

## **Chapter 2: Background**

### **Purpose of the SA and the SA Report**

- 2.1 The Planning and Compulsory Purchase Act 2004 introduced a new development plan process to England. Under the new system, there are two tiers: the Regional Spatial Strategy (The East of England Plan) and Local Development Frameworks (the successor documents to Local Plans). Suffolk County Council has retained strategic planning responsibility for minerals and waste matters and is therefore required to produce a Minerals and Waste Development Framework (M&WDF).
- 2.2 In addition European Directive 2001/42/EC was incorporated into UK law in July 2004 requiring Strategic Environmental Assessments (SEA) on the effects of certain plans and programmes on the environment. Current government guidance requires that for spatial plans, the process of SEA is incorporated into Sustainability Appraisal (SA); SA incorporates a wider consideration of social and economic considerations than SEA alone.
- 2.3 The SA Scoping Report produced in October 2007, has informed this SA report by providing an analysis of a range of sustainability issues relevant to waste planning in Suffolk and development of an SA Framework. It also included SA objective and broad indicators, for the appraisal of the Core Strategy at each stage of preparation.

### **Plan objectives and outline of contents**

- 2.4 The Plan objectives (known as the Vision, Aims and Objectives below) set out the strategic overview of the Waste Core Strategy and are listed below. The Waste Core strategy will contain objectives which will form the basis for preparing policies and a framework for identifying sites for waste management facilities.
- 2.5 The purpose of this SA Report is to assess the Submission Version of the Waste Core Strategy, outline the negative and positive impacts that they may have with regards to waste management facilities, propose any mitigation measures and monitor the implementation of the Waste Core Strategy once it has been adopted.
- 2.6 The Vision for the Waste Core Strategy ensures that the Council can fulfil its responsibility for providing waste management facilities within the county whilst at the same time respecting social, economic and environmental considerations.

## VISION:

### Our Vision for Waste Planning

“By 2026, the landfilling of untreated municipal, commercial & industrial wastes will have ceased and residual waste management processes will be fully operational, recovering value from wastes that cannot practicably be recycled or composted.

Waste management activities in Suffolk will be located sensitively and appropriately, and operated to high standards, so that they do not harm the environment or endanger human health or impact disproportionately on local amenity and tranquillity. Former temporary waste management activities, such as landfill sites, will have been restored to a quality and to a state conducive to appropriate after-uses such as agriculture and improving the habitats for biodiversity; in particular habitats and species identified in the Suffolk Biodiversity Action Plans, and where appropriate geodiversity”.

In developing the Vision, we have identified 6 aims for the Waste Core Strategy and 11 objectives. These are set out below.

**Aim 1: To manage that volume of waste identified in the East of England Plan as being apportioned to Suffolk.**

*Objective 1: To provide policies and identify locations for the management of the quantities of waste apportioned to Suffolk through the East of England Plan.*

**Aim 2: To promote and encourage sustainable practices in the transportation and management of wastes.**

*Objective 2: To facilitate sustainable waste management by minimising waste as a priority and encouraging communities to take responsibility for the waste they produce through better education via public consultation.*

*Objective 3: To facilitate the efficient transportation of waste throughout Suffolk.*

*Objective 4: To facilitate the provision of sufficient suitable sites for waste, recycling, composting and transfer.*

**Aim 3: To contribute to social and economic well-being.**

*Objective 5: To facilitate equality of public access to Household Waste Recycling Centres.*

**Aim 4: To protect against adverse impacts on human well-being and to ensure waste management facilities do not endanger human health.**

*Objective 6: To encourage waste management facilities and practices that do not endanger human health and to ensure that any adverse impacts on residential amenity and the quality of life can be prevented or suitably mitigated.*

*Objective 7: To minimise adverse impacts on air quality.*

**Aim 5: To protect and enhance the built and natural environment.**

*Objective 8: To minimise adverse impacts on landscape quality and the built environment.*

*Objective 9: To minimise adverse ecological and geological/geomorphological impacts, and to encourage opportunities for restoration, creation and enhancement of wildlife habitats.*

*Objective 10: To minimise adverse impacts on water quality.*

**Aim 6: To assist in reducing the impacts of climate change upon the environment.**

*Objective 11: To facilitate proposals and encourage waste management practices that reduce the effects of the emissions of greenhouse gases and deliver renewable energy production where feasible and appropriate.*

## **Compliance with the SEA Directive/Regulations**

2.7 The Sustainability Appraisal (SA) report has been compiled in order to inform the public, Statutory Environmental Bodies (SEBs) and other interest groups of the outcome of the assessment of the Waste Core Strategy Submission version. The Core Strategy is part of the Minerals and Waste Development Framework (MWDF) which is a suite of documents relating to Minerals and Waste Planning in Suffolk. At the time of writing, the Framework documents and its supporting documents contains the following :

- Minerals and Waste Development Scheme
- Statement of Community Involvement
- Adopted Minerals Core Strategy (including Development Control policies)
- Adopted Mineral Site Specific Allocations Submission
- Minerals SA Scoping Report
- Minerals draft (and final) SA Report
- Waste Scoping Report

- Waste Issues Report
- Waste Core Strategy Issues and Options (Part I) Report
- Waste Core Strategy Issues and Options (Part I) SA Report
- Waste Core Strategy Issues and Options (Part II) Report
- Waste Core Strategy Issues and Options (Part II) SA Report
- Waste Core Strategy Final Consultation Report
- Waste Core Strategy Final Consultation SA Report

2.8 This report is fully compliant with both the EU SEA Directive (2001/42/EC), the UK SEA legislation (Environmental Assessment of Plans and Programmes Regulations 2004) and Planning and Compulsory Purchase Act 2004. Table 1 demonstrates which parts of the EU SEA directive that the SA Report complies with.

