

Lincolnshire County Council Joint Municipal Waste Management Strategy

Strategic Environmental Assessment Scoping Report

October 2013

Produced for
Lincolnshire County Council



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Acronyms and Abbreviations

| | |
|------------------|---|
| AQMA | Air Quality Management Area |
| CHP | Combined Heat and Power |
| CO ₂ | Carbon Dioxide |
| DCLG | Department for Communities and Local Government |
| EfW | Energy from Waste |
| ha | Hectare |
| HRA | Habitats Regulation Assessment |
| JMWMS | Joint Municipal Waste Management Strategy |
| Kt | Kiloton |
| LCC | Lincolnshire County Council |
| LWP | Lincolnshire Waste Partnership |
| MSW | Municipal Solid Waste |
| Mt | Megaton |
| NO | Nitrogen Oxides |
| NO ₂ | Nitrogen Dioxide |
| ONS | Office of National Statistics |
| PM ₁₀ | Particulate Matter |
| PPP | Plans, policies and programmes |
| SAM | Scheduled Ancient Monument |
| SEA | Strategic Environmental Assessment |
| SUDS | Sustainable Urban Drainage System |
| UK | United Kingdom |

1 Introduction

1.1 Background

Lincolnshire County Council (LCC) commissioned Mouchel to undertake a Strategic Environmental Assessment (SEA) of the replacement Joint Municipal Waste Management Strategy (JMWMS) in July 2013.

LCC is a member of the Lincolnshire Waste Partnership (LWP) which is a body formed of LCC, the Environment Agency and the 7 district councils within Lincolnshire:

- Boston Borough Council
- City of Lincoln Council
- East Lindsey District Council
- North Kesteven District Council
- South Holland District Council
- South Kesteven District Council
- West Lindsey District Council

The current JMWMS for Lincolnshire was published by the LWP in June 2008, with the aim of providing information on the following:

- The current and future legal obligations that the partnership needs to meet;
- The waste management services that are currently provided;
- How the Partnership plans to meet the targets by reducing the amount of waste that is produced, increasing the amount of waste that is recycled and recovered, and minimising the amount of residual waste that is landfilled; and,
- How the Partnership plans to implement this strategy.

Since 2008, Lincolnshire has made significant progress towards achieving these aims through securing a 25 year contract with FCC Environment in March 2011, for the disposal of residual Municipal Solid Waste (MSW) and constructing a 150,000 tonne per annum Energy from Waste (EfW) facility at North Hykeham in Lincoln.

A revised waste strategy is therefore necessary to address the present waste management challenges in Lincolnshire and to address its future needs.

1.2 The SEA Process

The SEA process ensures that the environment is integral to the consideration of plans, policies and programmes. It ensures that significant environmental effects are identified, assessed, mitigated, communicated to decision-makers, monitored and that opportunities for public involvement are provided.

1.3 The Scoping Report

The purpose of this report is to present the scoping stage of the SEA process. It provides the context and baseline information, a starting point from which to appraise the effects of implementing the JMWMS.

To provide a sound basis for analysis, the report sets out:

- other plans, programmes and environmental objectives relevant to the JMWMS;
- baseline information, either collected or still needed, with notes on sources and any problems encountered in gathering the information;
- the key environmental considerations and opportunities; and
- a set of SEA objectives that take into account the relationship between the JMWMS and the objectives of other plans and programmes, along with the findings of the baseline information review. These objectives will form the basis of the SEA framework within which the assessment of the JMWMS will be undertaken.

1.4 Consultation

It is important that the scope of the SEA is appropriate for the documents being produced. For this reason, consultation is a critical step in the scoping process. The aim of the consultation on the Scoping Report is to involve and engage with statutory consultees and other key stakeholders on the scope of the assessment, in the light of the information it contains. This Scoping Report will be subject to a five-week consultation. In considering the report, consultees will be asked to address the following questions:

- Question 1 - Have all relevant plans, policies and programmes been considered?
- Question 2 - Does the baseline information reflect the current situation in the JMWMS area or are there additional social, environmental or economic factors that should be considered?
- Question 3 - Do the issues identified in this report cover all the significant environmental and sustainability issues relevant to the JMWMS area?
- Question 4 - Do the SEA objectives reflect the right aspirations for development of more sustainable approaches to waste management?

1.5 Legislative Requirements

1.5.1 Strategic Environmental Assessment

In the European Union an SEA is required for all member states on all plans and programmes by European Community Directive (2001/42/EC) 'on the assessment of the effects of certain plans and programmes on the environment', known as the 'SEA Directive'. The Directive is implemented in England through the Environmental Assessment of Plans and Programmes Regulations (Statutory Instrument (SI) 1633 2004).

An SEA of a Waste Strategy is a minimum requirement of Defra, with authorities obliged to consider whether a wider Sustainability Appraisal (SA) is necessary.¹

1.5.2 Waste and Emissions Trading Act

The Waste and Emissions Trading Act 2003 requires two-tier areas such as Lincolnshire to have a joint strategy for the management of municipal waste in place before April 2005. Waste Management Strategies require a review every 5 years to ensure that they remain current.¹

¹ Defra, Guidance on Municipal Waste Management Strategies, July 2005

2 Lincolnshire Joint Waste Management Strategy

2.1 Study Area

The study area covers the county of Lincolnshire, incorporating the districts of Boston, City of Lincoln, East Lindsey, North Kesteven, South Holland, South Kesteven and West Lindsey.

The county is predominantly rural and has a geographical area of 2,309 sq miles. The main urban area is around the city of Lincoln which is a cathedral town with a rich history dating back to Roman times. Other centres of population include Gainsborough, Louth, Mablethorpe, Skegness, Boston, Sleaford, Grantham, Stamford and Spalding.

Lincolnshire's coastline contains some of the country's most versatile agricultural land, a successful tourism industry and internationally-renowned nature conservation sites.

2.2 Purpose and Objectives of the JMWMS

The JMWMS seeks to provide a mechanism by which joint working by the districts and LCC, as well as the Environment Agency, can be achieved to deliver sustainable waste management services and establish best value waste management practices.

The framework provided by the JMWMS allows the LWP to continually improve the waste services offered, minimise costs and meet challenging recycling and landfill diversion targets.

The LWP has developed and agreed a set of high level objectives to assist in delivering the current JMWMS and these are set out below:

1. To prevent the growth in municipal waste by promoting waste reduction and reuse initiatives to ensure no more than 225kg of residual household waste per person per year is produced by 2020.
2. To promote waste awareness through co-ordinated public education and awareness campaigns, and effective community engagement.
3. Across Lincolnshire to achieve 55% recycling and composting by 2015.
4. Across Lincolnshire to achieve a uniform dry recyclables waste stream by 2013.
5. To increase progressively the recovery and diversion of biodegradable waste from landfill, to meet and exceed the Landfill Directive diversion targets.
6. To ensure that residual waste treatment supports energy recovery and other practices higher up the waste hierarchy.
7. To deliver best value for money, waste management services, addressed on a countywide basis.

8. To engage with local businesses to encourage the reduction and recycling of commercial waste.
9. To engage actively, lobby and work with local, national, governmental and other organisations on sustainable waste management issues.
10. As Local Authorities to set an example by preventing, reusing, recycling and composting our own waste and using our buying power to encourage positively sustainable resource use.

2.3 Scope of the JMWMS

The new JMWMS will focus on a range of waste management measures as follows:

- kerbside recycling;
- garden waste collection;
- minimising residual waste;
- increasing re-use;
- maximisation of income stream;
- wider integrated working across Lincolnshire;
- food waste collection;
- reduced carbon impacts; and
- minimising contamination.

The JMWMS will also consider wider issues around population growth and how waste management will need to respond commensurately in an environmental and sustainable manner. The JMWMS may also consider the development of waste management facilities although substantial development was achieved within the current waste management strategy.

3 SEA Methodology

3.1 Approach to the SEA

This scoping report has been developed in accordance with guidance set out in the 'Practical Guide to Strategic Environmental Assessment Directive' (Department for Communities and Local Government (DCLG), previously Office of the Deputy Prime Minister; 2005). The DCLG SEA guidance outlines five sequential steps, which are listed in Table 3-1. This report presents the findings of Task A1 to A4 of the SEA process.

Table 3-1 SEA Stages

| SEA Stages | SEA Tasks |
|--|--|
| Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope. | • A1: Identifying other relevant policies, plans and programmes |
| | • A2: Collecting baseline information |
| | • A3: Identifying environmental considerations |
| | • A4: Developing the SEA objectives |
| | • A5: Consulting on the scope of the SEA |
| Stage B: Developing and refining options and assessing effects | • B1: Testing the JMWMS objectives against the SEA objectives |
| | • B2: Developing the alternatives |
| | • B3: Predicting the effects of the JMWMS including alternatives |
| | • B4: Evaluating the effects of the JMWMS including alternatives |
| | • B5: Considering ways of mitigating adverse effects |
| | • B6: Proposing measures to monitor the environmental effects of implementing the JMWMS |
| Stage C: Environmental Report | • C1: Preparing the Environmental Report |
| Stage D: Consulting | • D1: Consulting on the JMWMS and the Environmental Report |
| | • D2 (i): Assessing significant changes |
| | • D2 (ii): Appraising significant changes resulting from representations |
| | • D3: Making decisions and providing information |
| Stage E: Monitoring the significant effects of implementing the plan on the environment | • E1: Finalising aims and methods for monitoring |
| | • E2: Responding to adverse effects |

The DCLG guidance has been used in conjunction with other best practice guidelines including Sustainability Appraisal and the Historic Environment (English Heritage). In addition, Defra's 'Guidance on Municipal Waste Management Strategies' has also been considered.

3.2 Habitats Regulations Assessment

The JMWMS is a high level document which will potentially consider the development of waste infrastructure, and therefore could require assessment under the Habitats Regulations. If this is undertaken, it would be possible to determine whether the strategy could lead to potentially significant effects on Natura 2000 sites.

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4 Identifying Other Relevant Policies, Plans and Programmes – Task A1

4.1 Introduction

The first stage of the scoping process is to identify and review other relevant policies, plans and programmes (PPP). The JMWMS will be set in the context of a wide range of other relevant plans, programmes and environmental objectives both within and outside LCC's jurisdiction.

The purpose of the review exercise is to establish and take account of any environmental objectives at international, national, regional, sub-regional, or local levels that will inform the SEA and therefore the development of the JMWMS. It will ensure that any potential policy conflicts or synergies can be identified at an early stage. This provides an opportunity for the JMWMS to be adapted to reduce or eliminate potential conflicts and enhance synergies.

A wide range of PPPs has been identified during the scoping stage of the SEA and these are set out in Appendix A.

5 Baseline Information – Task A2

5.1 Introduction

The next task in the SEA covers the collection of baseline information which seeks to establish the current environmental status of the study area covered by the JMWMS, and to identify trends in environmental parameters. This information is then used to assess current environmental and sustainability issues that are evident in the area. The baseline information is intended to provide a basis for predicting and monitoring the effects of implementation of the strategy.

5.2 Environmental Topics

In order to focus the SEA on key issues that require detailed analysis, an initial sifting exercise has been undertaken to avoid including environmental topics (including baseline information or plans and programmes concerning these themes), which are of no clear relevance to the JMWMS. The environmental components that are unlikely to be significantly affected by the JMWMS have therefore been ‘scoped out’ of the assessment at this stage. Other issues can be added, either during the scoping stage or later on, if it transpires that the JMWMS may have a significant effect on them. Table 5-1 below details individual environmental topics relevance to the JMWMS and whether it has been ‘scoped in’ or ‘scoped out’ of the SEA.

Table 5-1 Environmental Topics scoped into, or out of, the SEA Process

| Topics Covered in the SEA | Relevance to the JMWMS | Scoped In/ Out |
|--------------------------------------|---|----------------|
| Climatic Factors | Waste management decisions informed by the Strategy have the potential to impact on Lincolnshire’s Greenhouse Gas (GHG) emission levels. For example, reducing the mileage of the collection fleet would result in a fall in carbon emissions. Alternatively, increasing the percentage of recyclables captured within the collection regimes will move waste up the hierarchy and in all likelihood reduce carbon emissions. | In |
| Air Quality | The JMWMS will need to consider any impacts of operational processes on air quality, particularly due to the nature of waste collections which rely on vehicles and the transport network. Local air quality is largely influenced by transport and HGVs are an important source of both NO ₂ and PM ₁₀ emissions. Furthermore, the effects of composting may have an impact on air quality which will need to be assessed accordingly. | In |
| Noise | Waste management is unlikely to have significant effects on noise levels due to the nature of the strategies proposed in the JMWMS. These do not involve any construction, but instead promote recycling, garden waste collection and composting. Noise has therefore been scoped out of the process at this stage. | Out |
| Biodiversity, Flora and Fauna | Biodiversity, flora and fauna is unlikely to be significantly affected by the JMWMS as there are no policies or objectives that will influence land use or | Out |

| | | |
|--------------------------|--|-----|
| | management. Biodiversity, flora and fauna has therefore been scoped out of the process at this stage. | |
| Geology and Soils | Measures contained in the JMWMS involve collection of garden waste and composting may have the potential to affect the composition of soils. An increase in the collection of green waste and the subsequent creation of compost can therefore potentially benefit soils. | In |
| Water | Water Quality and Flood Risk It is unlikely the JMWMS will impact on both surface and groundwater quality and supply in Lincolnshire. In addition, it is not considered that the waste management processes being promoted in the JMWMS will have an impact in terms of flood risk. The water environment has therefore been scoped out of the process at this stage. | Out |
| Population | The JMWMS will need to consider the needs of the existing and future population of Lincolnshire, particularly in relation to promoting waste awareness. Waste management decisions may have potential impacts on transport networks, and on the local economy. | In |
| Material Assets | Waste management operations may impact on material assets, related to transport and social infrastructure e.g. hospitals, roads, residential areas etc. | In |
| Cultural Heritage | Waste management operations may change the pattern and frequency of waste collections which may impact on areas of heritage value. For example, the setting of listed buildings and Historic Landscape Areas may be affected by the location of wheeled bins or other refuse collection infrastructure. If these were placed in an inappropriate location the setting of the historic asset could be adversely affected. | In |
| Landscape | The visual impact of waste collection options, whilst possibly having an impact upon listed buildings, as detailed above, is unlikely to be significant when compared with the wider landscape. Landscape has therefore been scoped out of the process at this stage. | Out |

The baseline data collected in relation to all the topics above can be found in Appendix B of this scoping report. A summary of the key environmental issues in Lincolnshire which have been identified from the review of the policies, plans and programmes and through an assessment of the baseline data can be found in Section 6 of this report.

