives → SA Objectives	SO1: Improving the Sustainability of Minerals Development	SO2: Improving the Sustainability of Waste Management	SO3: Safeguarding of Existing Minerals Resources	SO4: Spatial Distribution of Minerals Development	SO5: Transportation of Minerals	SO6: Spatial Distribution of Waste Development	SO7: Safeguarding of Existing Waste Sites	SO8: Transportation of Waste	SO9: Protection of the Green Belt and AONB	SO10: Protecting and Enhancing the Environment
SA20. Job opportunities	✓	✓/✗	✓/✗	✓/✗	✓/✗	✓	✓/✗	✓/✗	N	N
Comments to SA20 <div style="text-align: right;"><i>Cumulative impact on SA20: ✓/✗</i></div>	SO2, SO3, SO4, SO5, SO7 and SO8 are potentially incompatible with SA20, depending on how they are implemented. SO1 seeks to maintain a supply of minerals and provide certainty of future sites which in turn encourages new development and related jobs. Co-location may also afford some additional job opportunities within the county and should result in fewer sites across the county being utilised for waste uses, allowing them to be developed for other uses, such as employment.									

5 Testing the Options / Alternatives

5.1 Development of the Options

A variety of strategic and policy options have been considered for both minerals and waste by Buckinghamshire County Council as the Core Strategy has been developed.

In accordance with Government guidance, particularly from Planning Policy Statement (PPS) 10, these include options concerning:



A series of options were developed prior to, and informed the development of, the Preferred Options version of the Core Strategy (February 2008). These are detailed in the sub-sections below.

Buckinghamshire County Council has substantially amended the Core Strategy from its Preferred Options version in response to issues identified during the latest round of public consultation and a subsequently extended evidence base.

This has afforded an opportunity for options previously considered to be re-evaluated and for new options to be developed, taking account of consultation feedback.

With regard to waste, the choice of options for appraisal and the strategic position adopted in the Core Strategy has been influenced by:

- European, national and regional waste policy and legislation, in particular the waste hierarchy and the need to develop options to enable targets for landfill diversion to be met;
- Work previously undertaken by the Council, in partnership with the four districts, on the Joint Municipal Waste Management Strategy;

- Outcomes of site assessments; and
- Consultation feedback.

With regard to minerals, the choice of options for appraisal and the strategic position adopted in the Core Strategy has been influenced by:

- National minerals planning policy and guidance;
- The regional apportionment targets set out in the South East Plan, with which the Government continues to require compliance¹³;
- New information from the British Geological Survey on potentially viable minerals deposits in the north of Buckinghamshire; and
- Consultation feedback.

The approach used to review the options is set out in Section 2 of this report.

5.2 Scope of Options Review

It is apparent from some of the consultation responses received that the limited remit of the Core Strategy and Buckinghamshire County Council's minerals and waste planning role has not been fully understood by consultees.

The scope of the review of options is limited by several factors, in particular:

- The geographical boundary to both the plan and Buckinghamshire County Council's planning remit – for example, sites cannot be allocated outside of Buckinghamshire's boundary;
- Some issues are outside of the remit of Buckinghamshire County Council's minerals and waste planning role. For example, options cannot be included concerning the development of a specific waste management technology for dealing with municipal waste as this is the remit of the Waste Disposal Authority, which is a different part of Buckinghamshire County Council (Waste Procurement Project). Other waste streams such as commercial and industrial wastes are collected and managed by the waste industry who decides which technologies and facilities are required; such options cannot therefore be included within the plan. Equally, options cannot be considered for how to regulate emissions or other pollution as this is the remit of the Environment Agency; and
- Buckinghamshire County Council's planning role does not include the power to prevent waste being imported or exported across its boundary. However, the Council will make provision for a declining amount of London's waste, in accordance with technical studies underpinning the apportionment set out in the South East Plan and consistent with the Council's existing policy (BMWLP Policy 11).

The options reviewed have also been limited to the issues to be covered by the Core Strategy. With regard to the consideration of sites, only those required for residual waste (the waste that remains after re-use, recycling and composting) have been considered as this is the most important (strategic) capacity required to meet the short-medium term diversion from landfill targets. Issues related to more detailed decisions over minerals and waste policies and all other types of sites will

¹³ A letter from the Government's Chief Planner, Steve Quartermain, to all local authority Chief Planning Officers dated 6th July 2010 confirms that 'Planning authorities in the South East should work from the apportionment set out in the 'Proposed Changes' to the revision of South East Plan Policy M3, published 19th March 2010'. The regional apportionment must therefore continue to be met.

be covered in the forthcoming Waste DPD and Minerals DPD, both of which will be accompanied by a Sustainability Appraisal, which builds upon this document.

A 'do nothing' option is not reasonable as Buckinghamshire County Council has a duty to plan for changing minerals and waste needs to be met.

A 'do minimum' / 'business as usual' option for minerals – to provide Buckinghamshire's minerals needs from within the Preferred Areas identified in the current Local Plan (2004-2016) (which have all now been granted planning permission) and therefore to only utilise existing minerals permissions to meet Buckinghamshire's minerals needs – is not possible as there will be insufficient mineral to provide for Buckinghamshire's minerals needs through the entire plan period to 2026. These sites only enable Buckinghamshire to maintain the seven-year minerals landbank required by the Government through to 2015 if no further sites are identified, as further explained in the Minerals Topic Paper.

A 'business as usual' option for waste – continue to provide for disposal of residual waste to landfill only, providing additional landfill where required – is not viable as landfill is at the bottom of the waste hierarchy. The majority of residual waste (the waste remaining after re-use, recycling and composting) needs to be diverted to energy recovery to deal with waste according to the waste hierarchy in line with national and European policy and legislation.

A 'do minimum' option for waste – to meet demand through existing facilities / sites – is also not viable as existing facilities / sites do not have sufficient capacity to deal with the predicted increases in recycling, composting and energy recovery. All residual waste (the waste that remains after re-use, recycling and composting) is currently landfilled, whereas the majority needs to be diverted to energy recovery to enable waste to be dealt with according to the waste hierarchy to conform to the EU Waste Framework Directive and Joint Municipal Waste Management Strategy targets. Policies relating to additional recycling and composting capacity will also be required to address the higher predicted levels of recycling and composting, which are detailed in the Waste Topic Paper.

It is also not viable for the plan to just provide capacity for lower amounts of waste than currently predicted (i.e. less capacity than currently seen to be needed), for example because growth is lower than expected, or waste minimisation is more successful than predicted. The Core Strategy needs to ensure it is sufficiently flexible to cope with worst-case but realistic scenarios in managing the equivalent of all of Buckinghamshire's waste arisings (net self-sufficiency), together with declining waste imports from London, with the Core Strategy focusing particularly on residual waste. Equally, the forthcoming Waste DPD, which will include non-strategic site allocations including recycling and composting facilities, will need to be sufficiently flexible to have capacity to cope with higher, but realistic levels of recycling and composting. Buckinghamshire County Council will therefore seek to provide sufficient capacity to meet predicted needs within the Core Strategy and Waste DPD. The waste industry will only submit applications to meet a perceived market need – it is not in their financial interests to provide capacity that will not be utilised. Buckinghamshire County Council will be monitoring the accuracy of its predicted waste capacity requirements on an annual basis and will take action to revise the capacity requirements set out in the plan if required.

The following principles have also been followed in and throughout the development the Core Strategy, in line with national policy and guidance:

- Minerals resources which may be able to contribute to meeting future aggregates needs should be safeguarded against other forms of development;
- Extraction outside identified 'Preferred Areas' will only be allowed in certain circumstances and the release of Preferred Areas for extraction will be phased to restrict the quantity of mineral and location of workings during the plan period;
- The plan must be deliverable and therefore realistic;
- The plan must be in line with the waste hierarchy, promoting and encouraging increased re-use, recycling and composting, and preferring other (energy) recovery to landfill; and
- Strategic waste recovery capacity should be co-located where possible to make best use of limited site opportunities, minimise the amount of facilities sought and minimise transport movements (waste from one process can become the input of another).

5.3 Options Rejected at an Early Stage

Numerous options were discounted at an early stage in the evaluation process for the development of the options at the Preferred Options stage (2008). These options are shown in Table 5.1 below for minerals and Table 5.2 for waste, together with the reason for their rejection at the Preferred Options stage and the results of their re-evaluation as part of the development of the latest version of the Core Strategy.

Table 5.1: Minerals options rejected at Preferred Options stage

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p>Need and demand option: Provide for a higher level of minerals provision than the regional apportionment requirement</p>	<p><i>Rejected prior to SA:</i> rejected as this option increases the likely negative social and environmental effects of the minerals operations due to potential increases in numbers of sites and transport movements. It would therefore result in an inefficient release of resources. The slight economic benefits of this option may bring in terms of new jobs is far outweighed by the potential negative impacts.</p>	<p><i>Rejected:</i> Comments as at Preferred Options.</p>
<p>Need and demand option: Identify a minerals safeguarding area from which preferred areas will be identified to provide less than the regional apportionment</p>	<p><i>Rejected prior to SA:</i> rejected as the regional apportionment must be met.</p>	<p><i>Rejected:</i> Comments as at Preferred Options.</p> <p>A letter from the Government's Chief Planner, Steve Quartermain, to all local authority Chief Planning Officers dated 6th July 2010 confirms that 'Planning authorities in the South East should work from the apportionment set out in the 'Proposed Changes' to the revision of South East Plan Policy M3, published 19th March 2010'. The regional apportionment must therefore continue to be met.</p>

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p>Need and demand option: Meet annual aggregates requirements fully through the use of recycled aggregate</p>	<p><i>Rejected prior to SA:</i> rejected as the demand for aggregate for construction is such that it cannot be met solely through recycling construction and demolition wastes or the use of secondary aggregates. However, regional policy includes an apportionment to enable recycling and secondary aggregate provision so all options considered take into account an increase in the use of recycled aggregate and secondary materials.</p>	<p><i>Rejected:</i> Comments as at Preferred Options.</p> <p>Buckinghamshire County Council will continue to make provision with the sub-regional apportionment of recycled and secondary aggregate in accordance with the projections in the waste capacity model used to inform the preparation of the South East Plan and Core Strategy.</p> <p>The use of recycled and secondary aggregates will be promoted and encouraged within the Core Strategy, but it will be clearly acknowledged that the aggregates requirements cannot be fully met from this source.</p>
<p>Location option: Include the whole county in the selection of Preferred areas</p>	<p><i>Rejected prior to SA:</i> rejected following an earlier study by the British Geological Survey that illustrates that there are no commercially viable sites for sand and gravel in central and north Buckinghamshire, as deposits in these areas tend to occur in isolated patches and vary in thickness; it was therefore concluded that the only realistic spatial option for the general pattern of sand and gravel workings in the county would be to focus on suitable sites in the south, where better-quality and economically viable reserves are found.</p>	<p><i>Rejected:</i> Although BGS has now identified potential deposits in a small part of the north of the county, their viability is still unclear. To include the entire County would not be realistic in light of the restricted location of viable sand and gravel deposits.</p>

Table 5.2: Waste options rejected at Preferred Options stage

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p>Need and demand option: Provide sufficient capacity for the assumption that no or low levels of waste minimisation will occur (i.e. more capacity than currently provided for)</p>	<p><i>Rejected prior to SA:</i> rejected as all options need to be based around figures from the Joint Municipal Waste Management Strategy that include waste minimisation considerations and national initiatives such as WRAP which operates to reduce waste arisings across a number of sectors – facilities are needed to deal with the expected residual waste after high levels of minimisation.</p> <p>National legislation and initiatives seek to minimise the amount of waste produced by the construction industry and</p>	<p><i>Rejected:</i> Comments as at Preferred Options</p>

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
	the amount sent to landfill and increase the amount re-used or recycled for new construction products.	
Mode and process option: <i>Identify types of technology for each site</i>	<i>Rejected prior to SA:</i> The Plan is 'technology neutral' in that it does not advocate one technology over another to manage all waste streams. Identified sites will be suitable for strategic waste management facilities, which could include a range of technologies. An approach to technologies for municipal waste has already been agreed in the Joint Municipal Waste Management Strategy.	<i>Rejected:</i> Comments as for Preferred Options. BCC will identify where particular suitable technologies are <u>not</u> suitable for sites, but will not prescribe preferred technologies, in line with the national PPS10 Companion Guide.
Location option: <i>Identify new sites for landfill</i>	<i>Rejected prior to SA:</i> rejected as sufficient landfill capacity is already permitted to deal with predicted demand during the plan period, as detailed in the Waste Topic Paper.	<i>Rejected:</i> Comments as at Preferred Options.
Location option: <i>Spatial options for strategic waste sites involving both Calvert and Woodham, or both Wapseys Wood and Springfield Farm</i>	<i>Rejected prior to SA:</i> site combinations rejected because to have two plants in the north of the county and none in the south, or vice versa, was not considered to accord with the proximity principle. Other more local factors relating to potential cumulative impacts and the characteristics of individual sites also pointed to the same conclusion.	<i>Rejected:</i> Comments as at Preferred Options. In addition, some of the listed sites are no longer considered deliverable or feasible for a Strategic Waste Complex by BCC (see Section 5.5.2 below).
Timing and detailed implementation option: <i>Identify a sequence in which development should be carried out</i>	<i>Rejected prior to SA:</i> Rejected as sufficient flexibility needs to be ensured to allow for commercial viability.	<i>Rejected:</i> Comments as at Preferred Options.

