Joint Municipal Waste Management Strategy

for Lincolnshire

The Lincolnshire Waste Partnership
June 2008

Boston Borough Council
East Lindsey District Council
Environment Agency
City of Lincoln Council
Lincolnshire County Council
districtnk
South Kesteven District Council
South Holland District Council
West Lindsey

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1 Vision

This Joint Municipal Waste Management Strategy (JMWMS) for Lincolnshire provides a method by which the eight local authorities of Lincolnshire and the Environment Agency can work in Partnership to deliver sustainable waste management services to the community, as well as to commercial and industrial customers, and establish best value waste management practices.

The Lincolnshire Waste Partnership vision is:

- To commit to sustainable development and the waste hierarchy
- To minimise waste growth by encouraging and promoting waste prevention and reduction
- To promote sustainable resource use through increased re-use, recycling and composting of waste
- To maximise recovery and the use of waste as a resource
- To reduce the amount of biodegradable waste sent to landfill each year
- To minimise the impacts of final disposal

2 Introduction

2.1 Background

A partnership has been established between the public bodies within Lincolnshire responsible for collection and disposal of waste. The purpose of the partnership is to:

- Continuously improve the quality of service provided to the community
- Establish best value waste management for the public across Lincolnshire
- Meet landfill diversion targets

The Lincolnshire Waste Partnership (the Partnership) operates within a framework of joint working, agreement and partnership. Each Local Authority in the Partnership is represented by an officer and member with executive authority to take decisions on behalf of his/her Local Authority in relation to matters to be considered by the Partnership.

This Joint Municipal Waste Management Strategy provides a structure that will enable the eight partnering local authorities of Lincolnshire (Boston Borough Council, City of Lincoln Council, East Lindsey District Council, Lincolnshire County Council, North Kesteven District Council, South Holland District Council, South Kesteven District Council and West Lindsey District Council) and the Environment Agency to manage the municipal waste produced in the County effectively.

While waste management performance in the County is improving, this waste strategy has been developed to set a framework within which the Partnership can continually improve the waste management services offered, minimise costs and meet challenging recycling and landfill diversion targets.

The aim of the waste strategy is to provide information on the following:

- The current and future legal obligations that the Partnership will need 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
- How the Partnership plans to implement this strategy.

The Environmental Assessment of Plans and Programmes Regulations 2004 introduced a requirement for a Strategic Environmental Assessment (SEA) to be produced for a number of statutory documents including Municipal Waste Management Strategies (MWMS). As the Partnership is revising its Joint Waste Strategy there is a statutory requirement to undertake an SEA on this document. Consequently, in accordance with Government guidance, the SEA process, including the preparation of an Environmental Report, has been conducted at the same time as developing the Joint Municipal Waste Management Strategy (JMWMS). This ensures that implementation of the JMWMS, through long-term procurement of waste management infrastructure, will be supported by the SEA.

The role of the SEA is to complete a thorough environmental assessment of a number of scenarios, considering a number of waste treatment technologies which can deliver the objectives set by the strategy. The initial consultation on the development of the new waste strategy has been conducted with a range of stakeholders as part of the scoping stage process for conducting the SEA on the draft waste strategy.

As part of the SEA and the strategy development process there is a requirement to conduct a public consultation. The Partnership made the draft strategy and the Environmental Report (which presents the outcomes of the SEA) available to the public for consultation from 21 December 2007 to 7 March 2008. The outcomes of the consultation exercise have been incorporated, together with the findings of the technical evaluation, into the final version of the strategy and the Environmental Report. .

It is important to note that while new legislation will require improvements from other sectors in the management of all waste streams, the Partnership is currently only responsible for managing municipal waste. The plans for any new recycling facilities and residual treatment facilities described in this strategy will only cover this waste stream.

2.2 Scope and context

Lincolnshire's original Waste Strategy (April 2002) highlighted the challenges and drivers facing local authorities in the management of waste, and included reference to the following:

- The need for more waste to be recycled, composted or (in the longer term) used in energy recovery schemes as a result of various EU and Government initiatives, policies and targets
- The fact that municipal solid waste (MSW) arisings are growing steadily
- The fact that the costs of dealing with each tonne of waste are increasing

Most of these drivers were a result of the Government's Waste Strategy 2000[1], which sets a national framework for waste management and introduced statutory recycling and composting targets for local authorities.

