Bedfordshire County Council & Luton Borough Council

Managing Waste in New Developments SPD

Final Sustainability Appraisal Report

August 2008

Entec UK Limited

Report for

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Disclaimer

This report has been prepared in a working draft form and has not been finalised or formally reviewed. As such it should be taken as an indication only of the material and conclusions that will form the final report. Any calculations or findings presented here may be changed or altered and should not be taken to reflect Entec's opinions or conclusions.

Document Revisions

No.	Details	Date

Non-Technical Summary

Introduction

This Sustainability Appraisal (SA) Report outlines the findings of the sustainability appraisal of the Managing Waste in New Developments Supplementary Planning Document (SPD) for Bedfordshire County Council and Luton Borough Council. The SPD relates to Policies W5 and W6 Bedfordshire and Luton Waste Local Plan.

The preparation of this final SA Report follows guidance issued by the government on the implementation of the EC Directive 2001/42/EC (enacted in the UK under the Environmental Assessment of Plans and Programmes Regulations 2004) which requires a 'Strategic Environmental Assessment' (SEA) to be completed.

How was the Sustainability Appraisal carried out?

The approach to the appraisal has been developed based on ODPM guidance, *'Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks'* November 2005.

The appraisal process has used an Appraisal Framework. This has been agreed with Bedfordshire County Council and was subject to consultation with the statutory consultees, the SPD Working Group[1] and other key stakeholders. The Appraisal Framework (as used in Appendix E) contains 13 objectives covering social, economic and environmental issues within the Plan area. Key baseline information for each objective has been included in the framework to assist the appraisal process.

The framework has been used to appraise the likely effect of two overarching scenarios; business as usual (no SPD) and publication of an SPD. The appraisal has looked at whether each option would contribute to sustainability, to what extent and over what timescales; and whether there would be any secondary, cumulative or synergistic effects.[2] The significance of the effect has then been indicated for each of these criteria through the use of symbols, with additional points being recorded in a commentary column. Various options for the contents of the SPD have also been appraised as shown in Appendix F.

Summary of Findings

The findings of the Sustainability Appraisal are summarised below under the following headings:-

[1] The SPD Working Group comprises officers from the Waste Planning Authority, Waste Disposal Authority, Waste Collection Authorities and Local Planning Authorities.

[2] Secondary effects are effects that are not a direct result of the option but occur away from the original effect. Cumulative effects where several insignificant effects combine to have a significant effect. Synergistic effects occur where the total effect is greater than the sum of individual effects. *Annex 9 ODPM Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks Consultation Paper. 2004*

Are the SPD objectives compatible with those of other relevant plans and programmes?
Broadly, yes. The only significant possible conflict arises between the second SPD objective to influence design and the SA objective relating to housing. It is possible that in seeking to ensure that new housing is designed to facilitate sustainable waste management conflicts may arise with other aspects of sustainable design. However text has been included within the SPD in order to minimise the risk of such conflict arising.

What are the characteristics of the area and any particular problems or issues which the SPD needs to take account of?

Bedfordshire contains several areas of designated landscape including part of the Chilterns Area of Outstanding Natural Beauty as well as Areas of Great Landscape Value. Agricultural land quality is relatively good (with 34% grade 1 or 2 land), 6 – 7% of the County is designated as an SSSI.

Residents are on average better qualified than the national average. Housing affordability is a significant concern in parts of the County. The health experience of residents is about 10-15% better than the national average.

Bedfordshire has an economy that has a significant manufacturing bias, is growing only slowly and has been forecast to grow more slowly than other sub-regional economies in the East of England.

How has the sustainability framework been developed?

The SA Framework takes account of all of the sources of information on indicators and targets set out at national, regional and local levels. The SA Framework, which forms the basis of the SA, comprises 13 objectives with targets and indicators.

Are there any uncertainties or risks associated with the information collected?

Yes, relevant data is not readily available at the local level for several of the objectives which make it more difficult to assess the effects of the options.

What options have been considered?

The framework has been used to appraise the likely effect of two overarching scenarios; business as usual (no SPD) and publication of an SPD.

The appraisal has also looked at further options for the contents of the SPD as follows:-

- Waste audits for 10+ dwellings only
- Waste audits for all dwellings
- No recycled content target best practice
- 10% recycled content target best practice
- 20% recycled content target best practice

(Details shown in Appendix F).

What was the most sustainable option considered?
The 'publish an SPD' outperformed the 'no SPD' option on many of the sustainability objectives, although it should be noted that even without an SPD, Policies W5 and W6 are likely to have some positive sustainability effects. There were some areas of uncertainty around effects on educational attainment, housing and health.

Looking at the more detailed options for preparing the SPD Option 1b based on waste audits applying to all dwellings performed better against the sustainability objectives although there was uncertainty around the effects of poverty and social exclusion. In terms of recycled content targets Option 2c (highest target 20%) performed best against environmental objectives and social objectives. Option 2b (mid-range target of 10%) performed well against social and environmental objectives and performed better against economic than Option 2c.

What was the result of the options appraisal?

Although Options 1b (waste audits for all developments) and 2b (a recycled content target of 10%), performed best in the technical appraisal, since these options have not been included in foundation Waste Local Plan policies W5 and W6, they should be included in the SPD as best practice guidance only. Also, following public consultation on the SPD the definition of the term "significant volumes of waste"in Policy W5 was re-considered. Whilst the principle of , waste audits could apply to all developments,it was considered that significant volumes of waste would only be generated for developments above 10 dwellings should be encouraged but not required.

How could the SPD be improved?

Although there were virtually no negative effects from the SPD options, Entec felt that the SPD could improve its contribution to some of the objectives. These are set out below;

- Improve communication of the SPD to applicants and the public through preparation of a summary leaflet.
- Improve potential implementation by awareness-raising with District Council development control staff.
- Improve applicant and developer take up and hence sustainability benefits by highlighting links to other organisations and reference points on sustainable waste management.

What proposals are in place for monitoring?

The Sustainability Appraisal Framework provides the basis for monitoring the effects of the SPD. A number of indicators could be used to monitor the significant effects of the SPD including EcoHomes standards, embodied CO_2 emissions, take up of waste audits by applicants and developers. Entec would however suggest that some reference to monitoring arrangements is made within the SPD.

Contents

1. Appraisal methodology

The process and methodology developed by Entec to produce this report has been developed with reference to the ODPM guidance, *'Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks'* (Guidance for Regional Planning Bodies and Local Planning Authorities) November 2005 (the "ODPM SA Guidance".)

1.1 Approach adopted to the Sustainability Appraisal

The appraisal process has used an Appraisal Framework, as agreed by Bedfordshire County Council and Luton Borough Council and the SPD Working Group. The Appraisal Framework, which is presented in matrix form (Appendix D), contains the objectives, indicators and targets and the key sustainability issues facing the Bedfordshire and Luton planning administrative area. Key baseline information for each objective has been included in the framework to assist the appraisal process.

Criteria have also been used to assist and to ensure consistency within the appraisal process.

These are as follows:

• **Direction of Effect** - is the policy moving towards or away from sustainability?

• **Severity of Effect** - will the effect be marginal or significant?

• **Cumulative and Synergistic Effects** - does the effect exceed some threshold that results in some significant impact?

• **Trans-boundary Effects -** does the effect impact on adjoining authorities or regions?

• **Timing of Effect** - does the effect occur immediately or later, and does it last indefinitely or only temporarily?

The likely effect of an option has then been indicated for each of these criteria through the use of symbols, with additional points being recorded in a commentary column.

More detailed information is contained with the Sustainability Appraisal Scoping Report completed in September 2005, available from Bedfordshire County Council.

ODPM guidance indicates that when appraising SPDs, consideration should be given to options, specifically `business as usual' as well as the measures contained within the SPD.

1.2 Sustainability Appraisal responsibilities and timescales

The Sustainability Appraisal was undertaken by consultants Entec on behalf of Bedfordshire County Council and Luton Borough Council, (along with the production of the SPD itself). The SPD working group were consulted on the draft SA Scoping Report.

Work began on the appraisal in August 2005 when the scope, context and objectives were established along with the baseline data.

During November and December 2005, the various options were developed, refined and appraised, in parallel with the preparation of the draft SPD. The public consultation on the draft SPD and its associated Sustainability Appraisal Report was carried out from 13th January 2006 until 10th February 2006. Following the public consultation, revisions were made to the SPD in cousultation with the SPD working group.

1.3 Who was consulted, when and how

The SPD and its Sustainability Appraisal have been developed in line with the views of the SPD Working Group[3] and the views of stakeholders present at workshops held on 24th October 2005 and 6th February 2006. Consultation was undertaken on the draft Scoping Report with the Statutory Consultees (English Nature, the Environment Agency, the Countryside Agency and English Heritage), the SPD Working Group and other key stakeholders as part of the Scoping stage between 30th September 2005 and 4th November 2005. The only comments received were from the Environment Agency and these have been taken into account in the subsequent stages of the SA.

The draft SPD and its Sustainability Appraisal report was the subject of a four week public consultation from 13th Jan 2006 to 10th February 2006.

1.4 Issues encountered

The main problems encountered in collecting the baseline information and developing the indicators is focused around the following:-

- Data not available at local level;
- Date available did not match the ideal information; and
- Unable to identify comparators, targets or trends for a number of indicators.

[3] The SPD Working Group comprises officers from the Waste Planning Authority, Waste Disposal Authority, Waste Collection Authorities and Local Planning Authorities.

2. Background

2.1 Purpose of the SA and the SA report

This final Sustainability Appraisal (SA) Report outlines the findings of the sustainability appraisal of the Managing Waste in New Developments SPD for Bedfordshire County Council.

"Sustainable development is central to the reformed planning system. The purpose of sustainability appraisal (SA) is to promote sustainable development through the integration of social, environmental and economic considerations into the preparation of revisions of Regional Spatial Strategies (RSS) and for new or revised Development Plan Documents (DPDs) and Supplementary Planning Documents (SPDs)." (Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents Guidance for Regional Planning Bodies and Local Planning Authorities Office of the Deputy Prime Minister: London, November 2005).

This report deals with the likely significant effects of the Managing Waste in New Developments SPD, and the extent to which the implementation of this plan will achieve the social, environmental and economic objectives by which sustainable development can be defined.

2.2 The Aims and Objectives of the Managing Waste SPD

The overall aim of the supplementary planning document (SPD) is to provide specific guidance on sustainable waste management during demolition, construction and occupation of new developments, in accordance with policies W5 and W6 of the adopted Bedfordshire and Luton Waste Local Plan.

A number of key objectives have been identified which are set out below. These have been devised in discussion with the SPD Working Group.

- To offer practical guidance to those involved in the development process to reduce, reuse and recycle waste.
- To influence the design of new development to:-
    - allow an efficient and effective waste management service to be provided.
    - enable all occupiers, to have the best opportunities to reduce, re-use and recycle waste.
- To improve skills in sustainable waste management by raising awareness of best practice.

2.3 Outline of contents of the Managing Waste SPD

The Managing Waste in new developments SPD sets out guidance for implementing Policies W5 and W6 in the following sections;

- An introductory explanation of the aims, objectives, expected audience and current status of SPD
- A description of the planning policy context
- An explanation of the impact on the planning application process including an account of waste audits, (benefits, techniques etc.) a summary of applicable thresholds, and the monitoring and enforcement methods to be used.
- The benefits occuring during the Planning and Design phases
- The requirements and good practice examples for Household Waste storage and collection
- The requirements and good practice examples for Construction and Demolition Waste
- A checklist for preparing a waste audit

2.4 Compliance with the SEA Directive/Regulations

The preparation of this Sustainability Appraisal Report follows guidance issued by the government on the implementation of the EC Directive 2001/42/EC (enacted in the UK under the Environmental Assessment of Plans and Programmes Regulations 2004) which requires a 'Strategic Environmental Assessment' (SEA) to be completed. Compliance with the SEA Directive is shown in the table below. In addition, the report aids the Council in demonstrating how it has sought to meet Section 39 of the Planning and Compulsory Purchase (PaCP) Act (2004) which requires that local planning authorities exercise their functions with the purpose of contributing towards sustainable development.

The report is considered to incorporate the requirement for SEA stemming from Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment whilst the requirement for SA for Supplementary Planning Documents (SPD) is mandatory within the Planning and Compulsory Purchase Act 2004.

The table below sets out how the report complies with the requirements of the SEA Directive.

Table 2.1 Compliance with SEA Directive/Regulations

SEA Directive Requirement	Where covered in SA process
Preparation of an **environmental Report**, detailed below (Article 5).	This Sustainability Appraisal incorporating the environmental report was published alongside the draft SPD for public consultation.
(a) an outline of the contents, main objectives of the plan and relationship with other relevant plans and	Detailed in the Scoping Report

SEA Directive Requirement	Where covered in SA process
programmes;	
(b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan;	Description of Baseline Characteristics, Scoping Report
(c) the environmental characteristics of areas likely to be significantly affected;	Framework Indicators and Analysis
(d) any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC;	Framework Indicators and Analysis
(e) the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation;	Environmental analysis within SA
(f) the likely significant effects (1) on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;	Objectives and indicators Sustainability Appraisal Report
(g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan;	Sustainability Appraisal Report
(h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know how) encountered in compiling the required information;	Sustainability Appraisal Report
(i) a description of the measures envisaged concerning monitoring in accordance with Article 10; Refer to paragraphs 36-37	Annual Monitoring Report
(j) a non-technical summary of the information provided under the above headings.	Sustainability Appraisal Report
Consult responsible environmental authorities on the scope and level of detail of the information which must be included in the environmental report.	Consultation was undertaken with the environmental authorities on the Scoping Report (see Section 2.3)
Consult with responsible environmental bodies – the Countryside Agency, Environment Agency, English Heritage, English Nature – and the public on the draft plan and the Environment Report before the plan is adopted (Article 6).	This sustainability report is published alongside the draft SPD for consultation with the statutory bodies.
Take into account the Environment Report and consultation responses during the **preparation of the plan** before it is adopted (Article 8).	This sustainability report and consultation responses will be taken into account before the Managing Waste in New Developments SPD is adopted.
When a plan is adopted Responsible environmental bodies and the public and other **relevant bodies will be informed** of (Article 9): (a) The plan as adopted; (b) A statement summarising how environmental considerations have been integrated into the plan, how	Responsible environmental bodies, the public and other relevant bodies will be informed of the appropriate documents when the Managing Waste in New Developments SPD is adopted.

SEA Directive Requirement	Where covered in SA process
any consultation responses have been taken into account and the reasons for choosing the plan as adopted; (c) The measures for monitoring.	
Monitor the significant environmental effects of the implementation of plans to identify at an early stage unforeseen adverse effects and so to take remedial action (Article 10).	Waste Planning Authorities are required to prepare an Annual Monitoring Report to describe how policies are being implemented. Entec recommend that reference to monitoring needs to be made in the SPD.

3. Sustainability objectives, baseline and context

3.1 Introduction

The sustainability objectives used have been developed within the context of the national sustainable development principles[4] They have been derived form the Regional Sustainable Development Framework 2001 (RSDF), tailored to reflect local priorities and the criteria used to develop the Bedfordshire and Luton Minerals and Waste Local Plan[5].

The sustainability objectives used are presented in Appendix A and B, along with relevant baseline data and commentaries.

3.2 Links to other policies, plans and programmes

The SEA Regulations 2004 requires an analysis of the Plan's "*relationship with other relevant plans and programmes.*" (Schedule (1)) and of "*the environmental protection objectives… which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.*" (Schedule 2 (5)).

Appendix C of this document contains a full list of relevant plans and programmes and their implications for the SA and SPD.

Links to other Plans have been identified to other plans and programmes including :-

European Directives
National Waste Strategy
Planning Policy Statements (PPS) and Guidance Notes (PPG).
The Minerals and Waste Local Plan 2000 - 2015
The Bedfordshire Structure Plan 2011 (Adopted in March 1997)
Community Strategies
The Local Agenda 21 Strategy

[4] Securing the Future – The UK Government Sustainable Development Strategy

[5] Sustainability Appraisal of the Bedfordshire and Luton Minerals and Waste Local Plan Baker Associates 2002

3.3 Description of the social, environmental and economic baseline characteristics and the predicted future baseline

The SEA Directive requires an analysis of the *"relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan."* (Annex 1B, Scoping Report) and *"the environmental characteristics of areas likely to be significantly affected."*

Appendix B lists the baseline data, highlights any applicable comparisons and targets (i.e. at a national or local level), and identifies trends where information is available. The data was collated from a wide range of sources, including Regional Spatial Strategy Annual Monitoring Reports and Bedfordshire County and District Councils and Luton Borough Council.