5.4 Review of Evaluated Options

Numerous options for both minerals and waste were developed as part of the preparation of the Preferred Options version of the Core Strategy. These options, the outcome of their evaluation at the Preferred Options stage, and the outcome of the re-evaluation for the latest version of the Core Strategy are detailed in Tables 5.3 for minerals options and 5.4 for waste options shown below.

5.4.1 Minerals Options

A range of options for minerals covering need and demand, location, and timing and detailed implementation were reviewed at the Preferred Options stage.

Table 5.3: Minerals options evaluated at Preferred Options stage

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p>Need and demand / location option: 1A – Identify a minerals safeguarding area from which preferred areas will be identified to provide the annual apportionment and landbank as required by Regional policy contained in the South East Plan.</p>	<p>Most sustainable option. Predicted effects of Options 1A and 1B are very similar and largely relate to the potential for the operations of minerals extraction sites to generate HGV traffic and the potential for both local people and the environment to be disturbed by intrusive development. However, Option 1A is likely to result in the least sites being opened and therefore there being less human and environmental receptors and ensure the most efficient release and use of primary aggregate.</p> <p>Option taken forward by BCC into Preferred Options version of the Core Strategy.</p>	<p><i>Accepted:</i> Comments as at Preferred Options stage.</p> <p>A letter from the Government's Chief Planner, Steve Quartermain, to all local authority Chief Planning Officers dated 6th July 2010 confirms that 'Planning authorities in the South East should work from the apportionment set out in the 'Proposed Changes' to the revision of South East Plan Policy M3, published 19th March 2010'. The regional apportionment must therefore continue to be met.</p> <p>Option taken forward by BCC into the Core Strategy.</p>
<p>Need and demand / location option: 1B – Identify a minerals safeguarding area from which preferred areas will be identified to provide a higher level of provision than the apportioned requirement so as to ensure that the annual apportionment can be met.</p>	<p>Predicted effects of Options 1A and 1B are very similar and largely relate to the potential for the operations of minerals extraction sites to generate HGV traffic and the potential for both local people and the environment to be disturbed by intrusive development. However, Option 1B increases the potential for more than the annual apportionment of minerals to be extracted and increase the potential for more sites to be opened, thereby increasing the number of potential human and environmental receptors and an inefficient release and use of primary aggregate.</p> <p>Option not taken forward by BCC into the Preferred Options version of the Core Strategy.</p>	<p><i>Rejected:</i> Comments as for Preferred Options.</p> <p>Option not taken forward by BCC into the Core Strategy.</p>
<p>Need and demand / location option: 1C – Identify a minerals safeguarding area but do not pursue a policy of identifying preferred areas and rely instead on operators to submit planning applications when they wish</p>	<p><i>Rejected by SA:</i> rejected as this reactive option appears likely to lead to more negative social and environmental effects (similar to option 1B), due to the potential for ad-hoc mineral extraction, than the proactive options (1A and 2A); there also appears to be less opportunity to seek positive opportunities in comparison to the more proactive options.</p> <p>Option not taken forward by BCC into the Preferred Options version of the Core Strategy.</p>	<p><i>Rejected:</i> Comments as for Preferred Options.</p> <p>Option not taken forward by BCC into the Core Strategy.</p>

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p>Timing and detailed implementation option: 2A – Minerals transported mainly via road (as occurs at present).</p> <p>(Assessed on the basis that options will be supporting means of aggregate extraction that work to achieve the annual apportionment targets, as set out in minerals option 1A)</p>	<p>The option results in little change to the current situation as minerals excavated from within the county are already transported by road. However, associated impacts, such as noise and air quality implications from road transportation, will move around the county if old workings are closed and new ones excavated over the plan period. The exact impact will depend upon the existing baseline for sites and transport routes and the number and length of vehicle movements.</p> <p>Analysis accepted by BCC at Preferred Options stage.</p>	<p>Accepted: Comments as for Preferred Options.</p>
<p>Timing and detailed implementation option: 2B – increase the proportion of minerals transported by rail and water.</p> <p>(Assessed on the basis that options will be supporting means of aggregate extraction that work to achieve the annual apportionment targets, as set out in minerals option 1A)</p>	<p>Most sustainable option. The option minimises many of the negative impacts associated with the transportation of minerals, such as climate change and air quality impacts. It particularly assists with reducing the number and length of road journeys for minerals-associated transportation.</p> <p>Analysis by BCC at Preferred Options stage. Option taken forward by BCC into Preferred Options version of the Core Strategy as the most sustainable option. Core Strategy encourages non-road transportation of minerals.</p>	<p>Accepted: Comments as for Preferred Options.</p>

(a) Conclusions for Minerals at the Preferred Options Stage

The Preferred Options stage SA Report (2008) provided a detailed commentary on the merits of the options at that time. This is contained in **Appendix D**.

The preferred option chosen by Buckinghamshire County Council was, at that stage, essentially 1A for land use – to identify sites to meet the regionally set annual apportionment targets only and not significantly more. Option 1A was identified in the SA options appraisal to be the most preferable from a sustainability perspective as it minimised potential negative impacts and ensured careful use of mineral resources.

As Buckinghamshire has a sufficient landbank for minerals until 2015¹⁴, no sites have been identified as part of the preferred options process; these will instead be set out in the forthcoming Minerals DPD, which will also be subject to a Sustainability Appraisal.

¹⁴ See Minerals Topic Paper for further details.

The preferred option also highlights the potential for transporting minerals by rail or water (Option 2B), rather than road (Option 2A); the SA options appraisal identified Option 2B as being more sustainable but Option 2A is acknowledged to be the most deliverable option and so is recognised as such within the plan.

(b) From Preferred Options to the Latest Version of the Plan

The impact of the previous minerals options upon the plan remains as at Preferred Options (as detailed above). Option 1A has been carried forward into the latest version of the Core Strategy, which through Policies CS1, CS4 and CS5, identifies a Minerals Safeguarding Area from which Preferred Areas will be identified to provide the annual apportionment and landbank required by the Government (which is that originally contained in the South East Plan).

With regard to transport-related options, Option 2B regarding water and rail transportation of minerals, has been taken forward to the Core Strategy, but is seen as aspirational, subject to alternative modes of transport being viable; road transportation (Option 2A) is recognised as being the most deliverable at present. Core Strategy Policy CS7 safeguards rail aggregates depots and wharf facilities, with supporting text detailing transport options.

5.4.2 Waste Options

The focus of the options review at the Preferred Options stage was on locational options. It should be noted that, as the Buckinghamshire Minerals and Waste Core Strategy is only seeking to cover strategic sites for residual waste (the waste that remains after re-use, recycling and composting), albeit that these may be co-located with other facilities; the options below therefore only relate to sites for facilities to deal with the residual element of the waste stream. Other types of sites will be considered as part of the development of the forthcoming Waste DPD.

Buckinghamshire County Council had previously undertaken a lengthy site selection process, using key criteria set out in national PPS10, to identify sites with potential for locating a range of waste facilities. Approximately 190 sites across the county were originally put forward by landowners, site operators and consultants, or were identified as having potential in previous Minerals and Waste plans or district local plans. As detailed in the Waste Topic Paper (TP5) and Preferred Options appendices, these sites were then evaluated by consultants against a range of policy designations, land use and environmental constraints over several stages of evaluation. New sites also came forward during the various stages of this process, which were included within the evaluation.

During this process, the suitability of sites for different types of waste uses was evaluated and the larger sites suitable for strategic scale facilities were identified. Of the original list of approximately 190 sites, most were found not to be suitable due to being of an insufficient size for large facilities, located too close to sensitive receptors, having a high probability of posing safety risks to aircraft, or were not deliverable as there was no interest from the waste industry in developing the sites for energy recovery. Many of the sites identified in the original long-list will, however, be suitable for non-strategic waste facilities and will be re-examined for that purpose as part of the development of the Waste DPD.

By the Preferred Options stage in 2008 only four sites remained from the original list:

- Calvert Landfill Site, Aylesbury Vale District;
- Springfield Farm Landfill Site, Beaconsfield, South Bucks District;
- Wapseys Wood Landfill Site, Gerrards Cross, South Bucks District; and
- Woodham Industrial Area, Aylesbury Vale District.

In addition to the need for strategic waste sites, transfer stations will be required where waste needs to travel long distances across the county, in order to provide facilities to bulk the waste collected and minimise the number of vehicle movements across the county and in and out of strategic waste sites. The previous site selection process identified four potential road transfer sites and one for rail by the time of the 2008 Preferred Options stage:

- Osier Way, Buckingham, Aylesbury Vale District;
- College Road North, Aston Clinton, Aylesbury Vale District;
- High Heavens Waste Complex, High Wycombe, Wycombe District;
- London Road Depot, Amersham, South Bucks District; and
- Richings Park, Iver, South Bucks District (rail transfer).

A range of realistic options were then devised by Buckinghamshire County Council of potentially feasible site combination options, grouped into four spatial categories:

1. Provide all the county's required capacity for recovering both Municipal Solid Waste (MSW) (mainly household waste) and Commercial and Industrial (C&I) waste at a single site;
2. Provide all the county's required capacity for recovering residual MSW at a single location, and the required capacity for treating residual C&I waste at a single, but different, location;
3. Provide all the county's required capacity for recovering both residual MSW and residual C&I waste at two sites, with recovery capacity shared at each; and
4. Provide all the county's required MSW residual waste recovery capacity split between two sites, with residual C&I waste recovery at a single, different site.

These options were then appraised, the outcome of which is set out below, together with an update on the latest status of each option with regard to the current proposed Core Strategy.

Table 5.4: Waste options evaluated at Preferred Options stage

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p>Location option: <i>1 – Provide all the county's required capacity for recovering both MSW and C&I waste at a single site</i></p> <p><i>1A – Calvert – road transfer from London Road and High Heavens</i></p> <p><i>1B – Calvert – road transfer from London Road and High Heavens, rail transfer from Richings Park</i></p> <p><i>1C – Woodham – transfer from London Road and High Heavens</i></p>	<p>Sites broadly acceptable, although there will be visual impacts from such large facilities (see 'Conclusions' below).</p> <p>1A & 1C – High associated mileage so greatest associated impacts.</p> <p>1B – Preferable to Option 1A due to lower associated mileage.</p> <p>1D & 1E – Use of Osier Way, Buckingham for transfer adds to total mileage when added to the site options provided, so</p>	<p>The <i>Calvert</i> site continues to be seen by BCC as viable site for an SWC. Option 1A was taken forward to the latest Core Strategy by BCC through Policy CS11, with <i>Calvert</i> as a strategic waste complex (SWC). The site is large enough to accommodate range of facilities and is suitable for energy from waste (EfW), anaerobic digestion (AD) or mechanical-biological treatment (MBT).</p> <p>Concerns were raised during the consultation process regarding the suitability of the</p>

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p>1D – Wapseys Wood – (i) transfer from College Road; (ii) transfer from College Road and Buckingham</p> <p>1E – Springfield Farm – (i) transfer from College Road; (ii) transfer from College Road and Buckingham</p>	<p>should be rejected.</p> <p>None of the Option 1 sub-options were taken forward by BCC into the Preferred Options version of the Core Strategy.</p>	<p>Calvert site. A range of further studies then followed. In light of BCC viewing the site as continuing to be viable for an SWC, the site (and combination 1A as a whole) was re-evaluated for SA purposes. This re-evaluation is shown in Appendix E. It identified a range of potential positive and negative impacts and a range of potential mitigation measures that could be addressed through policy. The majority of these were taken forward into Plan policy – as set identified in Appendix E.</p> <p>Option 1B, with <i>Calvert</i> as an SWC but with rail rather than road transfer, was taken forward to Core Strategy in the supporting text within the plan as a future aspiration. No specific rail transfer sites have been allocated in the plan, although two potential sites have been safeguarded for rail transfer through Policy CS14 – Richings Park and Thorney Mill. 1B is seen by BCC as an option to pursue over the longer term, rather than being deliverable in the short-term.</p> <p>The <i>Woodham</i> site (Option 1C) is no longer considered suitable by BCC for an SWC due to site restrictions, as set out in Section 5.5.2(b) below. However, it is seen as a possible strategic site for a small-scale energy recovery or recycling / composting facilities. The site is therefore considered suitable for safeguarding by BCC as a potential contingency site and not for allocation as an SWC.</p> <p><i>Wapseys Wood</i> and <i>Springfield Farm</i> sites (Options 1D and 1E respectively) are no longer considered suitable or deliverable by BCC for an SWC so the option will not be allocated in the plan. The reasons for this decision are detailed in Section 5.5.2(b) below.</p>
<p>Location option: 2 – Provide all the county’s required capacity for recovering residual MSW at a</p>	<p>Sites broadly acceptable, although there will be visual impacts from such large facilities (see ‘Conclusions’</p>	<p>Options for having two strategic sites are viewed by BCC as no longer deliverable due to the reduced volumes of</p>