More recently the Government published Waste Strategy 2007 which provided a greater emphasis on tackling waste growth, improving recycling/composting and diverting substantial quantities of biodegradable waste away from landfill. To enable the implementation of this national Waste Strategy, the Government introduced key policies and regulations primarily focused around the use of the following economic instruments:

- **Landfill Tax** - Landfill tax is paid for each tonne of waste disposed of at landfill sites. Landfill tax will increase by at least £8 per tonne each year until the tax reaches £48 per tonne by 2010/11. The landfill tax is currently £32 per tonne, rising to £40 per tonne in 2009/2010. This means the increase in landfill tax will cause a significant increase in overall waste disposal costs for as long as landfilling is used as the principal method of disposal. On the other hand it will simultaneously provide a considerable incentive to move to alternative and more sustainable means of waste disposal.
- **Landfill Allowance Trading Scheme (LATS)** - The government has implemented the requirements of the Landfill Directive through the Waste and Emissions Trading Act 2003. This sets annual allowances limiting how much Biodegradable Municipal Waste (BMW) can be disposed of in landfill sites in any particular year. These allowances came into effect in April 2005. The Government's guidance on

[1] Waste Strategy 2000 for England and Wales, DETR, April 2000

Trading, Banking and Borrowing Landfill Allowances sets out the procedure for transferring landfill allowances. Authorities can buy more allowances if they expect to landfill more than their allocations and authorities with low landfill rates can sell their surplus allowances. It will also enable some authorities to save unused allowances (banking) or bring forward part of their future allocation (borrowing). Failure of an authority to deliver its obligations under LATS could result in the Government fining the authority £150 per tonne for every tonne in excess of its allowance.

The County currently landfills around 220,000 tonnes of waste which comes into its possession (2006/07 figures) and this is already a costly process which will become more costly even if current quantities remain static, notwithstanding any increase in quantities which may result from overall growth in waste arisings. The landfilling of waste also has a detrimental effect on the environment through the production of greenhouse gases. The Partnership is therefore committed to managing waste in a more sustainable way and treating waste as a resource. When waste is reused, recycled or composted, the materials produced reduce the need for virgin materials and therefore help to conserve natural resources. In addition, the pollution and negative impacts to the environment associated with extracting and transporting raw materials are avoided. This is also the case for energy recovery, where waste can be used to generate electricity in place of fossil fuels.

To bring further emphasis to the importance of waste prevention, reuse, recycling, composting and energy recovery, a waste hierarchy (Figure 1 below) was established through the Framework Directive on Waste[2]. The waste hierarchy provides a framework of how waste management can be made more sustainable. The aim for all stakeholders should be to move up the waste hierarchy: moving away from a reliance on disposal - to increased recycling, composting, reuse, and recovery and ultimately to waste reduction/prevention. It confirms that reducing waste at source is the best environmental option, and wherever achievable this principle has been employed in the development of this strategy. When assessing waste management proposals, the waste hierarchy has been used as a guide rather than being applied rigidly, as a certain amount of flexibility is needed to arrive at the most balanced environmental, social and economic solution.

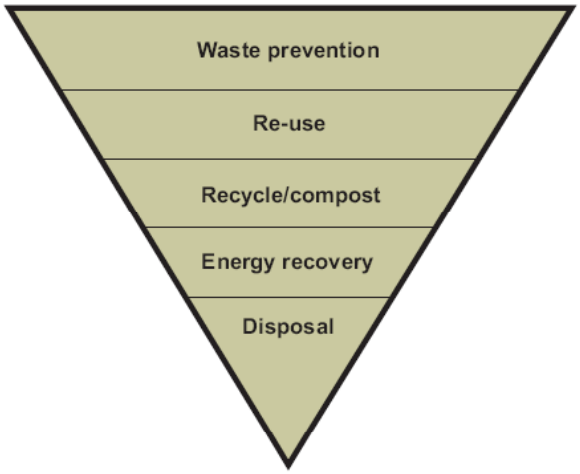


Figure 2-1: The Waste Hierarchy

[2] The Framework Directive on Waste (75/442/EEC)

2.3 What does the waste strategy cover?

This strategy details how the Lincolnshire Waste Partnership will seek to reduce waste at source and handle and treat the municipal waste which comes into its possession, and which is comprised of:

- Kerbside collected residual waste
- Kerbside collected recyclables
- Kerbside collected garden waste
- Recycling bring banks
- Bulky household items
- Waste taken to household waste recycling centres (HWRC)
- Street sweepings and litter
- Commercial and industrial waste where collected by the authorities
- Hazardous and clinical household waste
- Fly-tipped waste
- Waste from markets and educational establishments

The producers of industrial and commercial waste are responsible for making their own waste management arrangements and are not generally of primary consideration in this strategy. However, commercial and industrial organisations produce significant quantities of waste and the Lincolnshire Waste Partnership will consider the wider waste stream in future waste management options.