3.4 Main social, environmental and economic issues and problems identified.

The baseline information and assessment of other plan and policies was also used to identify the key issues relevant to the development of the SPD. There are a number of sustainability pressures in the Bedfordshire and Luton area. Some of the main key issues have been summarised in the table below**:-**

Table 3.1 Key Issues and Problems

Air	The main sources of air pollution are associated with road traffic notably the M1 Motorway. There are several Air Quality Management Areas (AQMA) which have been designated in Luton and Bedfordshire. In Luton an AQMA has been declared in relation to Nitrogen Dioxide emissions along part of the M1. In Mid Bedfordshire an AQMA has been declared in relation to sulphur dioxide emissions from the Stewartby Brickworks. In South Bedfordshire DEFRA have recommended that an AQMA be declared for Dunstable town centre based on predicted exceedence of Nitrogen Dioxide and Particulate Matter (PM10) objectives. (Local Authority Air Quality Assessments)
Landscape & Soil	Bedfordshire contains several areas of designated landscape including part of the Chilterns Area of Outstanding Natural Beauty as well as Areas of Great Landscape Value. Agricultural land quality is relatively good with 34% grade 1 or 2 land. Bedfordshire and Luton are covered by several of the national joint character areas. The Bedfordshire and Cambridgeshire Claylands cover much of the County and this area is recorded as showing "marked changes inconsistent with character". Pressure for development and mineral extraction and landfill appears to have been a major contributor to this. Similarly the Greensand Ridge character area to the south of the County also shows "marked changes inconsistent with character". (1990 – 1998) (Countryside Quality Counts – Countryside Agency)
Biodiversity (Fauna and Flora)	Approximately 6-7% of Bedfordshire is designated as an SSSI or CWS. By 2002, almost 100% of the area of SSSI had been assessed; 68% was in favourable condition. Only 5% of CWSs had been assessed by 2002; about 53% of this area was in favourable condition (Bedfordshire Community Strategy 2003- 2013). Between 1994 and 2000 populations of wild birds in Bedfordshire showed similar trends to those seen regionally and nationally. Causes for concern are familiar birds such as Swift, Cuckoo, Song Thrush, Swallow, Starling and House Sparrow (Bedfordshire Community Strategy 2003- 2013).
Water	In 2000, 97% of the length of rivers and canals in Bedfordshire were classified as of good or fair chemical water quality. 100% were classified as of good or fair biological water quality (Bedfordshire Community Strategy 2003- 2013). 100% of the River Lea is Luton was classified as fair (Luton Community Plan 2005). Otters reintroduced to the county during the 1990s appear to have been successful and are spreading along the county's watercourses.

Climatic Factors	Bedfordshire and Luton are responsible for releasing 4.6 million tonnes of Carbon Dioxide each year. 17, 786 GWh of energy are consumed with transport being the largest energy user followed by domestic and industrial users.
Cultural Heritage	Bedfordshire contains 150 Scheduled Ancient Monuments and approximately 10,000 known archaeological sites and features.
Human Health	Nationally, 9.2% of residents describe their general health as 'not good', whereas in Luton 8.1% use this description, 6.7% in Bedfordshire. Regionally the figure is 7.6% of residents. Overall the health experience of Bedfordshire residents is about 10-15% better than the national average, although, marked inequalities exist. Life expectancy continues to increase nationally and locally, being approximately 75 years for men and 80 for women. (Bedfordshire Community Strategy and Luton Community Plan)
Material Assets	Waste in Bedfordshire is growing by about 4% per year and whilst this the rate has slowed in recent years the amount of waste could double by 2020. Household waste recycling rate was 16.8% in 2003/4 compared with 5.1% in 1994. In Luton 11.4% of household waste was recycled in 2003/4 (Beds Authorities Draft Municipal Waste Management Strategy 2004) The continuing use of Bedfordshire clay-pits for major regional waste disposal (currently amounting to some 2.5 - 3.0 million tonnes per year), and the environmental impacts arising thereof, remains one of the key issues facing the County at the present time. 100% of new housing was built on previously developed land in 2003 in Luton.
Population	Population in Beds in 2003 was estimated to be 388,600 representing 0.9% increase on 1996 figures. Proportion over 65 years has increased from 54,700 in 1991 to 64,500 in 2003. Average annual % increase for 75+ age group is 2.45 compared with 1.4 for the Eastern Region and 1.0 for England and Wales. 6.7% of the population in non-white and 8.3% non UK born. (Beds County Council)
Poverty	Bedfordshire and Luton also contains ten wards in the top 25% and three in the top 10% of most deprived wards in the country (as identified in the Index of Multiple Deprivation 2000). Three of these are in Bedford, one in South Bedfordshire and six in Luton. Many of these wards have a high majority of residents from minority ethnic groups and have higher unemployment rates.
Housing	The Milton Keynes and South Midlands Sub-Regional Strategy identifies an increase of 97,000 dwellings and 53,000 jobs for Bedfordshire and Luton by 2031. The Luton/Dunstable/Houghton Regis conurbation has been targeted for most of this growth. The house price/income ratio is 7.3 in Luton and 7.9 in Bedfordshire compared with 8.2 for the east of England (RSS Annual Monitoring Report 2004). Affordability is a particularly significant concern in parts of the County and the extent to which it is a concern varies significantly across house type, location and household make-up (Bedfordshire Community Strategy 2003 -2013).
Education	47 per cent of economically active adults (130,000 people) are currently qualified to NVQ level 3 or equivalent (LSC Outline Strategic Plan 2002-2005) Luton has a higher proportion of 16 to 74 year olds with no qualifications (31.3%) compared to nationally (29.1%) and the East of England (27.9%) (Luton Community Plan revision 2005). Performance at NVQ Level 3 is above the national average. However some ethnic minorities and other under-represented groups such as learners with learning difficulties and disabilities are not participating in sufficient numbers and few achieve the full qualification outcome; particularly through the work-based route. (LSC Annual Business Plan 2004)
Economy	Bedfordshire has an economy that has a significant manufacturing bias, is growing only slowly and has been forecast to grow more slowly than any of the other sub-regional economies in the East of England. Productivity and earnings are not particularly good, workforce qualifications are mediocre and unemployment rates are growing in areas of Bedford in particular. The knowledge, life sciences and high-tech manufacturing sectors are less than averagely represented and large numbers of people out-commute and would rather not. There are also significant issues of inadequate infrastructure – town centres, property, transport and communications – impacting on both urban and rural economies. On the plus side, there is significant potential. Bedfordshire's innovation centre and research institution presence is notable and its accessibility is very high. (Bedfordshire Community Strategy 2003 -2013) Luton during 2002/03 experienced 2.7% increase in new business registrations against the total number of registered businesses in the area, compared to the previous year. Nationally there was a 0.9% increase and same level increase within the Eastern region (Luton Community Plan Revision 2005)

Employment	In 2004 the claimant count was 2.2% for Bedford, 2.8% for Luton, Mid Beds 1% and South Beds 1.4% compared with 1.6% for the Eastern Region and 5.2% for England and Wales (RSS Annual Monitoring Report 2004). Unemployment has generally followed the national trend except 2001 -2003 when rates rose in Luton compared with a slight national decline (Luton Community Plan 2005). Growth associated with the Milton Keynes and South Midlands Sub-Regional Strategy will have major implications for housing development to accommodate the expanding labour force, which in turn will place greater pressure on the need for construction skills. (LSC Annual Business Plan 2004) Skills shortages have been identified in construction (Luton Community Plan 2005).

3.5 Limitations of the information and assumptions made

3.5.1 Difficulties in collecting data and limitations of the data

In addition to providing background information that has been useful in characterising the existing environmental issues, the baseline information has been used to develop indicators for each of the objectives, used within the appraisal. The indicators are used to summarise key performance against the objectives and which assist the process of plan and SPD appraisal. This information could also be used to help support the assessment of the potential impacts of the SPD and are also reflected in the monitoring requirements of the SEA Regulations, addressed in later sections of this Report.

The main problems encountered in collecting the baseline information and developing the indicators is focused around the following:-

- Data not available at local level;
- Date available did not match the ideal information; and
- Unable to identify comparators, targets or trends for a number of indicators.

3.6 The SA framework, including objectives, targets and indicators

The SA Framework consists of objectives which may be expressed in the form of targets, the achievement of which should be measurable using indicators. More detailed sub-objectives and related indicators may also be appropriate. The SA objectives and indicators can then be used to monitor the implementation of the SPD. The SA Framework forms the basis for the appraisal of options and ultimately the preferred option of the SPD.

3.7 SA objectives and criteria

The SA objectives and criteria are components of a framework that will be used consistently for appraisal of all options and policy topic areas. The Framework has been developed within the context of the national sustainable development principles.[6]

[6] Securing the Future - The UK Government Sustainable Development Strategy

The Regional Sustainable Development Framework 2001 (RSDF) has been used as a starting point in the development of the SA Framework, particularly with regard to the identification of objectives and criteria (questions). Entec has developed the SA objectives by reviewing and refining the RSDF objectives to reflect the local priorities established through the assessment of plans, programmes and strategies exercise and collection of baseline information. Consideration has also been given to the criteria developed for the Sustainability Appraisal of the Bedfordshire and Luton Minerals and Waste Local Plan[7] which were subject to consultation and stakeholder scrutiny.

The rationale for the development of SA objectives is given in Appendix A. It should be recognised that this is an iterative process which has involved a process of continually refining the objectives in light of other relevant plans and programmes, emerging baseline information and comments received.

The revised objectives are presented in Appendix D including the main SEA topics relevant to each objective, although as the Directive itself recognises, there are many areas of overlap.

For each objective, a number of key questions are also presented. These questions are used to clarify and interpret the objectives and ensure consistency throughout the appraisal process.

3.8 Development of framework indicators and targets

3.8.1 Introduction

A number of the plans and policies scoped include targets and indicators and these are identified at Appendix C. In addition targets and indicators were identified from a number of other sources, which are set out below. Where appropriate, these have been reviewed for their applicability to the SA Framework.

3.8.2 SEA Directive - indicators

The SEA Directive does not specifically require targets and indicators to be set out, although it is common practice to do so and is advised by the draft ODPM guidance in respect of SA/SEA. In developing the SA Framework, Entec has sought to ensure that indicators have been identified wherever possible for all each of the topic areas set out in Annex 1 of the Directive.

3.8.3 National policy on indicators: PPS12 Local Development Frameworks-

Section 35 of the **Planning and Compulsory Purchase Act 2004**1 ("the Act") requires every local planning authority to make an annual report to the Secretary of State containing information on the implementation of the local development scheme and the extent to which the policies set out in local development documents are being achieved. PPS 12 states that Local planning authorities must develop monitoring systems to assess the effectiveness of local development documents. Further guidance is provided in *"Local Development Framework Monitoring: A Good Practice Guide ODPM 2005"*. This states that the performance of policies

[7] Sustainability Appraisal of the Bedfordshire and Luton Minerals ands Waste Local Plan Baker Associates 2002

should be monitored in terms of their performance against sustainability appraisal objectives and targets.

3.8.4 National indicators - Best Value Performance Indicators

Best Value Performance Indicators (BVPIs) are available for all local authorities and are collated by the Audit Commission. In certain circumstances, BVPI indicators are appropriate.

3.8.5 Regional – East of England Annual Monitoring Report

In line with government guidance, an annual monitoring report is prepared for the East of England. Where appropriate, indicators have been incorporated into the SA Framework particularly where data is not available at the local level.

3.8.6 Community strategies and plans

Where appropriate, indicators and targets have been included from Community Strategies and Plans.

3.8.7 Development of indicators and targets

The SA Framework has been developed taking account of all of the sources of information on indicators and targets listed in Appendix B to produce the set of indicators and targets shown in Appendix D.

4. Plan issues and options

4.1 SPD objectives

The ODPM Guidance on the Sustainability Appraisal for Regional Spatial Strategies and Local Development Frameworks states that the Scoping Report should identify the key objectives and principles that will underlie the Plan and appraise those objectives against Sustainability objectives.

In preparing the SPD several objectives have been developed which are shown below. These were presented to the SPD working group comprising waste management and planning officers from Bedfordshire County Council, the District Councils and Luton Borough Council.

"Overall aim

To provide specific guidance on sustainable waste management for new development in accordance with policies W5 and W6 of the adopted Waste Local Plan.

Objectives

To offer practical guidance to those involved in the development process to reduce, reuse and recycle waste.

To influence the design of new development:-

- *To allow an efficient and effective waste management service to be provided*
- *to enable all occupiers, to have the best opportunities to reduce, re-use and recycle waste.*

To improve skills in sustainable waste management by raising awareness of best practice."

Testing the Objectives

The compatibility of the SPD objectives with each other and with the draft SA Objectives were tested using a compatibility matrix. This matrix enables an assessment to be made of those objectives that may conflict with the sustainability objectives. Comments and recommendations resulting from the testing of objectives are provided below.

4.1.1 Compatibility of SPD objectives with each other

Table 4.1 Compatibility of SPD objectives with each other

		SPD Objectives		
		Offer practical guidance	**Influence design**	**Improve skills**
SPD Objectives	**Offer practical guidance**		Positive compatible	Positive compatible
	Influence design	Positive compatible		Positive compatible
	Improve skills	Positive compatible	Positive compatible	

Entec has considered the compatibility of the SPD objectives with each other. It is considered that the objectives are all closely related and are likely to be mutually compatible.

Table 4.2 Summary of compatibility of SPD objectives with draft Sustainability Appraisal objectives

		SPD Objectives		
		Offer practical guidance	**Influence design**	**Improve skills**
SA Objectives	**To ensure that everyone has the opportunity of a decent and sustainably constructed and affordable home**	Positive compatible	Possible conflict	Positive compatible
	Improve the health of Bedfordshire's and Luton's population.	Positive compatible	Neutral	Positive compatible
	To reduce poverty and social exclusion	Neutral	Positive compatible	Positive compatible
	To improve educational attainment and to develop opportunities for everyone to acquire the skills needed to find and remain in work.	Neutral	Neutral	Positive compatible
	To improve accessibility to all services and facilities.	Neutral	Positive compatible	Neutral
	To increase the opportunities for the community to participate in and contribute to decisions which affect their quality of life.	Neutral	Positive compatible	Positive compatible
	To reduce air pollution and ensure air quality continues to improve.	Positive compatible	Positive compatible	Positive compatible
	To reduce greenhouse gas emissions and vulnerability to climate change	Positive compatible	Positive compatible	Positive compatible
	To protect and maintain the most valuable assets including biodiversity, landscapes, historic heritage and to improve the wide environment by means of adequate investment and management.	Positive compatible	Positive compatible	Positive compatible
	To reduce waste generation and disposal, and achieve sustainable management of waste.	Positive compatible	Positive compatible	Positive compatible
	To maintain and improve water and soil quality and to achieve sustainable water and soil resource management.	Positive compatible	Positive compatible	Positive compatible
	To develop a sustainable, high skill and high value economy	Neutral	Neutral	Positive compatible
	To reduce levels of unemployment	Neutral	Neutral	Positive compatible

4.1.2 Comments on compatibility

The SPD objectives are broadly compatible with each other. As regards the SPD objectives and the SA objectives the only significant possible conflict arises between the second SPD objective and the SA objective relating to housing. It is possible that in seeking to ensure that new housing is designed to facilitate sustainable waste management conflicts may arise with other aspects of sustainable design. For example measures to improve the safety or visual amenity of

new housing development may not necessarily be conducive to allowing access for recycling vehicles. This point has been raised through the SPD Working Group. Although this is a potential conflict Entec consider this largely relates to how the SPD is implemented and do not therefore suggest any amendment to the objective at present. It will be important for the document to make appropriate reference to other design guidance which needs to be taken account of in new development proposals.

4.2 Main strategic options considered

4.3 SPD Options

The ODPM SA Guidance advises that the development and appraisal of options should take place as an iterative process as the SPD is prepared. It also suggests that the "business as usual" or "no SPD" should be appraised.

Entec has reviewed this guidance in light of the work undertaken in relation to the Waste Local Plan. The Plan underwent a Sustainability Appraisal which included Policy W5 & 6 on which the SPD is based. No options were, however, subject to appraisal at this stage and the Sustainability Appraisal was not compliant with the requirements of the SEA Directive.

As a starting point, Entec considered that two fundamental options should be considered i.e. the option of not preparing an SPD - the "business as usual" option and the option of preparing an SPD.