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p><i>single location, and the required capacity for treating residual C&I waste at a single, but different, location</i></p> <p><i>2A – Calvert (MSW) and Wapseys Wood (C&I) – road transfer of MSW from High Heavens and London Road</i></p> <p><i>2B – Calvert (MSW) and Wapseys Wood (C&I) – road transfer of MSW from High Heavens, rail transfer of MSW from Richings Park</i></p> <p><i>2C – Wapseys Wood (MSW) and Calvert (C&I) – (i) transfer of MSW from College Road and London Road; (ii) transfer of MSW from College Road, London Road and Buckingham</i></p> <p><i>2D – Calvert (MSW) and Springfield Farm (C&I) – transfer of MSW from High Heavens and London Road</i></p> <p><i>2E – Calvert (MSW) and Springfield Farm (C&I) – road transfer of MSW from High Heavens, rail transfer of MSW from Richings Park</i></p> <p><i>2F – Springfield Farm (MSW) and Calvert (C&I) – (i) transfer of MSW from College Road; (ii) transfer of MSW from College Road and Buckingham</i></p> <p><i>2G – Woodham (MSW) and Wapseys Wood (C&I) – transfer of MSW from High Heavens and London Road</i></p> <p><i>2H – Wapseys Wood (MSW) and Woodham (C&I) – (i) transfer of MSW from College Road; (ii) transfer of MSW from College Road and Buckingham</i></p> <p><i>2I – Woodham (MSW) and Springfield Farm – transfer of MSW from High Heavens and London Road</i></p> <p><i>2J – Springfield Farm (MSW) and Woodham (C&I) – (i) transfer of MSW from College Road; (ii) transfer of MSW from College Road and Buckingham</i></p> <p><i>2K – Wapseys Wood (MSW) and Springfield Farm (C&I) – (i) transfer of MSW from College</i></p>	<p>below).</p> <p>Use of Osier Way, Buckingham for transfer adds to total mileage when added to the site options provided, so should be rejected.</p> <p>Options 2F(ii), 2H and 2J have high associated mileage so greatest associated impacts.</p> <p>Options 2A and 2C were taken forward to the Preferred Options stage Core Strategy as Alternative 2 in light of their deliverability (see ‘Preferred Options for Waste’ below).</p>	<p>residual waste for disposal now predicted as result of more recent computer modelling.</p> <p><i>Springfield Farm and Wapseys Wood sites are no longer considered suitable or deliverable by BCC for use as an SWC so options will not be allocated in the plan. The reasons for this decision are detailed in Section 5.5.2(b) below.</i></p>

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
<p>Road; (ii) transfer of MSW and College Road and Buckingham</p> <p>2L – Springfield Farm (MSW) and Wapseys Wood (C&I) – (i) transfer of MSW from College Road; (ii) transfer of MSW from College Road and Buckingham</p>		
<p>Location option: 3 – Provide all the county’s required capacity for recovering both residual MSW and residual C&I waste at two sites, with recovery capacity shared at each</p> <p>3A – Calvert and Wapseys Wood (no MSW transfer)</p> <p>3B – Calvert and Springfield Farm (no MSW transfer)</p> <p>3C – Woodham and Wapseys Wood (no MSW transfer)</p> <p>3D – Woodham and Springfield Farm (no MSW transfer)</p> <p>3E – Wapseys Wood and Springfield Farm – (i) transfer of MSW from College Road to Wapseys Wood and/or Springfield Farm; (ii) transfer of MSW from College Road and Buckingham to Wapseys Wood and/or Springfield Farm</p>	<p>Sites broadly acceptable, although there will be visual impacts from such large facilities (see ‘Conclusions’ below).</p> <p>Most sustainable option, with the exception of option 3E. Options 3A to 3D include a small number of sites for each (only two), which means few associated impacts. Also has low transport mileage.</p> <p>3A - Most sustainable sub-option. It avoids the need for transfer stations in the AONB. The sites themselves are also away from significant landscapes. The option is slightly more preferable to option 3C as the inclusion of a new road bypassing Calvert Green to access the Calvert site may improve quality of life for local residents who live near the site as waste landfill is already permitted there to 2047 regardless of the proposals in this Core Strategy. Low associated mileage so less associated impacts.</p> <p>3B & 3D – Low associated mileage so less associated impacts.</p> <p>3C – Particularly preferable option as avoids the need for transfer stations in the AONB. The sites themselves are also away from significant landscapes. The option is slightly less preferable to option 3A as Woodham currently has no waste activities on site. Low associated mileage so less associated impacts.</p> <p>3E – Use of Osier Way, Buckingham for transfer adds to total mileage when added to the site options provided, so should be rejected.</p>	<p>Options for having two strategic sites are viewed by BCC as no longer deliverable due to the reduced volumes of residual waste for disposal now predicted as result of more recent computer modelling.</p> <p>Southern Buckinghamshire sites (<i>Springfield Farm</i> and <i>Wapseys Wood</i>) are no longer considered suitable or deliverable by BCC for use as an SWC so options will not be carried forward to Plan. The reasons for this decision are detailed in Section 5.5.2(b) below.</p>

Option Considered	Outcome of Preferred Options Stage Review	Latest Update
	<p>Option 3A was taken forward to the Core Strategy by BCC at Preferred Options stage as Alternative 1 – the most sustainable option (see ‘Preferred Options for Waste’ below). Although the Preferred Option in sustainability terms, it was not the Preferred Option in planning and deliverability terms.</p>	
<p>Location option: <i>4 – Provide all the county’s required MSW residual waste recovery capacity split between two sites, with residual C&I waste recovery at a single, different site</i></p> <p><i>4A – Calvert and Wapseys Wood (MSW), Springfield Farm (C&I) (no MSW transfer)</i></p> <p><i>4B – Calvert and Springfield Farm (MSW), Wapseys Wood (C&I) (no MSW transfer)</i></p> <p><i>4C – Woodham and Wapseys Wood (MSW), Springfield Farm (C&I) (no MSW transfer)</i></p> <p><i>4D – Woodham and Springfield Farm (MSW), Wapseys Wood (C&I) (no MSW transfer)</i></p>	<p>Sites broadly acceptable, although there will be visual impacts from such large facilities (see ‘Conclusions’ below).</p> <p>Options 4A and 4C: Low associated mileage so less associated impacts.</p> <p>Option 4 rejected by BCC for the Preferred Options stage Core Strategy (see ‘Preferred Options for Waste’ below) due to insufficient volumes of residual waste for disposal to three separate facilities.</p>	<p>Options for having three strategic sites continue to be viewed by BCC as not deliverable due to the reduced volumes of residual waste for disposal now predicted as result of more recent computer modelling..</p> <p>Southern Buckinghamshire sites (<i>Springfield Farm</i> and <i>Wapseys Wood</i>) are no longer considered suitable or deliverable by BCC for use as an SWC so options will not be carried forward into the plan. The reasons for this decision are detailed in Section 5.5.2(b) below.</p>

(a) Conclusions for Waste at Preferred Options Stage

The Preferred Options stage SA Report (2008) provided a detailed commentary on the merits of the options at that time. This is contained in **Appendix D**.

Two preferred options were chosen by Buckinghamshire County Council for waste:

- Alternative 1:** *Option 3A – Provide all the county’s required capacity for recovering both residual MSW and residual C&I waste at two sites, Calvert and Wapseys Wood, with recovery capacity shared at each (no transfer stations required).* This was identified in the above SA options assessment to be preferable from a sustainability perspective – minimising likely site-based impacts, due to the small number of sites involved in the scenario, and minimising transport-based impacts, due to the low mileage that waste needs to be transported. Options 3B, 3C and 3D were envisaged as contingencies, should the sites required for Option 3A prove to be undeliverable; these were also identified through the SA process to be preferable from a sustainability perspective.
- Alternative 2:** *Options 2A and 2C – Provide all the county’s required capacity for recovering residual MSW at a single location (Calvert or Wapseys Wood), and the required capacity for treating residual C&I waste a single, but different location (Calvert or Wapseys Wood) (all with*

transfer stations required). These were identified as acceptable through the SA options assessment process, with no significant negative effects predicted. However, these options were not found to be as sustainable as those noted for Alternative 1 due to the inclusion of more sites, increasing the likelihood of negative site-based impacts, the location of two potential transfer stations in the AONB, and the higher mileage associated with these options. The remaining Scenario 2 options were envisaged as contingencies, should the sites required for Options 2A and 2C prove to be undeliverable; these were also identified through the SA process to be acceptable from a sustainability perspective, with no significant negative impacts, although some appear to be more preferable than others, particularly regarding transport-related impacts.

Buckinghamshire County Council chose Alternative 1 as it was the most sustainable, although its deliverability was open to question in the short to medium term. Alternative 2 was seen as being more likely to be deliverable than Alternative 1 and, although not as preferable as Alternative 1 from a sustainability perspective, was still acceptable, with no significant negative impacts identified.

(b) From Preferred Options to the Latest Version of the Plan

As noted above, the site-specific waste options were developed based on sites identified to be viable by Buckinghamshire County Council through previous stages of site selection, which are detailed in the Waste Topic Paper (TP5).

All the sites put forward at the Preferred Options stage for sustainability appraisal were found to be broadly acceptable in sustainability terms, which is unsurprising due to each having passed through several stages of site selection process and consultation prior to them being subjected to SA.

As a result of feedback from the Preferred Options consultation (the last round of consultation) and further site studies, Buckinghamshire County Council have decided to withdraw the following sites from allocation in the Core Strategy as a Strategic Waste Complex, although they may be considered for other waste uses in the Waste DPD:

- **Springfield Farm** – Site located in Green Belt with no clear advantages over sites outside the Green Belt so the very special circumstances required to justify development in the Green Belt cannot be met. There was no interest from the waste industry in developing the site for an energy recovery facility and so it is not considered by BCC to be deliverable. The site was also noted by the Environment Agency to be on a major aquifer, so unsuitable for hazardous waste landfill. The Council does not therefore see the site as being suitable for energy recovery or as a Strategic Waste Complex;
- **Wapseys Wood** – Site located in Green Belt with no clear advantages over sites outside the Green Belt so the very special circumstances required to justify development in the Green Belt cannot be met. The site is currently due to be returned to green field use in 2016/17. Site operator was excluded as a bidder in the Waste Procurement initiative and so the site is now not considered by BCC to be deliverable. The site was also noted by the Environment Agency to be on a major aquifer, so unsuitable for hazardous waste landfill. The Council does not therefore see the site as being suitable for energy recovery or a Strategic Waste Complex; and

- **Woodham** – land stability issues identified as the site following further investigation by BCC mean that the developable area is too small to be utilised as a Strategic Waste Complex. BCC have, however, noted that the site may be suitable for smaller-scale energy recovery technologies or recycling processes. The site is therefore safeguarded as a potential future waste site in Policy CS14.

In light in the reduction of available sites, the only option remaining, Waste Option 1A, has been incorporated into the latest version of the Core Strategy (but for less residual waste than originally projected in 2008). This comprises the use of Calvert for the recovery of residual municipal solid waste (MSW) and commercial and industrial waste (C&I), with London Road and High Heavens transfer stations used as supporting transfer stations. Calvert will be utilised as a Strategic Waste Complex, containing multiple waste facilities, such as for composting. As noted above, each of the sites and Option 1A as a whole has re-evaluated in light of consultation responses and further information available since the 2008 SA report was produced; this can be found in [Appendix E](#).

5.5 New Options

The substantial revision of the Core Strategy to form the latest version has enabled a range of new options to be considered as part of its development.

New options have been considered for minerals, detailed in Table 5.5, and waste, detailed in Table 5.6. In addition, a range of generic options have been developed which are relevant to both minerals and waste issues; these are detailed in Table 5.7.

These are all general policy options, rather than specific policy wording, that have been evaluated to assess whether their inclusion in the Core Strategy would be beneficial, compared to any similar policies that are already in the current Buckinghamshire Minerals and Waste Local Plan (BMWLP), if such policies exist. It is therefore the concept of the policy, rather than the detail that has been examined at this stage. In addition, recommendations have been given to assist with the development of later policy detail.