5.3 Data Limitations

It should be noted that there is a large amount of environmental information available; this assessment has selected information on the basis that it may be influenced or affected by the JMWMS.

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6 Identifying Environmental Issues – Task A3

The review of PPPs and collection of baseline data has assisted in identifying environmental considerations that should be taken into account during the development of the Lincolnshire JMWMS. Table 6-1 below summarises the key environmental considerations that have been identified to date. It should be noted this is an on-going process that will continue as the SEA and JMWMS develops.

It should be noted that not all of the key environmental considerations that are present within Lincolnshire have been addressed in Table 6-1 and this is because the JMWMS will have very limited or insignificant ability to influence decision making relative to these parameters. These have been identified below:

- Healthcare priorities - the strategy will not be able to influence matters relating to human health such as promoting active lifestyles or reduced smoking.
- Tourism - whilst it is acknowledged that tourism is a major factor of the Lincolnshire economy, the JMWMS will not be able to influence the promotion of additional measures to develop tourism further in the county, nor will tourism be likely to be discouraged through any measures proposed and promoted by the JMWMS.
- Mineral Extraction – although Lincolnshire has valuable mineral assets that form an important contributor to the local economy, it is not considered that the JMWMS will be able to influence the use, preservation or development of mineral assets further through any of the policies that it promotes.

Table 6-1 Key Environmental Considerations

| Key Environmental Considerations | Opportunities / Constraints for the Lincolnshire JMWMS |
|--|--|
| Climatic Factors | |
| CO ₂ emissions are lower in Lincolnshire than in the East Midlands region in 2011. This figure has reduced from levels recorded in 2005. | The JMWMS will need to ensure that it promotes waste management activities that minimise impacts on climate change, minimise GHG emissions and enable the wise use of natural resources. This could be through reduced waste miles for the collection fleet or more efficient use of materials. |
| Planning applications for renewable energy measures have increased although the visual impact of these measures is being challenged. | Lincolnshire has good renewable energy potential. It is important that waste management decisions consider the current and future renewable energy infrastructure. There is the potential to increase capacity from renewable energy resources through biomass initiatives which can involve the use of municipal waste and/or garden waste. |
| Climate change could have potential impacts on Lincolnshire's coastal areas, agricultural areas and transport infrastructure. | The JMWMS will need to ensure that it promotes waste management activities that minimise impacts on climate change, minimise GHG emissions and enable the wise use of natural resources. |
| Air Quality | |
| Air quality is considered to be good, although there are 6 AQMAs within the county, established primarily as a result of pollution from traffic emissions. | The JMWMS should seek to ensure that its operations do not impact negatively on the ability of Lincolnshire to retain its current levels of air quality. The transport implications of its waste management services will need to be carefully examined to consider opportunities for contributing towards the improvement of local air quality. |
| Geology and Soils | |
| Lincolnshire contains a wide variety of soils that are used to support an important agricultural sector. | The JMWMS will need to consider the potential effects of objectives and actions on local soils. At a small scale, garden waste collections and increased composting activities, for example, could provide positive |

| Key Environmental Considerations | Opportunities / Constraints for the Lincolnshire JMWMS |
|--|--|
| | benefits for soil composition or the promotion of home composting could improve local soil quality. |
| Population | |
| The population of Lincolnshire has increased by 63,200 people in the ten year period to 2012. A breakdown of this data shows that the county continues to have an ageing population and is less ethnically diverse than other areas. | The JMWMS will need to consider the impact of rising population levels and how the waste generated will be addressed. The JMWMS will need to understand the main areas affected and ensure that waste management operations are planned accordingly. |
| Deprivation across Lincolnshire has worsened slightly from 2007 to 2010. | The JMWMS will need to ensure that its proposed measures do not exacerbate deprivation levels and where possible, provide improvements to all residents. |
| The economy of Lincolnshire has not been affected in the economic downturn to the extent that has occurred nationally. However, many businesses have reported difficult trading conditions. | There is an opportunity for the JMWMS to respond positively to the economic climate in determining how its operations will be organised and run. There is also an opportunity to provide training and apprenticeships to young people or those looking for work to expand their skills base. |
| Material Assets (includes critical infrastructure, transport, access, housing, land-use and waste) | |
| Increasing demand on the transport network and an increase in concern around the environmental impact of traffic. | It is essential to ensure that the JMWMS considers issues around waste transportation to both enable appropriate waste management across the county and limit its impact where possible. |
| Waste collection and disposal results in lorry movements into and out of the county to waste management facilities. Regular collections are required from households and with the number of households increasing and the total amount of waste increasing; there is the potential for an impact on transport. | It is essential to ensure that the JMWMS considers issues around waste transportation to enable appropriate waste management across the county. |
| New housing and employment sites being identified across the county, | It is essential to ensure that the JMWMS considers such issues regarding |

| Key Environmental Considerations | Opportunities / Constraints for the Lincolnshire JMWMS |
|--|---|
| | <p>the increasing number of households and corresponding increases in waste generation and waste transportation to enable appropriate waste management across the County.</p> <p>The JMWMS will need to ensure that waste operations are flexible and can respond to new developments across the county. Any waste related matters that can be influenced at the planning stage for new housing and employment development, that could have positive impacts on the environment should be considered.</p> |
| <p>Lincolnshire contains a significant amount of best and most versatile agricultural land and is a large producer of produce.</p> | <p>The JMWMS needs to consider protection for agriculture and the infrastructure required for transportation. In addition, the ability of agricultural operations to contribute to elements of the waste strategy, such as composting activities, should be explored through the JMWMS.</p> |
| Cultural Heritage | |
| <p>Lincolnshire has a large number of heritage assets including 162 conservation areas, 7200 listed buildings and 478 scheduled ancient monuments across the county. There are also 42 Historic Character Zones.</p> | <p>The JMWMS should ensure that waste management operations should not have adverse visual or other impacts on the heritage resource of the County and where possible enhance/ protect it further.</p> |

7 Developing the Strategic Environmental Assessment Framework

This scoping report has taken into account the wide range of plans and programmes in Appendix A and information collected in chapter 5 to produce a robust list of SEA objectives covering the topic areas listed in the SEA Directive below:

- Climatic Factors;
- Air Quality;
- Geology and Soil;
- Population;
- Material Assets; and
- Cultural Heritage.

As detailed in Table 5-1, the SEA Directive topics Noise, Water and Landscape have been scoped out of the assessment at this stage and no further assessment of these topics will take place. As such there are no SEA objectives relating to noise, water and landscape.

The SEA framework provides a method for describing, analysing and comparing the environmental and sustainability effects of plans and policies. A series of SEA objectives has been developed, taking into account the relationship between the JMWMS and the objectives of other plans and programmes, along with the findings of the review of baseline data. These objectives will form the basis for the SEA framework within which the evaluation of the JMWMS objectives and actions will be carried out. These are contained within Table 7-1 below.

These SEA objectives will be sent out for consultation with the statutory bodies and relevant stakeholders to ensure that all relevant plans and programmes have been considered and incorporated.

Following consultation, the SEA objectives will be updated and will undergo compatibility testing which will indicate if they are compatible with each other. The outcome of the testing does not invalidate the objectives, but instead identifies the areas which may require particular attention when developing alternative approaches in the future.

Potential indicators relating to each SEA objective are also set out in Table 7-1. It is anticipated that the indicators will be reviewed and revised during the SEA process and take into account comments received during consultation on the scoping report and any issues arising from the assessment of the JMWMS.

Table 7-1 SEA Objectives and Potential Indicators

| SEA Objectives | Potential Indicators | Responsible Authority for collecting information |
|---|--|--|
| Climatic Factors | | |
| 1. Contribute to reduced carbon emissions from energy use. | Amount of fuel used in waste management collections per annum. | Local Authority |
| 2. Waste management collection infrastructure contributes to the circular economy through the use of recycled materials. | Percentage recycled content of new waste/recycling containers per annum | Local Authority |
| Air Quality | | |
| 3. To prevent deterioration of air quality within the county and where possible make improvements. | Percentage of Euro VI engines, electric vehicles, hybrid vehicles, biogas or hydrogen fuelled vehicles operating on behalf of the local authorities in a waste management related capacity per annum | Local Authority |
| Geology and Soil | | |
| 4. Promote the conservation and wise use of land, and protect soil quality and quantity. | Tonnes of green waste that is used as compost per annum | Local Authority |
| | Fly tipping incidents per annum | Environment Agency/Local Authority |
| Population | | |
| 5. To encourage economic investment through waste management. | Monetary value of new waste management infrastructure developed per annum | Local Authority |
| 6. To ensure that the growing population of Lincolnshire does not lead to an increase in the percentage of waste disposed of. | Total percentage of waste recycled and composted per annum | Environment Agency/Local Authority |
| | Total percentage of waste recovered per annum | Environment Agency/Local Authority |

| SEA Objectives | Potential Indicators | Responsible Authority for collecting information |
|---|---|--|
| 7. To encourage material re-use/waste avoidance. | Waste generated per capita per annum | Environment Agency/Local Authority |
| 8. To ensure sustainable use of resources through effective waste management. | Amount of energy generated by the EfW (as a measure of non-combustible diversion rates) per annum | Local Authority |
| | Amount of heat exported from the EfW. | Local Authority |
| | Percentage of contaminated material per month (as an indicator of resources lost to less sustainable management) | Local Authority |
| Material Assets | | |
| 9. To facilitate opportunities for recycling within residential development. | Proportion of housing scheme planning approvals where dedicated waste management storage considerations are included in the application per annum | Local Planning Authority |
| 10. To protect agricultural resources from waste management activities | Area of agricultural land lost to waste management uses per annum | Local Authority |
| Cultural Heritage | | |
| 11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage) | Support or neutral opinions on planning applications for waste management infrastructure from consultees in the cultural heritage sectors | Local Planning Authority |
| | New waste collection programmes implemented with consideration for impacts upon cultural assets per annum | Local Authority |

8 Next Steps

8.1 Consultation

The SEA Regulations require that the following three statutory consultation bodies be consulted with regards to the scope and level of detail of the environmental information contained within the SEA scoping report. The consultation bodies are;

- The Environment Agency;
- Natural England; and
- English Heritage.

It is also considered appropriate for other bodies, which reflect a balance of social, economic and environmental interests, to be consulted. These will be identified as the new JMWMS is prepared.

The scoping report will be sent to all the Statutory Consultees, as set out above, for a five week consultation period and all consultation responses received will be used to inform the SEA Environmental Report (Stage B). The scoping report will be made available on the local authority web site.

8.1.1 Next Steps

During Stage B (See Table 3.1) of the SEA process the objectives and actions of the JMWMS will be appraised by the SEA Framework and all the results, recommendations and mitigation will be summarised in an Environmental Report and incorporated into the JMWMS where appropriate.

9 Appendix A: Relevant Plans, Policies and Programmes

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Table 9-1 Relevant Plans, policies and programmes