**Table 1: Compliance with EU SEA Directive**

Information requirement of the SEA Directive (defined by Annex II)	Section of the Environmental Report
An outline of the contents and main objectives of the plan or programme, and its relationship with other relevant plans and programmes	Part 2
The relevant aspects of the current state of the environment	Part 3
The environmental characteristics of areas likely to be significantly affected	Part 3.25
Any existing environmental problems which are relevant to the plan or programme, in particular, those relating to areas designated at the European level for importance to wildlife (SPAs, SACs)	Part 3.25
The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.	Part 3
The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, on issues such as biodiversity, population, human health, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the inter-relationships between these issues.	Part 5
The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.	Part 5, Table 5
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.	Part 4.7
A description of the measures envisaged concerning monitoring	Part 6.15 of this report
A non technical summary of the information provided	Part 1 of this report

## Approach adopted to the SA

2.9 The table below from Office of the Deputy Prime Minister Guidance *Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents (2005)* details the various SA stages and tasks.

This initial SA Report mainly contributes to the stages *B and C* of the SA process, highlighted in the Table 2.

**Table 2: Stages of Sustainability Appraisal as set out by the ODPM November 2005**

Development Plan Document Stage	Progress
<b>Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope</b>	
<b>A1:</b> Identifying other relevant policies, plans and programmes, and sustainability objectives.	Complete
<b>A2:</b> Collecting baseline information.	Complete/ongoing
<b>A3:</b> Identifying sustainability issues and problems.	Complete
<b>A4:</b> Developing the SA framework.	Complete
<b>A5:</b> Consulting on the scope of the SA.	Complete
<b>Stage B: Developing and refining options and assessing effects</b>	
<b>B1:</b> Testing the Development Plan Document objectives against the SA framework.	Complete for Issues and Options
<b>B2:</b> Developing the Development Plan Document options.	Complete for Issues and Options
<b>B3:</b> Predicting the effects of the Development Plan Document.	Complete for Issues and Options
<b>B4:</b> Evaluating the effects of the Development Plan Document.	Complete for Issues and Options
<b>B5:</b> Considering ways of mitigating adverse effects and maximising beneficial effects.	Complete for Issues and Options
<b>B6:</b> Proposing measures to monitor the significant effects of implementing the Development Plan Document.	Complete for Issues and Options
<b>Stage C: Preparing the Sustainability Appraisal Report</b>	
<b>C1:</b> Preparing the SA Report	Complete for Issues and Options
<b>Stage D: Consulting on the preferred options of the Development Plan Document and SA Report</b>	
<b>D1:</b> Public participation on the preferred options of the Development Plan Document and the SA Report.	Complete/ongoing
<b>D2 (i):</b> Appraising significant changes.	Complete/ongoing
<b>D2 (ii):</b> Appraising significant changes resulting from representations.	Complete/ongoing
<b>D3:</b> Making decisions and providing information.	Complete/ongoing
<b>Stage E: Monitoring the significant effects of implementing the Development Plan Document</b>	
<b>E1:</b> Finalising aims and methods for monitoring.	Forthcoming
<b>E2:</b> Responding to adverse effects.	Forthcoming

- 2.10 Stage A of the SA process was addressed in the SA Scoping report for Waste Development Plan Documents which was consulted in October 2007. The SA Scoping Report has informed this Initial SA report by providing: an analysis of a range of sustainability topics relevant to waste planning in Suffolk; identification of key sustainability issues and problems; and development of an SA Framework (including SA objectives and broad indicators) for the appraisal of the Core Strategy at each stage of preparation.

#### **Who was consulted and when**

- 2.11 Consultation on all aspects of the Waste DPD and accompanying Sustainability Appraisal has been undertaken in accordance with the criteria set out in the Statement of Community Involvement adopted in February 2006.
- 2.12 The original four Statutory Environmental Bodies (now three with the establishment of Natural England) (SEBs) and District Councils were consulted on the Waste Scoping Report in October 2007. Consultation on the Waste Issues Report ended on 24/12/2007.
- 2.13 Waste Core Strategy Issues and Options (Part I) document was accompanied by a Sustainability Appraisal document and both documents were out for consultation in October 2008.
- 2.14 Next consultation was carried out in December 2008 for the next version of Waste Core Strategy Issues and Options (Part II) Strategic Sites document accompanied by a Sustainability Appraisal document.
- 2.15 Waste Cores Strategy Final Consultation document was accompanied by a Sustainability Appraisal document and both document were out for consultation in July 2009.

## Chapter 3: Sustainability Objectives, Baseline and Context

- 3.1 Suffolk is situated in the East of England, and covers an area of 3802 km<sup>2</sup>. It contains seven District and Borough Councils, two of which (Waveney and Suffolk Coastal) have North Sea coastlines. It borders Norfolk, Cambridgeshire and Essex. In the north of the County, parts of the Waveney Valley is within the Norfolk and Suffolk Broads, which has a similar status to a National Park.
- 3.2 Suffolk County Council maintains a significant database of information about the principal physical, economic, social and environmental characteristics of the county. This data forms a key part of the evidence base and provides a resource for the development of new planning documents. The County Council places a high priority on the continued collection and management of data which allows the accurate description of environmental, social and economic issues in the county. The evidence base for the Core Strategy includes:
- Relevant national planning policy guidance and planning policy statements;
  - Relevant plans and strategies prepared by the Council and other agencies, including the East of England Plan and Community Strategies;
  - Baseline data taken from the preparation of the Waste Sustainability Appraisal Scoping Report (October 2007);
  - Data from monitoring Structure Plan, Minerals Local Plan and Waste Local Plan policies and from minerals and waste development control decisions, including the 2005/6 Annual Monitoring Report;
  - Suffolk's regional monitoring returns;
  - Census and other environmental and socio-economic data held by the County Council;
  - The views of stakeholders which have been received during community engagement on the Waste Issues paper;

Suffolk Observatory website ([www.suffolkobservatory.com](http://www.suffolkobservatory.com));  
Environment Agency and Natural England data.

### Links to other policies, plans and programmes

- 3.3 Links to other policies, plans and programmes were assessed as part of the Scoping Report by Suffolk County Council and the Suffolk Sustainability Appraisal Group (SSAG). Appendix 3 lists the documents scoped as of February 2008.