5.5.1 New Minerals Options

Table 5.5: New minerals options evaluated for the latest version of the Core Strategy

New Option	Review
<p>Mode and process option: 3 – Have a policy that specifically seeks extensions to existing minerals sites before permitting new sites</p>	<p><i>Background:</i></p> <p>The current minerals planning policies in force are the 'saved' policies contained in the Buckinghamshire Minerals and Waste Local Plan 2004-2016 (BMWLP, 2006)¹⁵. It is these policies that form the baseline for considering potential future options. The 'saved' policies do not include a specific policy covering the preference for new extensions over new sites.</p> <p>The Preferred Options version (previous draft version) of the Core Strategy (2008) did not contain a specific policy covering this issue.</p> <p>The location of existing minerals sites is shown on a map contained in the Spatial Context Topic Paper (TP7). They are spread across the south of the county, where the only viable minerals deposits can be found.</p> <p>Evaluation Result:</p> <p>Extensions to existing sites are likely to result in a continuation of any environmental and social impacts from existing sites. However, the option would prevent impacts from new sites in areas which do not currently have minerals workings and could have more sensitive receptors that could be adversely affected by minerals working.</p> <p>It should also be considered that any extended site would also cover new land, not currently excavated, so new location-specific impacts could arise, such as impacts on on-site archaeological remains, soils, or species or habitats found in the new excavation area. The excavation of new areas may also accentuate negative impacts already noted from the site, for example, by bringing excavations closer to residential or commercial premises, or by making the site more visible within the landscape.</p> <p>It should be noted that many operational impacts from minerals excavation are temporary in nature, lasting only for the life of the workings, such as air quality and noise. Others may be permanent due to the excavation, including impacts on heritage and soils. This will apply whether existing sites are extended or new sites are excavated.</p> <p>Extending sites may prolong the time period until restoration takes place. However, this will only be a short-term impact if a suitable restoration scheme for the whole site is put in place.</p> <p>The overall benefit of the option will depend upon whether the impacts of the extension are less or more acceptable than those at any potential new site, for example, whether transport distances are lower. This will not be clear until potential new sites are investigated as part of the development of the Minerals DPD.</p> <p>Overall, the option should prove to be beneficial, but only if suitable mitigation is put in place within policy wording. The potential for a continuation of negative impacts arising from existing sites by extending them should be mitigated by only permitting extensions to sites where environmental, social and economic impacts have proven to be acceptable to date and where potential new or accentuated impacts can be mitigated.</p>

¹⁵ Some of the policies that were in the original 2006 version of the plan have subsequently been deleted. The policies that remain in force are those that have been 'saved'. These policies will subsequently be replaced by those contained in the various documents of the Buckinghamshire Minerals and Waste Local Development Framework, including the Core Strategy, as they are developed.

New Option	Review
<p>Location option: 4 – Identify a more limited Area of Search¹⁶ for potential minerals extraction in the north of the county, in light of new information from the British Geological Society regarding potentially viable minerals deposits in part of the north of the county</p>	<p><i>Background:</i></p> <p><i>The current minerals planning policies in force (the ‘saved’ policies contained in the BMWLP, 2006), which form the baseline for considering potential future options, include a policy (Policy 4) that defines the Area of Search as covering the whole administrative area of Buckinghamshire including the Minerals Safeguarding Area¹⁷. This Plan will be replaced by the new Buckinghamshire Minerals and Waste Local Development Framework, which includes the new Core Strategy.</i></p> <p><i>The Preferred Options version (previous draft version) of the Core Strategy (2008) did not identify any Area of Search.</i></p> <p><i>Viable sand and gravel deposits are not generally found in the area being removed from the Area of Search by this new waste option. The area in the north to be retained has been identified by the British Geological Survey as having some potential for viable deposits.</i></p> <p>Evaluation Result:</p> <p>Compared to the current baseline (2006 local plan), this option will result in a substantially decreased Area of Search from its current size. However, whilst this has specific benefits in terms of increased clarity and (to an extent) certainty of minerals potential, the impacts of this change are generally likely to be negligible as it only identifies an area of potentially viable sand and gravel deposit that was already within the previous Area of Search. The rest of the county (excluding the Minerals Safeguarding Area) would be outside of the new Area of Search so less likely to be subjected to minerals workings, but these were already unlikely due to the lack of viable mineral deposit in the area. The option does, however, provide more certainty to landowners, residents and businesses outside the new Area of Search and Minerals Safeguarding Area that there is unlikely to be minerals development in their area, and acknowledges the presence of potentially viable mineral deposits in the north of the county where the majority of housing development within Buckinghamshire is likely to be expected during the plan period. The options ensure that the potential area of deposits is safeguarded until further investigation has been undertaken to ascertain their economic importance.</p> <p>It would therefore be beneficial to include a policy covering this option within the Core Strategy.</p>

The detailed evaluation of the above options against the SA objectives is contained in **Appendix F**.

The first of the new minerals options, Option 3: ‘Have a policy that specifically seeks extensions to existing minerals sites before permitting new sites’, was integrated into the latest version of the Core Strategy through Policy CS5, which details the methodology for selecting Preferred Areas for minerals workings, which will take place during the development of the Minerals DPD. The relevant wording states that ‘priority to be given to extensions of existing sites where environmentally acceptable’, thus acknowledging the range of potential impacts identified in the options review. A further range of environmental and socio-economic policies are set out in Section 5 of the Core Strategy, which seek to prevent or mitigate relevant impacts.

¹⁶ Area of Search = broader area(s) where knowledge of mineral resources may be less certain, but within which planning permission could be granted to meet any shortfall in supply if suitable applications are made. See Minerals Topic Paper for further details.

¹⁷ Minerals Safeguarding Areas = areas protected in order that proven resources are not needlessly sterilised (preventing extraction) by non-mineral development, although there is no presumption that resources defined in MSAs will be worked. See Minerals Topic Paper for further details.

The second new minerals option, Option 4: 'Identify a more limited Area of Search for potential minerals extraction in the north of the county', forms Policy CS2 'Area of Search' in the latest Core Strategy, in line with the positive recommendation from the options appraisal.

5.5.2 New Waste Options

It should be noted that no further potential strategic sites were evaluated for the latest version of the Core Strategy as no further sites were put forward for consideration. Only Calvert remains to have been judged a suitable site for a Strategic Waste Complex.

Table 5.6: New waste options evaluated for the latest version of the Core Strategy

New Option	Review
<p>Location option: 5A – Select a specific reserve site for inclusion and allocation¹⁸ within the Core Strategy as a contingency for Calvert if it should prove to be undeliverable</p> <p>5B – Do not select a specific reserve strategic site for inclusion and allocation within the Core Strategy but instead have criteria in the Core Strategy to help determine the most suitable strategic waste contingency site to be applied to all potential sites brought forward if the Calvert site is undeliverable</p>	<p>Background:</p> <p>The current waste planning policies in force are the ‘saved’ policies contained in the Buckinghamshire Minerals and Waste Local Plan (BMWLP, 2006)¹⁹. It is these policies that form the baseline for considering future options. No specific sites are included as contingency sites within the current waste Local Plan (BMWLP, 2006). The ‘saved’ policies contain a range of criteria against which different types of facilities will be judged, particularly Policy 10, including strategic-level non-landfill waste facilities; however these envisage applications being brought forward when a site is required, rather than a proactive process of determining suitable sites in advance..</p> <p>The Preferred Options version of the Core Strategy contained two specific contingency sites (Policy 4), neither of which are now seen by Buckinghamshire County Council as suitable for allocation as a Strategic Waste Complex.</p> <p>The previous site selection process has identified that there are sites available that would be suitable for strategic-level non-landfill waste facilities, but not large enough for co-located waste management facilities, with the exception of Calvert.</p> <p>Evaluation Result:</p> <p>For both Options 5A and 5B, the environmental and social impacts would depend upon the exact site(s) chosen and their current baseline environment, and so such impacts are currently unknown.</p> <p>However, whichever option is chosen, to maximise the sustainability of the site option(s) chosen, a range of sustainability criteria should be taken into account in site selection, including potential impacts on air quality, flood risk, biodiversity, heritage, geology, soils, landscapes and townscapes, water resources, water quality, human health, public safety, and impacts on local amenity. Transport impacts, including distances and modes, will also need to be considered, in addition to site-based effects.</p> <p>If Option 5B is pursued, this level of detail may be inappropriate for a higher-level Core Strategy but could be set out in a lower-level DPD or SPD, but cross-referred to in higher level policy. The Core Strategy policy/ies should instead state that ‘a range of environmental, social, economic and land-use criteria will be considered in the selection of the reserve site if it is subsequently required’, perhaps listing specific higher level criteria that will be included for the initial site selection, such as excluding sites that will, even with mitigation, have a significant negative impact upon nationally / internationally designated features / sites (including the Chilterns AONB).</p> <p>The potential for positive benefits should be considered, such as opportunities for producing low and zero carbon energy, or improving local</p>

¹⁸ An ‘allocation’ is an area of land or a site that has been identified for a specific use, which has a presumption in favour of development for that intended use, subject to a suitable planning application.

¹⁹ Some of the policies that were in the original 2006 version of the plan have subsequently been deleted. The policies that remain in force are those that have been ‘saved’. These policies will subsequently be replaced by those contained in the various documents of the Buckinghamshire Minerals and Waste Local Development Framework, including the Core Strategy, as they are developed.

New Option	Review
	<p>green infrastructure, in addition to whether any negative impacts can be mitigated.</p> <p>The benefit of Option 5A over 5B is that it provides certainty that a suitable site will be available as a contingency if required. However, this could also cause unnecessary negative impacts resulting from property blight in association with a contingency that may never be utilised. In addition, it would prevent the views of the community being taken into account in site selection nearer to the time the facility would be required, as the contingency site would already have been chosen.</p> <p>The site selection process to date has shown that there are suitable sites available for strategic-level non-landfill waste facilities, but not for co-location, including beyond the Green Belt and Chilterns AONB. In addition, if Option 5B were pursued, sites already thought to have potential for a strategic-level waste site through the site selection process could be safeguarded as part of the Core Strategy and Waste DPD to ensure that BCC are consulted on any development proposals that may prejudice that future use.</p> <p>The particular benefit of Option 5B over 5A is that it will allow all sites that might be suitable from a sustainability perspective to come forward at a later date, including those that have not currently been considered, which could potentially include a site that is large enough for a strategic waste complex with co-located facilities. Option 5B also maximises flexibility in terms of changes in technology, process and need over the plan period, so the most suitable site can be found.</p>
<p>Mode and process option: 6 – Include a policy that sets out an indicative local provision of additional recycling and composting capacity proportionate to the population for each district</p>	<p><i>Background:</i></p> <p><i>The current waste planning policies in force are the ‘saved’ policies contained in the Buckinghamshire Minerals and Waste Local Plan (BMWLP, 2006). It is these policies that form the baseline for considering future options. Policy 13 of the BMWLP only provides criteria for assessing planning applications on an ad-hoc basis. Policies 10 and 13 set out current land uses where such waste facilities could be acceptably located. However, the BMWLP does not contain a policy that seeks to apportion recycling and composting capacity proportionate to the population for each district.</i></p> <p><i>The Preferred Options version of the Core Strategy contained a policy identifying the amount of extra recycling and composting capacity needed (Policy 2), but provided no specific guide as to its location or apportionment across the county.</i></p> <p><i>It should be noted that it would be the role of the Waste DPD to identify sites within each district to make provision for the required capacity. The new recycling and composting capacity to be identified would be for both municipal (mainly household) waste and commercial and industrial waste.</i></p> <p>Evaluation Result:</p> <p>Option 6 does not envisage altering the amount of additional recycling and composting capacity required over the plan period, but only its distribution within the county. The impact on SA indicators from this option is therefore likely to be limited as many effects are location-specific.</p> <p>However, there are some notable benefits from distributing facilities according to population, particularly with regard to the potential to reduce transport movements and distances and to increase awareness and participation through the provision of sufficient local facilities.</p> <p>The inclusion of the word ‘indicative’ in the option is also helpful. Having a policy which distributes capacity according to population at the time new facilities are required (and is reviewable over the plan period) allows for flexibility, which numbers set at the start of the plan period according to population at that point does not. Population distribution could change over</p>

New Option	Review
	<p>the plan period, particularly if the potential additional growth in Aylesbury Vale district goes ahead; the need for new recycling and composting facilities in different parts of the county can therefore change accordingly.</p> <p>It should, however, be noted, that the benefits of this option can only be maximised by taking account of <u>existing</u> recycling and composting capacity (and its level of use) in the distributional calculations, such that <u>overall</u> capacity is distributed across the county by population, and not just new capacity. This should be assessed further when undertaking a site search exercise in the Waste DPD to identify new sites and assess the capability of enhancing existing sites.</p>
<p>Mode and process option: 7 – Safeguard²⁰ <i>existing waste sites / capacity from non-waste related development</i></p>	<p><i>Background:</i></p> <p><i>The current waste planning policies in force are the ‘saved’ policies contained in the Buckinghamshire Minerals and Waste Local Plan (BMWLP, 2006). It is these policies that form the baseline for considering future options. Policy 15 of the BMWLP seeks to safeguard three sites for key waste transfer facilities, and Policy 18 seeks the efficient use of landfill void space. However, the BMWLP does not contain a specific policy which safeguards existing waste management sites / capacity from development into non-waste uses.</i></p> <p><i>The Preferred Options version of the Core Strategy contained a policy (Policy 4) on safeguarding five²¹ key waste transfer station sites. However, it did not contain a specific policy that seeks to safeguard existing waste management sites / capacity from development into non-waste uses.</i></p> <p><i>It should be noted that the suitability of existing sites to be safeguarded would be tested further in the Waste DPD as part of the process in seeking new additional waste management capacity.</i></p> <p>A map showing the location of existing waste sites, which are distributed throughout the county, is shown in the Waste Topic Paper (TP5).</p> <p>Evaluation Result:</p> <p>Option 7 should result in a continued waste use on existing sites that are safeguarded and therefore, generally, a continuation of the existing baseline. The policy would generally prevent alternative uses, which could have improved or degraded the existing baseline.</p> <p>The policy would also reduce the number of new sites required for waste uses, which should, in general, be positive for the existing baseline.</p> <p>The safeguarding of existing waste sites / capacity should help to ensure that waste can be managed sustainably within the county, and as locally as possible to its source, through a network of facilities of the various types required. Overall, the introduction of such a policy should therefore be beneficial.</p> <p>However, a few existing waste sites may not be suitable for a continued or new waste use for a variety of reasons; alternative locations for waste sites could be preferable in some cases. In undertaking a further assessment of sites in the Waste DPD, further consideration should be given to existing waste sites with known environmental or social problems related to their waste use and their safeguarded status. The safeguarding should only continue where such impacts are considered to be at acceptable levels.</p>

²⁰ A ‘Safeguarding’ is an area identified that could be suitable for a specific use, such as waste management, which is protected by the County Council for that use and from non-related development, such as housing or business use. However, unlike allocations, there is less certainty as to the feasibility or viability of the site for the specific use. Such sites do not have the same status as an ‘allocation’ in that there is not a presumption in favour of development. In general, further testing/appraisal is required prior to such sites being allocated. Existing operational sites may also be safeguarded. The County Council will need to be consulted on any proposals for non-related development on safeguarded minerals or waste sites.