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|--|-------------------|
| International | | | |
| World Heritage Convention in 1972. | 12 | To ensure, as far as possible, the proper identification, protection, conservation and presentation of the world's heritage, the Member States of UNESCO adopted the World Heritage Convention in 1972. The Convention foresees the establishment of a "World Heritage Committee" and a "World Heritage Fund". Both the Committee and the Fund have been in operation since 1976. | Cultural Heritage |
| European Convention on the Protection of the Archaeological Heritage revised 1985 | 12 | <ul style="list-style-type: none"> The aim of this (revised) Convention is to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study. To this end shall be considered to be elements of the archaeological heritage all remains and objects and any other traces of mankind from past epochs: the preservation and study of which help to retrace the history of mankind and its relation with the natural environment; for which excavations or discoveries and other methods of research into mankind and the related environment are the main sources of information; and which are located in any area within the jurisdiction of the Parties; The archaeological heritage shall include structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water. | Cultural Heritage |
| UN Conference on Environment and Development, Rio 1992 | All | Requirement that new development should be sustainable. | General |
| Kyoto Protocol to the UN Framework | 1, 2 | Improved energy efficiency. Lower carbon intensive forms of energy supply (energy and transport). Reduced industrial process emissions. Improved agricultural practices and livestock management. Management of | Climatic Factors |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|--|------------------------|
| Convention on Climate Change (1997) | | biodegradable waste. | |
| Report of the World Summit on Sustainable Development. UN Johannesburg (2002) | All | The report aims to reverse the trend in the loss of natural resources, encouraging waste reduction and producer responsibility. It also plans to tackle climate change and energy and to promote sustainable communities. | General |
| European | | | |
| Waste Framework Directive (2008/98/EC) | 10, 11 | Repeals the previous directive 2006/12 on waste and directives 75/439/EEC and 91/689/EEC regarding waste oils and hazardous waste respectively. It introduces new provisions in order to boost waste prevention and recycling as part of a waste hierarchy and clarifies key concepts namely, the definitions of waste, recovery and disposal and lays down appropriate procedures applicable to by-products and to waste that ceases to be waste. | Waste, Material Assets |
| Landfill Directive (1999/31/EC) | 10, 11 | Sets out sets mandatory targets for the reduction of biodegradable municipal waste sent to landfill. | Waste, Material Assets |
| Directive on packaging and packaging waste (94/62/EEC) | 10, 11 | This Directive aims at reducing packaging waste in the European Community. Member States are required to prevent the formation of packaging waste and to develop packaging reuse systems, which reduce their impact on the environment. | Waste, Material Assets |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|---|--|
| Waste Electrical and Electrical Equipment Directive (2002/96/EC) | 10, 11 | The directive aims to minimise the impact of electrical and electronic goods on the environment. It looks to increase re-use and recycling of waste electrical and electronic goods by also reducing the amount going to landfill. It seeks to achieve this by making producers responsible for financing the collection, treatment, and recovery of waste electrical equipment, and by obliging distributors to allow consumers to return their waste equipment free of charge. | Waste, Material Assets |
| Industrial Emissions Directive (2010/75/EU) | 10, 11 | The intention of the Directive is to provide a consistent, best available technique (BAT) based approach to the regulation of waste treatment techniques which can be used both for disposal and for recovery and which have the potential to cause environmental damage if they are not appropriately controlled. | Waste, Material Assets |
| Waste Incineration Directive (2000/76/EC) | 10, 11 | Aims to prevent or limit as far as practicable the negative effects of waste incineration on the environment, in particular pollution by emissions into air, soil, surface water and groundwater and the resulting risks to human health, from the incineration and co-incineration of waste. | Waste, Material Assets |
| Directive on Batteries (2006/66/EC) | 10, 11 | A new Directive on batteries was published in September 2006 includes the UK. The original batteries Directive (91/157/EEC) only covered consumer batteries containing mercury, lead, and cadmium above a certain threshold level. The new directive will require collection schemes (financed by battery manufacturers) to be set up, and these will need to collect 25% of household batteries by September 2012 and 45% by September 2016. The UK is currently recovering less than 1% of household batteries. | Waste, Material Assets |
| The IPPC Directive, concerning integrated pollution prevention and control (2008/1/EC) | 3, 5, 6, 7, 8, 9 | To prevent, reduce and eliminate pollution at source through the efficient use of natural resources. It is intended to help industrial operators move towards greater environmental sustainability. It sets standards and target dates for reducing concentrations of fine particles, which together with coarser particles known as PM10 already subject to legislation, are among the most dangerous pollutants for human health. | Air Quality, Population and Human Health |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|--|
| Directive 1966/62/EC on ambient air quality and management | 3, 5, 6, 7, 8, 9 | Establishes mandatory standards for air quality and sets limits and guide values for sulphur and nitrogen dioxide, suspended particulates and lead in air. | Air Quality, Population and Human Health |
| Directive 2008/50/EC on ambient air quality and cleaner air for Europe | 3, 5, 6, 7, 8, 9 | This directive establishes new air quality objectives for PM2.5 (fine particles), the possibility to discount natural sources of pollution and for time extensions of PM10 or up to five years (NO2, benzene) for complying with limit values, based on conditions and the assessment by the European Commission. | Air Quality, Population and Human Health |
| Green Paper: A European strategy for sustainable, competitive and secure energy (2006) | 1, 2 | Commission proposes a common European energy policy which will enable Europe to face the energy supply challenges of the future and the effects these will have on growth and the environment. This document aims to strike a balance between economic development and the quality and safety demands made by society in order to develop a modern, sustainable transport system for 2010. | Climatic Factors |
| European Landscape Convention 2000 | 12 | The European Landscape Convention introduced the concept of "landscape quality objectives" into the protection, management and planning of geographical areas. Members of the council noted that the landscape has an important public interest role in the cultural, ecological, environmental and social fields, and constitutes a resource favourable to economic activity and whose protection, management and planning can contribute to job creation. It also noted that developments in agriculture, forestry, industrial, mineral production techniques, in regional planning, town planning, transport, infrastructure, tourism, recreation and, at a more general level, changes in the world economy are in many cases accelerating the transformation of landscapes. | Cultural Heritage |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|--|-----------------------------------|
| EC Sustainable Development Strategy Revision (2005) | All | <ul style="list-style-type: none"> • Combat climate change • Ensure sustainable transport • Address threats to public health • Manage natural resources more responsibly and stop biodiversity decline • Combat poverty and social exclusion • Meet the challenges of an ageing population | General |
| Nitrates Directive (91/676/EEC) | 4, 5, 6, 7, 8, 9 | Prevention of eutrophication and water pollution Human health and ecosystem protection. Nitrate Vulnerable Zones (NVZs) designated in vulnerable sites. | Soil, Population and Human Health |
| National | | | |
| Government Review of Waste Policy in England 2011 | | <p>This Government review sets out 13 commitments to progress towards a zero waste economy. It prioritises efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste.</p> <p>As part of a more sustainable approach to the use of materials, delivering environmental benefits and supporting economic growth, the review aims to:</p> <ul style="list-style-type: none"> • Prioritise efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste; • Develop a range of measures to encourage waste prevention and reuse, supporting greater resource efficiency; • Develop voluntary approaches to cutting waste, increase recycling, and improve the overall quality of recycle material, working closely with business sectors and the waste and material resources industry; • Consult on the case for higher packaging recovery targets for some key materials; • Support energy from waste where appropriate, and for waste which cannot be recycled; • Work to overcome the barriers to increasing the energy from waste which Anaerobic Digestion provides, | |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|------------------------|--|--|-----------|
| | | <p>as set out in the new AD strategy;</p> <ul style="list-style-type: none"> • Consult on restricting wood waste from landfill and review the case for restrictions on sending other materials to landfill. <p>To improve the service to householders and businesses while delivering environmental benefits and supporting growth the review aims to:</p> <ul style="list-style-type: none"> • Support initiatives which reward and recognise people who do the right thing to reduce, reuse and recycle their waste; • Work with councils to increase the frequency and quality of rubbish collections and make it easier to recycle; • Encourage councils to sign the new Recycling & Waste Services Commitment, setting out the principles they will follow in delivering local waste services; • Protect civil liberties by stopping councils from criminalising householders for trivial bin offences, while ensuring that stronger powers exist to tackle those responsible for flytipping and serious waste crime; • Support councils and the waste industry in improving the collection of waste from smaller businesses; • Reduce the burden of regulation and enforcement on legitimate business, but target those who persistently break the law. | |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|---|-----------|
| The Waste (England and Wales) Regulations 2011 | | The Waste Regulations transpose the revised WFD into national law and they seek to ensure that the waste hierarchy is implemented – prevention, preparing for reuse, recycling, other recovery and disposal. | |
| Waste (England and Wales) (Amendment) Regulations 2012 | | The amended regulations relate to the separate collection of waste. They amend the Waste (England and Wales) Regulations 2011 (above) by replacing regulation 13. From 1 January 2015, waste collection authorities must collect waste paper, metal, plastic and glass separately. The amendment also imposes a duty on waste collection authorities, from that date, when making arrangements for the collection of such waste, to ensure that those arrangements are by way of separate collection. | |
| Environmental Protection Act 1990 | | The Environmental Protection Act provides the structure and authority for waste management and the control of emissions into the environment. | |
| The Natural choice – Securing the Value of the Nation (2011, Defra) | | <p>This document seeks to promote the valuing of the natural environment for the social and economic benefits it brings. Defra are seeking to mainstream the value of nature across our society by:</p> <ul style="list-style-type: none"> • facilitating greater local action to protect and improve nature; • creating a green economy, in which economic growth and the health of our natural resources sustain each other, and markets, business and Government better reflect the value of nature; • strengthening the connections between people and nature to the benefit of both; and • showing leadership in the European Union and internationally, to protect and enhance natural assets globally. | |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|---|-----------------------------|
| The Site Waste Management Plans Regulations (2008) | 10, 11 | <p>This Regulations require any construction project in England costing over £300k (be it for new build, maintenance, alteration or installation/removal of services such as sewerage, water) will need a Site Waste Management Plan (SWMP). A SWMP sets out how building materials, and resulting waste, is to be managed during the project.</p> <p>The SWMP's purpose is to ensure that: building materials are managed efficiently; waste is disposed of legally; and that material recycling, reuse and recovery is maximised.</p> <p>It is the client's responsibility to ensure a SWMP is written, followed, and updated during the project. Although the plan needs to be written at the construction design stage, it is a requirement of the SWMP regulations to maintain it during the whole project. Therefore, the client (or principal contractor) is also responsible for updating the plan with the site day to day activity. There will be two types of SWMP depending on the cost of the project:</p> <ol style="list-style-type: none"> 1. A project costing between £300 - £500k will follow a basic template 2. Anything over £500k will require a much greater level of detail. | Material Assets, Waste |
| PPS10 Planning for Sustainable Waste Management ODPM (2011) | 10, 11 | Regional planning bodies and all planning authorities should, to the extent appropriate to their responsibilities, prepare and deliver planning strategies that (amongst other priorities) help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for. | Material Assets, Waste |
| Clean Neighbourhoods and Environment Act (2005) | 10, 11 | The Act provides local authorities, parish and community councils and the Environment Agency with more effective powers and tools to tackle poor environmental quality and anti-social behavior. In particular the Act includes sections on nuisance and abandoned vehicles, litter, graffiti, waste, noise and dogs. The section on waste covers flytipping, and enables local authorities to issue fixed penalty notices if waste is left out on the street. | Waste |
| Achieving a Better Quality of Life – Review of Progress Towards Sustainable Development | 5, 6, 7, 8, 9 | 15 Headline Indicators of sustainable development. 147 Quality of Life Counts indicators. Headline Indicators not being met in crime – robbery, air quality, road traffic and volumes of household waste. | Population and Human Health |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|---|--|
| DEFRA (2004) | | | |
| Delivering a Sustainable Transport System Department for Transport (2008) | 1, 2, 3, 5, 6, 7, 8, 9 | <ul style="list-style-type: none"> • Support national economic competitiveness and growth, by delivering reliable and efficient transport networks; • Reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change; • Contribute to better safety, security and health and longer life-expectancy by reducing the risk of death, injury, or illness arising from transport and by promoting travel modes that are beneficial to health; • Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society; • Improve quality of life for transport users and non-transport users, and to promote a healthy natural environment. | Population and Human Health, Transport |
| Low Carbon Transport – A Greener Future A Carbon Reduction Strategy for Transport Department for Transport (2009) | 1, 3 | <ul style="list-style-type: none"> • Supporting a shift to new technologies and fuels • Promoting lower carbon transport choices • Using market-based measures to encourage a shift to lower carbon transport | Transport |
| Delivering Sustainable Low Carbon Travel: An Essential Guide for Local Authorities Department for Transport (2009) | 1, 3 | <ul style="list-style-type: none"> • Creating positive choices for travellers; • A holistic package of measures, which 'lock-in' the benefits; and • Local application tailored to local circumstances. | Transport |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|---|-----------------------------|
| Saving Lives: Our Healthier Nation White Paper (DoH 1999) | 5, 6, 7, 8, 9 | Promotion of health and the prevention of ill-health. Four priority areas – Cancer, Coronary Heart Disease and Stroke, Accidents and Mental Health. Address the underlying causes of ill-health, such as poverty, wordlessness, poor educational achievement, poor housing. | Population and Human Health |
| Culture at the Heart of Regeneration DCMS (2004) | 5, 6, 7, 8, 9 | 3 priority areas: <ul style="list-style-type: none"> • Building partnerships across government, the private and voluntary sectors and culture and regeneration practitioners. • Supporting delivery by spreading good practice and measuring outcomes. • Strengthening evidence to find coherent and robust methods for measuring impacts. | Population and Human Health |
| Government Rural White Paper: Our Countryside – the Future – a Fair Deal for Rural England DETR (2000) | 5, 6, 7, 8, 9 | <ul style="list-style-type: none"> • A living countryside, with thriving rural communities and access to high quality public services; • A working countryside, with a prosperous and diverse economy, giving high and stable levels of employment; • A protected countryside, in which the environment is sustained and enhanced, and which all can enjoy; • A vibrant countryside which can shape its own future and whose voice is heard by government at all levels. | Population and Human Health |
| Government Urban White Paper: Our Towns and Cities: the Future – Delivering an Urban Renaissance. DETR (2000) | 5, 6, 7, 8, 9 | <ul style="list-style-type: none"> • People shaping the future of their community, supported by strong and truly representative local leaders; • People living in attractive, well kept towns and cities which use space and buildings well; • Good design and planning which makes it practical to live in a more environmentally sustainable way; • Towns and cities able to create and share prosperity; • Good quality services – health, education, housing, transport, finance, shopping, leisure and protection from crime. | Population and Human Health |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|----------------------------------|
| The Air Quality Strategy for England, Scotland, Wales and Northern Ireland DETR (2000) | 5, 6, 7, 8, 9 | Government's and the devolved administrations' ultimate objective is to "render polluting emissions harmless". A number of set objectives for protecting human health to be included in regulations for the purposes of Local Air Quality Management relating to concentrations of, amongst others, carbon monoxide, lead, nitrogen dioxide, ozone and particulates. | Air, Population and Human Health |
| Our energy future – creating a low carbon economy. Energy White Paper DTI (2003) | 1, 2, 3 | <ul style="list-style-type: none"> • To put ourselves on a path to cut the UK's carbon dioxide emissions (60% by 2050) – the main contributor to global warming; • To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and improve our productivity; • Stimulate new, more efficient sources of power generation; • Cut emissions from the transport sector; • Measures for promoting a shift to low-carbon vehicles and fuels are brought together in our 'Powering Future' Vehicles1 strategy, published in July 2002. • That strategy is complementary to this white paper: • Providing cleaner and better transport, set targets that within the next decade one in ten new cars sold in the UK will be low-carbon vehicles with emissions of 100 grammes per kilometre (g/km) CO2 or less, and that one in five new buses will also be low-carbon. | Climatic Factors, Transport |
| UK Climate Change Programme DETR (2000) | 1, 2 | Key priority of the programme is to ensure that the UK meets its legally binding target under the Kyoto Protocol to reduce its greenhouse gas emissions to 12.5% below 1990 level by 2008-2012. Programme also designed to move towards the domestic goal of a 20% reduction in carbon dioxide emissions below 1990 levels by 2010. | Climatic Factors |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|-------------------|
| Planning (Listed Buildings and Conservation Areas) Act 1990 | 12 | Sets out the legal requirements for the control of development and alterations that affect buildings, including those that are Listed or in Conservation Areas, and the framework by which control is maintained. Conservation of the built heritage. Protection of listed buildings and conservation areas. | Cultural Heritage |
| Ancient Monuments and Archaeological Areas Act 1979 | 12 | Provides for nationally important archaeological sites to be statutorily protected as Scheduled Ancient Monuments. | Cultural Heritage |
| The Governments Statement on the Historic Environment for England (2010) | 12 | The value of the historic environment is recognised by all who have the power to shape it; that Government gives it proper recognition and that it is managed intelligently and in a way that fully realises its contribution to the economic, social and cultural life of the nation. | Cultural Heritage |
| The Historic Environment: A Force for Our Future DCMS/DLTR (2001) | 12 | The historic environment is protected and sustained for the benefit of our own and future generations. | Cultural Heritage |
| The National Trust Our Future – join in Our strategy to 2010 and beyond | 12 | <p>This strategy is focused on four issues - cultural heritage, our natural world, climate change and local food. It also identifies plans to tackle each issue.</p> <ul style="list-style-type: none"> • The Trust by means of the following statements pledges to address the identified issues: • We will enjoy the uniqueness, beauty and shared sense of pride and belonging that these wonderful places give us. • We will involve our visitors more closely with our conservation work. • We will partner organisations to foster and encourage our wildlife- both flora and fauna. | Cultural Heritage |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|---|-------------------|
| Environmental Quality in Spatial Planning. English Heritage et al (2005) | 12 | Planning authorities should consider more ambitious initiatives for the conservation, enhancement and better management of the environment and rural areas. | Cultural Heritage |
| UK Sustainable Development Strategy (2005) | All | The revised objectives are: Living within environmental limits, Ensuring a strong, healthy and just society, Achieving a sustainable economy, Promoting good governance, Using sound science responsibly. | General |
| Sustainable Communities Plan ODPM (2003) | All | <p>The following are identified as key components of a sustainable community:</p> <ul style="list-style-type: none"> • A flourishing local economy to provide jobs and wealth; • Strong leadership to respond positively to change; • Effective engagement and participation by local people, groups and businesses, especially in the planning, design and long term stewardship of their community, and an active voluntary and community sector; • Sufficient size, scale and density, and the right layout to support basic amenities in the neighbourhood and minimise use of resources (including land); • Good public transport and other transport infrastructure both within the community and linking it to urban, rural and regional centres; • Buildings - both individually and collectively - that can meet different needs over time, and that minimise the use of resources; • A well-integrated mix of decent homes of different types and tenures to support a range of household sizes, ages and incomes; • Good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure; • A diverse, vibrant and creative local culture, encouraging pride in the community and cohesion within it; | General |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|--|---|
| | | <p>A "sense of place";</p> <ul style="list-style-type: none"> The right links with the wider regional, national and international community. | |
| Planning and Compulsory Purchase Act (2004) | All | This Act substantially reforming the town planning and compulsory purchase framework in the United Kingdom. It both amended and repealed significant parts of the existing planning and compulsory purchase legislation in force at the time, including the Town and Country Planning Act 1990, and introduced reforms such as the abolition of Local Plans and Structure Plans, and their replacement with Local Development Frameworks. It also sets out provision during the transition period. | General |