### Description of the baseline characteristics and main issues identified

#### SOCIAL ISSUES

##### Population

- 3.4 In 2008 Suffolk had an estimated population of 716,000 (ONS, 2008 Mid Year Estimate). Around one-third of the total population lives in the county's three major towns (Ipswich, Lowestoft and Bury St Edmunds), another third lives in smaller market towns, and the remaining third lives in rural areas. The average

population density is relatively low at 181 people per square kilometre (compared to the average for England of 387 per square kilometre).

- 3.5 It is predicted that the population of Suffolk will grow by 23,000 (5%) by 2021 (RSS, 2006). (However the ONS 2004 based projections, which include revised information about in migration, suggests the County's population could increase by 81,000 (11.5% to 782,900 by 2021.)
- 3.6 The population growth will not be evenly spread throughout the county; Forest Heath and Ipswich are predicted to be the fastest growing regions, while the populations of Babergh and Waveney will change the least. The age structure of the population is also predicted to change. There is likely to be a reduction in the number of children in the county by around 8% (see Table 4), and will be particularly pronounced in Suffolk Coastal and Waveney. In contrast, Forest Heath and Ipswich are the only two districts expected to see an increase in the number of children. The number of working age people will increase only slightly (1.4%), again concentrated in Forest Heath and Ipswich. Other areas are likely to see a significant increase in the number of people aged 65 or over (43% in Suffolk as a whole); increases of at least two-thirds are expected in Mid Suffolk and Babergh, and over 50% in St Edmundsbury and Suffolk Coastal.

## Housing

- 3.7 In April 2006, Suffolk had a total housing stock of 311,000, with an average annual increase in recent years of about 2700 (although the 2005/6 increase was 3392, the highest such figure in the past 15 years). However, the Proposed Changes to the East of England Plan proposes that Suffolk make provision for a minimum of an additional 48,070 dwellings by 2021, an annual average increase of 3200.
- 3.8 House prices in Suffolk have risen steeply in recent years with the average property costing £193,000 in the first quarter of 2007 (although the figures remain below the regional and national average). Affordability is an increasing problem, with the average house price to income ratio reaching 7.7 at the same time. This ratio is the highest in the East of England and is also above the national figure of 7.11.
- 3.9 In 2009 it generally cost 6.5 times the average Suffolk income to buy a dwelling in the county, down from 7.79 in 2008 and higher than the regional average of 6.6. Since 2001 the ratio of house price to income increased making the opportunity for first time buyers entering the housing market very difficult. This was a national problem, which has been improved slightly through house price reductions due to the economic recession. Ratios are still some way from ideal affordability thresholds however.
- 3.10 New housing developments place pressures on existing schools, road networks and other services such as supermarkets and healthcare. It naturally follows that such developments will also have an impact on waste collection and disposal services which in turn will impact on the need for additional sites to meet demand.

## Health

- 3.11 Suffolk's women have a life expectancy of 82 and Suffolk's men 78 (2004 figures), both slightly above the national average.
- 3.12 Life expectancy throughout Suffolk is equal to, or greater than the average for the East of England region. The number of deaths as a result of road traffic accidents, heart disease and self-harm have decreased or remained stable in recent years. However, deaths from respiratory disease show an increasing trend, and cancer deaths have also increased in the most recently available figures. It should be noted, however, that annual figures fluctuate, so it is necessary to use longer time periods to determine meaningful trends from mortality data.
- 3.13 Data is limited for indicators relating to healthy lifestyles, but it is anticipated that this will improve in the future (for example as a result of district level Open Space Assessments and monitoring for the Suffolk Community Strategy).
- 3.14 There can often be concerns over perceived negative health impacts of waste facilities, particularly landfills and incinerator plants.
- 3.15 All waste developments and their emissions are licensed and monitored by the Environment Agency under the Pollution Prevention and Control Regulations.

## Education

- 3.16 According to 2008 data, 21.5% of Suffolk's working age population have no qualifications. This is higher than the East of England average (11.8%), as well as the national average. (12.4%)

In 2008 50.3% of students continued into A levels after their GCSEs, whilst another 33.1% went on to other forms of education. NEETs accounted for 5.5% of the school year group. After A-levels, 51.4% went onto university and 3.89% on gap years. The proportion of NEETs was lower than after GCSEs at 4.87%.

In terms of attainment in 2008, A level students scored an average of 712.7 points, above the regional average of 634.9, but below the national average of 739.8. At GCSE level, 66.2% of students achieved 5 or more GCSEs at A\*-C, higher than both the regional (67.5%) and national (65.3%) averages. However, the county's performance at Key Stage 2 (age 11) was lower than regional and national averages; only 80.5% of children reached at least level four, compared to 83.5% regionally and 82.6% nationally.

## Crime

- 3.16 Suffolk is a relatively safe county, with a crime rate of 77.9 per thousand population in 2005-6. In 2007-8 this figure went down to 68.8 per thousand population. Suffolk Police also has one of the highest success rates for solving crime in the country.

## ECONOMIC ISSUES

### Employment

- 3.17 Prosperity and economic growth indicators show that the number of businesses in Suffolk has increased, although the business formation rate is lower than average for England and the East of England.
- 3.18 2005 figures show that the largest employment sectors in the county are health and social work (11.3%), retail trade (10.2%) and education (7.8%).
- 3.19 In May 2007, the unemployment rate in Suffolk was just 1.9%, which is similar to the regional average, but below the national average (2.4%).
- 3.20 2005 employment figures show that, while the Suffolk part of the Haven Gateway is growing strongly, with nearly 9000 new jobs since 2000, Waveney, Forest Heath and St Edmundsbury districts have seen much slower growth, with just 2000 new jobs generated between them. This figure is well below the target of 5750 new jobs in the Proposed Changes to the East of England Plan.
- 3.21 The UK waste management sector employs 141,000 people, of which approximately 110,000 work in England. 13,500 work in the sector in the East of England. (*Data from the Labour Market Investigation of the Waste Management Sector for the Energy & Utility Skills, part of the Sector Skills Councils*).
- 3.22 Based on these figures and using the total number of households in each county, it is estimated that approximately 1,100 people work in the waste industry sector in Suffolk.
- 3.23 Recent figures suggest that the unemployment rate in Suffolk increased to 3.2% which almost doubled the unemployment rate for the previous year.
- 3.24 In May 2007 the claimant count rate in Suffolk at 2.08% was slightly higher than the regional average (2.00%), and is the second highest amongst the shire counties after Norfolk.  
As of March 2006, the proportion of people working as managers, in professional occupations and administrative/secretarial occupations in Suffolk (50.2%) is significantly below the regional (55.3%) and national (55.1%) averages. Conversely, the proportion working as plant and machine operatives and in elementary occupations (22.8%) was higher than the averages for the East of England and the whole of England (18.5% for both). As a result, average wages are lower than both the regional and national average, and are in fact the lowest in the region at just £465 a week compared to £528 regionally and £539 nationally.