²¹ Including two further sites, in addition to the three already safeguarded in the BMWLP.

The detailed evaluation of the above options against the SA objectives is contained in **Appendix F**.

With regard to the first of the new waste options, Option 5, two sub-options were assessed:

- 5A: 'Select a specific reserve site for inclusion and allocation within the Core Strategy'; and
- 5B: 'Do not select a specific reserve site but instead have criteria in the Core Strategy to help determine the most suitable strategic waste contingency site'.

Option 5B was found to be preferable from a sustainability perspective; this option has been taken forward into the Core Strategy as Policy CS13 'Contingency'. The option review also recommended that the following text be inserted into the policy 'a range of environmental, social, economic and land-use criteria will be considered in the selection of the reserve site if it is subsequently required; this wording has not been carried forward into the Core Strategy. The policy does state that "site and environmental factors which indicate suitability as a strategic site, in conformity with prevailing waste locational and flood risk criteria" will be taken into account. These are currently set out in national PPS10 and PPS25 respectively, as stated in the Core Strategy. The policy also requires that "Proposals must also comply with the relevant policies in Section 5" of the Core Strategy, which include a range of social, environmental and economic considerations. There is, however, no mention of more detailed site selection wording being set out in future DPD / SPD. The essence of the option recommendation is covered indirectly by the Policy, but there is a risk that some sustainability factors will not be fully covered by adopting this more indirect approach. However, it should be noted that any site selection process undertaken in association with the development of the Waste DPD should be integral to the SA process for that DPD and subjected to the evaluation against the full range of sustainability objectives.

The second new waste option, Option 6: 'Include a policy that sets out an indicative local provision of additional recycling and composting capacity proportionate to the population of each district', has been integrated into the Core Strategy, as recommended by the SA, through Policy CS10. The policy shows 'indicative' figures for each district; although not stated in the Core Strategy, the Waste Topic Paper (TP5) clarifies that the figures relate to district population. The supporting text notes that it will be for the Waste DPD to test these figures; with regard to this, as stated in the options review above, any future assessment should ensure that existing recycling and composting capacity (and its level of use) is taken into account in the distributional calculations so that the overall capacity is distributed across the county by population, not just new capacity.

The third new waste option, Option 7: 'Safeguard existing waste sites / capacity from non-waste related development', forms part of Policy CS14 on safeguarding, its integration into the Core Strategy being in line with SA recommendations. It should be noted that the review recommends that any further assessment of sites in the Waste DPD ensures that any existing sites with unacceptable environmental or social problems related to their waste use be excluded from future safeguarding. It should be noted that all sites that are considered during the development of the Waste DPD should be subjected to the SA process.

5.5.3 New Generic Options

Table 5.7: New generic options evaluated for the latest version of the Core Strategy

New Option	Review
<p>Timing and detailed implementation option: 1 – Include policy in the Core Strategy concerning the protection of environmental assets of local importance, rather than relying on national policy</p>	<p><i>Background:</i></p> <p><i>The current minerals and waste planning policies in force are the ‘saved’ policies contained in the Buckinghamshire Minerals and Waste Local Plan (BMWLP, 2006)²². It is these policies that form the baseline for considering potential future options. This includes a policy (Policy 25) that seeks to protect certain local sites and features of environmental importance.</i></p> <p><i>The Preferred Options version (previous draft version) of the Core Strategy (2008) also contained a policy (Policy 10) that seeks to protect such features, although with some variation in the list of sites and features covered from the Local Plan list.</i></p> <p>Evaluation Result:</p> <p>Continuing to have a policy which seeks to protect environmental assets of local importance would help to protect such assets that do not enjoy the protection of national or international designation.</p> <p>The overall level of benefit, in sustainability terms, will depend upon the exact wording of the policy and the range local environmental assets to be protected. It should be recognised that sites of international and national importance are already protected in national policy. Assets of local importance in terms of heritage, recreation, biodiversity and geodiversity, landscapes and potentially soils (if not protected through other policy) should be considered for protection. Land and water environments will need to be taken into account.</p> <p>Policy wording should be included to require any detrimental impacts upon locally important features to be adequately mitigated, or provide compensation measures if this is not possible, prior to permitting development, thus allowing some impacts on locally important if it results in the most sustainable option overall being pursued.</p>
<p>Timing and detailed implementation option: 2 – Include a policy on climate change and good quality sustainable design within the Core Strategy</p>	<p><i>Background:</i></p> <p><i>The current minerals and waste planning policies in force (the ‘saved’ policies contained in the BMWLP, 2006), which form the baseline for considering potential future options, do not include a policy on climate change and/or good quality design. The ‘saved’ environmental policies it contains are focused around mitigating negative impacts directly resulting from the proposed activity rather than providing proactive policy.</i></p> <p><i>The Preferred Options version (previous draft version) of the Core Strategy (2008) had a policy covering climate change, transport assessments, and providing a high standard of restoration, but not seeking proactive design benefits.</i></p> <p>Evaluation Result:</p> <p>Including a policy in the Core Strategy on climate change and good-quality design should provide a range of environmental, social and economic benefits and will be in line with Government policy on climate change. Seeking positive design benefits will be essential, covering issues such as biodiversity enhancement and energy-efficient design. Best practice</p>

²² Some of the policies that were in the original 2006 version of the plan have subsequently been deleted. The policies that remain in force are those that have been ‘saved’. These policies will subsequently be replaced by those contained in the various documents of the Buckinghamshire Minerals and Waste Local Development Framework, including the Core Strategy, as they are developed.

New Option	Review
	<p>guidance on design should be utilised in policy development, such as the DEFRA design guidance for waste facilities (2008)²³; further details of such guidance can be found in the Design Topic Paper.</p> <p>However, consideration will have to be given to associated economic costs to the project, should policy demands force socially and environmentally important projects to be abandoned due to excessive cost. A careful balance will be needed to maximise the sustainability of the outcome, although significant benefits should be possible.</p> <p>Level of benefit will depend upon the exact wording of the policy.</p>
<p>Timing and detailed implementation option: 3 – Seek environmental and recreational enhancements through proactive policy, in addition to more general mitigation measures</p>	<p><i>Background:</i></p> <p><i>The current minerals and waste planning policies in force (the ‘saved’ policies contained in the BMWLP, 2006), which form the baseline for considering potential future options, do not include a policy seeking environmental enhancement. The ‘saved’ environmental policies are focused around mitigating negative impacts directly resulting from the proposed activity rather than providing proactive policy.</i></p> <p><i>The Preferred Options version (previous draft version) of the Core Strategy (2008) also focused around mitigating negative impacts, rather than seeking positive benefits, although high standards of restoration are sought (Policy 11).</i></p> <p>Evaluation Result:</p> <p>The option will have obvious environmental, social and economic benefits and a wide range of potential benefits should be considered for inclusion within the policy.</p> <p>However, consideration will have to be given to associated economic costs to the project, should they force socially and environmentally important projects to be abandoned due to excessive cost. A careful balance will be needed to maximise the sustainability of the outcome, although significant benefits should be possible.</p> <p>Level of environmental and social benefit will therefore depend upon the exact wording of the policy.</p>

The detailed evaluation of the above options against the SA objectives is contained in [Appendix F](#).

The first new generic option, Option 1: ‘Include policy in the Core Strategy concerning the protection of environmental assets of local importance, rather than relying on national policy’, was integrated into the Core Strategy, in line with SA recommendations, through a specific policy on the issue, Policy CS19. As noted in the options review summary above, the overall level of benefit, in sustainability terms, depends upon the exact wording of the policy and the range local environmental assets to be protected.

The option review recommended that assets of local importance in terms of heritage, recreation, biodiversity and geodiversity, landscapes and potentially soils (if not protected through other policy) should be considered for protection, and that land and water environments should be taken into account. Policy CS19 specifically seeks to protect locally important sites for heritage, recreation, biodiversity and landscapes, and both land and water environments, in line with SA recommendations. Indirect protection is also provided for locally important

²³ DEFRA (2008) *Designing Waste Facilities: a guide to modern design in waste*

geological assets, which can be of historic and/or biodiversity importance. No specific wording is provided on soils, although this may be more appropriately considered in the Minerals and Waste DPDs, and it is recommended that policy wording is included within that plan to ensure adequate protection of high quality soils.

It was also recommended in the option review for Option 1 that policy wording be included to require any detrimental impacts upon locally important features to be adequately mitigated, or provide compensation measures if this is not possible, prior to permitting development, thus allowing some impacts on locally important assets if it results in the most sustainable option overall being pursued (balancing social, environmental and economic considerations), rather than providing blanket protection. Suitable policy wording has been included in Policy CS19.

The second new generic option, Option 2: 'Include a policy on climate change and good quality sustainable design within the Core Strategy', has been directly integrated into the Core Strategy, as recommended in the SA option review, through Policy CS22 'Design and Climate Change'. The option review recommended that positive design benefits be sought through policy; this is incorporated into the plan through both Policies CS22 and CS23, the latter on 'Enhancement of the Environment'.

The third and final new generic option, Option 3: 'Seek environmental and recreational enhancements through proactive policy, in addition to more general mitigation measures', has been integrated into the proposed Core Strategy through Policies CS22 and CS23, both noted above, which both seek positive environmental and recreational enhancements.

The options reviews for both Options 2 and 3 recommend that, in seeking the most sustainable solution, consideration be given to associated economic costs to proposals, so the policies does not inadvertently force socially and environmentally important projects to be abandoned due to excessive cost. This is integrated into Policies CS22 and CS23 with the wording 'as appropriate' and 'as relevant', which ensures a blanket approach to policy enforcement is not taken, leaving it to the judgement of the planning officer to achieve an appropriate balance and sustainable solution.

5.6 Mitigation Measures

The Calvert proposals review and new options review identified several environmental, social and economic issues upon which there could be negative effects if particular options were pursued, or if policies were developed with or without certain details, together with several areas in which positive benefits could potentially be achieved. Key recommendations are highlighted in the options section above, with additional detail in the options appendices ([Appendix E](#) and [Appendix F](#)).

As shown in throughout Section 5 above, the majority of the SA options review recommendations have been taken forward into the proposed Core Strategy. The effects of the final Core Strategy on the sustainability objectives are assessed in Section 6 of this report. Any recommended mitigation measures that have not been integrated into the Core Strategy will be further highlighted in that section.

Effects of the SA on the Plan

The SA options review has informed the generation of several new policies, as highlighted above, which should have positive sustainability benefits.

6 Effects of the Plan

6.1 Proposed Plan

The proposed new Buckinghamshire Minerals and Waste Core Strategy DPD contains 24 policies, together with detailed supporting text, mainly grouped into three core chapters, in addition to a brief ‘Minerals Planning Strategy’, a brief ‘Waste Planning Strategy’ and a ‘Vision’ and ten objectives, all as set below.

Vision for Minerals and Waste Development Framework

By 2020:

Minerals sites and a network of waste management facilities are available to support existing needs and the various levels of planned growth in different parts of Buckinghamshire in ways that contribute to the efficiency of the county’s transport infrastructure.

Buckinghamshire is making more efficient use of primary minerals by conserving minerals assets, which are primarily located in the Thames Valley, for future use and minimising demand through the increasing use of recycled and alternative materials. The minerals industry is extracting sufficient mineral in more sustainable ways, and has an adequate planning provision to meet future needs. The quality of site restoration is continuing to improve.