| The Town and Country Planning (Local Development) (England) Regulations 2004 as amended in 2008 (England) | All | It sets out the specific Local Development Documents which Local Planning Authorities in England are required to prepare and how that should be done. The amendment has an effect on local development schemes to specify that an adopted proposals map will be amended when a development plan document is approved. | General |
| National Planning Policy Framework (2012) | All | The NPPF sets out the Coalition Government's agenda for development and places a presumption in favour of development, which is sustainable. | General, Population and Human Health, Economic, Transport, Climate, Water and Environment |
| Natural Environment and Rural Communities Act (2006) | All | An Act to make provision about bodies concerned with the natural environment and rural communities; to make provision in connection with wildlife, sites of special scientific interest, National Parks and the Broads; to amend the law relating to rights of way; to make provision as to the Inland Waterways Amenity Advisory Council; to provide for flexible administrative arrangements in connection with functions relating to the environment and rural affairs and certain other functions; and for connected purposes. | General |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|--|-----------|
| Government Rural White Paper: Our Countryside – the Future – a Fair Deal for Rural England DETR (2000) | All | <ul style="list-style-type: none"> • A living countryside, with thriving rural communities and access to high quality public services. • A working countryside, with a prosperous and diverse economy, giving high and stable levels of employment. • A protected countryside, in which the environment is sustained and enhanced, and which all can enjoy. • A vibrant countryside which can shape its own future and whose voice is heard by government at all levels. | General |
| Government Urban White Paper: Our Towns and Cities: the Future – Delivering an Urban Renaissance. DETR (2000) | All | <ul style="list-style-type: none"> • People shaping the future of their community, supported by strong and truly representative local leaders. • People living in attractive, well kept towns and cities which use space and buildings well. • Good design and planning which makes it practical to live in a more environmentally sustainable way. • Towns and cities able to create and share prosperity. • Good quality services – health, education, housing, transport, finance, shopping, leisure and protection from crime. | General |
| An Environmental Vision Environment Agency (2000) | All | <p>The fundamental goals the Environment Agency want to help achieve are:</p> <ul style="list-style-type: none"> • A better quality of life - people will have peace of mind knowing that they live in a healthier environment, richer in wildlife and natural diversity – an environment that they will care for and can use, appreciate and enjoy; • An enhanced environment for wildlife; • Wildlife will thrive in urban and rural areas; • Habitats will improve in their extent and quality to sustainable levels for the benefit of all species; • Everyone will understand the importance of safeguarding biodiversity; • The environmental outcomes for which we are striving: • Cleaner air for everyone; | General |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|-----------------------------|
| | | <ul style="list-style-type: none"> • Improved and protected inland and coastal waters; • Restored, protected land with healthier soils; • The changes we will seek: • A “greener” business world; • Wiser, sustainable uses of natural resources; • The risks and problems we will help manage, prevent and overcome: • Limiting and adapting to climate change; • Reducing flood risk. | |
| Tackling health inequalities: A Programme for Action (2003) | 5, 6, 7, 8, 9 | This Programme for Action sets out plans to tackle health inequalities over the next three years. It establishes the foundations required to achieve the challenging national target for 2010 to reduce the gap in infant mortality across social groups, and raise life expectancy in the most disadvantaged areas faster than elsewhere. | Population and Human Health |
| Local | | | |
| Lincolnshire Minerals and Waste Development Framework Preferred Minerals and Waste Strategies, June 2010 | | <p>The preferred strategic objectives of the Minerals and Waste Core Strategy are as follows:</p> <ul style="list-style-type: none"> • Protect the environment and local communities from negative impacts of minerals and waste development, reduce residual impacts and deliver improvements where possible. Ensure new facilities include high standards of design and layout, good working practices and environmental protection measures; • Ensure that the minerals extracted in Lincolnshire supply the construction industry in line with national and regional guidance and contribute to local, regional and national requirements; • Ensure, where possible, that minerals are supplied from appropriately located and environmentally acceptable sources; • Aim to minimise greenhouse gas emissions by reducing the reliance on landfill; maximising opportunities for | Waste |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|-----------|
| | | <p>the re-use and recycling of waste; encourage new technologies to maximise the renewable energy potential of waste as a resource; and promote the use of carbon capture technology;</p> <ul style="list-style-type: none"> • Identify adequate capacity for managing waste more sustainably; encourage the re-use of previously developed land; and promote self sufficiency in Lincolnshire to ensure waste is managed as near as possible to where it is produced; • Safeguard key mineral resources from sterilisation by other forms of development and ensure that where non-mineral development must take place within Minerals Safeguarding Areas full consideration is given to prior extraction of the mineral resource; • Ensure efficient use of primary minerals and encourage the production and use of good quality secondary and recycled aggregates; • Protect Lincolnshire's high quality agricultural land (Grades 1, 2 and 3a) from development which would permanently reduce production levels; • At the cessation of mineral working, after-uses will be identified which best meet local circumstances. The enhancement of existing, and the creation of new biodiversity habitats, and green infrastructure will be key objectives; • Ensure the unique historical heritage of Lincolnshire, including its built, archaeological and landscape features are protected from the adverse impacts of mineral and waste developments; • Ensure that local sources of building stone are available to contribute towards the maintenance and enhancement of locally distinctive buildings. Stone for Lincoln Cathedral will be specifically protected. • Protect Lincolnshire's coastal and fluvial high flood risk areas from inappropriate minerals and waste development and reduce flood risk through development opportunities wherever possible; • Protect and enhance the AONB, coastline and other nature conservation areas ranging from International (Natura 2000 sites) through to local designations; • Wherever practicable, vehicular movements will be minimised and alternative modes of transport will be promoted. | |
| Providing for Lincolnshire's Future – A Sustainability | All | The County Council has identified six ambitions that will drive its objectives and policy over the next few years. These are: | General |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|---|--|
| Framework incorporating Environmental Stewardship Strategy March 2005 | | <ul style="list-style-type: none"> • Create economic prosperity • Enrich the quality of life • Provide the opportunity for people to achieve their full potential • Improve community engagement • Improve the transport infrastructure throughout the county • Provide community focused, cost effective services | |
| 4th Lincolnshire Local Transport Plan 2013/14 – 2022/23 | 1 , 2, 3, 5, 6, 7, 8, 9,10, 11 | <p>The aims of the LTP4 are as follows:</p> <ul style="list-style-type: none"> • to assist the sustainable economic growth of Lincolnshire, and the wider region, through improvements to the transport network • to improve access to employment and key services by widening travel choices, especially for those without access to a car • to make travel for all modes safer and, in particular, reduce the number and severity of road casualties • to maintain the transport system to standards which allow safe and efficient movement of people and goods • to protect and enhance the built and natural environment of the county by reducing the adverse impacts of traffic, including HGVs • to improve the quality of public spaces for residents, workers and visitors by creating a safe, attractive and accessible environment • to improve the quality of life and health of residents and visitors by encouraging active travel and tackling air quality and noise problems • to minimise carbon emissions from transport across the county | Climatic Factors, Population and Human Health, Material Assets |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|---|
| Gypsy and Traveller Accommodation Needs Assessment (Sep 2007) | 5, 6, 7, 8, 9 | This study assesses the amount and quality of accommodation provision for Gypsies and Travellers. Provides an estimate of future pitch need. Identifies a need of 22 to 26 extra pitches (permanent and transit) 2007-2012 | Population and Human Health |
| Central Lincolnshire Core Strategy Publication Version, 2013 (draft) | All | <p>The City of Lincoln, North Kesteven District and West Lindsey District in partnership with Lincolnshire County Council, have joined together to prepare a Core Strategy for their area which is collectively known as Central Lincolnshire.</p> <p>The five key themes of the Core Strategy are as follows:</p> <ul style="list-style-type: none"> • Sustainable Development • Tackling Climate Change, A Low Carbon Future • Growing Central Lincolnshire • Flourishing communities and places • A quality environment | General, Population and Human Health, Economic, Transport, Air, Water |
| Lincolnshire County Council Natural Environment Strategy 2012 – 2018 | | <p>The Natural Environment Strategy forms part of the Council's overarching Environmental Management Strategy and establishes a set of priorities to provide Council services, local communities and businesses and partner organisations with guidance on the approach the Council will take in working with the natural environment.</p> <p>LCC is aiming to achieve the following:</p> <ul style="list-style-type: none"> • Lincolnshire's countryside, coastline and towns are much richer in biodiversity by 2018 • The natural environment is better understood and is valued by residents, visitors and businesses for its intrinsic value and for its contribution to the local and regional economy and the health and amenity of local communities • Effective promotion of Lincolnshire's natural environment, increases the county's profile as a tourist | |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|---|-----------------------------|
| | | <p>destination, contributing to increasing visitor numbers and the amount of time they spend within the area</p> <ul style="list-style-type: none"> • The natural environment of Lincolnshire is more resilient to climate change, the impacts of which are better understood • The Council's approach to the natural environment is integrated across its different service areas and with that of its partners and local communities, making the most of existing resources and exploring to the full opportunities for attracting additional external resources and greater joint working between partner organisations. • Planning policy balances promotion of sustainable growth and economic regeneration with the protection and enhancement of the natural environment. This will be achieved by liaison with Local Planning Authorities and through the Council's Minerals and Waste and Local Transport Planning Policy functions | |
| Lincolnshire Rights of Way Improvement Plan 2007-2012 | 12 | <p>This is a five year strategic report which sets out how Lincolnshire County Council intends to improve the management, provision and promotion of public rights of way in Lincolnshire.</p> <p>Our Vision for the Rights of Way Improvement Plan in Lincolnshire is:-"To have an integrated network of rights of way that is relevant for today's needs, bringing added benefits to residents and visitors by supporting wider interests including sustainable transport, rural economy and tourism, health benefits and quality of life issues".</p> | Cultural Heritage |
| The Lincolnshire Historic Landscape Characterisation | 12 | A Historic Landscape Characterisation project has been undertaken in Lincolnshire; this helps people to interpret the modern environment with reference to how it has developed and what is historically important about particular landscapes. The project identified 42 Historic Character Zones within 10 broad Historic Landscape Types | Cultural Heritage |
| Lincolnshire Sustainable Community Strategy 2009-2030 and Refresh March 2010 | 5, 6, 7, 8, 9 | Represents a shared evidence base and vision for Lincolnshire, which is promoted by the Lincolnshire Assembly which consists of a range of local bodies such as Age Concern, local councils and development agencies. The strategy tackles issues that are important to Lincolnshire, including connections between communities, climate change flooding and road safety. | Population and Human Health |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|--|---|
| South Kesteven District Council Core Strategy 2010 | All | <p>“A successful rural district supported by excellent social and transport infrastructure. Grantham will have developed as a key economic centre not only in Lincolnshire but also sub regionally.</p> <p>Stamford, Bourne and The Deepings will have equally developed their distinctive market town roles. Rural communities will have remained viable by achieving development that supports their needs.</p> <p>All of this will have been achieved in ways which ensures a good quality of life, health and well being for everyone as well as celebrating the distinctiveness of the districts countryside and heritage.”</p> <p>This will be achieved by:</p> <ul style="list-style-type: none"> • Creating the right balance of jobs, housing and infrastructure; • Ensuring that development is sustainable in terms of location, use and form; • Balancing the development needs of the District with the protection and enhancement of the natural and built environment; • Addressing and mitigating any negative effects of development on the built and natural environment. • Working with partners and residents to develop a place where people really matter. <p>This vision seeks to reflect both the vision of the Local Strategic Partnership, as set out in the Community Plan for South Kesteven, and that of the Council’s Corporate Plan.</p> | General, Population and Human Health, Economic, Transport, Air, Water |
| South Kesteven District Council Site Allocations DPD 2011 | All | Sets out objectives around housing, employment/commercial, supporting rural communities and green infrastructure. Notably, the plan sets out to make provision for at least 8,250 new homes within the district up to 2026. | General, Population and Human Health, Economic, Transport, Air, Water |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|---|---|
| The Boston Borough Local Plan (April 1999) | All | <p>The saved policies of the Boston Borough Local Plan has the following four principal functions:</p> <ul style="list-style-type: none"> • to translate the strategic policies and proposals of the Structure Plan, into a more specific form and to relate them directly to areas of land in the Borough; • to provide a detailed basis for development control decisions; • to provide certainty and a basis for co-ordinating public and private investment in the development and use of land; • to bring issues concerning the use of land before the public and to involve them in the plan-making process. | General, Population and Human Health, Economic, Transport, Air, Water |
| Boston Borough Council Environmental Policy (March 2010) (Review due March 2013) | All | <p>The Council aims to improve the environmental quality of the borough by adhering to certain commitments:</p> <ul style="list-style-type: none"> • Reduce greenhouse gas emissions (principally carbon emissions) and manage climate risks and opportunities to combat climate change. It will seek to minimise energy use in every area of its work including transport, heating and lighting. It will continue to improve energy efficiency in all its buildings and to use and promote renewable energy; • Minimise water consumption in all its buildings and on its land. It will seek to implement measures to reduce pollution entering water and to recycle water whenever possible; • Promote sound waste management practices by minimising its own waste production through reducing materials consumed, re-using and recycling materials wherever possible; • Purchase products and services which do the least damage to the environment wherever possible; • Work with others to protect, enhance and extend the diversity of the natural environment and landscape character while encouraging community awareness and participation; • Protect and enhance the built environment to safeguard historic buildings and ancient monuments and promote sustainable development that reflects the character of the area and reduces the area's carbon footprint; • Work with partners to promote a more sustainable transport system which integrates land use and all forms of travel to minimize environmental impact and reduces the need to travel, particularly by car; • Minimise and monitor air, water, noise and land pollution, accepting the principle that the polluter should | General, Population and Human Health, Economic, Water, Air, Water |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|---|
| | | <p>pay;</p> <ul style="list-style-type: none"> • Raise awareness and encourage participation in environmental issues throughout the whole community; • Work with businesses, partners and others in the local community to encourage good environmental practices. | |
| Boston Borough Council Carbon Management Plan (December 2009) | 1, 2, 3 | The Carbon Management Plan commits the council to a target of reducing CO2 by 20% by March 2014 and underpins potential financial savings to the council of around £316,000 | Climatic Factors, Air |
| Lincoln's Sustainable Community Strategy 2008- 2023 Vision Our City Our Future | 5, 6, 7, 8, 9 | <p>Sets out the Local Strategic Partnership's vision for Lincoln in 2030: "A well run, creative city of sustainable neighbourhoods and ambitious people, which is internationally renowned for its culture, economy, and special character. Lincoln is a great place to live and work that unlocks the potential in all people and all places and provides an enviable quality of life".</p> <p>The strategy sets out 5 key issues that need to be addressed to realise the vision:</p> <ol style="list-style-type: none"> 1. Our children and young people; 2. Our health; 3. Our economy; 4. Our environment; 5. Our safety | Population and Human Health, Economic |
| The City of Lincoln Local Plan (August 1998) saved policies | All | <p>The City Council aims to:</p> <ul style="list-style-type: none"> • improve the quality of the local environment and the physical, social and economic health of the local community; • protect and reinforce Lincoln's special identity as development, change and renewal take place; • manage change with care, working towards a more sustainable, energy efficient city which offers improved | General, Population and Human Health, Economic, Transport, Air, Water |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|---|--|
| | | quality of life and expanding opportunities for present and future generations. | |
| Lincoln Townscape Assessment | 12 | The city is divided up into a total of 108 distinct 'Character Areas', with each area representing a different 'place' in Lincoln. The LTA describes the inherited character of all parts of the City of Lincoln. | Cultural Heritage |
| City of Lincoln: A Climate Change Strategy (2005) | 1,2,3, 5, 6, 7, 8, 9 | <p>The main objectives of the Climate Change Strategy for Lincoln are to:</p> <ul style="list-style-type: none"> • Identify how the climate in Lincoln has changed already and forecast change for the future; • Address how the City of Lincoln Council can make changes to reduce the authority's impact on climate change and opportunities to adapt services in response to changing climate. | Climatic Factors, Population and Human Health |
| Low Carbon Lincoln Plan 2012 – 2020 (Draft) | 1, 2 | The aim of the conference was to identify opportunities for a local carbon partnership and benefits that could derive from collaborative working to reduce the city's carbon footprint. | Climatic Factors |
| North Kesteven District Council Sustainable Community Strategy 2008-2018 | All | <p>Represents the Local Strategic Partnership's vision for North Kesteven which sets out two main objectives to realise the vision:</p> <ol style="list-style-type: none"> 1. Working in partnership to improve the quality of life, economic performance and environmental sustainability of North Kesteven; 2. Inspiring community participation in the delivery of public services and the achievement | General, Population and Human Health, Economic |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|---|
| Draft Low Carbon NK Plan 2013-2020 | 1, 2 | Low Carbon NK Aims – To reduce the levels of carbon emissions in the North Kesteven District. The plan aims to involve all sectors of the community in reducing carbon dioxide (CO2) emissions and prepare the District for the impacts of climate change and support opportunities for the local economy and community that result from climate change. | Climatic Factors |
| North Kesteven District Council Localism Plan March 2013 | All | <p>The aim of the Localism Plan is to outline North Kesteven District Councils approach to the new Localism Act 2011, ensuring that the Council has put in place provision to fulfill its statutory requirements and a structure that will encourage the active empowerment of local communities.</p> <p>The council aims to equip communities with:</p> <ul style="list-style-type: none"> • the appropriate skills, knowledge and confidence to deliver, sustain and develop local facilities and services; • the ability to cater for the changing demands on local communities due to population changes, growth agenda, welfare reform and the overall economic situation; and • to empower communities to take control of their areas and use innovative models to improve their neighbourhood. | General, Population and Human Health, Economic |
| The South Holland Local Plan (July 2006) | All | The saved policies of the South Holland Local Plan identify the Planning policies which will guide and control new development in the District until 2021, encouraging the economy to grow and allowing more housing to be built as part of a balanced strategy. | General, Population and Human Health, Economic, Transport, Air, Water |
| West Lindsey District Council Sustainable Community Strategy 2006-2016 | 5, 6, 7, 8, 9 | <p>Represents the Local Strategic Partnership’s vision for West Lindsey: “The Vision is that West Lindsey is seen as a place where people want to live, work, invest and visit”.</p> <p><u>Healthy Communities</u></p> <ul style="list-style-type: none"> • Residents of West Lindsey Enjoy Good Physical and Mental Health, and Emotional Well-Being • West Lindsey Residents are informed about the ways in which they can improve and sustain their own | Population and Human Health, Economic |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|---|--|--|-----------|
| | | <p>Health and Well-Being.</p> <p><u>Safer, Stronger Communities</u></p> <ul style="list-style-type: none"> • Empowered Communities, Engaged with Partner Agencies, Helping to shape Local Service Delivery • To improve the quality of life by promoting a culture of partnership with the local community to improve the local environment and reduce the incidents of Environmental Crime. • Residents Feel Safe • West Lindsey Provides Affordable, Sustainable Housing <p><u>Economic Development</u></p> <ul style="list-style-type: none"> • A positive Economic Environment for West Lindsey: • Business and employment are diverse • New businesses are attracted to the area • Existing businesses are growing • Economic activity is strong • High number of residents are economically active • There is a diverse skills-mix among local residents • West Lindsey balances economic growth with principles of sustainability particularly environmental sustainability • West Lindsey is Accessible in the Broadest Sense | |
| West Lindsey Local Plan First Review (June 2006) saved policies | All | <p>The aims of the local plan first review are as follows:</p> <ul style="list-style-type: none"> • To encourage the economic well-being of the District. • To encourage the social well-being of the District and reduce social inequalities. • To protect and enhance the natural and built environment. • To encourage and enable the economic regeneration, of the District's towns and rural communities. | General |