## ENVIRONMENTAL ISSUES

### Climatic Factors

- 3.25 There is an overwhelming body of scientific evidence highlighting the serious and urgent nature of climate change. Based on this evidence and predicted

climate scenarios published by the by the UK Climate Impact Programme (<http://www.ukcip.org.uk/>) along with work published by the Tyndall Centre (<http://www.tyndall.ac.uk/>), there is a need to recognise that the County is in a particularly vulnerable position.

- 3.26 Carbon dioxide (CO<sub>2</sub>) is one of a basket of so-called greenhouse gases linked to climate change and is viewed as the principal gas because it is generated by human activity, in particular the burning of fossil fuels, in by far the greatest quantities. Other Greenhouse Gases are important, including nitrous oxide and methane, which are produced in lesser quantities but have more potential to cause global warming.
- 3.27 The baseline data for measuring Suffolk emissions is being taken as 2004 because this is the first data set that is robust and publicly available.

**Table 3: Summary of CO<sub>2</sub> emissions at county level (2004)**

Subject	Value
Total CO <sub>2</sub> Emissions (tonnes)	<b>4,826,501</b>
CO <sub>2</sub> per head of population (tonnes)	7.06
Total CO <sub>2</sub> Emissions from Transport (tonnes)	<b>1,753,543</b>
Transport as % of Total	36.33
Total Domestic CO <sub>2</sub> Emissions (tonnes)	<b>1,225,770</b>
Domestic as % of Total	29.95
Total Industrial and Commercial CO <sub>2</sub> Emissions (tonnes)	<b>1,574,460</b>
Industrial and Commercial as % of Total	32.62
Total CO <sub>2</sub> Emissions from Landfill (tonnes)*	<b>52,728</b>
Waste (Landfill) as % of Total	1.09

\*Comprising Municipal Solid Waste

Table 3 (Extracted from Carbon Footprint Report, 2007),

### **Air quality**

- 3.28 Air quality is generally good in Suffolk. However, four Air Quality Management Areas (AQMAs) have recently (2007) been designated in the county. Three of the sites are in Ipswich (Crown Street; Star Lane/Waterfront gyratory; Norwich Road/Chevallier Street) and the fourth is in Woodbridge (The Thoroughfare/Melton Hill). These localised air quality problems are due mainly to vehicle congestion hot-spots in the county (see below under traffic).
- 3.29 As previously mentioned, the Environment Agency regulates all larger waste sites in the county, such as incinerators and landfill sites. Assuming the correct application of the requirements of the Waste Incineration Directive and the Landfill Directive through the Pollution Prevention and Control Regulations, no air quality impacts should be apparent in relation to such waste management facilities.

## **Water quality and resources**

- 3.30 Water quality is generally high in Suffolk, particularly the coastal waters. All of the county's bathing beaches consistently pass mandatory standards for water quality and frequently meet recommended guidelines, while almost all estuarine waters are Grade A quality. However, there remain some sites where water quality is poor and needs improving, and the most recent available results (for 2005) showed an overall decline in the chemical water quality in Suffolk's rivers. The north east of Suffolk falls within the 'Broadland Rivers' catchment, a management unit identified by the Environment Agency for delivery of the Water Framework Directive.
- 3.31 Investigations have shown that figures for water consumption and supply are difficult to obtain at the county level, so data is limited in this area. Environment Agency Catchment Abstraction Management Strategies (CAMS) may provide some data in future years, but none have yet been completed in Suffolk. The East Suffolk CAMS consultation document was published in September 2007. Its Technical Document contained a description of the catchment, its hydrology, hydrometry and hydrogeology, licensed abstractions and water quality and other assessments and assisted in informing about Suffolk's water quality.
- 3.32 Water and coastal management are likely to be the most serious climate change issues in Suffolk. The combination of low lying land and coast, current pressures on water resources, levels of expected housing growth and the degree of predicted climate change mean that Suffolk is particularly susceptible. Suffolk is one of the driest parts of the country and according to the Environment Agency many of the water resources available are already overstretched (Suffolk Climate Action Plan, 2007).

## **Soil and agriculture**

- 3.33 Suffolk is rich in agricultural farmland. About 1% of the county's soils are Grade 1, with grades 2 and 3a each at about 20%; in total, about 45% of the county's soils are classed as "best and most versatile".
- 3.34 According to the Suffolk Climate Action Plan (2007) the greenhouse gas emissions for agriculture are markedly different from other industries, in that methane and nitrous oxide are the significant gases rather than carbon dioxide. There are opportunities for more efficient and improvement in the industry, and example being the harnessing of methane as fuel source. The use of anaerobic digesters to process organic municipal waste and livestock manure to produce methane as a fuel and a compost to replace peat is where the real societal advantage lies (Suffolk Climate Action Plan, 2007).

## **Waste**

- 3.35 Around 385,000 tonnes of household waste was produced in Suffolk during 2006/7. Waste production is likely to continue to increase if the projected levels of population and employment growth take place, although the latest projections

used by Suffolk's waste planners anticipate that waste growth will be at 1.35% from 2005/06 until 2009/10. After this, then growth is expected to be tied to the housing growth at 0.9%.