The amount of waste produced in Buckinghamshire by residents and businesses has been reduced to a minimum. Waste that does arise is fully provided for in more sustainable ways through greater recycling, composting, and recovering energy from waste that would otherwise be landfilled, so as to manage as many of our waste needs within Buckinghamshire as possible. This is achieved by the waste industry maximising the use of existing waste facilities, and providing new ones in the right places to meet local needs. New strategic capacity needed to generate energy from waste has been developed on a countywide basis, using as few sites as possible. Where specialised wastes have to be sent elsewhere for processing, we are compensating by helping other areas meet their waste management needs.

Buckinghamshire’s environment, environmental assets and habitats, and the quality of life of its residents have been protected and enhanced, as much as possible, whilst account is taken of climate change through good planning and design of minerals and waste development.

Strategic Objectives

SO1: Improving the Sustainability of Minerals Development

To identify sufficient land to enable Buckinghamshire’s currently agreed apportionment for sand and gravel to be maintained in a steady supply over the plan period, whilst reducing the quantity of primary minerals needed by increasing levels of aggregates recycling and the use of alternatives to primary materials.

SO2: Improving the Sustainability of Waste Management

To support waste prevention and reuse, and identify sufficient land to manage an equivalent amount of waste to that generated within Buckinghamshire, so as to deliver a countywide network of improved existing and new facilities to maximise local recycling and composting, and ensure value by energy recovery for the remaining waste whilst moving away from Buckinghamshire’s current over-reliance on landfill disposal.

Strategic Objectives (cont..)

SO3: Safeguarding of Existing Minerals Resources

To protect the county's mineral resources within the Thames Valley, where the richest deposits of sand and gravel are to be found, and potentially viable resources in north Buckinghamshire from development which would prevent their future use.

SO4: Spatial Distribution of Minerals Development

To give priority to the improved use or extension of existing sites in Buckinghamshire, before considering new locations to minimise the use of land for minerals extraction activities in the county and to help protect natural resources.

SO5: Transportation of Minerals

To protect existing and potential future locations for minerals transportation infrastructure from alternative uses to improve connection between minerals sites and growth areas.

SO6: Spatial Distribution of Waste Development

To enable strategic waste capacity to be provided in the county to co-locate facilities, minimise waste movements and make the best use of a limited number of site opportunities.

SO7: Safeguarding of Existing Waste Sites

To protect Buckinghamshire's existing waste management sites and sites suitable for future waste management infrastructure from alternative uses.

SO8: Transportation of Waste

To utilise planned improvements in transport infrastructure and enable the development of new strategic waste transfer facilities which will improve connectivity between the north and south of the county and enable the more efficient movement of waste.

SO9: Protection of the Green Belt and AONB

To protect the Green Belt and the Chilterns AONB within Buckinghamshire from unnecessary minerals and waste development.

SO10: Protecting and Enhancing the Environment

To protect and enhance the human, historic and natural environment by minimising and mitigating potential negative impacts and by seeking positive benefits from minerals and waste development in the county.

Core Strategy Chapter 3: Minerals

The Minerals Planning Strategy

To achieve a more sustainable supply of minerals the county will support and seek to identify sites for the recycling and processing of alternative aggregates and encourage the use of alternative modes of transport to road haulage.

The Minerals Safeguarding Area will be established in southern Buckinghamshire within which Preferred Areas will be identified to meet the latest annual apportionment of sand and gravel and maintain at least a 7-year landbank. In addition, an Area of Search will be established in north Buckinghamshire within which further investigations will be required to determine the extent of the potential sand and gravel resources.

The County Council will continue to support the Chiltern brick industry in maintaining a supply of material to meet the demand for traditional Chiltern Bricks.

Policies:

- CS1: Minerals Safeguarding
- CS2: Area of Search
- CS3: Non-Aggregate Minerals Working
- CS4: Maintaining the Level of Sand and Gravel Provision
- CS5: Preferred Areas

CS6: Sites for Recycled and Secondary Aggregates

CS7: Rail Aggregates Depots and Wharf Facilities

Core Strategy Chapter 4: Waste

The Waste Planning Strategy

The County Council will plan for an equivalent amount of waste to that generated within the county (net self-sufficiency) in managing its wastes to 2026, and to meet prevailing targets for increased recycling and diversion from landfill.

The strategy for waste is to encourage waste prevention and to safeguard existing waste management capacity within Buckinghamshire, whilst increasing local provision for recycling and composting so as to increasingly divert waste from landfill.

For waste that cannot be recycled the strategy is to allocate land for a single Strategic Waste Complex (SWC), to include an energy recovery facility, at Calvert Landfill Site with linked waste transfer stations at High Heavens Waste Complex, High Wycombe; and London Road Depot, Amersham.

The Council will plan for a reduction in the disposal of waste to landfill – including that imported from London – over the plan period.

Policies:

CS8: Waste Audit

CS9: Additional Waste Management Capacity and Net Self-Sufficiency

CS10: Indicative Local Recycling and Composting Capacity to be provided for MSW and C&I Waste by 2026

CS11: Strategic Waste Complex at Calvert Landfill Site

CS12: Essential Infrastructure to support the Strategic Waste Complex (SWC) at Calvert Landfill Site

CS13: Contingency

CS14: Safeguarding Existing and Potential Waste Sites

CS15: Landfill

CS16: Management of Imported Waste

CS17: Sewage Treatment Works

Core Strategy Chapter 5:

Protection and Enhancement of Buckinghamshire's Environment

Policies:

CS18: Protection of Environmental Assets of National Importance

CS19: Protection of Environmental Assets of Local Importance

CS20: Green Belt

CS21: The Chilterns Area of Outstanding Natural Beauty (AONB)

CS22: Design and Climate Change

CS23: Enhancement of the Environment

Core Strategy Chapter 6: Implementation and Monitoring

Policies:

CS24: Strategy for Policy Implementation, Monitoring, Review and Enforcement

6.2 Key Changes

There have been several significant changes between the new Core Strategy and the current Buckinghamshire Minerals and Waste Local Plan (BMWLP).

With regard to minerals, the key changes to the minerals baseline from the BMWLP to the Core Strategy are:

- (a) the 6% increase tonnage of sand and gravel required per annum in the landbank (the landbank must be at least seven years, as before), which necessitates the allocation of new sites; and
- (b) the decrease in the Area of Search from covering the entire county to only covering a small area in the north of Buckinghamshire.

With regard to waste, the key changes to the waste baseline from the BMWLP to the Core Strategy are:

- (a) the significant increase in the number of new and extended facilities envisaged for recycling, composting and energy recovery;
- (b) the position on landfill, with no new non-hazardous waste sites now permitted;
- (c) the reduced provision for waste facilities to deal with waste imports from outside Buckinghamshire;
- (d) the specific and detailed policy providing for a Strategic Waste Complex, including an energy recovery facility, hazardous waste facilities and a new access road, at Calvert;
- (e) a new contingency policy, with new site appraisal criteria;
- (f) the safeguarding of all existing waste sites in Buckinghamshire and the Woodham Industrial Area in Aylesbury Vale District;
- (g) the additional safeguarding of Thorney Mill as a potential future rail waste transfer site; and
- (h) a requirement for a waste audit that goes beyond current statutory requirements;
- (i) the provision of new recycling and composting capacity to be distributed to each district across the county in proportion to waste arisings produced by the population.

There have also been several significant changes to the wider environmental policies that apply to both minerals and waste applications from the BMWLP to the Core Strategy:

- (a) a broader range of environmental assets of local importance are protected, including a wider range of water resources, which were only indirectly, rather than specifically, protected in the BMWLP;
- (b) clearer policy wording is provided with regard to the limited circumstances in which development would be permitted where there are likely to be negative environmental impacts; this recognises that the wider social, environmental and economic benefits development can bring, can sometimes more than compensate for some negative impacts;
- (c) further clarity is provided on the very special circumstances in which waste development in the Green Belt would be permitted; and
- (d) most significantly, the new Core Strategy contains detailed policies on high-quality design and climate change and on seeking environmental enhancements, which the current BMWLP does not.

6.3 Significant Social, Environmental and Economic Effects of the Plan

The social, environmental and economic effects of the proposed Core Strategy policies, covering both minerals and waste, have been appraised as part of the SA process. The effects of the plan are summarised in Table 6.1 below, with the detailed assessment contained in **Appendix G** to this report. The scoring methodology is explained in Section 2 of this report.

Table 6.1: Effects of the Core Strategy

SA Objectives	Score	Evaluation Summary – key effects of the plan
SA1: To protect and enhance air quality	<p>N (M) – net impact county-wide</p> <p>* (L) – ‘worst case’ local impact</p>	<p>Impacts considered across Buckinghamshire as a whole are likely to be negligible. However, the Core Strategy could, without mitigation, result in a negative impact on localised air quality near minerals and waste sites and potentially along roads (traffic-related), including in some AQMAs. This would only be significant if air quality objectives are breached, or if impacts occur in areas where they are already exceeded – i.e. AQMAs or candidate / prospective AQMAs. In order to address this issue, the Core Strategy’s policies seek to minimise any potential decrease in air quality. The certainty is low, as there are only few sites / areas and no proposals at this stage, and thus the specific areas to be affected are not all known. Also, it is uncertain whether Core Strategy policy on minimising air quality impacts could strengthen controls and thus in effect prevent or reduce impacts which would have occurred without this policy in place, such as from existing sites that may be subject to new planning applications. This could lead to positive impacts, and possibly net benefits.</p>
SA2: To avoid additional climate change emissions, seek their reduction, and reduce the future effects of climate change based on predictions	<p>✓✓✓ (M)</p>	<p>The Core Strategy includes several policies designed to minimise climate change related emissions from minerals and waste sites and associated transport movements. However, despite these policies, the Core Strategy is likely to lead to a significant increase in mileage in association with waste management activities in particular. The Climate Change Topic Paper does, however, highlight that the most significant impact by far that the waste sector has on climate change is emissions from landfill, with the impact from transport emissions being small in comparison. The move away from landfill towards alternative processes and technologies higher up the waste hierarchy that is facilitated by the Core Strategy, producing additional energy in the process, should therefore have a significantly beneficial impact on reducing emissions associated with climate change. In addition, unlike the BMWLP, the Core Strategy contains specific policies designed to ‘climate proof’ minerals and waste development for the future.</p>
SA3: To protect, the living conditions and amenities of local residents and people working in local businesses from the adverse effects of minerals and/or waste development, and seek enhancements where possible	<p>✓✓ (M)</p>	<p>Although the Core Strategy envisages the need for increased minerals and waste development, which could, without mitigation, result in negative impacts on living conditions and amenity at a local level near minerals and waste sites and on transport routes, the Core Strategy’s policies seek to minimise any such negative impacts. The Core Strategy also actively seeks high-quality design and enhancement measures to be included with development proposals to a greater extent than the BMWLP, which could have a beneficial impact for the wider community. In addition, the Core Strategy prevents the negative impacts associated with new non-hazardous landfill, unlike the BMWLP, and continues to facilitate the development of essential waste management facilities, which are required to process the waste produced by Buckinghamshire’s residents,</p>

SA Objectives	Score	Evaluation Summary – key effects of the plan
		businesses and other organisations, which could otherwise have significant negative health and safety impacts for people living and working across the county.
SA4: To avoid adverse impacts on human health and ensure public safety with regard to minerals and waste activities, seeking positive benefits where possible	✓ (M)	Although the Core Strategy envisages the need for increased minerals and waste development, which could, without mitigation, result in negative impacts on living conditions and amenity at a local level near minerals and waste sites and on transport routes, the Core Strategy’s policies and a strict regulatory and monitoring regime ensure any such negative impacts are negligible, in common with the BMWLP. In addition, the Core Strategy prevents the negative impacts associated with new non-hazardous landfill, unlike the BMWLP, and continues to facilitate the development of essential waste management facilities, which are required to process the waste produced by Buckinghamshire’s residents, businesses and other organisations, which could otherwise have significant negative health and safety impacts for people living and working across the county.
SA5: To protect and enhance biodiversity and create new habitats	✓✓ (M)	Although the Core Strategy envisages the need for increased minerals and waste development, negative impacts on biodiversity considered across Buckinghamshire as a whole are likely to be negligible when taking account of mitigation. Waste policy in particular helps to minimise the amount of new land required for waste management, which is a very fundamental avoidance mechanism of future potential impacts. Negative impacts on biodiversity may be generated in the very short term, associated with the development of individual sites from which habitats may be lost or species disturbed. However, suitable mitigation measures would be required for such sites, whilst important sites and species continue to be protected by policy and regulation. In the medium to long term (course of the plan and beyond), the new Core Strategy enhancement policies are expected to have a positive effect on biodiversity, beyond that afforded by the BMWLP.
SA6: To protect areas of archaeological importance and conserve and, where appropriate, enhance the historic environment	✗ (M)	Although the Core Strategy envisages the need for increased minerals and waste development, only minor negative impacts on archaeology and the historic environment would be expected when considered across Buckinghamshire as a whole, due to potential damage associated with minerals and waste development activities. It is not possible to fully eliminate risk at this high level of assessment. However, policy and legislation continue to seek to ensure that internationally, nationally and locally important heritage assets are protected. Core Strategy policy also seeks relevant enhancements where possible, and future measures taken at the development stage may be able to avoid, minimise and/or offset impacts.
SA7: To protect and seek to improve soil resources and quality, and protect and enhance sites of geological interest	✗ (L)	Although the Core Strategy envisages the need for increased minerals and waste development, only minor negative impacts on soils and geology would be expected when considered across Buckinghamshire as a whole, due to potential damage associated with minerals and waste development activities. However, Core Strategy policy seeks to ensure that nationally and, unlike the BMWLP, locally important geological sites are protected and the sites with higher-quality soils are avoided. Although Core Strategy policy continues to seek to return soils to a suitable standard, there remains no clear policy steer seeking soil quality improvement. Habitat creation can lead to ecosystems which benefit soils over the long term.
SA8: To conserve and enhance the quality and	✗✗ (L)	Although the Core Strategy envisages the need for increased minerals and waste development, only minor negative impacts on landscapes and townscapes would be expected when