During the preparation of the SPD and discussions which took place at the stakeholder workshop, it became apparent that there were at least two areas where there were further key strategic options. These related to thresholds for waste audits and targets for recycled content in new development. A further set of options was therefore developed for appraisal by agreement with officers from Bedfordshire County Council. These are set out below.

4.3.1 Further options for preparing the SPD

Option 1a: Threshold of waste audits (10 dwellings or more only)

This option assumes an SPD is issued requiring waste audits on all new residential developments over 10 dwellings.

Although this will affect 70% of residential units built, so will have a significant effect on the built stock, it will only impact 13% of applicants, and hence will not act as a significant communication tool for sustainable waste management good practices.

Permissions for x residential unit or more since 01/01/2002	No. of Applications	Residential Units
1 residential unit or more	**1541**	**11631**
Of which, 10 residential units or more	**173**	**8877**
Of which, 20 residential units or more	**97**	**7874**
Of which, 50 residential units or more	**45**	**6297**
Of which, 100 residential units or more	**22**	**4707**
TOTAL	1541	11631
Ratio of less than 10 units : 10 or more units	1368 : 173	2754 : 8877
	Approx. 87% : 13%	Approx 30% : 70%

Option 1b: No threshold of waste audits (all developments covered)
This option assumes an SPD is issued requiring waste audits on all developments, not just large residential developments.

Option 2a: No Recycling target
This option assumes an SPD is issued which does not specify the percentage of recycled material to be used in the development.

Option 2b: Recycling target of 10%
This option assumes an SPD is issued which requires a target of 10% to be set for the recylced material to be used in all developments.

Option 2c: Recycling target of 20%
This option assumes an SPD is issued which requires a target of 20% to be set for the recylced material to be used in all developments.

4.4 Comparison of the social, environmental and economic effects of the options

4.4.1 No SPD vs. SPD scenarios

The appraisal of the no SPD vs. SPD scenarios is set out in detail in Appendix E. A summary of the findings is given below:-

4.5 Business as usual

The business as usual option assumes that the relevant Waste Local Plan policies (W5 and W6) are in place but without any supporting guidance. It also assumes existing legislation and guidance on waste is in place much of which impacts on the way such waste is managed. In line with the ODPM guidance the appraisal provides a baseline assessment of the effects of these policies. Although it assumes other legislation and guidance is in place it focuses on the effect of the policy itself.

Entec did not identify any differences between the effects of the no SPD option on local as opposed to the regional area.

4.5.1 Economic

The nature of the effects on the economy (Objective 12) and employment (Objective 13) is uncertain as it would depend on how the polices are implemented in relation to other initiatives. Without additional guidance the policies could be interpreted in a number of different ways and it is therefore difficult to predict how they would affect these objectives.

4.5.2 Environmental

The business as usual option should as a result of having the sustainable waste management policies in place have a positive effect on a number of the environmental objectives, including

Objective 8 (Greenhouse gases and vulnerability to climate change), Objective 9 (environmental assets) and objective 10 (waste) on the grounds that if the policies are implemented in some way then they will positively effect these objectives. It is considered that the positive effects on these objectives is likely to be greater in the longer term. Other environmental objectives where the relationship is potentially more indirect are more likely to have an uncertain effect in the absence of detailed guidance e.g. Objective 11 (soil and water quality) and Objective 7 (air quality).

4.5.3 Social

Many of the interactions between social sustainability objectives and the business as usual option are uncertain. In relation to housing there is some evidence from elsewhere of the relationship between sustainable construction and the costs of providing affordable housing. A number of case studies are provided through Sustainable Homes although this is not specific to the Plan area. www.sustainablehomes.co.uk/about2.htm. The relationship with health is complex and Entec were unable to identify any detailed evidence regarding this relationship. The business as usual option should lead to greater waste minimisation, reduced road transport, reduced air pollution and hence health benefits, however there may also be localised air pollution and therefore local health impacts result from the recycling of construction waste. Similarly the relationship with education and skills appears to be complex and difficult to determine in the absence of more detailed guidance. There is no evidence of a relationship between this option and Objective 3 (access to services) and Objective 6 (community participation).

4.6 Managing Waste SPD

Effects of the SPD are likely to be felt within and both outside the Plan area. In general effects will be more significant in the longer term as it may take time to alter practices and improve the infrastructure required to support more sustainable waste management practices e.g. a better network of recycling facilities.

The appraisal has considered what additional effects are likely as a result of the SPD being in place as compared with the business as usual.

4.6.1 Economic

The appraisal identified limited effects on the economic sustainability from the SPD option. The SPD adds to Policies W5 and W6 by promoting more detailed sustainable waste management practices and referencing other sources of information and guidance such as the waste resource exchange. This should have secondary and cumulative effects on Objective 12 relating to the economy. Indirect positive effects may also arise in the longer term from initiatives to improve the efficiencies of local industry by reducing waste costs and encouraging local recycling industry.

4.6.2 Environmental

The SPD scenario performs relatively well against those objectives designed to reduce waste Objective 10 – i.e. (Waste) by virtue of the additional guidance provided on waste management,

the guidance on waste audits and requirements for waste provision in new developments. Positive effects should also arise in respect of Objective 8 (climate change).

4.6.3 Social

There were limited effects on social sustainability objectives identified from the SPD option. There were considered to be some marginally positive effects particularly in the longer term on housing, health and education. As these effects are likely to be indirect it was more difficult to see any relationship in the shorter term. It is also difficult to predict effects outside the local area for these objectives. The SPD should have a positive contribution on Objective 6 (Community Participation) as the SPD should significantly raise awareness of sustainable waste management.

4.6.4 Conclusions on SPD vs no SPD

In appraising the options Entec did not identify any negative relationships arising from either option. There are a number of objectives where in both cases the relationship are uncertain at present mainly because of a lack of information or because the effects are indirect and likely to be complex with many other factors influencing the outcome. This is particularly felt to be the case with effects on housing, health and education. Further work could be undertaken to clarify these relationships better although much of the evidence would be drawn from national data or other areas and would not be specific to the Plan area. Much of the baseline information is not available at the local level and this makes the task of appraising the effects of the SPD difficult.

Many of the effects under the no SPD option are uncertain as it will depend on how the policies are implemented which is open to interpretation without additional guidance.

There are some strong positive effects from both the SPD option particularly in respect of waste reduction and greenhouse gas and climate change. Other indirect effects on environmental assets, air, water and soil pollution are evident.

In terms of economic and social factors the effects identified are mainly indirect and quite limited. The SPD option by virtue of providing more specific guidance and allowing for improved awareness raising of the issue has the potential to contribute to some of these factors.

On the basis of the above appraisal Entec consider that, overall, the SPD option will offer a greater contribution to sustainability objectives than the no SPD option.

4.6.5 Further testing of options

On the basis that the SPD would offer significant benefits for sustainability further work was undertaken to appraise potential options for preparing the SPD as set out in 5.3.1 above. This is set out in detail in Appendix F. A summary of the findings of this appraisal are set out below.

4.6.6 Waste Audit thresholds

Two options were compared, option 1a waste audits on 10+ dwellings and option 1b, waste audits on all dwellings. Option 1b tends to have a more positive effect on most of the sustainability objectives. This is because option 1a only covers 70% of all residential dwellings. As a consequence the environmental effects of option 1b will be significantly greater in respect of objectives 7 -11. In terms of social objectives there were also considered to be benefits of in terms of Option 1b, as it will increase the number of dwellings affected and therefore encourage the indirect effects on many of these objectives. Effects on poverty and social exclusion were

however considered to be uncertain as there were too many other factors affecting this objective to draw conclusions. Of the social objectives community participation – Objective 6 was considered to benefit most from Option 1b as opposed to 1a. This because the percentage of applications below 10 dwellings is 82% of the total, therefore a much greater number of applicants will be affected by applying a lower threshold.

In terms of economic objectives there was considered to be a limited relationship with this issue. It may encourage more efficient business practices however the relationship is likely to be indirect and affected by many other factors.

4.6.7 Conclusions on waste audit thresholds

The technical appraisal clearly suggests that there are likely to greater sustainability benefits from option 1b rather than option 1a. Following the public consultation the definition of "significant volumes of waste" in Policy W5 has been re-considered. It is considered that this should apply primarily to developments in excess of 10 dwellings ,therefore it would not be appropriate to require waste audits below 10 dwellings although these will be encouraged as best practice. In addition there are practical resource implications on local authorities of requiring waste audits on all new residential developments. Effective implementation is more likely to occur if the requirement is restricted to developments over 10 dwellings.

4.6.8 Recycled Content

Three options were considered, Option 2a - No recycled content target, Option 2b – 10% recycled content and Option 2c – 20% recycled content. Option 2a is considered to have an uncertain relationship with most of the objectives. If no recycling targets are set then then it will depend on the approach adopted by individual applicants and developers as to whether they set high or low recycled content standards. It is therefore not possible to predict the effects.

In the case of a 10% recycled content target this has significant positive benefits for many of the objectives. Positive effects were identified for the environmental objectives. There is now considerable evidence that use of recycled materials has significant benefits for greenhouse gas emissions and there are also indirect positive effects which would result from a reduction in the need to extract raw materials.

At a target of 20% recycled content the SPD would have significant sustainability benefits particularly for some of the environmental objectives including climate change (objective 8) and waste (objective 10). It may also improve performance against some of the social sustainability objectives, such as education and health due to the indirect effects of better waste management. The economic effects are rather more uncertain. Evidence from work carried out by the Scottish Executive[8] suggest that there is scope to increase the level of recycled content and save costs.

> *"While construction techniques can differ, the following table lists the results of detailed product-level analysis, led by contractors*

[8] Proposals to set targets for recycled content in public sector procurement. July 2005 Scottish Executive http://www.scotland.gov.uk/Publications/2005/07/27153127/31293

Costain and house-builders Taylor Woodrow, on eight actual construction projects, based on real-life costs and quantities. The data demonstrate that there is substantial potential to increase the use of recycled content, and even to reduce materials costs in the process."

Table 4.3 Potential to use recycled content in construction (as a % of project materials value)

Case study	Actual practice	Higher recycled content readily achieved at no extra cost	Potential recycled content at no extra cost
Terraced house	16%	19.5% (6% cost saving)	27.5% (5% cost saving)
Detached house	16.5%	20% (8% cost saving)	30% (1% cost saving)
Flat	16.5%	20% (6% cost saving)	30% (0% cost saving)
Primary care centre	17.5%	21.5% (0.4% cost saving)	27% (1% cost saving)
Commercial office building	22%	26% (0.2% cost saving)	30% (0.9% cost saving)
Commercial redevelopment	23%	24.5% (0.1% cost saving)	26% (0.2% cost saving)
Bridge	22.5%	32% (3% cost saving)	48.5% if aggregates had been available locally (7% cost saving)
Motorway junction	15.5%	18% (1% cost saving)	29% if aggregates had been available locally (3% cost saving)

Actual practice quoted here is in the region of 16 – 17% however it should be borne in mind that this applies to a volume house builders and the smaller developers may not benefit so much from economies of scale. Setting recycled content targets too high may lead to increased costs reducing the overall economic competitiveness of construction businesses, particularly for smaller companies. Given that both the Scottish Executive and WRAP[9] are recommending recycled content targets of 10%, indicates that higher targets may not yet be justified on economic grounds. In the absence of further evidence to support a higher target the effect on economic objectives of a 20% target is at best uncertain and at worst negative.

[9] WRAP comments for inclusion in Beds and Luton Managing Waste in New Developments SPD October 2005.

4.6.9 Overall Conclusion

Of the options considered Option 2a gives uncertain effects for most of the objectives. Option 2b gives positive effects for the environmental objectives and for some of the social objectives with others being uncertain. Economic objectives also perform positively in respect of a 10% recycled content target. The effects of Option 2c are more varied. An increased performance against environmental objectives is counter balanced by a more uncertain performance against the economic objectives based on the evidence considered.

Whilst the SA of options clearly suggests that there are likely to greater sustainability benefits from implementing recycled content targets, this requirement has not been included in foundation Waste Local Plan policies W5 and W6 and, it should, therefore, be included in the SPD as best practice guidance only.

4.7 How social, environmental and economic issues were considered in choosing the preferred options

The appraisal process described above summarises the social, environmental and economic effects of the different options for the SPD. This information has been used to inform the choice of preferred options for the SPD.

4.7.1 Social effects

Social effects are very difficult to predict. There are many factors affecting housing, health, poverty and social exclusion, education and community participation of which this SPD is likely to be one small element. The effects are likely to be indirect, however a general assumption has been made that encouraging increased participation in waste auditing and setting higher targets for recycled content would raise awareness of improved waste management practice and encourage educational attainment and community participation. Indirect effects on health and housing may also arise. On this basis the social issues associated with the SPD tend to suggest that Option 1b and 2c would make a more positive contribution.

4.7.2 Environment effects

The relationship between the SPD options and environmental effects is easier to understand and it is concluded that Options 1b and 2c offer the greatest potential to contribute towards these objectives.

4.7.3 Economic effects

The economic effects are less easy to predict although it is possible to make some realistic assumptions based on available evidence. The area of main concern is around the cost of higher recycled content targets and hence the knock on effect on economic competitiveness. The appraisal suggests that Option 2b may be the optimum option at present, whilst the effects of Option 2c are less certain.

4.7.4 Conclusion

In overall terms environmental issues would suggest that Option 1b and Option 2b perform best in sustainability terms. This may also be the case for social effects although the relationship is perhaps less clear. In economic terms there is not felt to be a significant difference between options 1a and 1b however Option 2b would appear to perform best.

Although Option 1b and 2b perform best in sustainability terms it has not been possible to include these directly in the SPD preferred option. Taking account of the public consultation responses on the SPD, it is considered that specifying options 1b and 2b in the document would be beyond the scope of the Waste Local Plan policies W5 and W6. As regards the waste audit threshold it was considered that individual developments below the 10 dwelling threshold were not likely to generate volumes of waste" and hence trigger the requirement for a waste audit under Policy W5. For this reason the SPD sets the waste audit threshold at 10 dwellings, as a guide to when "significant volumes of waste" will be generated. The SPD does however suggest that undertaking waste audits on all developments is good practice and provides for voluntary audits on developments below 10 dwellings. As regards the recycled content targets, these are not set out int Waste Local Plan policies and therefore many consultees felt that there inclusion in the SPD was not appropriate. The 10% recycled content target has therefore only been retained as suggested best practice and not as a requirement.

4.8 Any proposed mitigation measures

4.8.1 Waste Audits

As a general point all of the positive effects of the waste audit SPD could be enhanced by ensuring that an adequate mechanism is put in place to implement the SPD. This includes working with District Councils to explain the SPD and to raise awareness of its role in the planning process.

The potential positive effects of the waste audits options could also be enhanced by giving greater consideration to the communication of the SPD to all those involved in the development process. If Option 1b is pursued then a much greater number of applicants will be affected by this requirement and therefore to improve community participation and education requires clear user friendly and understandable guidance to be prepared. For this reason one option could be to prepare a simple summary leaflet of the SPD document which could be issued to all prospective applicants introducing them to the waste audit requirement and where to seek advice on its preparation.

The SPD could also benefit from including examples of waste audits within it.

4.8.2 Recycled Content Target

The positive effects of recycled content targets on environmental and social objectives can be enhanced by ensuring that applicants, developers and contractors are provided with all relevant sources of information on the use of recycled content. There are many organisations with a remit to promote recycling in construction and the SPD is well placed to highlight and reference these organisations.

In terms of the economic effects these can again be enhanced by providing appropriate referencing and links to other organisations. It should also be recognised that the economic viability of higher recycling content may improve over time and therefore would need to be reconsidered when the SPD is reviewed. It may also be beneficial if the target is expressed as a minimum with a clear encouragement to achieve higher levels wherever possible.

4.9 Uncertainties and Risks

A lack of relevant quantitative information means that much of the prediction and evaluation of effects is based on qualitative judgements. It has been possible to make some assumptions based on case studies from elsewhere however there is an inherent risk that this may not be directly applicable to Bedfordshire and Luton.

5. Implementation

The Managing Waste in New Development SPD will conform to Policy W5 and W6 of the Bedforshire and Luton Waste Local Plan. Since these predate the EC Directive 2001/42/EC they have not been subject to either Strategic Environmental Assessment (SEA) or full Sustainability Appraisal although it is acknowledged that the Plan underwent a Sustainability Appraisal. Consequently when these policies are reviewed, in line with this Directive, the SPD will need revisiting.

Section 6.27 of the Waste Local Plan deals briefly with proposals for monitoring the policies of the Plan. PPS12 on Local Development Frameworks sets out the requirement to produce an Annual Monitoring Report which will describe how ell the policies are being implemented.