- 3.36 Composting and recycling rates increased during 2006/7 compared to 2005/6, and now stand at 42.9% in Suffolk. During 2008/2009 the proportion of 'dry' recyclables and 'green' wastes collected rose from 46% in Suffolk. The biggest increase was by Suffolk Coastal rising from 43% last year to 48%. Waveney had the highest figures, with 55% of its collected waste recycled and composted.
- 3.37 Approximately 571,000 tonnes of commercial/industrial and other waste was disposed of to landfill in Suffolk in 2005/06.
- 3.38 The county of Suffolk has 18 household waste recycling centres, 7 composting sites (or compost processing sites), 18 landfill sites, 26 waste transfer facilities, 25 metal recycling facilities, 2 materials recovery facilities and 8 incinerators (which together deal principally with municipal and commercial and industrial waste). Sites are located evenly throughout the county, along major transport routes. Waste transfer facilities are concentrated along the A14 and near the County's borders with Essex and Norfolk.
- 3.39 Waste going to landfill is a major contributor to climate change accounting for about 3% of the UK's greenhouse gas emissions. As the waste decays it produces methane, which is a highly potent greenhouse gas (one tonne of methane emissions has the same impact on global warming as 25 tonnes of carbon dioxide emissions) (Suffolk Climate Change Action Plan, 2007). By cutting the amount of waste sent to landfill through waste reduction, reuse, recycling can contribute to the greenhouse gas emissions reduction.
- 3.40 As Suffolk only has landfill capacity till 2016, added to the increasing level of the Landfill Tax and of the impending threat of LATS penalties it is imperative that the County Council explores alternatives to using landfill. To this end, the County Council's Waste Procurement Programme is investigating the two principal options for managing residual waste through residual waste treatment plant(s) - principally energy-from-waste (incineration) or mechanical biological treatment (MBT). These technologies have been assessed for sustainability impacts through the Waste Procurement Programme and are likely to be revisited within the Waste Core Strategy and Specific Site Allocations.
- 3.41 Suffolk County Council's Annual Monitoring Report (AMR), submitted to Government in December every year, details the amount of waste that arises in Suffolk and what is recycled and disposed of. The most up-to-date AMR (2007/08) can be found on <http://www.suffolk.gov.uk/Environment/MineralsAndWastePlanning/AnnualMonitoringReports.htm>.

## **Traffic and transport**

- 3.42 Traffic levels at monitored locations in Suffolk have increased annually since 1999. This has had impacts on, amongst other factors, air quality and pollution, congestion, road safety, tranquillity and greenhouse gas emissions.
- 3.43 In 2001, 61% of Suffolk residents drove to work, 10% worked at home and 21% used a sustainable means of transport (public transport, cycling or on foot). In 2006, 66.8% of schoolchildren travelled to school by sustainable means, above the 65% target.
- 3.44 The dispersed nature of Suffolk's rural population combined with a lack of services and regular scheduled public transport in rural areas is unlikely to lead to decreased demand for private travel in the near future.
- 3.45 The Port of Felixstowe, the largest container port in the country, contributes significantly to HGV traffic in Suffolk, particularly on the A14. The approved port expansion there, along with the approved port at Bathside Bay in Harwich, Essex, will lead to an increase in HGV traffic in the future.
- 3.46 According to the 2001 Census, 21% of Suffolk residents travelled to work by sustainable modes of transport, which was below both national and regional averages. A 2004 survey showed that 35% of schoolchildren were taken to school by car, whilst the remaining 65% used sustainable modes. Census results also showed that the proportion of people walking and cycling to work in Suffolk was greater than in the Eastern region or the nation as a whole.
- 3.47 Almost all waste within Suffolk is transported by road (except for some nuclear waste transported by rail from Sizewell).

## **Energy**

- 3.48 In 2005, 3,673 GWh of gas was sold to domestic customers and 2,702 GWh sold to commercial/industrial customers in Suffolk, bringing the total to 6,376 GWh. For electricity, 1,619 GWh was sold to domestic customers and 2,406 GWh sold to commercial/industrial customers, bringing the total to 4,025 GWh. Both domestic and commercial/industrial electricity increased from 2004 to 2005 although there was a decrease in gas sales during the same period.
- 3.49 The renewable energy and waste industry sector consumed 65.5 Gwh in 2003 and 47.7 Gwh in 2004. No more recent data are currently available from Department for Business, Enterprise and Regulatory Reform (formerly DTI).
- 3.50 The generation of renewable energy in Suffolk increased with the opening of the county's first commercial wind turbine ("Guliver") at Ness Point, Lowestoft. Planning permission for a windfarm at Parham, in Suffolk Coastal district, was granted in July 2006. A number of other potential onshore and offshore wind schemes are in the pipeline.

- 3.51 In 2004, 37% of carbon dioxide released to the atmosphere in the UK was from energy industries, including burning fossil fuels in power stations. Suffolk was responsible in 2004 for the consumption of approximately 10.5 GWh of energy through domestic and industrial energy use. This resulted in the release of around 4 million tonnes of carbon dioxide.

### **Flood Risk**

- 3.52 Environment Agency information suggests that around 12,000 properties in Suffolk are at risk of flooding from rivers or the sea<sup>1</sup> (*figure excludes Forest Heath*).
- 3.53 In total, just three planning applications were approved by Suffolk LPAs against sustained Environment Agency objections during 2005/6, indicating that the Agency's objections are successfully overcome in the vast majority of cases. However, this figure rose to 11 applications approved during 2007/2008.
- 3.54 Planning Policy Statement 25: *Development and Flood Risk*, identifies waste treatment facilities as "less vulnerable" development. This means that sites within flood zones 1, 2 and 3a may be considered for waste management development. Landfill and hazardous waste facilities are considered to be "more vulnerable" development, and therefore suitable only in flood zones 1 & 2. Flood Zone 3a may only be considered for more vulnerable development if it passes the Exception Test.
- 3.55 (*NB: Flood zone 1 is land at less than 0.1% annual probability of flooding (1-in-1000 year return period); flood zone 2 is land between 1% (0.5% for coastal flooding) and 0.1% probability; flood zone 3a is land at greater than 1% annual probability of flooding (0.5% for coastal flooding).*)
- 3.56 Climate scenarios from the UK Climate Impacts Programme are that by the 2080. temperatures in Suffolk will be 2-5C higher, summer rainfall will decrease by up to 60% but winter rainfall is predicted to increase, and sea-level will rise by up to 82 cm. the Draft East of England Plan (RSS14) states that an extra 58,600 new homes will be built in Suffolk by 2021 compared with 2001. A key challenge therefore will be to ensure that new developments are as water efficient as possible and that building in current floodplains, or area that will become floodplains as the climate changes, is avoided.