SA Objectives	Score	Evaluation Summary – key effects of the plan
distinctiveness of landscapes and townscapes , in particular the AONB		considered across Buckinghamshire as a whole, due to the potential visual impact associated with minerals and waste development activities. Negative impacts are likely to be most significant in close proximity to sites, particularly larger facilities that are harder to blend into the landscape even with mitigation, although impacts will depend upon the size of facility and local topography. The need for new non-hazardous landfill sites, with associated visual impacts, will however be prevented as a result of policy decisions. Additionally, Core Strategy policy continues to seek to ensure that nationally and locally important areas are protected, visual impacts minimised and enhancements sought where possible.
SA9: To avoid the wasteful use of natural resources and to encourage the use of alternatives to primary materials	✓✓✓ (M)	The Core Strategy should, through a range of new policies, have a highly beneficial impact on avoiding the wasteful use of natural resources and encouraging the use of alternatives to primary minerals when considered across Buckinghamshire as a whole, as this is part of the core focus of the plan.
SA10: To protect water resources and seek to improve water quality	✓ (L)	The increase in minerals and waste development envisaged by the Core Strategy could potentially result in an increase in the number of water pollution risks to be managed at new, extended or more intensively used sites across Buckinghamshire, although policies do prevent the need for more landfill with its associated leachate management requirement and pollution risk. Even well managed risks can lead to pollution incidents (e.g. through vehicle accidents or equipment failure, or other emergency), and these are both extremely rare, and likewise unpredictable in terms of timing and extent of impact. The Core Strategy's policies seek to minimise any potential negative impacts on water quality or water resources, together with the permitting, monitoring and enforcement processes that are in place, as a result of which, impacts should be negligible. Overall, the long-term average rate or extent of pollution incidents from waste management would not be expected to increase significantly as a result of the Core Strategy. Alternatively, it may decrease as a result of the lack of new landfill sites and gradual neutralisation of existing risks in the long term. Policies also seek wider water body enhancements, which could provide longer-term benefits across a wider area.
SA11: To avoid increasing and, where possible, reduce flood risk	✓ (L)	The increase in minerals- and waste-related development envisaged by the Core Strategy could potentially lead to a negative impact, however ancillary measures are highly likely to prevent increases in flood risk. The combination of national policy, local policy and the Environment Agency's review of most planning applications is such that any impacts are likely to be negligible. In addition, local policies promote drainage improvements and climate proofing. Such mitigation and ancillary measures are likely to include SUDS, and this leads to the likely reduction flood risk against the future baseline, however climate models have inherent uncertainty and it is difficult to guarantee the exact level of benefit, as improvements may only be sufficient to prevent a worsening of flood risk in the long term.
SA12: To conserve mineral resources and prevent their sterilisation	N (M)	The pre-existing policies of the BMWLP already prevent the sterilisation of mineral resources, however this will be reinforced by the Core Strategy policies, which seek to conserve minerals for future use, whilst ensuring sufficient minerals are available to meet the needs of current generations. Policies seek both to prevent existing minerals

SA Objectives	Score	Evaluation Summary – key effects of the plan
		reserves from being sterilised as a result of development and to facilitate the increased use of alternatives to primary resources.
SA13: To promote the effective restoration and appropriate after use of minerals and waste sites	✓✓ (M)	The new Core Strategy policies, taken in conjunction with national and continuing 'saved' policies, more actively promote effective restoration and after use than the existing BMWLP, seeking a range of potential benefits for sites, although a clearer policy steer could be provided to seek to improve soil quality. The policies should therefore result in longer-term improvements that could have both local and wider benefits.
SA14: To contribute positively to the sustainable management of waste and minerals	✓✓✓ (M)	The Core Strategy continues to seek to ensure that the net equivalent of all the waste produced by the residents, businesses and other organisations of Buckinghamshire can be processed within the county boundaries. It is significantly more proactive than the BMWLP in seeking to follow the waste hierarchy and is designed to be sufficiently flexible to account for future changes.
SA15: To use energy efficiently and to increase the production of energy from renewable and low carbon sources	✓✓ (M)	The Core Strategy is significantly more proactive than the BMWLP in seeking to promote energy efficiency and increase the production of energy from waste, which is recognised by the UK Government as a source of renewable and low carbon energy.
SA16: To minimise the number and length of road journeys associated with waste facilities and minerals workings.	✓ (L)	<p>The Core Strategy responds to projections of a significant increase in waste management demand with the ability to provide a proportionate amount of additional waste management capacity. However, it does not create this demand, only respond to it. Without the Core Strategy, by the very long term, local landfill capacity may fall behind demand, and waste would need to be transported longer distances, possibly to locations outside of the county. Therefore, the provision of a strategic waste facility and supporting facilities to move waste up the waste hierarchy is likely to reduce the number and distance of waste movements at an unknown point in the future.</p> <p>The Core Strategy also responds to projected increases in minerals demand, by having the ability to support an increase in minerals production in Buckinghamshire. This includes new and extended facilities, but again, the demand is not generated by the Core Strategy, and it only responds to it. Local provision of sufficient minerals can prevent this demand from being met from further afield, and thus reduce road transport of minerals, however this may not be a significant change from the BMWLP.</p> <p>It is noted that the location of the Strategic Waste Complex in the north of the county, away from major centres of population as a result of the need to site development outside of the Green Belt, will necessitate an increase in overall mileage. The Core Strategy does however, include a range of policies designed to minimise the number and length of journeys for both minerals and waste, which are more proactive than BMWLP equivalents. In addition, the continued provision for sufficient minerals and waste sites within the county prevents the need for waste to be transported from further afield, which would result in increased mileage.</p>
SA17: To	✓✓ (M)	The Core Strategy is significantly more proactive than the

SA Objectives	Score	Evaluation Summary – key effects of the plan
maximise community participation in minerals and waste issues and individual responsibility for their own waste production and minerals use		BMWLP in facilitating the provision of new waste management capacity, through a range of facility types, including at the local level, to ensure Buckinghamshire’s residents and business community are able to actively participate in re-use, recycling and composting – playing their part in ensuring waste can be managed further up the waste hierarchy and diverting it from landfill. The strategy also seeks to ensure that Buckinghamshire remains net self-sufficient with regard to waste and self-sufficient for key minerals.
SA18: To protect, enhance and create (where possible) resources valued for recreation , including public rights of way	✓✓ (M)	The Core Strategy provides for a significant increase in waste management capacity and a potential increase in minerals production in Buckinghamshire, which, without mitigation, increases the potential for negative impacts on recreational resources. Unlike the BMWLP, the strategy specifically seeks to minimise the need for new or extended waste sites and the potential for associated recreational impacts through safeguarding existing sites. It also directly protects public rights of way in rural and urban areas from both minerals and waste development; other types of leisure facility will be protected through amenity and district level policies, as occurs at present. In addition, unlike the BMWLP, the Core Strategy seeks enhancement measures that can have wider community benefits in the longer term.
SA19: To avoid adverse economic impacts on land and premises in employment use and seek positive benefits where possible	N (M)	The Core Strategy provides for a significant increase in waste management capacity and a potential increase in minerals production in Buckinghamshire, which increases the potential for negative economic impacts on land and premises in employment use. The strategy does, however, continue to provide policy safeguards to minimise potential significant impacts.
SA20: To maintain or improve job opportunities within the county	✓ (M)	The Core Strategy provides for a significant increase in waste management capacity and a potential increase in minerals production in Buckinghamshire. This is likely to provide limited new job opportunities in the minerals and waste industry across the county, due to the nature of minerals and waste operations. However, minerals are required for the construction industry across the county, and beyond, which does provide significant employment.

The above assessment demonstrates that the Core Strategy is likely to have a slight benefit in many areas, compared to the effects of the current BMWLP. This relates to sustainability objectives on human health and public safety, water, flood risk, road journey reduction and job opportunities. In many cases, this minor benefit results from new proactive measures being provided through new Core Strategy policy over and above the protective measures already contained within the existing BWMLP, as noted above and detailed in [Appendix F](#).

Some negative impacts are also noted. Minor negative scores are given against archaeology and heritage, and soils and geology SA objectives, mainly in light of the unavoidable risk of impacts on such features that could result from the additional development envisaged by the Core Strategy, and which cannot be guaranteed to be avoided through plan-level mitigation alone. This risk needs to be carried forward to statutory SA/SEA monitoring and future planning and project development.

A moderate negative impact is recorded against landscape and townscape, mainly in recognition of the limitations to mitigation when dealing with larger waste facilities in particular, as envisaged by the Core Strategy in the Calvert proposals. Again, this is a risk of an impact which must be carried forward to statutory SA/SEA monitoring and to future planning and project development. Particular efforts should be made to minimise associated impacts, such as by using design 'best practice' and innovation.

A range of potential negative impacts are noted throughout the SA assessments, as shown in the various appendices, in association with numerous SA objectives at the individual site level, but the majority of sites will not be determined until the forthcoming Minerals DPD and Waste DPD are developed, so cannot be assessed in detail at present.

A notable benefit of the Core Strategy generally, which has resulted in positive impacts across several SA objectives as discussed below, can be found in the new policies it contains on high-quality design and climate change, and on environmental and recreational enhancement. These are significantly more proactive than BMWLP policies and could potentially result in a wide range of significant environmental and social benefits.

This SA had identified the opportunity for moderate positive effects related to living conditions and amenity, biodiversity, restoration, energy, community participation and individual responsibility and recreation. These are as a result of significantly more detailed and proactive policies of the new Core Strategy (as relevant to these areas) as compared to the current BMWLP baseline, and/or because of the indirect benefits from the change to more sustainable waste processes.

There are two areas identified as receiving the most significant, highly beneficial impacts – natural resource use, and sustainable minerals and waste management. This is mainly due to the Core Strategy proposing an overall 'step change' in waste management methods, which will move ever more waste further up the waste hierarchy.

The most prominent significant benefit of the Core Strategy regards climate change. The plan facilitates a significant move from landfill to other waste management solutions higher up the waste hierarchy, again representing a 'step change' in line with current UK Government policy. This will significantly reduce methane emissions from waste within the county. Although the proposals for dealing with residual waste at Calvert will likely increase the road transport distances associated with waste management (due in turn to the need to locate such a site outside of the Green Belt and Chilterns AONB), the methane emissions saved will more than offset any increase in carbon dioxide emissions from transport. The Core Strategy also directly prevents the creation of new methane-producing, non-hazardous landfill, and contains a specific policy seeking both climate change prevention and mitigation, all being a notable change from the existing BMWLP.

Overall, the Core Strategy is a significant advancement from the current BMWLP in terms of its sustainability. However, the overall success of the plan will depend upon its detailed implementation and further work to be carried out in future on the Minerals DPD, Waste DPD and site selection. Relevant mitigation measures are recommended below.

6.4 Mitigation Measures

The review of the effects of the Core Strategy resulted in the following key recommendations that seek to further minimise negative impacts and to gain positive benefits where possible, particularly as more detailed policy is further developed in the forthcoming Minerals DPD and Waste DPD.

Within the below recommendations, it should be noted that all sites considered for the Minerals DPD and Waste DPD will be subjected to full testing and sustainability appraisal, thereby enabling their consideration against a full range of sustainability objectives. As such, these recommendations may be met in full or part by this future assessment work.

SA1: To protect and enhance air quality

Any further site selection, whether for waste contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on air quality, including upon AQMAs, both from sites and associated transport. It should be noted that for waste sites, prevailing waste locational criteria might not always continue to include air emissions.

Options for rail transfer of waste should be further investigated and uptake maximised through 'partnership working'.

SA2: To avoid additional climate change emissions, seek their reduction, and reduce the future effects of climate change based on predictions

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on and from climate change, both from sites and associated transport.

Transport impacts and options should be further assessed as part of the development of the Minerals DPD and Waste DPD to minimise associated road mileage, as detailed in relation to SA16 below.