| Plan, Policy Programme | SEA Framework Objectives relevant to PPP | Aims and Objectives | SEA Topic |
|--|--|--|---|
| | | <ul style="list-style-type: none"> To meet the needs of the local communities in the District and protect the quality of life of local residents. | |
| East Lindsey District Council Draft Core Strategy (2012) | All | <p>The Core Strategy will guide growth and development in East Lindsey up to 2028. It will concentrate on a number of issues within the district over this time: Communities; Housing; Transport; Economy; Environment, Landscape and biodiversity; and Climate Change.</p> <p>The Core Strategy also aims to match up its vision with those other statutory and community plans, so that, through shared action, their common priorities can effectively be tackled.</p> <p>The East Lindsey Community Plan is underpinned by three key principles;</p> <ul style="list-style-type: none"> Sustainability – achieving progress in a way that benefits everyone and does not harm the environment locally or globally, now or in the future. Cohesion – creating mutual respect and appreciation of the similarities and differences that make people unique. Engagement – involving the public, as individuals or as a community, in policy and service decisions. | General, Population and Human Health, Economic, Transport, Air, Water |

10 Appendix B - Baseline Data

Set out below is the detailed baseline data review, that has been conducted to inform the SEA of the JMWMS.

10.1 Climatic Factors

10.1.1 Relevance to JMWMS

Waste management decisions have the potential to impact on Lincolnshire's Greenhouse Gas (GHG) emission levels, in particular through the operation of waste management processes which have a significant transportation element. This strategy promotes kerbside residual, recycling and garden waste collections, both of which rely on regular collections.

10.1.2 Overview - Greenhouse Gas (GHG) Emission Levels

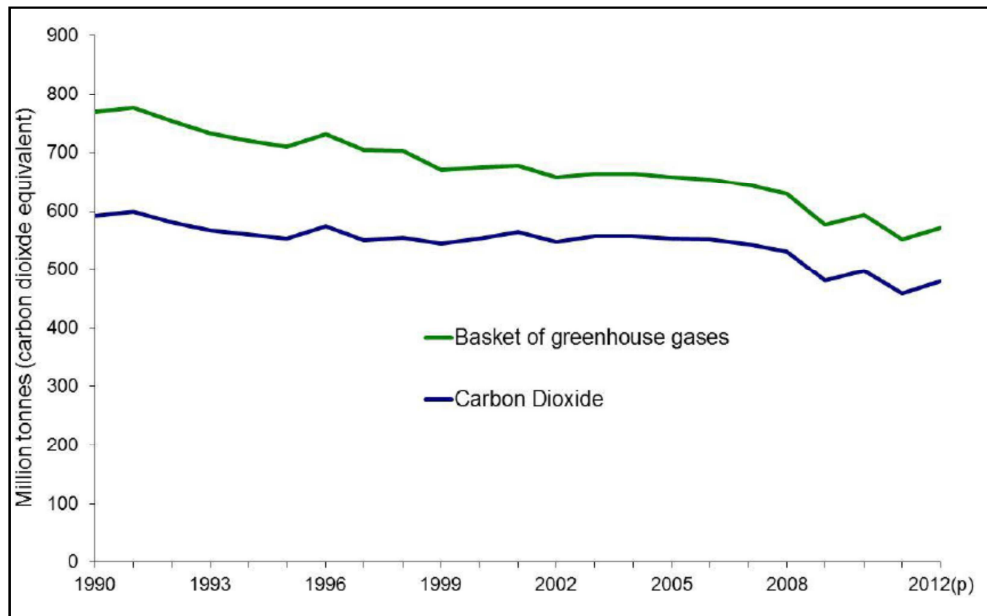
According to statistics² released by the Department of Energy and Climate Change, in 2012, UK emissions of the six GHGs covered by the Kyoto Protocol were provisionally estimated to be 571.6 million tonnes (Mt) carbon dioxide equivalent (MtCO₂e). This represents a 3.5% increase on the 2011 figure of 552.6 MtCO₂e.

The most abundant GHG is carbon dioxide (CO₂), which accounted for about 83% of the total UK greenhouse gas emissions in 2011, the latest year for which final results are available. In 2012, UK net emissions of CO₂ were provisionally estimated to be 479.1 Mt. This was 4.5% higher than the 2011 figure of 458.6 Mt. Figure 10-1 shows UK emissions of GHGs and CO₂ since 1990. Overall levels of the six Kyoto Protocol GHGs have decreased from 1990 levels.

Provisional estimates show increases in emissions of 5.5% (9.9Mt) from the energy supply sector, 11.8% (7.8 Mt) from the residential sector, and 4.8% (3.6Mt) from the business sector. Emissions from the transport sector were down by 1.2% (1.4Mt) from 2011.

² . 2012 UK Greenhouse Gas Emissions, Provisional Figures and 2011 UK Greenhouse Gas Emissions.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/193414/280313_ghg_national_statistics_release_2012_provisional.pdf [Accessed 19.07.2013]

Figure 10-1 UK emissions of greenhouse gases, 1990-2013 (provisional)



Source: DECC, 2013. (Statistical Release - 2012 UK Greenhouse Gas Emissions, Provisional Figures and 2011 UK Greenhouse Gas Emissions Final Figures by Fuel Type and End-User).

On a regional scale, the latest available data³ released for 2011 shows that total end user CO₂ emissions in the East Midlands region is 34 Mt, with 7.4t per capita. This represents a significant decrease in the region when compared to figures produced in 2005, which showed 40 Mt total emissions and 9.3 t per capita.

In comparison with regional figures, Lincolnshire's CO₂ emission levels are lower; producing 4.7 Mt total emissions at 6.5 t per capita in 2011. In line with regional figures, CO₂ emission levels have reduced from 2005 levels of 5.4 Mt total emissions and 8.0t per capita.⁴

10.1.3 Lincolnshire's capabilities to reduce emissions

In Lincolnshire there is significant potential to generate energy from renewable sources, particularly using wind, the tides and biomass. Since 2004, the generation of energy from renewable sources within the county has been increasing steadily. There is a significant number of wind turbines with more planned. However, LCC is questioning this as an approach across Lincolnshire as, although supportive of alternative energy supplies for the future, Councillors question the effectiveness of wind farm technology, and are concerned about the visual impact for residents and on tourism in the county.⁵

³Local Authority CO₂ emissions estimates 2011.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/211878/110713_Local_CO2_NS_Annex_B.pdf [Accessed 19.07.2013]

⁴ Local and regional CO₂ emissions estimates for 2005-2011: full dataset .
<https://www.gov.uk/government/publications/local-authority-emissions-estimates> [Accessed 19.07.2013]

⁵ <http://www.lincolnshire.gov.uk/local-democracy/council-news/what-do-you-think-about-wind-farms/114432.article> [Accessed 22.07.13]

LCC has been proactive in seeking to reduce emissions through the use of biomass, which is carbon neutral, to produce energy. The Lincolnshire Green Heat Scheme (LIGHT) works on the principle that burning biomass is 'Carbon Neutral' and does not contribute to global warming and can provide a cost effective way of reducing CO₂ emissions. It is renewable because trees and crops are replanted after they are harvested. The energy in one tonne of wood-fuel is equivalent to over 300 litres of oil (65 gallons) or 3500 units (kWh) of gas or electricity.⁶

In 2011, 4,677.7 kilo tonnes (4.7 Mt) of CO₂ emissions were released in Lincolnshire, which represented approximately a 4% decrease since 2009. In 2011, the total emissions in kt CO₂ per sector were as follows¹:

- 1,416.8 kt from domestic sources
- 1,654.2 kt from industrial and commercial sources
- 1,477.4 kt from road transport.