The SEA Directive imposes a duty to *"monitor the significant environmental effects of the implmentation of plans and programmes."* The ODPM SA Guidance on Sustainability Appraisal of Regional Spatial Strategis and Local Development Frameworks provides further guidance on setting up a monitoring system. It is suggested that this is linked to the Annual Monitoring Report and that consideration is given to the objectives, targets and indicators developed for the SA. Appendix 14 of the guidance provides a step by step approach to developing a monitoring system.

The Sustainability Appraisal Framework sets out the basis for monitoring the effects of the SPD through a series of objectives, indicators and targets. It is however recognised that there is gap in baseline information in respect of some objectives.

The need to identify key relevant indicators which can be measured at the local level and are relevant to the SPD. This may include those which measure direct effects e.g. construction and demolition waste recycling rates, waste arisings as well as those which measure more indirect effects such as skills development or Corporate Social Responsibility in the construction industry.

We have used the Sustainability Framework as the basis for suggestions for a monitoring framework. This is set out in the table below and is based on monitoring the significant effects of the SPD and addressing uncertain effects.

Table 5.1 Monitoring Indicators

What needs to be monitored	Potential Indicator
Housing	% new homes constructed to at least EcoHomes “very good” Standard.
Access to services	% new homes built to standards set out in SPD
Community Participation	% applicants submitting waste audits with planning applications
Greenhouse gases and climate change	Embodied Carbon Dioxide emissions fro domestic dwellings
Waste	Construction and demolition waste generated per dwelling % household waste being recycled
Economy	% recycled content which can be achieved at no extra cost

A framework for providing document monitoring data based on Appendix 14 of the ODPM SA Guidance is set out below.

Table 5.2 Documenting the Monitoring Data (example format)

What needs to be monitored	Potential Indicator	Source of information	Are there any gaps in existing information and how can these be resolved?	When should remedial action be taken?	What remedial action could be taken?
Housing	% new homes constructed to at least EcoHomes “very good” Standard.				

Appendix A
Sustainability Objectives

Regional Sustainable Development Framework[10]	Topic and relevance to SPD	SEA Directive	Other Plans and Programmes	Sustainability Issues	Proposed SA Objective
To achieve a more equitable sharing of the benefits of prosperity across all sectors of society and fairer access to services, focusing on deprived areas.	Housing quality - Yes	Population Human Health	PPS1: Creating Sustainable Communities PPG3 Housing Luton's Community Plan 2002-2012 2005 Revision Draft Beds Community Strategy 2003 -2013	Development pressure on greenfield land due to high levels of growth proposed. Affordability is as significant concern.	To ensure that everyone has the opportunity of a decent and , sustainably constructed and affordable home
	Health - Indirect	Population Human Health	Draft Beds Community Strategy 2003 -2013	Population is increasing. Overall the health experience of Bedfordshire residents is about 10-15% better than the national average, although, marked inequalities exist. Life expectancy in Luton just below national average.	Improve the health of Bedfordshire's and Luton's population.
	Poverty and social exclusion - Indirect	Population Human health	Draft Beds Community Strategy 2003 -2013 vision	Most deprived wards are in Bedfordshire are in Bedford and Houghton Regis. 2 wards within top 10% nationally.	To reduce poverty and social exclusion

[10] Relevant high level objective from the East of England Regional Sustainable Development Framework

Regional Sustainable Development Framework[10]	Topic and relevance to SPD	SEA Directive	Other Plans and Programmes	Sustainability Issues	Proposed SA Objective
	Education - Indirect	Population	National Sustainable Development Strategy. Beds Community Strategy 2003 - 2013Luton Community Plan	Responding to changing economic structure. Improving skills/education of disadvantaged communities.	To improve educational attainment and to develop opportunities for everyone to acquire the skills needed to find and remain in work.
	Crime/Anti-social activity - No	Population Human Health	Beds Community Strategy 2003 -2013	Beds ranks 25th out of 43 police forces for overall crime levels. Public reassurance Fear of crime. Significant crime problems identified in Luton	To ensure a safe and just environment which reassures members of the public that they can live and go confidently about their lawful business.
	Access to services - Yes	Population	Principle within RSDF		To improve accessibility to all services and facilities.
Living within Environmental limits					
To reduce our consumption of fossil fuels	Climate Change - Indirect	Climatic factors	UK Sustainable Development Strategy Energy White Paper PPG13 - Transport PPS22: Renewable Energy	High levels of car dependency in Beds and dissatisfaction exists with the quality, quantity and costs of public transport.	To reduce greenhouse gas emissions To reduce vulnerability to climate change

Regional Sustainable Development Framework[10]	Topic and relevance to SPD	SEA Directive	Other Plans and Programmes	Sustainability Issues	Proposed SA Objective
To protect and maintain the most valuable assets including biodiversity, landscapes, historic heritage and to improve the wide environment by means of adequate investment and management.	Biodiversity, Landscape, Cultural Heritage - Indirect	Biodiversity, Landscape, Cultural Heritage	PPS 7 – Sustainable Development in Rural Areas	Beds contains part of the Chilterns Area of Outstanding Natural Beauty 4 Areas of Great Landscape Value, 40 Sites of Special Scientific Interest, 400 County Wildlife Sites. Countryside is under pressure from development. No greenfield development in Luton.	To protect and maintain the most valuable assets including biodiversity, landscapes, historic heritage and to improve the wide environment by means of adequate investment and management.
To deliver more sustainable patters of location of development, including employment and housing	Transport - Yes	Climate Change	PPG 13 - Transport		
To use natural resources, both finite and renewable, as efficiently as possible, and re-use finite resources or recycled alternatives wherever possible. To minimise our production of by-products or wastes, aiming for “closed systems” where possible.	Waste - Yes	Material Assets	PPS10 – Planning for Sustainable Waste management Regional Waste Management Strategy Luton’s Community Plan 2002-2012 2005 Revision Draft	16% of waste was recycled in 2002/03 in Luton. 9% in Beds??	To reduce waste generation and disposal, and achieve sustainable management of waste.

Regional Sustainable Development Framework[10]	Topic and relevance to SPD	SEA Directive	Other Plans and Programmes	Sustainability Issues	Proposed SA Objective
	Air - Indirect	Climatic factors	Regional Sustainable Development Framework	Air pollution levels particularly for traffic associated with A1/M1. NO levels in Luton on downward trend in 2004/5.	To reduce air pollution and ensure air quality continues to improve.
	Water and Soil - Indirect	Water	EU Water framework Directive UK Sustainable Development Strategy PPG23 Planning and Pollution Control Beds Community Strategy 2003 -2013	Engagement of all communities, sectors and organisations in the environment A need for comprehensive information about the quality of the environment Making the environment integral to all decision making processes River quality high in Beds	To maintain and improve water and soil quality and to achieve sustainable water and soil resource management.
Achieving a sustainable economy					
To achieve sustainable levels of prosperity and growth	Indirect	N/A	UK Sustainable Development Strategy Luton's Community Plan 2002-2012 2005 Revision Draft Beds Community Strategy 2003 -2013	Beds - The need for a more broadly based, forward looking, competitive economy; The need for a skilled, motivated, entrepreneurial workforce; Renewed town centres and other urban employment areas and a thriving rural economy	To develop a sustainable, high skill and high value economy

Regional Sustainable Development Framework[10]	Topic and relevance to SPD	SEA Directive	Other Plans and Programmes	Sustainability Issues	Proposed SA Objective
				maintaining employment in these areas; Luton - Support for the implementation of the proposals in the Milton Keynes and South Midlands Strategy Skill shortages in the construction, health and social care industries Luton has the largest number of business start-ups in the East of England High proportion (45%) of business start up fail in first 3 years	
Employment	Indirect	Population	UK Sustainable Development Strategy Luton's Community Plan 2002-2012 2005 Revision Draft Beds Community Plan	The need to generate an increase in jobs to broadly match the expected increase in the labour force. Luton has an unemployment rate above the national average.	To reduce levels of unemployment

Appendix B
Sustainability Baseline Information

Objectives	Indicators	Baseline Data Source	Quantified Data	Comparators and Targets	Trend	Issue Identified	Action/Issues for SPD
1. To ensure that everyone has the opportunity of a decent and , sustainably constructed and affordable home	House price/earnings ratio % new homes constructed to at least EcoHomes "very good" Standard	Luton Quality of Life Interim Report 2005 (Luton Borough Council) RSS Annual Monitoring Report	House price/income ratio Luton 7..3 Beds 7..9	East of England 8.2	House price/income ratio appears to be increasing	Affordability is a particularly significant concern in parts of the County and the extent to which it is a concern varies significantly across house type, location and household make-up. Little evidence of the take up of Ecohomes standard although it is being incorporated into some proposals including the 4500 Elstow development	SPD needs to ensure that guidance is consistent with the delivery of affordable and sustainable housing in Bedfordshire.
2. Improve the health of Bedfordshire's and Luton's population.	Percentage of people in the County describing their health as not good. ***Sustainable Development Indicators in your Pocket 2005 ODPM*** *- Satisfaction in local area - households satisfied with the quality of the places in which they live*	Luton Quality of Life Interim Report 2005 (Luton Borough Council) Beds Community Strategy 2003-2013	% of people describing their health as not good is 6.7% in Bedfordshire and 8.1% in Luton. % satisfied with their local area in Beds was 80.3% in 2003	% of people describing their health as not good National 9.2%', Eastern Region 7.6% The health experience of Bedfordshire residents is about 10-15% better than the national average, although,	Life expectancy continues to increase nationally and locally, being approximately 75 years for men and 80 for women.	General health of the population is good although inequalities exist.	SPD should provide guidance which is consistent with improving general quality of life for residents.

Objectives	Indicators	Baseline Data Source	Quantified Data	Comparators and Targets	Trend	Issue Identified	Action/Issues for SPD
				marked inequalities exist.			
3. To reduce poverty and social exclusion	Index of Multiple Deprivation	Beds Community Strategy 2003-2013 Luton Quality of Life Interim Report 2005 (Luton Borough Council) Luton Community Plan 2005 revision	Bedfordshire and Luton contains ten wards in the top 25% and three in the top 10% of most deprived wards in the country (as identified in the Index of Multiple Deprivation 2000). Three of these are in Bedford, one in South Bedfordshire and six in Luton.			Pockets of significant deprivation exist within Bedfordshire and Luton. Many of the most deprived wards have a high majority of residents from minority ethnic groups and have higher unemployment rates.	The SPD should ensure that any guidance does not lead to social exclusion.
4. To improve educational attainment and to develop opportunities for everyone to acquire the skills needed to find and remain in work.	% adults with Nvq Level 3 and above.	Learning Skills Council Outline Strategic Plan (2002-2005)	47 per cent of economically active adults (130,000 people) are currently qualified to NVQ level 3 or equivalent.	Performance at level 3 above the national average. However some ethnic minorities and other under-represented groups such as learners with		Concerns exits regarding the levels of qualification and training particularly for young adults and specific ethnic groups. There are also concerns that there is little employer involvement in the planning and delivery of education	The SPD should raise awareness of sustainable waste management and ensure that there are appropriate links to other initiatives to develop training. This will be of particular relevance in the construction sector.

Objectives	Indicators	Baseline Data Source	Quantified Data	Comparators and Targets	Trend	Issue Identified	Action/Issues for SPD
				learning difficulties and disabilities are not participating. (LSC Annual Business Plan 2004) Target for 52% qualified to NVQ Level 3 by 2005. (LSC)		and learning.	
5. To improve accessibility to all services and facilities.	Percentage of population served by kerbside collection of recyclables		No comparable data identified as yet				SPD should ensure that guidance improves access to services and there is equity in access across the whole community.
6. To increase the opportunities for the community to participate in and contribute to decisions which affect their quality of life.	No indicator yet identified. Quality of Life Indicator used in Beds Community Strategy - % satisfied with opportunities to participate in local planning and decision making	Beds Community Strategy 2003-2013	% satisfied with opportunities to participate in local planning and decision making in Beds in 2003 27.35%	None identified	Not identified		SPD should seek to ensure that it is developed with appropriate involvement from key stakeholders.
7. To reduce air pollution and ensure air quality continues to improve.	Average number of days on which air pollution exceeded national standard (based on five pollutants)	Luton Borough & Bedfordshire Districts Air Quality assessments	Luton has one AQMA along the M1 due to predicted exceedence of NO2 objective.			The main source of air pollution is associated with road traffic including the M1, although additionally pollution occurs around the Stewartby	SPD has indirect links to these issues and they should be borne in mind in developing the document

Objectives	Indicators	Baseline Data Source	Quantified Data	Comparators and Targets	Trend	Issue Identified	Action/Issues for SPD
						Brickworks.	
8. To reduce greenhouse gas emissions and vulnerability to climate change.	Emissions of greenhouse gases. Constructing Excellence: Environmental Performance Indicators (EPI) - Embodied Carbon Dioxide Emissions - Domestic Dwellings	Renewable Energy Policy and Practice Guidance for Bedfordshire	Bedfordshire and Luton are responsible for releasing 4.6 million tonnes of Carbon Dioxide each year. 17, 786 GWh of energy are consumed with transport being the largest energy user followed by domestic and industrial users.	Energy White Paper 'Our energy future – creating a low carbon economy' (2003) sets a domestic goal to reduce carbon dioxide emissions by 60% below current levels by 2050.			SPD should ensure that guidance is linked to any related initiatives in respect of improved energy efficiency in buildings.
9. To protect and maintain the most valuable assets including biodiversity, landscapes, historic heritage and to improve the wide environment by means of adequate investment and management.	Percentage of new houses built on previously developed land. Population of wild birds **English Heritage** Number of listed buildings at risk ***Sustainable Development Indicators in your Pocket 2005 ODPM*** *Bird population indices*	Luton Quality of Life Interim Report 2005 (Luton Borough Council) Natural Environment Indicators Bedfordshire County Council	100% of new housing built on previously developed land in 2003 in Luton. Approximately 6-7% of Bedfordshire is designated as an SSSI or CWS. By 2002, almost 100% of the area of SSSI had been	National Target 95% of SSSIs in favourable or recovering condition by 2010.	Between 1994 and 2000 populations of wild birds in Bedfordshire showed similar trends to those seen regionally and nationally. Causes for concern are familiar birds such as Swift, Cuckoo,	There is growing development pressure and a limited amount of previously developed land for residential, commercial and industrial development. Bedfordshire contains numerous development constraints including a significant proportion of green belt land.	The pressure for development within Bedfordshire heightens the need for new development to be constructed sustainably and to take appropriate account of sustainable waste management.

Objectives	Indicators	Baseline Data Source	Quantified Data	Comparators and Targets	Trend	Issue Identified	Action/Issues for SPD
	(a) farmland birds (b) woodland birds (c) coastal birds, ***Sustainable Development Indicators in your Pocket 2005 ODPM*** *Bird population indices: wintering wetland birds.* Sustainable Development Indicators in your Pocket 2005 ODPM Priority species status, /Priority habitat status. **English Nature-** % of SSSIs in favourable or recovering condition Condition of Landscape Character - Countryside Quality Counts Indicator. www.countryside-quality-counts.org.uk		assessed; 68% was in favourable condition. Only 5% of CWSs had been assessed by 2002; about 53% of this area was in favourable condition. 2 of the main national character areas covering Bedfordshire showed marked changes inconsistent with their character between 1990 and 1998		Song Thrush, Swallow, Starling and House Sparrow.		
10. To reduce waste generation and disposal, and achieve sustainable management of waste.	Percentage of household waste being recycled in Beds. Diversion rates away from landfill for biodegradable waste materials.	Bedfordshire Authorities Draft Municipal Waste Strategy 2004 Luton Community Plan 2005 revision	Household recycling rate Beds 16.8% 2003/4 Luton 2002/3 16%	20% by 2005/6 for Bedfordshire Luton 24% by 2005/6 30% by 2010	Increasing	Recycling rates have improved significantly rising from 5.4% in 1994 in Beds to 16.8% in 2003/4 however increases in household waste generated have tended to offset these	SPD should set clear guidance which will enables improved reduction, re-use and recycling of waste in new developments.