### **Biodiversity and geodiversity**

- 3.57 Suffolk contains a range of sites with ecological designations, including six Ramsar sites, seven Special Protection Areas, eight Special Areas of Conservation, 283 Sites of Special Scientific Interest (of which 36 are geological) and 25 Local Nature Reserves. The number of County Wildlife Sites currently stands at about 850 (2007) and the county has seven Regionally Important Geological/Geomorphological Sites (RIGS) and 105 candidate RIGS. In addition, a number of Biodiversity Action Plans and Habitat Action Plans are in place, with the aim of conserving and increasing nationally and locally important habitats and species in the county. The boundary of the Broads
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Biodiversity Action Plan encompasses areas up to 1 km away from the Broads Authority Executive area or further where there are peat soils present. Action Plan provides an overview of issues that could impact negatively on biodiversity or water quality within the Broads arising from potential development in north east Suffolk. Through Suffolk County Council's mapping program, further constraints can be added to an existing baseline map such as County Wildlife Sites and Sites of Special Scientific Interest.

- 3.58 In terms of waste developments impacting on designated sites, national guidance such as *PPS9: Biodiversity and Geological Conservation* and *PPS10: Planning for Sustainable Waste Management* will help to protect such sites from inappropriate development.

### **Archaeology & historic environment**

- 3.59 The County's Historic Environment Record (HER) currently (2006) has 24,484 records relating to 16,814 archaeological sites. Of these, 328 are designated as Scheduled Monuments of national importance. The county also contains many buildings of historical or architectural interest, with 16,650 listed buildings and 170 Conservation Areas recorded in 2004/5. The numbers of recorded archaeological sites, listed buildings and conservation areas have all increased in recent years, giving increased protection to Suffolk's heritage. The area of designated historic parkland has also increased in the last five years.
- 3.60 Suffolk's historic landscape makes an outstanding contribution to the County's character and local distinctiveness. A high percentage of the county is deemed to be 'ancient countryside' where the pattern of fields and roads is of medieval or earlier origin. Historic features are a finite resource and cannot be fully replicated. The Historic Landscape Characterisation (HLC) produced by the County's Archaeological Service in conjunction with English Heritage is a key resource for the understanding of the historic landscape.
- 3.61 The location of waste management development near to urban centres could impact on the visual amenity of the townscape and its cultural heritage. Any such development activities therefore need to be designed sensitively.
- 3.62 Archaeological evaluations of sites put forward through the Waste Specific Sites Allocations document will need to be carried out, where appropriate, given that Suffolk has a history of very rich archaeological finds.

### **Landscapes and townscapes**

- 3.63 Around 12% of Suffolk's landscape is designated as an Area of Outstanding Natural Beauty (AONB). Suffolk's two AONBs are the Suffolk Coast & Heaths and the Dedham Vale.
- 3.64 Planning policy requires protection of the highest quality landscapes, such as the AONBs, but recognises that some development in AONBs can be justified for reasons of economic vitality and viability, and the provision of important services. Any proposals for waste management development in the AONBs

would therefore need rigorous justification and very sensitive design. Neighbouring Broads in Norfolk are equivalent to National Park Status.

- 3.65 Reports produced by the Campaign to Protect Rural England indicates that light pollution increased in the county between 1993 and 2000. Overall levels of pollution are below the national average, however, and Suffolk does contain proportionally lower areas in the darkest category than for England as a whole.

### **Rights of Way**

- 3.66 The Rights of Way network in Suffolk totals 5,400 km, of which 66% were judged "easy to use" in the 2005/06 Best Value indicator survey. This figure is an increase from 59% in 2004.

### **Minerals**

- 3.67 The solid geology of Suffolk consists mostly of Cretaceous Chalk deposits, with London Clay, Reading Beds, Thanet Sand and Crag present in the east of the County. The solid geology is largely covered by glacial drift deposits of Boulder Clay, Sand and Gravel. Within the river valleys, reworked Glacial Sand and Gravel forms River Terrace deposits. In the west of the County are found Wind Blown deposits of Sand.
- 3.68 As Mineral Planning Authority, Suffolk County Council has published an AMR on the sales and reserves of minerals in the county for the last 17 years. This has informed the Regional Aggregates Working Party Annual Monitoring Report.
- 3.69 The MPA's Annual Monitoring Reports have included information on applications for planning permission, numbers of active quarries and recycling operations and, more recently, the monitoring of the Minerals Local Plan, which was adopted in 1999.
- 3.70 Historically, some exhausted mineral quarries have been used as landfill sites, accepting either inert or municipal/commercial & industrial waste. However, the Environment Agency has indicated that there are widespread constraints upon new non-inert landfill space within the County due to much of Suffolk being overlain by Groundwater Source Protection Zones. This means that in future mineral sites may only be used to landfill municipal/C&I wastes provided they are located within a less vulnerable area and they have been subject to a satisfactory quantitative risk assessment to describe the presence of a natural geological boundary.

### **Recycled aggregate**

- 3.71 The Suffolk Minerals Local Plan seeks to supply 4.17mt of recycled aggregate between 1994 –2006. This was based on the forecast contained in MPG6 and is interpreted as 0.35 million tonnes per annum.

- 3.72 Recycled aggregate sales increased from 213,800 tonnes in 1998 to 554,700 tonnes in 2002, but in 2003 this dropped to 480,000 tonnes. Recycled aggregate sales during 2006/7 are thought to be about 500,000 tonnes.
- 3.73 With the continuing focus on re-developing brownfield sites, production and sales of recycled aggregate is likely to remain high over the coming years and there is, therefore, a continuing demand for recycled aggregate sites in the county.