Table 10-1 shows emissions for each local authority in the Lincolnshire between 2009 and 2011.

Table 10-1 CO₂ Emission for Local Authorities in Lincolnshire

| Authority | Year | Industry and Commercial kt CO ₂ | Domestic kt CO ₂ | Road Transport kt CO ₂ | Total kt CO ₂ | Population ('000s mid-year estimate) | Per Capita Emissions t |
|--------------------------------------|------|--|-----------------------------|-----------------------------------|--------------------------|--------------------------------------|------------------------|
| Boston Borough Council | 2009 | 173.7 | 128.1 | 126.9 | 434.3 | 63.4 | 6.8 |
| | 2010 | 175.3 | 137.8 | 126.7 | 445.2 | 64.5 | 6.9 |
| | 2011 | 153.0 | 121.8 | 125.7 | 406.1 | 64.6 | 6.3 |
| East Lindsey District Council | 2009 | 306.9 | 309.8 | 310.4 | 950.9 | 137.1 | 6.9 |
| | 2010 | 320.6 | 334.5 | 306.5 | 982.4 | 137.3 | 7.2 |
| | 2011 | 299.2 | 293.9 | 296.0 | 910.0 | 136.7 | 6.7 |
| Lincoln City Council | 2009 | 215.6 | 175.1 | 65.1 | 457.3 | 90.8 | 5.0 |
| | 2010 | 223.6 | 189.1 | 64.4 | 478.6 | 92.2 | 5.2 |
| | 2011 | 205.5 | 167.3 | 62.0 | 436.2 | 93.1 | 4.7 |

⁶ <http://www.lincolnshire.gov.uk/residents/environment-and-planning/sustainability/environmental-policy/case-studies/biomass-%28light%29/107002.article?tab=downloads> [Accessed 22.07.13]

| Authority | Year | Industry and Commercial kt CO ₂ | Domestic kt CO ₂ | Road Transport kt CO ₂ | Total kt CO ₂ | Population ('000s mid-year estimate) | Per Capita Emissions t |
|--|------|--|-----------------------------|-----------------------------------|--------------------------|--------------------------------------|------------------------|
| North Kesteven District Council | 2009 | 218.2 | 217.7 | 233.0 | 697.2 | 106.5 | 6.5 |
| | 2010 | 224.3 | 235.8 | 231.4 | 717.4 | 107.5 | 6.7 |
| | 2011 | 212.3 | 209.0 | 229.2 | 676.1 | 108.5 | 6.2 |
| South Holland District Council | 2009 | 241.3 | 176.2 | 205.7 | 634.0 | 87.0 | 7.3 |
| | 2010 | 241.7 | 188.7 | 208.4 | 649.1 | 87.9 | 7.4 |
| | 2011 | 221.2 | 167.5 | 204.1 | 603.6 | 88.4 | 6.8 |
| South Kesteven District Council | 2009 | 397.3 | 272.5 | 328.2 | 1030.3 | 132.2 | 7.8 |
| | 2010 | 413.5 | 294.9 | 333.2 | 1072.2 | 133.1 | 8.1 |
| | 2011 | 389.1 | 261.0 | 330.1 | 1011.1 | 134.1 | 7.5 |
| West Lindsey District Council | 2009 | 180.7 | 205.7 | 232.3 | 654.5 | 88.6 | 7.4 |
| | 2010 | 185.4 | 224.5 | 230.8 | 674.0 | 89.4 | 7.5 |
| | 2011 | 174.0 | 296.4 | 230.3 | 634.5 | 89.4 | 7.1 |

Total CO₂ emissions were highest in the South Kesteven District, which accounted for 1011.1kt CO₂, and the lowest emissions were in Boston Borough with 406.1kt CO₂. All local authorities showed reductions in their total emissions between 2009 and 2011.

The highest per capita emission in 2011 was 7.5t in the South Kesteven District and the lowest per capita emissions was 4.7t in Lincoln City.

10.1.4 *Climate Change Implication for Lincolnshire*

Climate change is predicted to result in more extreme weather events, increased temperatures and rises in the sea level which will be accompanied by economic, social and environmental impacts. Some of the potential implications of climate change for Lincolnshire are discussed in the following sections and will need to be taken into consideration within the JMWMS.

10.1.5 *Climate Change and Agriculture*

Lincolnshire has some of the highest quality agricultural land in the UK and is the most productive county for wheat, oil seed rape, cereals, poultry, and horticulture especially field vegetables (leeks, broccoli, cauliflower and cabbages) and bulbs.

Lincolnshire has 39% of land which is at or below sea level putting many coastal areas at risk of coastal flooding. Much of this land is grade 1 arable farming land and any salt intrusion could take up to 40 years for the land to recover. It is therefore very important that LCC addresses and prepares for a changing climate.

The increased coastal erosion and flooding that is likely to be associated with climate change has the potential to decrease the quality and availability of agricultural land in the region, with the potential for impacts to the economy and food supply.

It is likely that some crops could no longer be grown in the area. However, there may be opportunities to grow different crops and the longer growing seasons may lead to higher yields and more locally grown produce throughout the year. There may be more opportunities for vineyards and for growing lavender, sweetcorn, grain maize, sunflowers and navy beans. Additionally there may be an increased potential for planting crops for energy production. These changes in crops however will also have implications for biodiversity.⁷

Additionally, climate change is likely to result in an increased threat of pests and new crop pests such as the Colorado Beetle and the European Corn Borer.

10.1.6 *Climate Change, Transport and Infrastructure*

The East Midlands and Lincolnshire contain a number of important national transport links and ports which could be affected by climate change. Built structures such as bridges, promenades, pylons, roads and railway lines will become more vulnerable to higher winds, flooding, storm events and changes in soil moisture.

Some roads, particularly those near to the coastline and rivers will be particularly susceptible to an increased risk of flooding. Consideration will need to be given to the need to develop the capability of the carriageway to cope with excess water given the likely increase in the frequency of intense rainfall events. Railways will also be susceptible to flooding.

Temperature changes also have the potential to affect roads, by causing more frequent melting of the asphalt road surface, and railways by increasing the risk of buckling on the rail tracks.

Additionally, climate change has the potential to affect emergency services as a result of extreme weather events.

⁷ East midlands Regional Climate Change Partnership 2000

10.1.7 Key Issues – Climatic Factors

Set out below in Table 10-2 are the key issues that can be identified from the baseline data collected in terms of climatic factors.

Table 10-2 Key Issues: Climatic Factors

| Key Issues – Climatic Factors |
|---|
| CO ₂ emissions are lower in Lincolnshire than in the East Midlands region in 2011. This figure has reduced from levels recorded in 2005. |
| Renewable energy proposals have increased although the visual impact of these measures is being questioned. |
| Climate change could have potential impacts on Lincolnshire's coastal areas, agricultural areas and transport infrastructure. |

10.2 Air Quality

10.2.1 Relevance to JMWMS

The JMWMS will need to consider any impacts of operational processes on air quality, particularly due to the nature of waste collections which rely on vehicles and the transport network. Furthermore, the effects of composting may have an impact on air quality which will need to be assessed accordingly.

10.2.2 Air Quality Management

As part of the National Air Quality Strategy (NAQS), all local authorities obliged to establish air quality levels in their area that meet national air quality objectives. These are set by concentrations of airborne pollutants considered to be acceptable for health and the environment. If an area does not meet these objectives Air Quality Management Areas (AQMA) are declared. The authority must then draw up an Air Quality Action Plan to set objectives for improving air quality.

Although air quality across the county is generally considered to be good there are 6 AQMAs in Lincolnshire, declared primarily as a result of pollution caused by traffic emissions. Lincoln City Council has 2 AQMAs, Boston Borough Council has 2 AQMAs and South Kesteven District Council has 2 AQMAs. These are detailed in Table 10-3 below.

Table 10-3 Lincolnshire AQMAs

| Local Authority | Pollutants Declared | Description |
|----------------------|---------------------|--|
| Lincoln City Council | Lincoln AQMA | The area generally follows the major road network in the City Centre and arterial routes and is primarily due to road traffic emissions. |

| Local Authority | Pollutants Declared | Description |
|-------------------|--|--|
| | Lincoln PM ₁₀ AQMA - Nitrogen Dioxide (NO ₂) | An area encompassing the whole borough. |
| Boston Borough | Boston AQMA - Sulphur dioxide (SO ₂) | The AQMA follows the A16 trunk road through the centre of town encompassing properties on either side. It extends from Queen Street roundabout through to the intersection of John Adams Way and Main Ridge East. |
| | Bargate Bridge AQMA - Nitrogen dioxide NO ₂ | An area from Bargate roundabout extending east in to the top part of Spilsby Road and incorporating the junctions of Freiston Road and Willoughby Road, Boston. |
| South Kesteven DC | Nitrogen dioxide NO ₂ | Area incorporating Brooke St. and Manthorpe Rd, Grantham. |
| | Nitrogen dioxide NO ₂ and Particulate Matter PM ₁₀ | <p>No.1 - An area of land including residential properties along Wharf Road, Grantham, Lincolnshire.</p> <p>No.2 - An area of land including residential properties of Meres Road Grantham, Lincolnshire adjacent to the A1.</p> <p>No.3 - An area of land including residential properties of Welwyn Close, Rosemary Crescent and Denton Avenue, Grantham, Lincolnshire, adjacent to the A1.</p> <p>No.4 - An area of land including Rushmore Lodge at the junction of St. Paul's Street, Brazenose Lane and East Street, Stamford, Lincolnshire.</p> |

10.2.3 Key Issues – Air Quality

Set out below in Table 10-4 are the key issues that can be identified from the baseline data collected in terms of air quality.

Table 10-4 Key Issues: Air Quality

| Key Issues – Air Quality |
|---|
| Air quality is considered to be good, although there are 6 AQMA's within the county, established primarily as a result of pollution from traffic emissions. |

10.3 Geology and Soils

10.3.1 Relevance to JMWMS

Measures included within the JMWMS include proposals for the continued collection of green waste and composting. This has the potential to affect soil quality.

10.3.2 Overview

Soils and geology play an important part in determining the environmental character of an area. The nature and alignment of the rocks has a major influence on the landform. Rocks provide the parent material from which the soils are created and, through their constitution and chemistry, they influence the rate at which soils are formed. Soil chemistry and structure strongly influence the type of vegetation, which occurs naturally in an area.

10.3.3 Geology and Geomorphology

Lincolnshire's bedrocks form a simple pattern of north-south stripes at the surface. There are older Triassic rocks in the west, overlain progressively by marine Jurassic rocks and the younger Cretaceous rocks in the east. At the surface they have been subjected to weathering and erosion under a range of climates including glacial and periglacial during the last 2 million years.

The superficial geology of the county is blanketed with a covering of Quarternary superficial deposits that formed within the last two million years. The Quarternary deposits includes glacial and fluvio-glacial deposits along with younger Flandrian silts, peat, sands and alluvium that cover the Fenlands, the coastal plains east of the Wolds, much of the Humber coast and the Isle of Axholme.

10.3.4 Soils

Lincolnshire contains a wide variety of soils including alluvium (clay, silt and sand) along coastal regions, Till (Diamicton), River Terrace deposits (Sand and Gravel), blown sand, peat, glacial sand and gravel.

Lincolnshire soils vary in thickness from a few centimetres to over a metre in response to the underlying geology, location in the landscape and agricultural practices. The thinnest soils tend to occur over chalk and limestone escarpments and on valley side, with the deepest soils in the Fenlands.

10.3.5 Key Issues – Geology and Soils

Set out below in Table 10-5 are the key issues that can be identified from the baseline data collected in terms of geology and soils.

Table 10-5 Key Issues: Geology and Soils

| Key Issues – Geology and Soils |
|--|
| Lincolnshire contains a wide variety of soils that are used to support an important agricultural sector. |

10.4 Population

10.4.1 Relevance to JMWMS

The JMWMS will need to consider the needs of the existing and future population of Lincolnshire, particularly in relation to promoting waste awareness. Waste management decisions may have potential impacts on transport networks and on the local economy.

Understanding local demographic trends is important in planning for the future of an area as it enables local authorities to predict the changing needs of the population and address them.

10.4.2 Population Structure and Statistics

Data released from the Office of National Statistics (ONS) 2012 mid-year population estimates (based on the 2011 census of population for England and Wales) is as presented below in Table 10-6.

DRAFT

Table 10-6 2012 Mid-Year Lincolnshire Population

| Area | Mid-2012 | Mid-2011 | Mid-2002 | Change 2011-2012 | | Change 2002-2012 | | Area Sq km | Density Persons per sq km, 2012 |
|----------------------------|------------|------------|------------|------------------|------|------------------|------|---------------|---------------------------------------|
| | | | | Persons | % | Persons | % | | |
| Lincolnshire CC | 718,800 | 714,800 | 655,600 | 4,000 | 0.6 | 63,200 | 9.6 | 5,921 | 121 |
| Boston | 64,800 | 64,600 | 56,400 | 200 | 0.3 | 8,400 | 14.9 | 362 | 179 |
| East Lindsey | 136,600 | 136,700 | 132,100 | -100 | -0.1 | 4,500 | 3.4 | 1,760 | 78 |
| Lincoln | 94,600 | 93,100 | 85,700 | 1,500 | 1.6 | 8,900 | 10.4 | 36 | 2,650 |
| North Kesteven | 109,300 | 108,500 | 96,900 | 800 | 0.7 | 12,400 | 12.8 | 922 | 118 |
| South Holland | 88,500 | 88,400 | 77,900 | 100 | 0.1 | 10,600 | 13.6 | 742 | 119 |
| South Kesteven | 135,000 | 134,100 | 125,500 | 900 | 0.7 | 9,500 | 7.6 | 943 | 143 |
| West Lindsey | 90,000 | 89,400 | 81,100 | 600 | 0.7 | 8,900 | 11.0 | 1,156 | 78 |
| England & Wales | 56,567,800 | 56,170,900 | 52,602,100 | 396,900 | 0.7 | 3,965,700 | 7.5 | 151,013 | 375 |

The 2012 mid-year population estimates released by ONS show a continued increase in Lincolnshire's population. They show the county's total population increased by 63,200 people in ten years, to approximately 718,800 in 2012. This is a 9.6% rise and is higher than the percentage increase of 7.5% for England and Wales over the same period.