Objectives	Indicators	Baseline Data Source	Quantified Data	Comparators and Targets	Trend	Issue Identified	Action/Issues for SPD
	Percentage growth of construction and demolition waste. Construction and demolition waste disposed to land per annum % of construction and demolition waste recycled/ recovered Constructing Excellence **Environmental Performance Indicators (EPI) - Waste in the Construction Process - Domestic Dwellings** % growth of construction and demolition waste SMARTWASTE/SMART audit ratings(like BREEAM audit for construction waste)					improvements.	
11.To maintain and improve water and soil quality and to achieve sustainable water and soil resource management.	Percentage of rivers good/fair chemical and biological quality.	Luton Quality of Life Interim Report 2005 (Luton Borough Council)	In 2000, 97% of the length of rivers and canals in Bedfordshire were classified as of good or fair chemical	68% of main rivers and canals "good" quality by 2015.		River quality is at least fair for the majority of Bedfordshire and Luton's rivers	SPD guidance should ensure appropriate cross references to measures designed to minimise pollution to rivers and other watercourses.

Objectives	Indicators	Baseline Data Source	Quantified Data	Comparators and Targets	Trend	Issue Identified	Action/Issues for SPD
			water quality. 100% were classified as of good or fair biological water quality. 100% of The River Lea in Luton was classified as fair.				
12. To develop a sustainable, high skill and high value economy	GVA per head Proportion of working age people in work Number and survival of business start-ups % of companies with ISO14001 registration	Beds CC Website Luton Quality of Life Interim Report 2005 (Luton Borough Council) Beds Community Strategy 2003-2013 RSS Annual Monitoring Report 2004	GVA per head index is 87 for Bedfordshire and 101 for Luton (2002) Stock of VAT registered businesses (2004) Beds 13405 Luton 4055 Luton during 2002/03 experienced 2.7% increase in new business registrations against the total number of registered businesses in	95 for the East of England and 102 for England	GVA Decreasing since 1996 Increasing since 1996 Stock of VAT registered businesses (2004) has declined. Beds 11575 (1996) Luton 3625 (1996)	Bedfordshire has an economy that has a significant manufacturing bias, is growing only slowly and has been forecast to grow more slowly than any of the other sub-regional economies in the East of England. The knowledge, life sciences and high-tech manufacturing sectors are less than averagely represented and large numbers of people out-commute and would rather not. There is significant potential. Bedfordshire's innovation centre and research institution presence is notable and its accessibility is very	

Objectives	Indicators	Baseline Data Source	Quantified Data	Comparators and Targets	Trend	Issue Identified	Action/Issues for SPD
			the area, compared to the previous year. Nationally there was a 0.9% increase and same level increase within the Eastern region.			high.	
13. To reduce levels of unemployment	Unemployment rates/levels % businesses reporting skills gaps? Investment in training by employer's % of companies with IiP?	RSS Annual Monitoring Report 2004	Claimant Count (Sept 2004) Bedford 2.2% Mid Beds 1% South Beds 1.4% Luton 2.8%	East of England 1.6% England 5.2%	Decreasing since 1996.	Unemployment levels are lower than the regional average in Mid Beds and South Beds but higher in Bedford and Luton. There are concerns around addressing the skills base to cope with a shift in the economic structure and encouraging employers to participate more in employee training schemes.	

Appendix C
Review of Other Plans and Programmes

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
European/National				
EU Framework Waste Directive (Directive 75/442/EEC, as amended)	Seeks to prevent and to reduce the production of waste and its impacts. Where necessary waste should be disposed of without creating environmental problems.	Promotes the development of clean technology to process waste, promoting recycling and re-use.	SPD should seek to minimise waste, and the environmental effects caused by it. Guidance should promote recycling and re-use.	SA Framework should include the minimisation of waste, recycling and re-use.
EU Directive on the landfill of waste (99/31/EC)	Sets out requirements to ensuring that where landfilling takes place the environmental impacts are understood and mitigated against.	By 2006 biodegradable municipal waste going to landfills must be reduced to 75% of the total amount (by weight) of biodegradable municipal waste produced in 1995 or the latest year before 1995 for which standardised Eurostat data is available By 2010 biodegradable municipal waste going to landfills must be reduced to 50% of the total amount (by weight) of biodegradable municipal waste produced in 1995 or the latest year before 1995 for which standardised Eurostat data is available; By 2015 biodegradable municipal waste going to landfills must be reduced to 35% of the total amount (by weight) of biodegradable municipal waste produced in 1995 or the latest year before 1995 for which standardised Eurostat data is available.	SPD should set out guidance for reducing the amount of waste going to landfill.	SA Framework should include for the minimisation of waste, recycling and re-use.
EU Packaging and	This Directive aims to harmonise national measures	No later than five years from the date by which this Directive	Again, while	SA Framework

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
Packaging Waste Directive (94/62/EC)	concerning the management of packaging and packaging waste in order, on the one hand, to prevent any impact thereof on the environment of all Member States as well as of third countries or to reduce such impact, thus providing a high level of environmental protection, and, on the other hand, to ensure the functioning of the internal market and to avoid obstacles to trade and distortion and restriction of competition within the Community. To this end this Directive lays down measures aimed, as a first priority, at preventing the production of packaging waste and, as additional fundamental principles, at reusing packaging, at recycling and other forms of recovering packaging waste and, hence, at reducing the final disposal of such waste.	must be implemented in national law (1996), between 50 % as a minimum and 65 % as a maximum by weight of the packaging waste will be recovered; Within this general target, and with the same time limit, between 25 % as a minimum and 45 % as a maximum by weight of the totality of packaging materials contained in packaging waste will be recycled with a minimum of 15 % by weight for each packaging material.	this directive dictates national legislation, the SPD itself can play an important role in controlling or providing a basis for better waste management. These targets are incorporated in national legislation – so SPD must adhere to them as appropriate.	should set out objectives, which relate to the reduction and recycling of packaging waste.
EU Water Framework Directive (2000/60/EC)	Establishes a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which: • Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems; • Promotes sustainable water use based on a long-term protection of available water resources; • Aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific measures for the progressive reduction of	No targets or indicators are provided	The SPD should consider how the water environment can be protected and enhanced. This will come about through reducing pollution and abstraction.	SA should include objectives that consider effects upon water quality and resource

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
	discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances; • Ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and • Contributes to mitigating the effects of floods and droughts			
EU Directive on the Conservation of Wild Birds (79/409/EEC)	Identifies 181 endangered species and sub-species for which the Member States are required to designate Special Protection Areas.	Target Actions include • Creation of protected areas • Upkeep and management • Re-establishment of destroyed biotopes;	The implications are indirect in that reducing construction and demolition waste will reduce the need to landfill and hence potential impacts on protection of wild birds .	SA Framework should consider objectives to protect and enhance biodiversity including wild birds.
EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC)	Directive seeks to conserve natural habitats. Conservation of natural habitats Requires member states to identify special areas of conservation and to maintain, where necessary landscape features of importance to wildlife and flora.	No indicators or targets	Waste should not be stored in such as manner as to endanger local habitats, fauna and flora	SA Framework should include for the protection of landscape features for ecological Objective benefit
UK Sustainable Development Strategy (2005)	Sets out five guiding principles for Sustainable Development ♦ Ensuring a strong, healthy and just society		Consider how the SPD can contribute to Sustainable	Word SA objectives to ensure all relevant sustainability

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
	♦ Living within environmental limits ♦ Achieving a sustainable economy ♦ Promoting good governance ♦ Using sound science responsibly		Development Strategy principles.	objectives are covered.
Sustainable Communities Plan: building for the future	Relevant objectives are; To ensure all communities have a clean, safe and attractive environment in which people can take pride.	No Targets or indicators	Encourage environmental enhancement to be central to construction practices.	Environmental improvements can improve quality of life.
Waste Strategy 2000 (as amended 2005)	Sets out key vision for waste; • Changing the way we manage waste and resources can make an important contribution to improving our quality of life. • We need to tackle the amount of waste produced, breaking the link between economic growth and increased waste. • Where waste is produced, we must put it to good use, through re-use, recycling, composting and recovering energy. • We have established a series of targets and indicators to ensure the necessary step change in waste management. We will set statutory performance standards for local authority recycling and composting, to ensure that these targets are met. The changes to the strategy do not affect the overall principles but do seek to move away from using the Best Practicable Environmental Option as a decision making tool and it's replacement with SEA.	Sets out a number of targets and indicators including by 2005 to reduce the amount of industrial and commercial waste sent to landfill to 85% of that landfilled in 1998 Indicators include waste arising, % waste recycled, consumption of raw materials	SPD should reflect the principles of Waste Strategy 2000 and also recognise the importance of SEA as a decision making tool for waste management options.	SA Framework should include objectives which seek to reduce, recover and recycle waste.

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
Energy White Paper- Our Energy Future, Creating a Low Carbon Economy 2003	Four Goals: • to put ourselves on a path to cut the UK's carbon dioxide emissions - the main contributor to global warming - by some 60% by about 2050, , with real progress by 2020; • to maintain the reliability of energy supplies; • to promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve our productivity; and • to ensure that every home is adequately and affordably heated.	Reduction in carbon dioxide emissions of some 60% from current levels by about 2005 with real progress by 2020.	SPD should ensure that guidance is in place to encourage the reduction in carbon dioxide emissions whilst promoting sustainable economic growth. Emphasis on waste reduction of high carbon and energy products e.g. concretes. Plan could include checklist of recommended low-carbon construction methods.	SA Framework should include for the reduction in greenhouse gas emissions.

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
Draft PPS1 Creating Sustainable Communities	Promotes key objectives for the delivery of sustainable urban communities. The relevant ones are; Promoting sustainable economic growth to support efficient, competitive and innovative business, commercial and industrial sectors. Promoting communities which are inclusive, healthy, safe and crime free, whilst respecting the diverse needs of the communities. Recognising the need to enhance as well as protect biodiversity and the need to address the causes and impacts of climate change, pollution and waste and resource management impacts,		SPD policies to encourage economic development and consider how the Plan can encourage safe communities The implications are indirect in that reducing construction and demolition waste will reduce the need to landfill and hence potential impacts on biodiversity.	SA should include objectives to support competitive and innovative business, consider explicit recognition of supporting safe communities, include a recognition of the importance to enhance as well as protect biodiversity
PPG3 Housing	Promote housing to meet the requirements of all sections of the community. Provide sufficient land, but give priority to previously developed land and re-use of buildings. Locate development in accessible locations and promote walking and cycling.	By 2008 the national target is for 60% of additional housing on previously developed land or conversion.	SPD should consider how the efficient use of previously developed land can be achieved.	Check to ensure that the key policy requirements are reflected in the SA Framework objectives and appraisal criteria.
Draft PPS3 Housing	Plan to meet the housing requirements of the whole community including those in need of affordable and special needs housing.	National target of 60% new housing on previously developed land or through conversions.	SPD should consider how the efficient	Check to ensure that the key policy requirements are

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
	Provide greater choice and a better mix in the size, type and location of housing.		use of previously developed land could be achieved housing on previously developed land with national target.	reflected in the SA Framework objectives and appraisal and criteria.
PPS 7: Sustainable Development in Rural Areas	Sets out key principles for sustainable development in rural areas based on good quality development, accessibility, protecting the countryside, priority for re-use of previously developed land, development should be sensitive to the character of the countryside.	No targets and indicators	Ensure that SPD reflects the relationship between waste management and the objectives of PPS7.	SA Framework should include objective for protection and enhancement of the countryside.
PPS 9: Biodiversity and Geological Conservation	Sets out key principles including "to maintain, and enhance, restore or add to biodiversity and geological conservation interests."	No targets and indicators	Ensure that SPD reflects the relationship between waste management and the objectives of PPS9.	SA Framework should contain objective relating to biodiversity.
PPG 13 Transport	Objectives to promote more sustainable transport choices for both people and for the moving of freight. Promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling.	No targets or indicators	Develop guidance that supports sustainable transport through	Include sustainability objectives that aim to promote sustainable transport choices

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
	Reduce the need to travel, especially by car.		reductions in the need to travel by car.	particularly a reduction in the need transport waste by road.
PPG 15 Planning and the Historic Environment			Consider how the plan can contribute to the protection of the historic environment.	Review wording of the sustainability objectives to ensure that all relevant objectives pertaining to the conservation of the historic environment are covered.
PPG 16: Archaeology			Ensure that the need for development meets the need for the conservation of archaeological interests.	Include the need for archaeological conservation and protection in the sustainability objectives.
Planning Policy Statement 10 – 'Planning for Sustainable Waste Management' July 2005	Key objectives including; ♦ …driving waste management up the waste hierarchy ♦ provide a framework in which communities take more responsibility for their own waste ♦ help implement the national waste strategy ♦ secure recovery or disposal of waste without	No targets or indicators	SPD should reflect objectives of PPS10 by providing guidance which can help deliver the key objectives particularly relating to	PPS10 should be reflected in the SA Framework

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
	endangering human health and without harming the environment ♦ reflect concerns and interests of communities, needs of waste collection authorities, waste disposal authorities and business… ♦ ensure the design and layout of new development supports sustainable waste management		design of new developments	
Building Control Regulations	**The Building Regulations 2000 contain a 'solid waste storage' requirement (approved document H6). The adequate provision for the storage of solid waste, adequate means of access for both people in the building to the place of storage; and from the place of storage to a collection point.**	Specifications included as set out below **Domestic developments** • **Capacity** - Space should be provided for storage of containers for separated waste (i.e. waste which can be recycled is stored separately from waste which cannot) and having a combined capacity of 0.25m3 per dwelling or such other capacity as may be agreed with the waste collection authority. Where collections are less frequent than once per week, this allowance should be increased accordingly. • **Low rise domestic developments** – (houses, bungalows and flats up to 4th floor) any dwelling should have, or have access to, a location where at least two movable, individual or communal waste containers, meeting the requirements of the waste collection authority, can be stored. • Where separate storage areas are provided for each dwelling, an area of 1.2m x 1.2m should be sufficient to provide for storage of waste containers and provide space for access. • Where communal storage areas are provided space	SPD should ensure that any guidance provide is compatible with the Building Regulations requirements.	No direct relevance to SA Framework.

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
		requirements should be determined in consultation with the waste collection authority. • **High Rise domestic developments** - In multi storey domestic developments dwellings up to the 4th floor may each have their own waste container or may share a waste container. • Dwellings above the 4th storey may share a single waste container for non-recyclable waste fed by chute, with separate storage for any waste which can be recycled. Alternatively storage compounds or rooms should be provided. In such a case a satisfactory management arrangement for conveying refuse to the storage should be assured. • The use of 'Residents Only' recycling centres (areas where residents may bring their recyclable waste for storage in large containers e.g. bottle banks) in large blocks has been found to be effective in some areas. • **Siting** – Storage areas for waste containers and chutes should be sited so that the distance householders are required to carry refuse does not usually exceed 30m (excluding any vertical distance). Containers should be within 25m of the waste collection point specified by the waste collection authority. • The location for storage of waste containers should be sited so that unless it is completely unavoidable, the containers can be taken to the collection point without being taken through a building, unless it is a porch or garage, or a carport or other open covered space (This provision applies only to new buildings except that extensions or conversions should not remove such a facility where one already exists.). • For waste containers up to 250 litres, steps should be avoided between the container store and collection point wherever possible and should not exceed 3 in number. Slopes should not exceed 1:12. Exceptionally		

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
		this may be exceeded provided that the lengths are not excessive and it is not part of a series of slopes. (See also Approved Document K1 Section 2). For storage areas where larger containers are to be used steps should be avoided. Where this is not otherwise possible, the storage area should be relocated. • The collection point should be reasonably accessible to the size of waste collection vehicles typically used by the waste collection authority. • External storage areas for waste containers should be away from windows and ventilators and preferably be in shade or under shelter. Storage areas should not interfere with pedestrian or vehicle access to buildings. • **Design** - Where enclosures, compounds or storage rooms are provided they should allow room for filling and emptying and provide a clear space of 150mm between and around the containers. Enclosures, compounds or storage rooms for communal containers should be a minimum of 2m high. Enclosures for individual containers should be sufficiently high to allow the lid to be opened for filling. The enclosure should be permanently ventilated at the top and bottom and should have a paved impervious floor. • Communal storage areas should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse. • Any room for the open storage of waste should be secure to prevent access by vermin. Any compound for the storage of waste should be secure to prevent access by vermin unless the waste is to be stored in secure containers with close fitting lids. • Where storage rooms are provided, separate rooms should be provided for the storage of waste which cannot be recycled, and waste which can be recycled.		

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
		• Where the location for storage is in a publicly accessible area or in an open area around a building (e.g. a front garden) an enclosure or shelter should be considered. • High rise domestic developments Where chutes are provided they should be at least 450mm diameter and should have a smooth non-absorbent surface and close fitting access doors at each storey which has a dwelling and be ventilated at the top and bottom.		