### Limitations on information

- 3.74 Figures on investment within Suffolk have been difficult to obtain. The main limitations have been issues relating to quality of living, health and issues relating to water quality. However, the Community Strategies which are currently being prepared/reviewed in the District Councils and the County Council will include indicators for this to be monitored. Water quality figures will be made available through the Environment Agency's work with Catchment Abstraction Management Strategies but none have yet been completed for Suffolk.
- 3.75 Some uncertainties exist around the precise impacts of climate change on Suffolk and that evidence base is incomplete.

### The SA Framework, including objectives, targets and indicators

- 3.76 The objectives set out in Table 5 below have been used for the purpose of the Sustainability Appraisal. The overall purpose of Sustainability Appraisal is to promote sustainable development through the integration of social, environmental and economic considerations into the preparation of development Plan Documents. To reflect these considerations the objectives have been developed by the Suffolk Sustainability Appraisal Group as a common SA framework for the County but have then been adapted to suit the purposes of the Waste DPDs.

**Table 4: SA Objectives, associated questions & indicators**

SA objective	Questions	Related Data/ Indicators
<b>Environmental</b>		
1. To maintain/ improve air quality (including HGV movements) in line with national standards limits	<ul style="list-style-type: none"> <li>Will it affect levels of the 7 National Objective pollutants for local air quality (SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, benzene, 1,3-butadiene, CO, Pb)</li> <li>Will it exceed national standards limits?</li> </ul>	<ul style="list-style-type: none"> <li>Consultants' reports. Air Quality Assessment Chapter 13.</li> <li>Concentration of air pollutants</li> <li>AQMAs</li> </ul>
2. To maintain or improve water quality	<ul style="list-style-type: none"> <li>Will it impact on water quality?</li> </ul>	<ul style="list-style-type: none"> <li>Estuary/ inland water quality data</li> <li>Coastal water quality data</li> <li>Potential effect on groundwater source protection zones</li> <li>Condition of water bodies (Water Framework Directive)</li> </ul>
3. To maintain/ improve biodiversity and geodiversity	<ul style="list-style-type: none"> <li>Will it affect statutory/non-statutory designated sites?</li> <li>Will it affect local BAP species and BAP habitats?</li> <li>Will it impact on characteristic habitats and</li> </ul>	<ul style="list-style-type: none"> <li>Consultants' reports. Biodiversity Assessment Chapter 12.</li> <li>Change in number and area of designated ecological/geodiversity sites</li> <li>Reported condition of ecological and geodiversity SSSIs</li> <li>Habitat Action Plan targets</li> </ul>

	<ul style="list-style-type: none"> <li>species?</li> <li>Will there be enhancement opportunities as a result of development?</li> <li>Will there be improvement of the wider environment (i.e. non-designated sites)?</li> </ul>	<ul style="list-style-type: none"> <li>(progress towards achievement)</li> <li>Species Action Plan ((progress towards achievement)</li> <li>Development proposals affecting BAP habitats and geodiversity sites outside protected areas</li> <li>The number of agri-environment Stewardship Schemes potentially affected (Environmental Stewardship, Environmentally Sensitive Areas &amp; Countryside Stewardship)</li> </ul>
4. To maintain/ improve the quality and local distinctiveness of landscapes/ townscapes	<ul style="list-style-type: none"> <li>Will it affect the landscape in AONBs and SLAs?</li> <li>Will it affect characteristic landscape features as specified through the Landscape Character Assessment?</li> <li>Will it affect with the existing townscape character?</li> <li>Will it provide opportunities for the creation of accessible greenspace at waste sites where restoration is planned?</li> </ul>	<ul style="list-style-type: none"> <li>Consultants' reports. Landscape Assessment Chapter 10.</li> <li>Changes in landscape (Landscape Character Assessment)</li> <li>Area of designated landscape (SLAs &amp; AONBs and The Broads)</li> <li>Number of TPOs affected</li> <li>Number of field boundaries affected</li> </ul>
5. To maintain/improve soil quality/resources	<ul style="list-style-type: none"> <li>Will it affect the amount of contaminated land?</li> <li>Will it affect quality of soils?</li> </ul>	<ul style="list-style-type: none"> <li>No. of waste management sites on greenfield land</li> <li>Waste management sites/development on best agricultural land</li> <li>Map/data showing soil quality</li> </ul>
6. To maximise the efficient use of water	<ul style="list-style-type: none"> <li>Will it affect rates of abstraction/water use?</li> <li>Will it affect grey water recycling?</li> <li>Will it promote the wise use of water, taking account of climate change?</li> </ul>	<ul style="list-style-type: none"> <li>Using recirculated water in processing of waste</li> </ul>
7. To minimise flood risk	<ul style="list-style-type: none"> <li>Will it be in a flood risk zones 2 and 3?</li> <li>Will it affect flood risk elsewhere?</li> </ul>	<ul style="list-style-type: none"> <li>SFRA results</li> <li>Extent of flood risk zones 1-3 and functional floodplain</li> <li>Incidence of flood watches and warnings</li> </ul>
8. To minimise effects of HGV traffic on the environment	<ul style="list-style-type: none"> <li>Will it affect the number of HGV movements?</li> <li>Will it affect movements on Strategic Lorry Route Network?</li> </ul>	<ul style="list-style-type: none"> <li>Consultants' reports. Traffic Movements Assessment Chapter 8.</li> <li>Location to maximize tonnes per miles</li> <li>Traffic volumes in key locations</li> <li>Location of Strategic Lorry Routes</li> </ul>
9. To maintain/ improve historical buildings/sites, archaeological sites and other culturally important buildings	<ul style="list-style-type: none"> <li>Will it affect designated areas- nationally, regionally and locally?</li> </ul>	<ul style="list-style-type: none"> <li>Number of SAMs damaged as a result of development</li> <li>No of listed buildings and buildings at risk</li> <li>Area of historic parks &amp; gardens</li> <li>Size and number of Conservation Areas</li> </ul>
10. To minimise contributions to global warming	<ul style="list-style-type: none"> <li>Will it affect CO<sub>2</sub> levels?</li> <li>Will it affect methane levels?</li> </ul>	<ul style="list-style-type: none"> <li>Consumption of energy</li> <li>Use of low carbon technologies</li> <li>Location to maximize tonnes per miles</li> <li>Opportunities for utilizing renewable or low-carbon energy supply systems</li> </ul>
11. To move treatment of waste up the waste hierarchy	<ul style="list-style-type: none"> <li>Will it affect recycling/reuse measures?</li> <li>Will it affect amount of waste to landfill?</li> <li>Will it affect energy recovery from waste?</li> </ul>	<ul style="list-style-type: none"> <li>Tonnage recycled, composted and landfilled</li> </ul>
<b>Social</b>		
12. To maximise opportunities for new/ additional employment	<ul style="list-style-type: none"> <li>Will it to affect direct employment/ancillary employment in/to the waste industry?</li> </ul>	<ul style="list-style-type: none"> <li>Average earnings in waste industry</li> <li>Employment figures for waste</li> </ul>