Across the districts, East Lindsey has shown the least rate of population growth at 3.4%, whereas Boston has the highest rate of population growth at 14.9% between the period of 2002 and 2012.

A breakdown of the population data by age group and ethnicity shows that Lincolnshire continues to have an ageing population and is less ethnically diverse in comparison with the national figures.

In terms of country of birth, Lincolnshire has a higher proportion of residents who were born in the EU than in England and Wales. In addition, Lincolnshire also has a higher proportion of UK born residents than in England and Wales. In terms of ethnicity, Lincolnshire has become more diverse with the non-white population making up 2.4% of the total population in 2011 compared to 1.4% in 2001. However this proportion is still small when compared with a national non-white population of 14%. Single person households aged over 65 make up nearly 14% of all households compared to 12% nationally. However, this is down 1% on 2001. Conversely the number of people stating that their day to day activities are limited due to their health has increased by 1% from 2001 to 20%. Nationally 18% of the population reported that this was the case.⁸

10.4.3 *Deprivation*

The Index of Multiple Deprivation (IMD), published by the Department for Communities and Local Government (DCLG), is a national dataset of deprivation indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score. They assess deprivation over small geographical areas that enable the extent and distribution of deprivation to be compared and monitored over time.

When comparing IMD data released in 2007 and 2010⁹, the following can be noted:

- all Lincolnshire's district council areas are ranked as being slightly more deprived in 2010 than in 2007; and,
- 12% of Lincolnshire's population live in areas categorised within England's 20% most deprived areas, an increase of 1% on 2007.

The IMD uses geographical areas called Super Output Areas (SOAs) to facilitate the calculation of the IMD, by using a set of areas of consistent size that do not change boundaries. Lower Super Output Areas (LSOAs) typically contain four to six SOAs.

⁸ <http://www.research-lincs.org.uk/2011-census.aspx> [Accessed 26.06.2013]

⁹ <http://www.research-lincs.org.uk/Deprivation-and-Poverty.aspx>

The most deprived Lower Super Output Area (LSOA) in the county is in Lincoln and the least deprived is in North Kesteven at RAF Cranwell. From the 2010 figures, it can be seen that Lincolnshire now has 5 additional LSOAs that are ranked in England's top 20% most deprived areas, two in both East Lindsey and Lincoln, and one in West Lindsey.

10.4.4 *Economy*

Since April 2010, all unitary authorities and county councils have a statutory duty to carry out an assessment of the economic conditions of their area through a Local Economic Assessment (LEA). This is intended to provide local authorities and other stakeholders with a robust analysis of the local economy which can help shape actions to improve the local economy.

Lincolnshire is one of the largest and most sparsely populated areas of England and presents a distinctive range of challenges for organisations concerned with the socio-economic well-being of a low wage area experiencing sustained population growth.

The Economic and Development Strategy 2008-2010 identified five distinct economic and geographical areas each with their own characteristics within Lincolnshire and classified the areas as follows:

- The expanding Greater Lincoln area - including Gainsborough - which is increasingly prosperous and is consolidating as a regional centre.
- The coastal strip - has significant levels of deprivation due to peripherality and seasonal employment.
- The Fenland area of the south east - has a strong and successful food and horticultural identity.
- The A1 corridor - is experiencing private sector led economic growth and still has significant untapped potential.
- The large central and traditional rural area - has a network of market towns in a historic agricultural setting.

Each area presents a different set of issues, and with the exception of greater Lincoln, the most distinctive characteristic is the commonality of rural issues.

Slow and low economic growth: Gross Value Added (GVA) is a very broad barometer of economic vitality and is used locally, regionally and internationally to make comparisons between areas. The consequences of a low-wage economy are a low GVA. Lincolnshire has one of the lowest GVAs in the country despite the growth in the local economy over the past few years.

In 2011, an LEA was undertaken which described Lincolnshire in terms of its economic profile and examined local data. This study developed thirteen economic

zones to enable data analysis at a more local level and reflect areas where similar issues and opportunities are faced by the local population.

The LEA stated that GVA figures estimates the value of the county's economy at over £10bn for the first time. This however does not improve the economic performance of the county as it still remains one of the weakest and is generally regarded as a low skilled, low wage economy. Lincolnshire's economy is set to continue growing, however, without intervention, the positive projections will not be enough to move it closer to the national or regional rates of economic activity.¹⁰

The economic downturn had an impact on Lincolnshire's economy although less than was experienced in other parts of the country. A number of economic indicators highlight the resilient qualities of the local economy. An example is the county's unemployment rate which fell from 3.8% in January 2010 to 3.2% during April 2011, and has remained below both the regional and national rates. The overall employment rate in the county (72.7%) has remained above that of regional and national rates (71.2% and 70.3% respectively). Recruitment activities appear to have also recovered for some sectors since the economic downturn.

Despite the positive signs of economic recovery, many businesses and organisations in Lincolnshire continue to report difficult trading conditions with some operating at less than full capacity during 2010. The number of businesses per 10,000 of the population (400) is lower than the national rate of 420. The sparse nature of the county results in an average of only five businesses per km² compared to 17 nationally.

There is also a clear rural/urban divide in the county on some issues including, transport, information and communications technology, levels of crime, skills and wages, and how communities access services.

The number of people of working age (16 to 64) in Lincolnshire during the mid-year 2012 population estimate was 441,500 and the percentage of claimants in working age population is 10.7%.¹¹ This figure is lower than the regional and national rates of 10.9% and 11.6% respectively¹². However, the International Labour Organisation's (ILO) wider measure of unemployment shows that 6% of the county's working age population are out of work.

10.4.5 Key Issues – Population

Set out below in Table 10-7 are the key issues that can be identified from the baseline data collected in terms of population and human health.

¹⁰ <http://www.research-lincs.org.uk/UI/Documents/Local%20Economic%20Assessment.pdf> [Accessed 26.07.13]

¹¹ <http://www.research-lincs.org.uk/Local-Economic-Assessment.aspx#data> [Accessed 26.07.13]

¹² <http://www.nomisweb.co.uk/reports/imp/la/1941962809/report.aspx#tabwab> [Accessed 26.07.13]

Table 10-7 Key Issues: Population

| Key Issues – Population |
|---|
| The population of Lincolnshire has increased by 63,200 people in the ten year period to 2012. A breakdown of this data shows that the county continues to have an ageing population and is less diverse than other areas. |
| Deprivation across Lincolnshire has worsened slightly from 2007 to 2010. |
| The economy of Lincolnshire has not been affected in the economic downturn to the extent that has occurred nationally. However, many businesses have reported difficult trading conditions. |

10.5 Material Assets

10.5.1 Relevance to JMWMS

Waste management decisions may impact on material assets, related to transport and social infrastructure, such as hospitals, residential areas etc. How these facilities deal with their waste has a significant bearing on the success of the JMWMS.

10.5.2 Overview

For the purpose of this SEA 'material assets' refers to the critical infrastructure, waste management facilities and housing within the borough that could be potentially affected by the implementation of the JMWMS.

10.5.3 Critical Infrastructure

Critical infrastructure comprises 'those facilities, systems, sites and networks necessary for the functioning of the country and the delivery of the essential services upon which daily life depends'.¹³ The implementation of the JMWMS measures has the potential to disrupt critical infrastructure such as utilities (e.g. clean water, electricity supply, telecoms network), access to community care facilities (hospitals or health centres). The JMWMS will seek to manage these risks to critical infrastructure and material assets within Lincolnshire. If the JMWMS requires the building of new infrastructure, it will also need to consider access to and use of critical infrastructure.

10.5.4 Transport

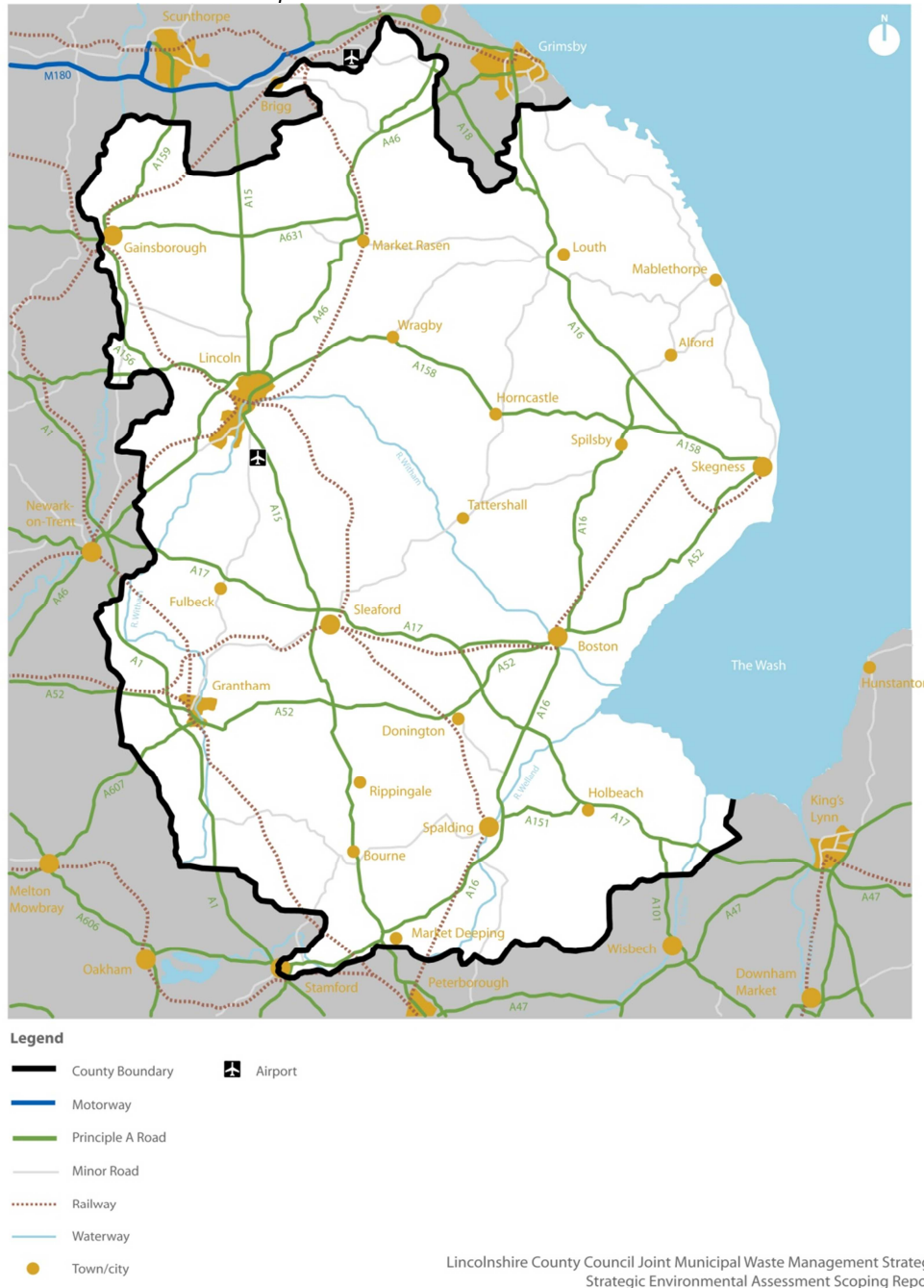
Lincolnshire is a predominantly rural county and as a consequence of its size, the highway network is extensive totalling about 8,905 km (5,534 miles). LCC is responsible for the 5th largest road network in England covering 5,500 miles with 85% classified as rural, 3,030 miles of footway and over 3,500 highways structures.¹⁴

¹³ <http://www.cpni.gov.uk/about/cni/> [Accessed 30.07.13]

¹⁴ <http://www.lincolnshire.gov.uk/residents/transport-travel-and-roads/highway-maintenance/lincolnshire-county-council-highways-alliance> [Accessed 29.07.13]

LCC is the highway authority for all public roads except trunk roads. Within this network there is no motorway and just 41m of dual carriageway of which the A1 and the recently upgraded A46 between Newark and Lincoln form the majority.

Figure 10-2 Lincolnshire's Transport Network



Traffic counts¹⁵ for Lincolnshire, taken by the Department for Transport, show that in 2012 vehicles travelled 2,370,641 thousand miles which is broken down as follows:

¹⁵ <http://www.dft.gov.uk/traffic-counts/area.php?region=East+Midlands&la=Lincolnshire>

- Motorcycles – 19,530
- Cars – 1,788,669
- Buses and Coaches – 14,560
- Light Goods Vehicles – 333,317
- HGV's – 214,599

It is apparent that the predominant mode of transport in the county is the car with the proportion of HGV's (commonly used to transport waste) making up 9% of the total thousand miles.

Lincolnshire's recently published fourth Local Transport Plan (LTP4)¹⁶ identifies the current issues around transport in the county. The LTP4 recognises that there is increasing demand on the road network and at the same time concerns around the environmental impact of transport continue to grow. Three key challenges have been identified which are as follows:

- Supporting growth and the local economy
- Improving access to employment, training and key services, and
- Contributing to a healthier community.

The LTP4 recognises that increasing development in the county will put pressure on transport networks. LCC, as highways authority, is working alongside its constituent district councils on preparing appropriate Infrastructure Development Plans (IDPs) in support of the Local Plans. However, within the current economic climate, delivering appropriate transport infrastructure will be challenging and a range of funding sources will need to be explored.

The LTP4 outlines LCC's commitment to reducing the environmental impact of transport. LCC has ongoing initiatives around reducing carbon emissions, using alternative fuels and reducing the impact of traffic through reduction of speeds and re-routing traffic.