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
Regional				
Draft East of England Plan, Draft Revision to the RSS for the East of England	Key principles ♦ seeking to reduce the generation of waste ♦ minimising the environmental impact of waste management ♦ implementing the Best Practicable Environmental Option for each type of waste ♦ viewing waste as a resource and maximising the reuse, recycling and composting of waste, whilst extracting value from the remainder ♦ securing safe treatment and disposal of hazardous and residual wastes ♦ seeking to secure net regional and county/unitary self sufficiency in provision for waste management ♦ enlisting and encouraging community support and participation. Policy included *"to ensure that all forms of new development are designed and constructed in such a way as to minimise the production of waste, maximise use of recycled materials, and to facilitate, by provision of adequate space and facilities, the ongoing recycling and recovery of such waste as may arise from the completed development and from surrounding areas where appropriate."*	♦ municipal waste – recovery of 40% at 2005, 50% at 2010 and 70% at 2015 ♦ commercial and industrial waste – recovery of 66% at 2005, 75% at 2015.	SPD should reflect key principles and show how it can contribute towards regional target.	SA framework should include relevant objectives taking into account that PPS10 has superseded elements of the draft East of England Plan.
Regional Waste Management Strategy	The Strategy supports collection and recycling schemes with a strong waste minimisation message, and encouraging waste minimisation and re-use in new	No specific targets or indicators.		

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
	developments. Waste minimisation and recycling/composting initiatives may generate a requirement for new development. For example, businesses may require an additional piece of plant, or a larger area, in order to put waste minimisation plans into practice. Support in development plans would encourage such proposals. POLICY 12 Local authorities should include policies in their development plans which support in principle the infrastructure required to implement waste minimisation and recycling/composting initiatives Where practicable municipal, commercial and industrial wastes should be sorted into similar types of material (for example, paper and card, plastics etc) in order to maximise their potential for recycling/composting. In the case of households this will entail the provision of facilities for the collection of separated wastes normally involving the provision to households of receptacles for organic waste, paper and dry recyclables. POLICY 13 In order to maximise recycling/composting, Waste Disposal Authorities, Waste Collection Authorities and private sector waste management companies should introduce separate collection of recyclable and compostable materials as early as practicable.			

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
Local				
Bedfordshire (Deposit Draft) Structure Plan 2016	There are no topics directly relevant to waste facilities within new residential developments.	N/A		
Bedfordshire and Luton Waste Strategy	To initiate research and development of suitable systems for kerbside collection of segregated waste streams direct from households.			
Bedford Borough Local Plan, October 2002.	There are no policies directly relevant to waste facilities within new residential developments.	N/A		
Mid Beds DC Local Plan	There are no policies directly relevant to waste facilities within new residential developments.	N/A		
South Beds Local Plan	There are no policies directly relevant to waste facilities within new residential developments.	N/A		
Luton Local Plan	There are no policies directly relevant to waste facilities within new residential developments.	N/A		
Community Strategies Bedfordshire Community Strategy 2003-2011, Fourth Draft – For Consultation Luton Community Plan, Luton Forum	There are no policies directly relevant to waste facilities within new residential developments. There are no policies directly relevant to waste facilities within new residential developments. There are no policies directly relevant to waste facilities	N/A N/A N/A		

Plans	Key Objectives and Topics covered relevant to SPD	Key Targets & Indicators relevant to SPD	Implications for SPD	Implications for SA
South Bedfordshire's Community Plan The Mid Bedfordshire Community Plan	within new residential developments. There are no policies directly relevant to waste facilities within new residential developments.	N/A		

Appendix D
Sustainability Assessment Framework

Indicators in 'Red' are those where no data for Bedfordshire was available at the time of writing.

Topic	Objective	Sub-objective	Indicators (and Targets)
Housing Quality	To ensure that everyone has the opportunity of a decent and sustainably constructed and affordable home	Will it ensure that new housing is designed to sustainability principles?	House price/earnings ratio % new homes constructed to at least EcoHomes "very good" Standard
Health	Improve the health of Bedfordshire's and Luton's population.	Will it improve people's health? Will it improve people's satisfaction with their local area?	Percentage of people in the County describing their health as not good. ***Sustainable Development Indicators in your Pocket 2005 ODPM*** *- Satisfaction in local area - households satisfied with the quality of the places in which they live*
Poverty and Social Exclusion	To reduce poverty and social exclusion	Will it help reduce poverty? Will it help reduce to social exclusion?	Index of Multiple Deprivation
Education	To improve educational attainment and to develop opportunities for everyone to acquire the skills needed to find and remain in work.	Will it help deliver improved training in sustainable waste management?	% adults with Nvq Level 3 and above.
Access to services and facilities	To improve accessibility to all services and facilities.	Will it improve people's access to recycling services? Will it improve opportunities for people to manage waste more sustainably? Will it promote equality of access for all including the	Percentage of population served by kerbside collection of recyclables.

Topic	Objective	Sub-objective	Indicators (and Targets)
		elderly, disabled and ethnic minorities?	
Community Participation	To increase the opportunities for the community to participate in and contribute to decisions which affect their quality of life.		No indicator yet identified.
Living within Environmental limits			
Air Quality	To reduce air pollution and ensure air quality continues to improve.	Will it have an adverse impact upon the local authorities' targets to comply with air quality standards?	Average number of days on which air pollution exceeded national standard (based on five pollutants)
Climate Change	To reduce greenhouse gas emissions and reduce vulnerability to climate change	Will it contribute to the reduction of greenhouse gas emissions in line with national targets? Will it promote the use of sustainable design and construction? Will it lead to an increased proportion of energy needs being met from renewable sources? Will energy usage be positively influenced by location and development?	Emissions of greenhouse gases.
Landscape, Biodiversity, Historic Heritage	To protect and maintain the most valuable assets including biodiversity, landscapes, historic heritage and to improve the wide environment by	Will it contribute to the protection and enhancement of the biodiversity in the Bedfordshire and Luton area? Will it have a detrimental effect on protected species?	Percentage of new houses built on previously developed land. Population of wild birds **English Heritage** Number of listed buildings at risk ***Sustainable Development Indicators in your Pocket 2005***

Topic	Objective	Sub-objective	Indicators (and Targets)
	means of adequate investment and management.	Will it contribute to improving and/or maintaining the favourable condition of designated sites of scientific and natural interest? Will it contribute to achieving local, regional and national biodiversity action plan targets? Will it have a detrimental effect on landscape character and designations? Will it protect and enhance the district's sites and features of historical and archaeological importance?	***ODPM*** *Bird population indices (a) farmland birds (b) woodland birds (c) coastal birds,* ***Sustainable Development Indicators in your Pocket 2005*** ***ODPM*** *Bird population indices: wintering wetland birds.* Sustainable Development Indicators in your Pocket 2005 ODPM Priority species status, /Priority habitat status. **Beds CC -** Area (ha) of SSSIs and CWSs and % in favourable condition. Condition of Landscape Character - Countryside Quality Counts Indicator. www.countryside-quality-counts.org.uk
Natural Resources	To use natural resources, both finite and renewable, as efficiently as possible, and re-use finite resources or recycled alternatives wherever possible?	Will it reduce the amount of waste requiring disposal to landfill? Will it help increase levels of reduction, re-use and recycling of waste? Will it help reduce the level of minerals and aggregates which are extracted? Will it reduce the amount of water use during and after construction?	Percentage of household waste being recycled in Beds. Levels of minerals and aggregate use replaced by recycled aggregates Diversion rates away from landfill for biodegradable waste materials. Percentage growth of construction and demolition waste. Construction and demolition waste disposed to land per annum % of construction and demolition waste recycled/ recovered Constructing Excellence **Environmental Performance Indicators (EPI) - Waste in the Construction Process - Domestic Dwellings**

Topic	Objective	Sub-objective	Indicators (and Targets)
Water and Soil Pollution	To maintain and improve water and soil quality and to achieve sustainable water and soil resource management.	Will it help reduce soil and water pollution?	Percentage of length of rivers and canals classified as good or fair quality.
Achieving a sustainable economy			
Economic Growth	To develop a sustainable, high skill and high value economy	Will it improve GDP per head? Will it improve the number and survival of business start ups? Will it improve the adoption of Environmental Management Systems and Green Accounting by businesses?	GVA per head index. Number of business start-ups. % of companies with ISO14001 registration.
Employment	To reduce levels of unemployment	Will it reduce the proportion of working age people not in work? Will it improve skills in sustainable waste management? Will it improve the % of businesses recognised as Investors in People?	Unemployment rates/levels. % businesses reporting skills gaps? Investment in training by employers % of companies with IiP.

Appendix E
Sustainability Assessment of Scenarios

Can the sustainability effects be quantified?

The table below sets out a brief explanation as to whether the sustainability effects for each objective can be quantified. This has formed the basis of the assessment.

Objective	Comment
1. To ensure that everyone has the opportunity of a decent and sustainably constructed and affordable home Will it reduce homelessness? Will it increase the range and affordability of housing for all social groups? Will it reduce the number of unfit homes?	The effects cannot be quantified as there are many factors affecting affordability and it is likely that waste management in construction is only one small part. There is however some evidence from elsewhere that sustainable affordable homes can be constructed without significant impacts on cost. Sustainable Homes http://www.sustainablehomes.co.uk/about2.htm
2. Improve the health of Bedfordshire's and Luton's population. Will it reduce death rates? Will it improve access to high quality, health facilities? Will it encourage healthy lifestyles? Will it reduce health inequalities?	The effects cannot be quantified as there are many factors affecting how people describe their health.
3. To reduce poverty and social exclusion Will it reduce poverty and social exclusion in those areas most affected? Will it improve affordability to essential services to the home?	The effects cannot be quantified as there are many factors affecting poverty and social exclusion of which waste management is likely to be a small element.
4. To improve educational attainment and to develop opportunities for everyone to acquire the skills needed to find and remain in work. Will it improve qualifications and skills of young people? Will is reduce unemployment overall? Will it reduce long-term unemployment? Will it provide job opportunities for those most in need of employment? Will it help to reduce long hours worked? Will it help to improve earnings?	Measures of educational attainment are generic and not specific to waste management therefore the effects cannot be quantified.
5. To improve accessibility to all services and facilities.	Whilst it is possible to measure the percentage of the population served by kerbside

Objective	Comment
Will it improve accessibility to key local services? Will it improve accessibility to shopping facilities? Will it improve the level of investment in key community services? Will it make access more affordable? Will it make access easier for those without access to a car?	collection, this is not a measure of the effect of the SPD itself. Qualitative judgements therefore have to be made as to the benefits of more sustainable construction allowing for easier waste collection services.
6. To increase the opportunities for the community to participate in and contribute to decisions which affect their quality of life. Will it encourage engagement in community activities? Will it increase the ability of people to influence decisions? Will it improve ethnic relations?	No indicators currently exist which would allow this effect to be monitored therefore qualitative judgements have been made.
7. To reduce air pollution and ensure air quality continues to improve. Will it have a positive impact upon the council's target to comply with air quality standards?	The relationship with this objective is likely to be indirect and would therefore be difficult to quantify.
8. To reduce greenhouse gas emissions and vulnerability to climate change Will it contribute to the reduction of greenhouse gas emissions in line with national targets? Will it lead to an increased proportion of energy needs being met from renewable sources? Will it reduce emissions of ozone depleting substances? Will it minimise the risk of flooding from rivers and watercourses to people and property? Will it reduce the risk of subsidence? Will it reduce the risk of damage to property from storm events? Will it actively seek to manage the flood risk to commercial and residential development areas to as low as practicable?	There are case studies which have been undertaken to show the savings in embodied CO2 emissions for recycled construction materials versus non recycled. Although these do not allow prediction of quantitative effects of the SPD they can be used to make reasonable qualitative judgements about the effects of the SPD.
9. To protect and maintain the most valuable assets including biodiversity, landscapes, historic heritage and to improve the wide environment by means of adequate investment and management. Will it conserve and enhance natural/semi-natural habitats? Will it conserve and enhance species diversity, and in particular avoid harm to protected species? Will it maintain and enhance sites designated for their nature conservation interest? Will it maintain and enhance woodland cover and management? Will it reduce the amount of derelict, degraded and underused land? Will it improve the landscape and ecological quality and character of the countryside? Will it decrease litter in towns and the countryside? Will it protect and enhance sites, features and areas of historical, archaeological and cultural value in both urban	The relationship with this objective is indirect and is difficult to quantify. The assessment is therefore qualitative.

Objective	Comment
and rural areas?	
10. To reduce waste generation and disposal, and achieve sustainable management of waste. Will it lead to reduced consumption of materials and resources? Will it reduce household waste? Will it increase waste recovery and recycling? Will it reduce hazardous waste? Will it reduce waste in the construction industry?	There are a number of measures which can be applied including the amount of construction waste generated, the rates of household waste recycling however these indicators are likely to be affected by many factors , of which the SPD is only one. Qualitative judgements have therefore been made.
11.To maintain and improve water and soil quality and to achieve sustainable water and soil resource management. Will it improve the quality of inland water? Will it reduce water consumption? Will it minimise the loss of soils to development? Will it maintain soil quality?	The relationship with this objective is indirect and is difficult to quantify. The assessment is therefore qualitative.
12. To develop a sustainable, high skill and high value economy Will it improve business development and enhance competitiveness? Will it improve the resilience of business and the economy? Will it promote growth in key sectors? Will it promote growth in key clusters? Will it improve economic performance in advantaged and disadvantaged areas? Will it encourage rural diversification? Will it encourage ethical trading? Will it encourage good employee relations and management practices?	There is some evidence which has examined the effects of different rates of use of recycled content with construction costs. This in turn may have effects on the economic competitiveness of business. Whilst this evidence is not specific to Bedfordshire it does allow for informed qualitative judgements to be made.
13. To reduce levels of unemployment Will it encourage indigenous business? Will it encourage inward investment? Will it make land and property available for business development? Will it reduce commuting? Will it improve accessibility to work by public transport, walking and cycling? Will it reduce the effect of traffic congestion on the economy?	There is some evidence which has examined the effects of different rates of use of recycled content with construction costs. This in turn may have effects on the economic competiveness and employment. Whilst this evidence is not specific to Bedfordshire it does allow for informed qualitative judgements to be made.

Objective	Comment
Will it reduce journey times between key employment areas and key transport interchanges? Will it facilitate efficiency in freight distribution? Will it attract new investment and additional skilled workers to the area?	

Key:			
+ positive effect	- negative effect	O neutral effect	? uncertain/unpredictable effect

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
1. To ensure that everyone has the opportunity of a decent and sustainably constructed and affordable home Will it reduce homelessness? Will it increase the range and affordability of housing for all social groups? Will it reduce the number of unfit homes?	House price/earnings ratio % new homes constructed to at least EcoHomes "very good" Standard Luton Quality of Life Interim Report 2005 (Luton Borough Council) RSS Annual Monitoring Report Local house price/income ratio compared to regional data Luton 7..3 Beds 7..9 East of England 8.2	?	?	?	?	?	There are potential cumulative and secondary effects resulting from improvements in waste management practices advocated under Policy W5 and W6. There may be secondary effects on affordability although it difficult to determine these.	The factors affecting the house price earnings ratio are complex and the cost of waste management is likely to be only one very small factor. There is however some evidence from elsewhere that sustainable affordable homes can be constructed without significant impacts on cost. Sustainable Homes

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
								http://www.sustainablehomes.co.uk/about2.htm
2. Improve the health of Bedfordshire's and Luton's population. Will it reduce death rates? Will it improve access to high quality, health facilities? Will it encourage healthy lifestyles? Will it reduce health inequalities?	Percentage of people in the County describing their health as not good. *Sustainable Development Indicators in your Pocket 2005 ODPM - Satisfaction in local area - households satisfied with the quality of the places in which they live* Luton Quality of Life Interim Report 2005 (Luton Borough Council) Beds Community Strategy 2003-2013 % of people describing their health as not good is 6.7% in Bedfordshire and 8.1% in Luton. % satisfied with their local area in Beds was 80.3% in 2003 % of people describing their health as not good National 9.2%, Eastern Region 7.6% The health experience of Bedfordshire residents is about 10-15% better than the national average, although, marked inequalities exist.	?	?	?	?	?	There are likely to be positive secondary effects on health resulting from measures to improve waste management, reduce it's transportation and hence reduce emissions to air.	The relationships under this objective are likely to be indirect if they exist. There is little evidence generally on the relationship between waste management techniques and health impacts.