SA3: To protect the living conditions and amenities of local residents and people working in local businesses from the adverse effects of minerals and/or waste development, and seek enhancements where possible

Ensure the definition of 'sensitive uses' is clarified in the Minerals DPD to specifically include those working nearby who would be adversely impacted by minerals development.

Any further site selection, whether for waste contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on living conditions and amenity, both from sites and associated transport. It should be noted that, for waste sites, prevailing waste locational criteria might not always include issues of relevance to living conditions and amenity. The current PPS10 list is also not necessarily fully comprehensive, so should be supplemented by additional considerations where necessary.

SA4: To avoid adverse impacts on human health and ensure public safety with regard to minerals and waste activities, seeking positive benefits where possible.

Review whether a local land stability policy is required when developing the Minerals DPD.

Require Health Impact Assessment in association with planning applications for any new waste management developments.

Any further site selection, whether for waste contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on human health and public safety, both from sites and associated transport. It should be noted that for waste sites, prevailing waste locational criteria might not always continue to include issues of relevance to public health and safety. The current PPS10 list should be supplemented by additional considerations where necessary.

SA5: To protect and enhance biodiversity and create new habitats

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on biodiversity. It should be noted that, for waste sites, prevailing waste locational criteria might not always continue to include issues of relevance to biodiversity. The current PPS10 list should be supplemented by additional considerations where necessary.

SA6: To protect areas of archaeological importance and conserve and, where appropriate, enhance the historic environment

Area Statement for Calvert should require protection of, or where not possible, minimise adverse effects on the Listed Building on site. Consideration of its future occupation and long-term maintenance should be incorporated into proposals.

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on heritage. It should be noted that, for waste sites, prevailing waste locational criteria might not always continue to include issues of relevance to heritage. The current PPS10 list is also not necessarily fully comprehensive, so should be supplemented by additional considerations where necessary.

SA7: To protect and seek to improve soil resources and quality, and protect and enhance sites of geological interest

Policy wording is recommended in the Minerals DPD and Waste DPD to require that good-quality soil resources are appropriately protected and managed, and that soil quality is improved as part of any restoration scheme.

Policy wording is recommended in the Minerals DPD and Waste DPD to require that an Environmental Management System (EMS) should be used for each site to help to minimise the likelihood of pollution.

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on soils and geology. It should be

noted that, for waste sites, prevailing waste locational criteria might not always continue to include issues of relevance to geology. The current PPS10 list should be supplemented by additional considerations where necessary.

SA8: To conserve and enhance the quality and distinctiveness of landscapes and townscapes, in particular the AONB

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on landscapes and townscapes. It should be noted that, for waste sites, prevailing waste locational criteria might not always continue to include issues of relevance to landscapes and townscapes. The current PPS10 list is also not necessarily fully comprehensive, so should be supplemented by additional considerations where necessary.

SA9: To avoid the wasteful use of natural resources and to encourage the use of alternatives to primary materials

None

SA10: To protect water resources and seek to improve water quality

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on water resources and water quality. It should be noted that, for waste sites, prevailing waste locational criteria might not always continue to include water issues. The current PPS10 list is also not necessarily fully comprehensive, so should be supplemented by additional considerations where necessary.

SA11: To avoid increasing and, where possible, reduce flood risk

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on and from flood risk. It should be noted that, for waste sites, prevailing waste locational criteria might not always continue to include flood issues.

SA12: To conserve mineral resources and prevent their sterilisation

None

SA13: To promote the effective restoration and appropriate after use of minerals and waste sites

Draw out specific restoration opportunities associated with Policy CS11 in the Area Statement for the Calvert and Waste Transfer sites.

Potential impacts on restoration proposals should be considered when deciding whether sites should remain in a waste use in the Waste DPD.

As noted for SA7, policy wording is recommended in the Minerals DPD and Waste DPD to require that good quality soil resources are appropriately protected or managed, and that soil quality is improved as part of any restoration scheme.

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on any existing restoration proposals and the potential for effective restoration and after use for any new or extended sites.

SA14: To contribute positively to the sustainable management of waste and minerals

None

SA15: To use energy efficiently and to increase the production of energy from renewable and low carbon sources

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of the suitability of the site for renewable and low carbon energy generation sources. It should be noted that, for waste sites, the current prevailing waste locational criteria, Annex E to PPS10, does not include energy generation.

SA16: To minimise the number and length of road journeys associated with waste management facilities and minerals workings

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of impacts on the number and length of associated road journeys. It should be noted that, for waste sites, prevailing waste locational criteria might not always continue to include issues of relevance to this issue. The current PPS10 list is also not necessarily fully comprehensive, so should be supplemented by additional considerations where necessary.

Options for rail transfer of waste should be further investigated.

Further assessments of the mileage associated with minerals and waste transportation should be carried out in advance of production of the Minerals DPD and Waste DPD to ensure appropriate consideration can be given to locational and facilities options that minimise road mileage.

SA17: To maximise community participation in minerals and waste issues and individual responsibility for their own waste production and minerals use

The potential for positive waste education and participation benefits should be included within detailed waste site selection criteria.

SA18: To protect, enhance and create (where possible) resources valued for recreation, including public rights of way

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of recreational impacts. It should be noted that, for waste sites, prevailing waste locational criteria does not cover this issue. It should therefore be supplemented by additional considerations where necessary.

SA19: To avoid adverse economic impacts on land and premises in employment use and seek to benefit such businesses where possible.

Ensure the definition of 'sensitive uses' is clarified in the Minerals DPD to specifically include land uses and businesses already located near to such sites or their proposed access routes whose economic activities would be adversely impacted by minerals development.

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of potential economic impacts on land and premises in employment use. It should be noted that, for waste sites, prevailing waste locational criteria does not cover this issue. It should therefore be supplemented by additional considerations where necessary.

SA20: To maintain or improve job opportunities within the county

Any further site selection, whether for contingency sites or as part of the Waste DPD or Minerals DPD, should take account of potential impacts on job opportunities. It should be noted that, for waste sites, prevailing waste locational criteria does not cover this issue. It should therefore be supplemented by additional considerations where necessary.

Additional general recommendations

Best practice guidance of relevance to minerals and waste development is available on a wide range of topics including biodiversity, heritage, climate change and design. Best practice guidance, particularly from Government sources, should continue to be utilised in the development of Waste DPD and Minerals DPD policy, although policy wording should not refer to specific guidance as it may become out of date during the plan period. Such guidance should also be utilised in the appraisal of sites specifically included within future plans and in subsequent pre-application discussions for potential development. Consideration should also be given to the development of specific Supplementary Planning Guidance where relevant.

BCC should ensure that where 'saved' policies from the BWMLP are referred to in the 'Effects of the plan' review (Appendix G) and are important in ensuring the achievement of sustainability objectives, their effect should be retained in future Minerals DPD and Waste DPD policies to ensure the continuation of their positive impact on sustainability.

As required by the Government, BCC rely on national policy in places to meet elements of some sustainability objectives, as noted in the 'Effects of the plan' review (Appendix G). The Government is currently reviewing national planning policy. It is therefore uncertain whether future national policy will continue to provide the coverage required of sustainability issues. All policies and plans should therefore be reviewed when the final National Planning Framework is published to establish its impact depending on transitional arrangement which are put in place for existing

Core Strategies. Amendments to current local planning policy may be required to fill any policy gaps that emerge.

It should also be noted that planning officers involved in development management should continue to be provided with adequate training and information to enable them to keep up to date with relevant environmental, social and economic knowledge to enable them to make informed decisions on planning applications and maximise the sustainability of minerals and waste development within the county. Specialist advice from internal or external experts should continue to be sought where required to aid informed decision-making.

Effects of the SA on the Plan

The team undertaking the sustainability appraisal were able to review early drafts of policies as they were developed with the aim of ensuring negative impacts were minimised and positive benefits maximised.

Several minor wording changes were also made to final drafts of plan policies to avoid unforeseen negative impacts and improve clarity.

7 Implementation and Monitoring

7.1 Links to other tiers of plans and programmes and the project level

The Core Strategy DPD will be followed by a Waste DPD, which will identify smaller-scale sites and facilities, and a Minerals DPD, which will identify sites for minerals workings. These will link to and follow the policy direction set out in the Core Strategy. Each of these documents and any further site options will also be subject to a sustainability appraisal and should take into account relevant mitigation measures proposed within this report. These documents will also be subjected to a full programme of public consultation.

Environmental Impact Assessments (EIAs) will be required for each of the strategic sites as they come forward for planning permission. The EIAs will need to pay particular regard to the findings of this SA Report and the site details contained in the Area Statements, particularly the recommended mitigation measures.

7.2 Monitoring

Aspects of the Sustainability Appraisal will need to be monitored on a regular basis by Buckinghamshire County Council. This will check whether the SA predictions of sustainability effects were accurate, whether the Core Strategy is contributing to the achievement of each of the SA objectives, whether the mitigation measures have been put in place as suggested and how successful they have been, and whether there are any unexpected adverse effects that require attention.

Table 7.1 below highlights the aspects of the SA that will need monitoring by Buckinghamshire County Council:

Table 7.1: SA monitoring

Aspect of SA	Reason and Trigger	Frequency and Method of Monitoring
The objectives and indicators developed for the SA (detailed in the SA Framework)	To determine the impact the Core Strategy is having on achieving the SA objectives. <i>Trigger:</i> Action required if impacts are not as predicted in the SA.	Review of objectives and indicators prior to appraisal of the Waste and Minerals DPDs and review of the MWCS.
The features of both the general and site-specific baseline that will indicate the effects of the plan	To determine the effect the Core Strategy is having on the baseline. To determine whether something has changed in the baseline that will alter the likely effects of the Core Strategy. <i>Trigger:</i> Action required if changes in baseline trends are not as predicted in data used for SA.	Update prior to drafting of the Waste and Minerals DPDs. Review and update baseline and reported in the BCC Annual Monitoring Report where relevant.

Aspect of SA	Reason and Trigger	Frequency and Method of Monitoring
Other relevant plans, policies and programmes of relevance to the SA	<p>To determine whether than Core Strategy will still realise relevant objectives and targets set at international, European, national and local level.</p> <p><i>Trigger:</i> Action required if relevant objectives and targets from other plans, policies, programmes and initiatives are not being met.</p> <p>To determine whether anything has changed in other higher or equal levels of planning policy that leave important receptors potentially less protected.</p> <p><i>Trigger:</i> Action required if higher- or equal-level policies have potentially changed such that important receptors could be less protected.</p>	<p>Other Plans, Policies, Programmes and Initiatives (OPPI) Topic Paper to be reviewed, updated and analysed annually.</p> <p>The updated document to be compared to the 'effects of the plan' review (Appendix G), which highlights SA objectives where protection is provided by in part by legislation or other higher- or equal-level policy, rather than through the Core Strategy itself.</p> <p>Rolling update of OPPI Topic Paper to adopt and review prior to preparation of the Minerals and Waste DPDs</p>
Key issues and challenges in Buckinghamshire	<p>To determine whether any of the key issues and challenges identified in the SA Framework changed such that the Core Strategy no longer addresses them adequately</p> <p><i>Trigger:</i> Action required if there are any significant changes in key issues and challenges identified in the SA Framework.</p>	Review and update on post publication of the updated Buckinghamshire Sustainable Community Strategy.
The likely effects of the plan that were identified during the effects assessment	<p>To determine whether the predictions were accurate</p> <p><i>Trigger:</i> Action required if the effects of the plan are not as predicted in the SA.</p>	Review prior to drafting of Minerals and Waste DPD and review and update of the MWCS
The mitigation measures proposed	<p>To determine whether they have been put in place</p> <p><i>Trigger:</i> Action required if mitigation measures proposed by the SA have not been put in place.</p> <p>To determine whether the mitigation measures will have the desired impact</p> <p><i>Trigger:</i> Action required if mitigation measures not having the predicted impact.</p>	Review whether mitigation measures included within policies in the Minerals and Waste DPDs.

Monitoring will be particularly important in assessing both the direct and secondary, cumulative and synergistic effects of the Core Strategy.

A variety of techniques will need to be used in gathering and reviewing the data, as has occurred to date when compiling and analysing the evidence base. These techniques, used as appropriate to the data under review, include:

- Questionnaires, interviews and panels
- Benchmarking
- Matrices
- Network analysis (identifying cause-effect relationships)
- Modelling
- Trend analysis
- Overlay mapping and Geographical Information Systems (GIS)
- Expert analysis
- Threshold analysis.

In addition to monitoring current data, a few information gaps were identified during the SA process, as noted in earlier sections of this report. It will be important to close these gaps, where possible, and add the new data to the on-going monitoring where appropriate.

ACTION TO BE TAKEN:

If any of the trigger mechanisms highlighted in the table above are met, BCC will need to assess the implications and the potential severity of impact on relevant SA objective(s), in consultation with other relevant authorities and specialists if required.

Appropriate mitigation measures should be undertaken to minimise any potentially negative impacts. Action may be required by the Council or other relevant responsible authorities and relevant bodies, as appropriate.

Revisions to the Core Strategy may be required if it becomes clear that significant negative impacts on sustainability objectives are resulting from current policy or policy gaps identified through monitoring.