10.5.5 *Public Rights of Way*

There are no national trails within Lincolnshire. However, the Viking Way is a long distance footpath which runs for 235km from the Humber Bridge at Barton-upon-Humber to Oakham in Rutland. There are a number of national cycle routes within the county including national route 1 which runs through Boston, Lincolnshire, and Market Rasen. There are other schemes including a cycleway from Newark to Lincoln and a town centre scheme in Grantham. There is a network of over 4000km of public rights of way in Lincolnshire, including public footpaths, bridleways and byways.

¹⁶ <http://www.lincolnshire.gov.uk/residents/transport-travel-and-roads/transport-planning-and-development-control/local-transport-plan/4th-lincolnshire-local-transport-plan/102070.article?tab=downloads>

10.5.6 Waste

Lincolnshire disposes of a range of waste streams: municipal waste; waste generated by industry, commerce and business; waste from construction and demolition activities; and other more specific waste types such as hazardous waste, agricultural waste, waste water and sewage sludge.¹⁷ Over 3 million tonnes of waste is produced each year and a large percentage of this ends up in landfill.¹⁸

The total municipal solid waste (MSW) arisings in Lincolnshire between 2010 and 2011 was 355,609 tonnes. Data shows that the average rate of change yearly between 2000/01 to 2010/11 has remained at 1%. Municipal waste arisings in the County is currently forecasted to grow at a rate of 1.7% per annum from the 2010/11 figure of 355,609 tonnes over the next 20 years until 2030/11. It is also assumed that that 55% of the total arisings is recycled and composted (with a ratio of 32% and 23% of total arisings, respectively), and that by 2013/14 150,000 tonnes per annum is recovered via the energy from waste facility at North Hykeham.¹⁹

Lincolnshire is in the process of producing their Minerals and Waste Development Framework, which is a new set of documents to replace the existing Mineral and Waste plans and will address future waste activities in the County.²⁰

Waste collection and disposal results in a substantial number of lorry movements into and out of the County to transport waste to recycling facilities, energy from waste facilities or landfill sites. Regular collections are required from households and with the number of households increasing and the amount of waste increasing; there will inevitably be an impact on transport.

It is essential to ensure that the JMWMS considers such issues regarding the increasing number of households and corresponding increases in waste generation and waste transportation to enable appropriate waste management across the County.

10.5.7 Housing and Homes

The issues of affordable housing will be addressed by the Local Planning Authorities, Local Development Framework Core Strategies and Site Allocations Development Plan Documents (DPD). Within these DPDs, new housing locations are identified as will new employment sites, it is essential that the JMWMS is integrated with the LDFs to ensure that development is located in areas that are not negatively impacted by the implementation of the strategy.

Lincolnshire is a growing county in terms of provision of new homes. The town of Grantham is a designated growth point, and here alone it is anticipated that 7,500

¹⁷ Preferred Minerals and Waste Strategies, 2010. [Lincolnshire Council]

¹⁸ <http://www.lincolnshire.gov.uk/recycle-for-lincolnshire/waste-local-plan/> [Accessed 30.07.13]

¹⁹ Lincolnshire County Council, Waste Needs Assessment, November 2012.

²⁰ <http://www.lincolnshire.gov.uk/residents/environment-and-planning/planning-and-development/minerals-and-waste/minerals-and-waste-sites/88170.article> [Accessed 30.07.13]

homes and 4,000 jobs will be created by 2026. Furthermore, within central Lincolnshire (City of Lincoln, North Kesteven and West Lindsey), the draft Core Strategy sets out plans to build 42,800 homes by 2031.

The JMWMS must ensure access to services is a high priority for new housing development within Lincolnshire, the SEA process provides an opportunity to ensure that these issues are fully addressed at the strategy options/alternatives appraisal stage.

10.5.8 Agriculture

The East Midlands is a very productive area for agriculture and contains a significant percentage of the total national resource of the best and most versatile agricultural land. The proportion of Grade 1, 2 and 3a agricultural land, i.e. the best and most versatile land, in the East Midlands is 47% compared to 39% across England. The East Midlands also contains a significant percentage (34%) of the total national resource of Grade 1 agricultural land. Within the region, over 1.2 million hectares of land is in agricultural use and the industry employs over 39,000 people across some 18,500 farms.

Farming is a major industry in Lincolnshire, with a farmed area of 484,220ha, a total of 3,680 holdings and a labour force of 8,490 in 2010.²¹ Some of the highest grade agricultural land in the country is found in the south and east of the county, with 44% of the agricultural land in Lincolnshire being Grade 1 or Grade 2.

Lincolnshire is the largest producer of wheat in the UK; contributes over 10% of total national wheat production and over 50% to regional production. The split in produce on Lincolnshire's farms is shown in Table 10-8 below.

The JMWMS needs to consider protection of agriculture and the infrastructure required for transportation.

Table 10-8 Farming Produce

| Type | Area / Number | Includes |
|--------------|---------------|---|
| Arable | 383,729 ha | Cereals 2,328ha; potatoes 13,650ha; sugar beet 19,971ha; field beans 19,826ha, peas 5,290ha, oilseed rape 62,412ha, linseed 3,695ha, root crops 1,375ha |
| Horticulture | 32,480ha | Peas and beans 11,329ha; other veg and salad 19,067ha; fruit 152ha; bulbs and flowers 1,620ha |
| Livestock | 3,227,858 No. | Cattle 87,814; pigs 174,722; sheep 144,789; goats 1,024; horses 4,760; poultry 12,945,060 |

²¹ <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do> [Accessed 30.07.13]

10.5.9 Key Issues – Material Assets

Set out below in Table 10-9 are the key issues that can be identified from the baseline data collected in terms of material assets.

Table 10-9 Key Issues: Material Assets

| Key Issues – Material Assets |
|--|
| There is an extensive highway network in Lincolnshire. In recent years the length of trunk roads has reduced dramatically as a result of the detrunking of several A roads. |
| Increasing demand on the transport network and an increase in concern around the environmental impact of traffic. |
| Waste collection and disposal results in a substantial number of lorry movements into and out of the County to waste management facilities. Regular collections are required from households and with the number of households increasing and the total amount of waste increasing; there is the potential for an impact on transport. |
| Mineral extraction operations within the county will result in substantial lorry movements to transport materials. |
| New housing and employment sites are presently being identified across the county, |
| Lincolnshire contains a significant amount of best and most versatile agricultural land and is a large producer of food. |

10.6 Cultural Heritage

10.6.1 Relevance to JMWMS

Waste management decisions may change the pattern and frequency of waste collections which may have a visual impact on areas of heritage value due to the equipment that may be required.

10.6.2 Overview

The term ‘cultural heritage’ covers buried archaeological remains which allow the study of past societies through the medium of material culture, and built heritage which is buildings and structures of heritage interest.

10.6.3 Lincolnshire’s Heritage Assets

Lincolnshire’s historic landscape and built environment reflects local topography, land use and the availability of building materials, and more recently changes in social conditions and technological advances. One of the county’s assets is the combination of styles and materials which represent the economic and aesthetic influences of different periods of history. This is reflected in the high historic and cultural value of the cores of Lincoln City and surrounding towns.

Some of the earliest archaeological remains include evidence of Palaeolithic inhabitation, other features include the prehistoric burial mounds of the Wolds, the

waterlogged landscape of the Witham Valley, medieval castles and monasteries and the industrial and agri-industrial buildings of the towns and World War II sites and defences, the most important of which are designated Scheduled Ancient Monuments (SAMs). Lincolnshire has a small number of historic battlefield sites one of which, at Winceby, is registered.

There are a number of grant schemes supported by LCC which aim to repair historic buildings; these schemes include Townscape Heritage Initiative in Boston, Heritage Economic Regeneration Scheme in Burgh le Marsh, Tattershall, Woodhall Spa and Wragby, and Historic Buildings Grant Schemes throughout the county.

10.6.4 Conservation Areas

Conservation areas are designated for their special architectural and historic interest. They are normally centred on listed buildings and groups of other buildings, open space, or historic street patterns. Planning legislation requires that special attention shall be paid to the desirability of preserving or enhancing the character or appearance of the conservation area.

The district councils within the Lincolnshire boundary have recognised the importance of the man-made heritage; this is reflected in development plans which contain a number of policies which afford protection to the character and appearance of the historic built environment. Proposals for waste management developments impinging on conservation areas and listed buildings are expected to respect and enhance their surroundings in terms of appearance. For Lincolnshire as a whole there are 162 conservation areas,²² 7200 Listed Buildings,²³ and 478 Scheduled Ancient Monuments.²⁴

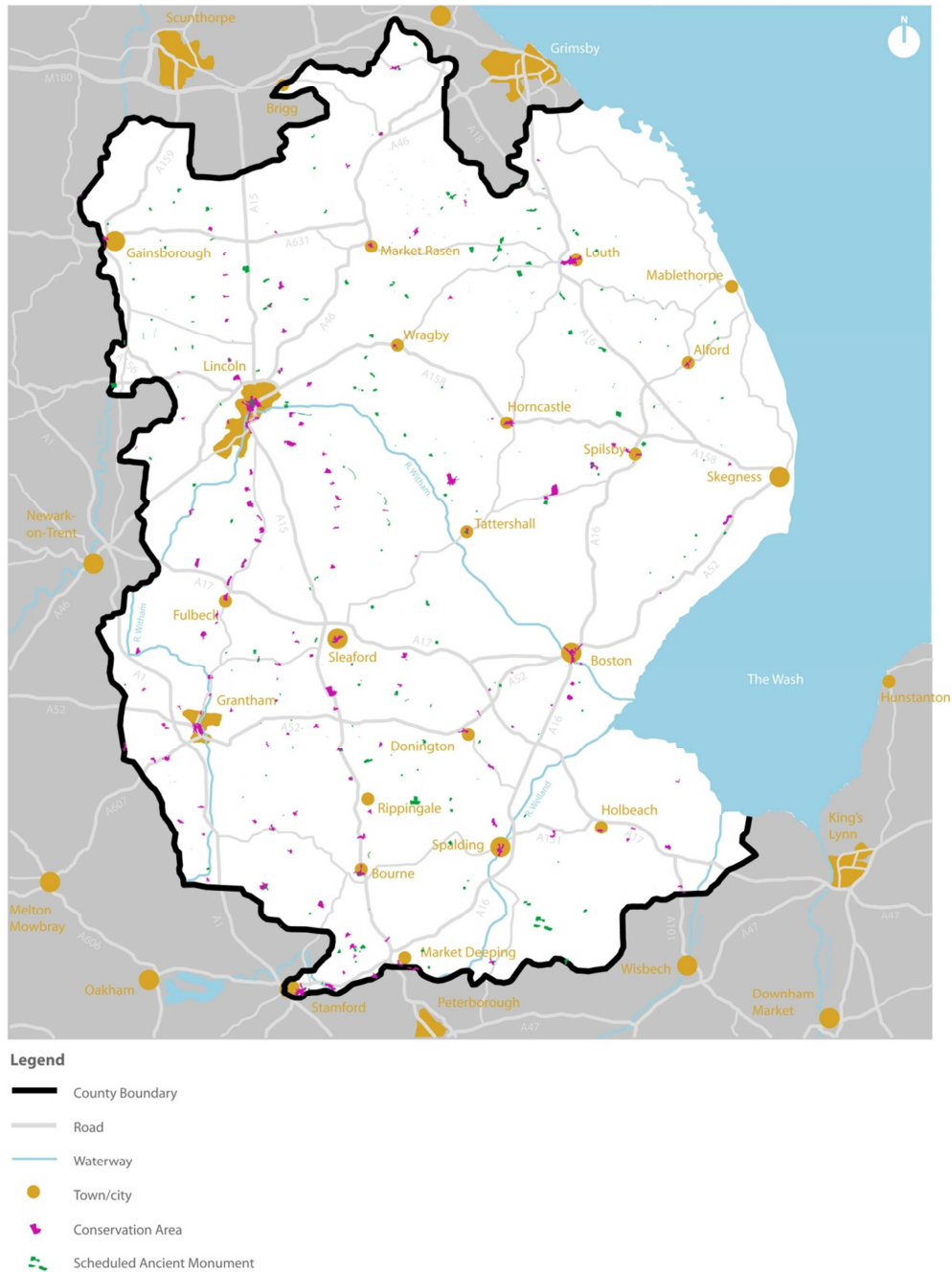
Lincolnshire's conservation areas and Scheduled Ancient Monuments are shown in Figure 10-3.

²² <http://www.lincolnshire.gov.uk/residents/environment-and-planning/conservation/conservation-areas/conservation-areas-in-lincolnshire/100514.article> [Accessed 01.08.13]

²³ <http://www.lincolnshire.gov.uk/residents/environment-and-planning/conservation/listed-buildings/> [Accessed 01.08.13]

²⁴ <http://www.lincolnshire.gov.uk/residents/environment-and-planning/conservation/scheduled-monuments/> [Accessed 01.08.13]

Figure 10-3 Lincolnshire's Conservation Areas and Scheduled Ancient Monuments



Lincolnshire County Council Joint Municipal Waste Management Strategy
Strategic Environmental Assessment Scoping Report

10.6.5 Historic Landscape Character zones

This wider historic landscape character is a fundamental aspect of the historic environment. The County of Lincolnshire has been assessed within the context of English Heritage's 'Historic Landscape Characterisation Programme'. The programme identified 42 Historic Character Zones within 10 broad Historic Landscape Types; these comprised:

- The Confluence
- The Northern Cliff
- The Northern Marshes
- The Wolds
- The Clay Vale
- The Trent Valley
- The Southern Cliff
- The Grazing Marshes
- The Fens
- The Wash

A complete list of the Historic Character Zones is available from English Heritage document '*The Historic Character of the County of Lincolnshire*'²⁵

10.6.6 Key Issues – Cultural Heritage

Set out below in Table 10-10 are the key issues that can be identified from the baseline data collected in terms of cultural heritage.

Table 10-10 Key Issues: Cultural Heritage

| Key Issues – Cultural Heritage |
|---|
| Lincolnshire has a large amount of heritage assets including 162 conservation areas, 7200 listed buildings and 478 scheduled ancient monuments across the county. |

²⁵ English Heritage(2011). The Historic Character of The County of Lincolnshire: English Heritage Project No. 4661. [Accessed 01.08.13]

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