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
3. To reduce poverty and social exclusion Will it reduce poverty and social exclusion in those areas most affected? Will it improve affordability to essential services to the home?	Index of Multiple Deprivation Beds Community Strategy 2003-2013 Luton Quality of Life Interim Report 2005 (Luton Borough Council) Luton Community Plan 2005 revision Bedfordshire and Luton contains ten wards in the top 25% and three in the top 10% of most deprived wards in the country (as identified in the Index of Multiple Deprivation 2000). Three of these are in Bedford, one in South Bedfordshire and six in Luton.	0	0	0	0	0	No significant secondary or cumulative effects identified.	
4. To improve educational attainment and to develop opportunities for everyone to acquire the skills needed to find and remain in work. Will it improve qualifications and skills of young people? Will is reduce unemployment overall? Will it reduce long-term unemployment? Will it provide job opportunities for those most in need of employment? Will it help to reduce long hours worked?	% adults with NVQ Level 3 and above. Learning Skills Council Outline Strategic Plan (2002-2005) 47 per cent of economically active adults (130,000 people) are currently qualified to NVQ level 3 or equivalent. Performance at level 3 above the national average. However some ethnic minorities and other under-represented groups such as learners with learning difficulties and disabilities are not participating. (LSC Annual Business Plan 2004) Target for 52% qualified to NVQ Level 3 by 2005.	?	?	?	?	?	There may be some secondary effects of this option as there are related initiatives being carried out to improve construction skills such as those promoted by the Construction Industry Training Board.	The nature of this relationship is very uncertain and would depend on how the implementation of the policy relates to other initiatives on construction skills.

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
Will it help to improve earnings?	(LSC)							
5. To improve accessibility to all services and facilities. Will it improve accessibility to key local services? Will it improve accessibility to shopping facilities? Will it improve the level of investment in key community services? Will it make access more affordable? Will it make access easier for those without access to a car?	Percentage of population served by kerbside collection of recyclables No comparable data identified as yet	?	?	?	?	?	There are potential cumulative and secondary effects resulting from improvements in waste management practices advocated under Policy W5 and W6. There may be secondary effects on affordability although it difficult to determine these.	
6. To increase the opportunities for the community to participate in and contribute to decisions which affect their quality of life. Will it encourage engagement in community activities? Will it increase the ability of people to influence decisions? Will it improve ethnic relations?	No indicator yet identified. Quality of Life Indicator used in Beds Community Strategy - % satisfied with opportunities to participate in local planning and decision making Beds Community Strategy 2003-2013 % satisfied with opportunities to participate in local planning and decision making in Beds in 2003 27.35% No comparators or targets identified	0	0	0	0	0	No evidence to suggest any added effects under this objective.	Policy W5 and W6 on their own appear to have no direct relationship with this objective.

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
7. To reduce air pollution and ensure air quality continues to improve. Will it have a positive impact upon the council's target to comply with air quality standards?	Average number of days on which air pollution exceeded national standard (based on five pollutants) Luton Borough & Bedfordshire Districts Air Quality assessments Luton has one AQMA along the M1 due to predicted exceedence of NO2 objective.	?	?	?	?	?	Secondary effects may occur as a result of encouraging waste minimisation under Policy W5 and W6 thereby potentially reducing emissions as a result of waste transport.	Encouraging greater on-site treatment of waste could lead to some local impacts on air quality although legislation exists to control these.
8. To reduce greenhouse gas emissions and vulnerability to climate change Will it contribute to the reduction of greenhouse gas emissions in line with national targets? Will it lead to an increased proportion of energy needs being met from renewable sources? Will it reduce emissions of ozone depleting substances? Will it minimise the risk of flooding from rivers and watercourses to people and property?	Emissions of greenhouse gases. Constructing Excellence: Environmental Performance Indicators (EPI) - Embodied Carbon Dioxide Emissions - Domestic Dwellings Renewable Energy Policy and Practice Guidance for Bedfordshire Bedfordshire and Luton are responsible for releasing 4.6 million tonnes of Carbon Dioxide each year. 17, 786 GWh of energy are consumed with transport being the largest energy user followed by domestic and industrial users. Energy White Paper 'Our energy future – creating a low carbon economy' (2003) sets a domestic goal to reduce carbon dioxide emissions by 60%	+	+	++	+	+	Above comment also applies to this objective. There may also be secondary effects resulting from a reduction in the landfilling of biodegradable waste which could contribute to greenhouse gas emissions.	As there are currently many permitted landfills with remaining life the positive effects of more sustainable existing waste legislation are likely to be more positive in the longer term.

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
Will it reduce the risk of subsidence? Will it reduce the risk of damage to property from storm events? Will it actively seek to manage the flood risk to commercial and residential development areas to as low as practicable?	below current levels by 2050.							
9. To protect and maintain the most valuable assets including biodiversity, landscapes, historic heritage and to improve the wide environment by means of adequate investment and management. Will it conserve and enhance natural/semi-natural habitats? Will it conserve and enhance species diversity, and in particular avoid harm to protected species? Will it maintain and enhance sites designated for their nature conservation interest? Will it maintain and enhance woodland cover and management? Will it reduce the amount of derelict, degraded and underused land?	Percentage of new houses built on previously developed land. Population of wild birds English Heritage Number of listed buildings at risk *Sustainable Development Indicators in your Pocket 2005 ODPM Bird population indices (a) farmland birds (b) woodland birds (c) coastal birds,* *Sustainable Development Indicators in your Pocket 2005 ODPM Bird population indices: wintering wetland birds.* Sustainable Development Indicators in your Pocket 2005 ODPM Priority species status, /Priority habitat status. English Nature- % of SSSIs in favourable or recovering condition	+	+	++	+	+	Positive secondary and cumulative effects may occur as a result of measures to reduce landfill. A reduction in the need for landfill sites will result in less potential to impact on biodiversity.	As there are currently many permitted landfills with remaining life the positive effects of more sustainable existing waste legislation are likely to be more positive in the longer term. Requirements to encourage the reuse rather than demolition of existing buildings reduce regional character changes. Reductions in needs for raw materials e.g. aggregate will help to protect the landscape and

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
Will it improve the landscape and ecological quality and character of the countryside? Will it decrease litter in towns and the countryside? Will it protect and enhance sites, features and areas of historical, archaeological and cultural value in both urban and rural areas?	Condition of Landscape Character - Countryside Quality Counts Indicator. www.countryside-quality-counts.org.uk Luton Quality of Life Interim Report 2005 (Luton Borough Council) Natural Environment Indicators Bedfordshire County Council 100% of new housing built on previously developed land in 2003 in Luton Approximately 6-7% of Bedfordshire is designated as an SSSI or CWS. By 2002, almost 100% of the area of SSSI had been assessed; 68% was in favourable condition. Only 5% of CWSs had been assessed by 2002; about 53% of this area was in favourable condition. 2 of the main national character areas covering Bedfordshire showed marked changes inconsistent with their character between 1990 and 1998. National Target 95% of SSSIs in favourable or recovering condition by 2010.							ecological quality and character of the countryside.

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
10. To reduce waste generation and disposal, and achieve sustainable management of waste. Will it lead to reduced consumption of materials and resources? Will it reduce household waste? Will it increase waste recovery and recycling? Will it reduce hazardous waste? Will it reduce waste in the construction industry?	Percentage of household waste being recycled in Beds. Diversion rates away from landfill for biodegradable waste materials. Percentage growth of construction and demolition waste. Construction and demolition waste disposed to land per annum % of construction and demolition waste recycled/ recovered Constructing Excellence Environmental Performance Indicators (EPI) - Waste in the Construction Process - Domestic Dwellings % growth of construction and demolition waste SMARTWASTE/SMART audit ratings(like BREEAM audit for construction waste) Bedfordshire Authorities Draft Municipal Waste Strategy 2004 Luton Community Plan 2005 revision Household recycling rate Beds 16.8% 2003/4 Luton 2002/3 16% Target s:	++	++	++	++	++		Policies W5 and W6 would contribute significantly to this objective. Effects should occur outside as well as within locality.

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
	20% by 2005/6 for Bedfordshire Luton 24% by 2005/6 30% by 2010							
11.To maintain and improve water and soil quality and to achieve sustainable water and soil resource management. Will it improve the quality of inland water? Will it reduce water consumption? Will it minimise the loss of soils to development? Will it maintain soil quality?	Percentage of rivers good/fair chemical and biological quality. Luton Quality of Life Interim Report 2005 (Luton Borough Council In 2000, 97% of the length of rivers and canals in Bedfordshire were classified as of good or fair chemical water quality. 100% were classified as of good or fair biological water quality. 100% of The River Lea in Luton was classified as fair. 68% of main rivers and canals "good" quality by 2015.	?	?	?	?	?	Positive secondary and cumulative effects may occur as a result of measures to reduce landfill. A reduction in the need for landfill sites will result in less potential to impact on water and soil quality.	The nature of the relationship is uncertain in as much will depend on the implementation of the measures outlined in the policy, although there may be some potential befits arising from a reduction in landfill.
12. To develop a sustainable, high skill and high value economy Will it improve business development and enhance competitiveness? Will it improve the resilience of business and the economy?	GVA per head Proportion of working age people in work Number and survival of business start-ups % of companies with ISO14001 registration Beds CC Website Luton Quality of Life Interim Report 2005 (Luton	?	?	?	?	?	There may be some secondary effects of this option as there are related initiatives being carried out.	The nature of this relationship is very uncertain and would depend on how the implementation of the policy relates to other

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
Will it promote growth in key sectors? Will it promote growth in key clusters? Will it improve economic performance in advantaged and disadvantaged areas? Will it encourage rural diversification? Will it encourage ethical trading? Will it encourage good employee relations and management practices?	Borough Council) Beds Community Strategy 2003-2013 RSS Annual Monitoring Report 2004 GVA per head index is 87 for Bedfordshire and 101 for Luton (2002) Stock of VAT registered businesses (2004) Beds 13405 Luton 4055 Luton during 2002/03 experienced 2.7% increase in new business registrations against the total number of registered businesses in the area, compared to the previous year. Nationally there was a 0.9% increase and same level increase within the Eastern region. 95 for the East of England and 102 for England							economic initiatives.
13. To reduce levels of unemployment Will it encourage indigenous business? Will it encourage inward investment? Will it make land and property available for business development? Will it reduce commuting? Will it improve accessibility to work by public	Unemployment rates/levels % businesses reporting skills gaps? Investment in training by employer's % of companies with IiP? RSS Annual Monitoring Report 2004 Claimant Count (Sept 2004) Bedford 2.2% Mid Beds 1%	?	?	?	?	?	There may be some secondary effects of this option as there are related initiatives being carried out encourage employment.	The nature of this relationship is very uncertain and would depend on how the implementation of the policy relates to other initiatives on construction skills.

Business as usual (No SPD)								
Objectives (+ Key questions)	**Key baseline info and target (where available)**	**Overall Effect**	**Timescales**		**Geographic Scale**		**Cumulative, Synergistic Secondary and Temporary effects**	**Commentary**
			Short-term	**Long-term**	**Local**	**Regional**		
transport, walking and cycling? Will it reduce the effect of traffic congestion on the economy? Will it reduce journey times between key employment areas and key transport interchanges? Will it facilitate efficiency in freight distribution? Will it attract new investment and additional skilled workers to the area?	South Beds 1.4% Luton 2.8% East of England 1.6% England 5.2%							
Overall effect on sustainability		Slightly +	Slightly +	Slightly +	Slightly +	Slightly +		

Appendix F
Force-field Analysis of SPD Options

Pages

Option 1a: Threshold of waste audits (10 dwellings or more only)
This option assumes an SPD is issued requiring waste audits on all residential developments over 10 dwellings.

Although this will affect 70% of residential units built, so will have a significant effect on the built stock, it will only impact 18% of applicants, and hence will not act as a significant communication tool for sustainable waste management good practices.

Permissions for x residential unit or more since 01/01/2002	No. of Applications	Residential Units
1 residential unit or more	1541	11631
10 residential units or more	173	8877
20 residential units or more	97	7874
50 residential units or more	45	6297
100 residential units or more	22	4707
TOTAL	1878	39386
Ration of less than 10 units : 10 or more units	1541 : 337	11631 : 27755
	Approx. 82% : 18%	Approx 30% : 70%

Option 1b: No threshold of waste audits (all developments covered)
This option assumes an SPD is issued requiring waste audits on all developments, not just large residential developments.

Option 2a: No Recycling target
This option assumes an SPD is issued which does not specify the percentage of recycled material to be used in the development.

Option 2b: Recycling target of 10%
This option assumes an SPD is issued which requires a target of 10% to be set for the recylced material to be used in all developments.

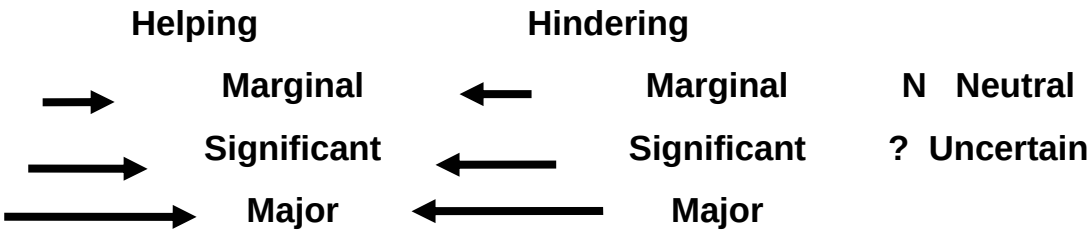
Option 2c: Recycling target of 20%
This option assumes an SPD is issued which requires a target of 20% to be set for the recylced material to be used in all developments.

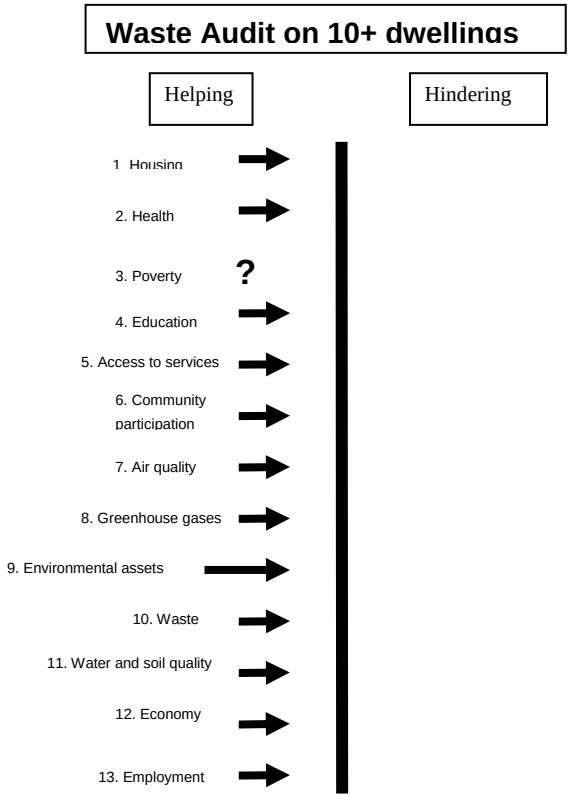
The assessment of the alternatives set out above is presented below in the form of a diagram based on Force Field Analysis[11]. Force Field Analysis gives a visual comparison of the effects of the alternative in terms of it would move towards the objective (helping) or away from the objective (hindering).

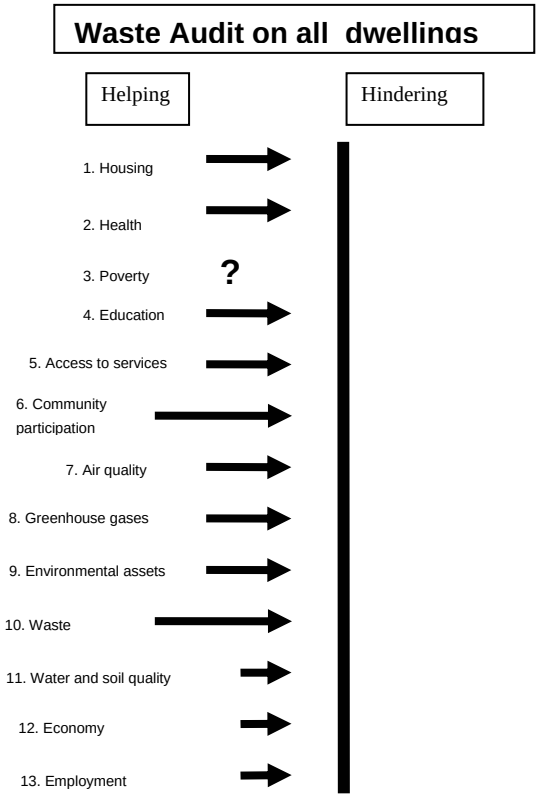
This is accompanied by a table which sets out a commentary in relation to each objective, consideing the effects of the alternatives. It also seeks to address indirect, cumulative and synergistic effects.