		industry
13. To maintain/ improve health of the population overall	<ul style="list-style-type: none"> <li>Will it impact on the quality and quantity of footpaths?</li> <li>Will it affect human health?</li> <li>Will any composting facilities be sited within 250m of residential properties?</li> </ul>	<ul style="list-style-type: none"> <li>Consultants' reports: Air Quality Assessment Chapter 13.</li> <li>% of footpaths open to public</li> <li>HPA position statement on Municipal Solid Waste Incineration</li> <li>Enviros Report: Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes</li> <li>Healthy Sustainable Communities-what works?</li> </ul>
14. To minimise the impacts arising from the provision of waste facilities developments on where people live	<ul style="list-style-type: none"> <li>Will it cause a statutory nuisance, in terms of odour?</li> <li>Have noise control planning conditions been set?</li> <li>Will it affect the EPA1990 in terms of noise?</li> <li>Have dust control planning conditions been set?</li> <li>Will it affect the EPA1990, in terms of dust?</li> <li>Will it affect fly tipping in the County?</li> </ul>	<ul style="list-style-type: none"> <li>Number of human receptors</li> <li>Compliance with noise/dust control conditions</li> <li>Complaints relating to noise, dust and odour (Districts Env Health officers and SCC)</li> <li>Fly tipping statistics (SCC)</li> <li>Light pollution maps</li> </ul>
<b>Economic</b>		
15. To promote sustainable investment and economic growth in the County	<ul style="list-style-type: none"> <li>Will it impact on long-term investment in waste management infrastructure?</li> <li>Will it impact on an appropriate/adequate supply of land?</li> </ul>	<ul style="list-style-type: none"> <li>Employment land availability</li> <li>Amount of waste exported</li> <li>Amount of waste treated within county</li> </ul>
16. To promote efficient movement patterns within the county (rail or water where possible)	<ul style="list-style-type: none"> <li>Will it impact on road dependency?</li> <li>Will it affect alternative modes of transport of waste?</li> </ul>	<ul style="list-style-type: none"> <li>No of developments where a green travel plan is submitted/condition of development</li> </ul>

## Chapter 4: Appraisal Methodology

### Compatibility testing of Strategic Plan Objectives against the SA Objectives

- 4.1 Appendix 2 of this report shows a test of the aims and objectives of the Waste Core Strategy against the SA Objectives. The three SA Objectives are in red colour in the compatibility table to highlight their likely critical value. This can lead to assumptions used in making judgements on the identifying the likely significance of the effects of the plan later on. At the same time it is important to note that significance has to be determined individually in each case. Criteria should be used as guidance only.

#### Key

	Compatible
	Neutral
	Incompatible

- 4.2 The assessments in Appendix 2 are based on a symbol based system which indicates the degree of compatibility between SA Objectives and objectives of the plan.

### Predicting the effects of Policy Options and the proposed Strategic Sites against the SA Objectives

- 4.3 Testing the policy options and the proposed Strategic Sites against the 16 SA Objectives is presented in Appendix 4 and 5. It uses symbol based scoring system and provides a brief commentary explaining and expanding on the scoring. Effects are examined in terms of the short, medium and long-term.
- 4.4 It is useful to determine the importance of the SA objectives to highlight those which are judged to be particularly important to help focus the later stages of the SA. It was decided by the members of Suffolk Minerals and Waste Planning Policy Team that three SA objectives would be more critical than the others and would be highlighted in red colour in the tables throughout the appraisal. The assessments are based on a symbol based system which indicates the degree of compatibility of the SA Objectives.

#### Key

++	Very positive effect
+	Positive effect
0	Neutral effect
-	Negative effect
--	Very negative effect
?	Uncertain

**Cumulative and Synergistic effects of Policies and proposed Strategic Sites versus SA Objectives**

4.5 Testing of cumulative and synergistic effects of Policies and proposed Strategic Sites versus SA Objectives is presented in Tables 7 and 9. Table 8 analyses any synergistic and cumulative effects of the SA Objectives on each site as a whole, whereas Table 9 analyses any effects of the sites on each SA objective. Comments, where appropriate, have been made alongside each objective/site.

**Key**

<b>++</b>	<b>Very positive effect</b>
<b>+</b>	<b>Positive effect</b>
<b>0</b>	<b>Neutral effect</b>
<b>-</b>	<b>Negative effect</b>
<b>--</b>	<b>Very negative effect</b>
<b>?</b>	<b>Uncertain</b>

**Who carried out the SA**

4.6 Members of the Suffolk Sustainability Appraisal Group worked together during the initial stages of the Sustainability Appraisal process, identifying and scoping strategies and plans, collecting baseline data, and creating a common Sustainability Appraisal framework. The Waste Planning Authority (WPA) has refined this work, developing appropriate sustainability objectives in order to assess the policies and sites in the Waste Core Strategy. Suffolk County Council has already completed the Waste Scoping Report which was the first stage of the SA process, and Waste Core Strategy Issues and Options Parts I and II.

**Difficulties encountered**

4.7 There were some difficulties in carrying out the appraisal. The main problem was the data on Commercial and Industrial waste, which appeared to be complex and less comprehensive than the Municipal Waste data.