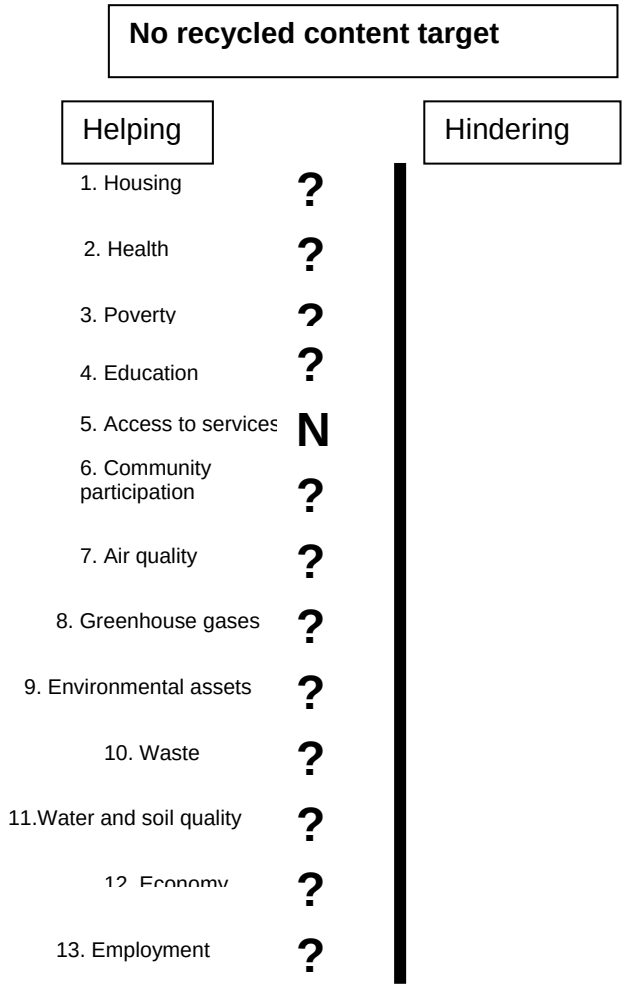
[11] http://en.wikipedia.org/wiki/Force_field_analysis

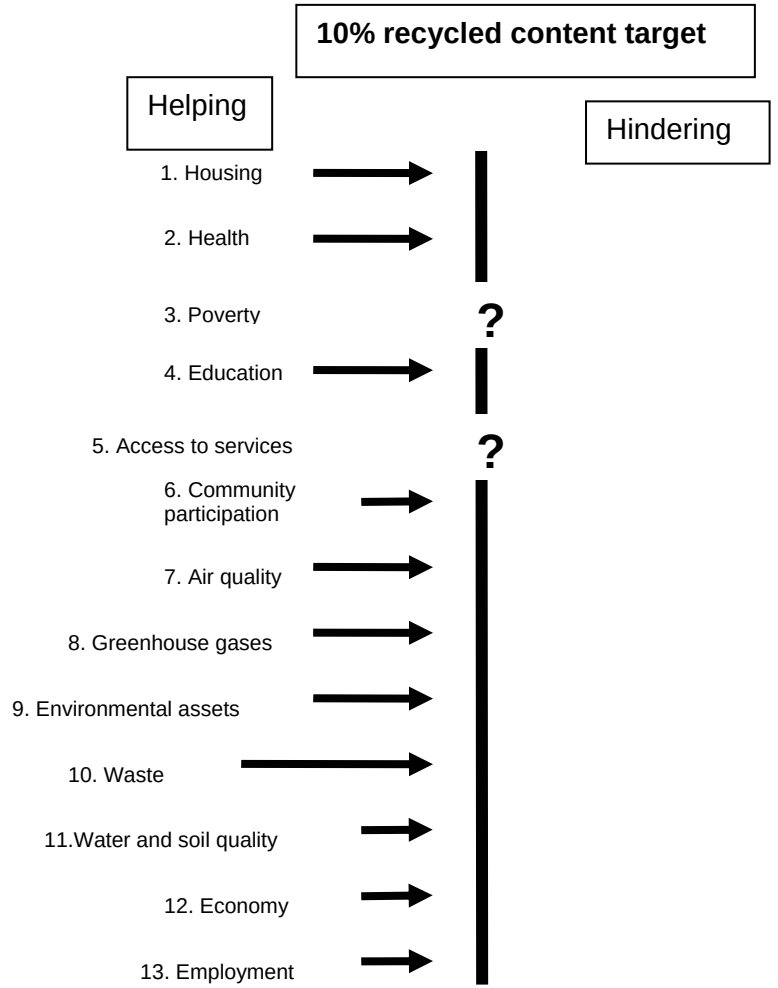
Key:


Helping
Hindering
Marginal
Marginal
N Neutral
Significant
Significant
? Uncertain
Major
Major


Waste Audit on 10+ dwellings
Helping
Hindering
1. Housing
2. Health
3. Poverty
?
4. Education
5. Access to services
6. Community participation
7. Air quality
8. Greenhouse gases
9. Environmental assets
10. Waste
11. Water and soil quality
12. Economy
13. Employment


Waste Audit on all dwellings
Helping
Hindering
1. Housing
2. Health
3. Poverty
?
4. Education
5. Access to services
6. Community participation
7. Air quality
8. Greenhouse gases
9. Environmental assets
10. Waste
11. Water and soil quality
12. Economy
13. Employment


No recycled content target
Helping
Hindering
1. Housing
?
2. Health
?
3. Poverty
?
4. Education
?
5. Access to services
N
6. Community participation
?
7. Air quality
?
8. Greenhouse gases
?
9. Environmental assets
?
10. Waste
?
11.Water and soil quality
?
12. Economy
?
13. Employment
?


10% recycled content target
Helping
Hindering
1. Housing
2. Health
3. Poverty
?
4. Education
5. Access to services
?
6. Community participation
7. Air quality
8. Greenhouse gases
9. Environmental assets
10. Waste
11.Water and soil quality
12. Economy
13. Employment

20% recycled content target

Sustainability Objective	Commentary for indirect, cumulative and synergistic effects		Overall justification for assessment (including likelihood, certainty of effect, geographical scale, permanence)	
	Audit thresholds	**Recycled Content**	**Audit thresholds**	**Recycled Content**
1. To ensure that everyone has the opportunity of a decent and sustainably constructed and affordable home Will it reduce homelessness? Will it increase the range and affordability of housing for all social groups? Will it reduce the number of unfit homes?	Lower thresholds for waste audits would indirect help to ensure that more homes were sustainably constructed. There may also be some indirect effects on the affordability of homes but these are difficult to determine.	Evidence suggest that certain levels of recycled content (up to 15-20%) can be achieved without significant extra cost. Indirectly this should ensure that homes can still be built sustainably and affordably.	Use of waste auditing will encourage sustainable construction techniques. The greater the number of applicants affected, the greater the impact.	If no recycling targets are set, the effects are uncertain as this will depend on applicants decisions about use of recycled content in developments . However, if the limit is set too high, the effect will be to deter construction by smaller developers.
2. Improve the health of Bedfordshire's and Luton's population. Will it reduce death rates? Will it improve access to high quality, health facilities? Will it encourage healthy lifestyles? Will it reduce health inequalities?	Any effects on health as a result of different approaches to waste audits or recycled content are likely to be indirect. More sustainable waste management arising from higher targets or lower thresholds may lead to reduced waste traffic, better waste storage which in turn may have indirect effects on health although these are difficult to determine.		Use of waste auditing should encourage healthy storage of recycling waste. The greater the number of dwellings affected, the greater the impact.	If no recycling targets are set, the effects are uncertain as this will depend on applicants decisions about use of recycled content in developments . Setting recycling targets approx. equal to the rate of waste generated on-site might reduce waste transportation and hence traffic volume and emissions and benefit local health. However, setting the target too high might promote greater volumes of waste transportation.
3. To reduce poverty and social exclusion Will it reduce poverty and social exclusion in those areas most affected? Will it improve affordability to essential			Use of waste auditing and recycling targets may increase the cost of dwellings, but may improve the environs of social housing. The overall effect of these options on this objective is indeterminate.	

Sustainability Objective	Commentary for indirect, cumulative and synergistic effects		Overall justification for assessment (including likelihood, certainty of effect, geographical scale, permanence)	
	Audit thresholds	Recycled Content	Audit thresholds	Recycled Content
services to the home?				
4. To improve educational attainment and to develop opportunities for everyone to acquire the skills needed to find and remain in work. Will it improve qualifications and skills of young people? Will is reduce unemployment overall? Will it reduce long-term unemployment? Will it provide job opportunities for those most in need of employment? Will it help to reduce long hours worked? Will it help to improve earnings?	Indirect effects on education as a result of different approaches to waste audits or recycled content may occur as a result of raised awareness of sustainable waste management amongst applicants and the public. There are likely to be cumulative effects on improved education and skills as a result of the construction of more sustainable homes, better access to services and greater community participation which should arise with lower waste audit thresholds and higher recycling targets.		Use of waste auditing will encourage sustainable construction skills and knowledge. The greater the number of applicants affected, the greater the impact.	If no recycling targets are set, the effects are uncertain as this will depend on applicants decisions about use of recycled content in developments . The greater the target set, the more radical the sustainable improvements in construction techniques are likely to be.
5. To improve accessibility to all services and facilities. Will it improve accessibility to key local services? Will it improve accessibility to shopping facilities? Will it improve the level of investment in key community services? Will it make access more affordable?			Use of waste auditing will improve the % of population which can be effectively served by kerbside collection of recyclables and also provided with an efficient waste management service.	Use of recycling targets is unlikely to affect services accessibility.

Sustainability Objective	Commentary for indirect, cumulative and synergistic effects		Overall justification for assessment (including likelihood, certainty of effect, geographical scale, permanence)	
	Audit thresholds	**Recycled Content**	**Audit thresholds**	**Recycled Content**
Will it make access easier for those without access to a car?				
6. To increase the opportunities for the community to participate in and contribute to decisions which affect their quality of life. Will it encourage engagement in community activities? Will it increase the ability of people to influence decisions? Will it improve ethnic relations?	Indirect effects on community participation as a result of different approaches to waste audits or recycled content may occur as a result of raised awareness of sustainable waste management amongst applicants and the public. There are likely to be cumulative effects on improved education and skills as a result of the construction of more sustainable homes, better access to services improved education and skills which should arise with lower waste audit thresholds and higher recycling targets.		Use of waste auditing will promote sustainable waste management awareness. The greater the number of applicants affected, the greater the impact.	The higher the recycling target set, the greater the encouragement for local recycling initiatives.
7. To reduce air pollution and ensure air quality continues to improve. Will it have a positive impact upon the council's target to comply with air quality standards?	Any effects on air quality from different approaches to thresholds or recycling targets are likely to be indirect and attributable to factors such as reduced road traffic. It is difficult to predict the magnitude of such effects.		Use of waste auditing will improve the efficiency of recycling collections and help reduce the quantity of waste generated, and in need of transportation.	If no recycling targets are set, the effects are uncertain as this will depend on applicants decisions about use of recycled content in developments . Setting recycling targets approx. equal to the rate of waste generated on-site might reduce waste transportation and hence traffic volume and emissions and benefit local health. However, setting the target too high might promote greater volumes of waste transportation.
8. To reduce greenhouse gas emissions and vulnerability to		Setting targets for recycled content would have significant	Use of waste auditing will improve the efficiency of	If no recycling targets are set, the effects are uncertain as this will depend on

Sustainability Objective	Commentary for indirect, cumulative and synergistic effects		Overall justification for assessment (including likelihood, certainty of effect, geographical scale, permanence)	
	Audit thresholds	Recycled Content	Audit thresholds	Recycled Content
climate change Will it contribute to the reduction of greenhouse gas emissions in line with national targets? Will it lead to an increased proportion of energy needs being met from renewable sources? Will it reduce emissions of ozone depleting substances? Will it minimise the risk of flooding from rivers and watercourses to people and property? Will it reduce the risk of subsidence? Will it reduce the risk of damage to property from storm events? Will it actively seek to manage the flood risk to commercial and residential development areas to as low as practicable?		potential to help reduce greenhouse gas emissions associated with the extraction, transportation and manufacture of construction products. There would be significant indirect effects resulting in reductions in embodied CO2. Examples of this are provided through an analysis of the BedZed Development.[12]	recycling collections and help reduce the quantity of waste generated, and in need of transportation.	applicants decisions about use of recycled content in developments . Setting recycling targets approx. equal to the rate of waste generated on-site might reduce waste transportation and hence traffic volume and emissions and benefit local health. However, setting the target too high might promote greater volumes of waste transportation.

[12] Beddington Zero Energy (Fossil) Development Construction Materials Report – Toolkit for Carbon Neutral Developments Bioregional/DTI http://www.bioregional.com/Materials%20report%20web%20cut%20final%20draft.pdf

Sustainability Objective	Commentary for indirect, cumulative and synergistic effects		Overall justification for assessment (including likelihood, certainty of effect, geographical scale, permanence)	
	Audit thresholds	Recycled Content	Audit thresholds	Recycled Content
9. To protect and maintain the most valuable assets including biodiversity, landscapes, historic heritage and to improve the wide environment by means of adequate investment and management. Will it conserve and enhance natural/semi-natural habitats? Will it conserve and enhance species diversity, and in particular avoid harm to protected species? Will it maintain and enhance sites designated for their nature conservation interest? Will it maintain and enhance woodland cover and management? Will it reduce the amount of derelict, degraded and underused land? Will it improve the landscape and ecological quality and character of the countryside? Will it decrease litter in towns and the countryside? Will it protect and enhance sites, features and areas of historical, archaeological and cultural value in both urban and rural			Use of waste auditing will indirectly improve recycling, and hence will help protect the landscape and ecological quality and character of the region.	The greater the target for recycling content, the greater the reuse of local building materials e.g. local recycled brick stock, preserving local character.

Sustainability Objective	Commentary for indirect, cumulative and synergistic effects		Overall justification for assessment (including likelihood, certainty of effect, geographical scale, permanence)	
	Audit thresholds	Recycled Content	Audit thresholds	Recycled Content
areas?				
10. To reduce waste generation and disposal, and achieve sustainable management of waste. Will it lead to reduced consumption of materials and resources? Will it reduce household waste? Will it increase waste recovery and recycling? Will it reduce hazardous waste? Will it reduce waste in the construction industry?			Use of waste auditing will have a widespread impact on sustainable waste management. The greater the number of applicants affected, the greater the impact.	If no recycling targets are set, the effects are uncertain as this will depend on applicants decisions about use of recycled content in developments . The greater the target for recycling content, the greater the encouragement for the local waste reduction and recycling industry.
11. To maintain and improve water and soil quality and to achieve sustainable water and soil resource management. Will it improve the quality of inland water? Will it reduce water consumption? Will it minimise the loss of soils to development? Will it maintain soil quality?			More careful consideration of the generation, storage and disposal of waste should improve contamination issues.	As more recycled material is used, fewer raw materials need to be extracted/ produced, reducing negative impacts.
12. To develop a sustainable, high			As local businesses improve their waste management,	Increased use of recycled materials indicates more sustainable business

Sustainability Objective	Commentary for indirect, cumulative and synergistic effects		Overall justification for assessment (including likelihood, certainty of effect, geographical scale, permanence)	
	Audit thresholds	Recycled Content	Audit thresholds	Recycled Content
skill and high value economy Will it improve business development and enhance competitiveness? Will it improve the resilience of business and the economy? Will it promote growth in key sectors? Will it promote growth in key clusters? Will it improve economic performance in advantaged and disadvantaged areas? Will it encourage rural diversification? Will it encourage ethical trading? Will it encourage good employee relations and management practices?			they become more competitive.	practices, although increasing recycled content may not be achievable without extra cost.
13. To reduce levels of unemployment Will it encourage indigenous business? Will it encourage inward investment? Will it make land and property available for business development? Will it reduce commuting? Will it improve accessibility to work by			Improved business competitiveness should improve employment levels.	Local support for the recycling industry could improve local employment.

Sustainability Objective	Commentary for indirect, cumulative and synergistic effects		Overall justification for assessment (including likelihood, certainty of effect, geographical scale, permanence)	
	Audit thresholds	Recycled Content	Audit thresholds	Recycled Content
public transport, walking and cycling? Will it reduce the effect of traffic congestion on the economy? Will it reduce journey times between key employment areas and key transport interchanges? Will it facilitate efficiency in freight distribution? Will it attract new investment and additional skilled workers to the area?				