The Lincolnshire Waste Local Plan 2006 sets out detailed land-use policies and proposals for waste management and waste disposal in the County. The original (2002) waste strategy has been considered in the preparation of the Waste Local Plan 2006, which sets a framework for sustainable waste management and identifies specific sites for waste management use. As Lincolnshire moves away from reliance on landfill, this waste strategy helps determine the need for new types of facilities.

3 What are the key legislative drivers?

This chapter outlines the main legal requirements for waste management that the Partnership has either already met or will need to meet as new legislation and requirements are introduced. It then considers the legislation regarding planning for any new waste management facility that may be required to enable the Partnership to meet its future targets.

3.1 European waste policy and legislation

The European Union has become the major source of environmental legislation and guidance in relation to the management of waste. A number of European Directives have been introduced which aim to increase levels of recycling and recovery, and thus reduce the amount of waste which is landfilled, namely:

- Framework Directive on Waste (75/442/EEC)
- Landfill Directive (1999/31/EC)
- Directive on Packaging and Packaging Waste (94/62/EEC)
- Waste Electrical and Electronic Equipment Directive (2002/96/EC)
- End of Life Vehicles Directive (2000/53/EC)
- Ozone Depleting Substances (Regulation 2037/2000)
- Directive on Batteries (2006/66/EC)
- Waste Incineration Directive (2000/76/EC)

The main area of European legislation that this waste strategy has to consider is the Landfill Directive. This aims to prevent, or minimise, the negative effects on both the environment and human health caused by landfilling of wastes. It has and will continue to have a significant impact on landfill practices in the UK, as it bans certain materials from being landfilled, requires waste to be pre-treated before it is landfilled, and requires improvements to landfill management. The introduction of the Directive has resulted in a significant reduction in the number of landfill sites in the UK accepting hazardous wastes. The ban on the landfilling of certain wastes, such as tyres, from 2006 has meant that new arrangements for their collection and management have been introduced.

Landfilled biodegradable waste is a major source of methane: a greenhouse gas over 20 times more potent than carbon dioxide in terms of global warming. The Landfill Directive will require the amount of BMW sent to landfill in the UK to be reduced:

- to 75% of 1995 levels by 2010,
- to 50% of 1995 levels by 2013, and
- to 35% of 1995 levels by 2020.

The UK Government has implemented the requirements for reducing the landfilling of biodegradable waste through the Waste and Emissions Trading Act 2003. This sets Waste Disposal Authorities (such as Lincolnshire County Council) annual allowances limiting how much BMW can be landfilled in any particular year. The Government will fine authorities that do not achieve their annual targets. However it will allow authorities to achieve targets by buying allowances from other Waste Disposal Authorities if they expect to landfill more than their allocations, or to sell their surplus if they expect to landfill less.

The allowances for Lincolnshire County are:

- 194,120 tonnes of BMW to landfill in 2005/06
- 131,376 tonnes of BMW to landfill in 2009/10
- 87,506 tonnes of BMW to landfill in 2012/13
- 61,231 tonnes of BMW to landfill in 2019/20

This waste strategy outlines how the Partnership intends to meet or better these targets, and thus avoid the need to either pay fines or purchase allowances. Information on the other relevant EU legislation that the JMWMS has to consider can be found in Appendix 1.

3.2 UK waste policy and legislation

Although most waste legislation in the UK has been introduced to meet the requirements set by European Directives, the UK Government has also introduced additional legislation, some of which is specifically aimed at encouraging recycling:

- The Financial Act 1996 and Landfill Tax Regulations 1996
- Waste Minimisation Act 1998
- Local Government Act 1999 – Best Value Regime
- Animal By-Products Order and Regulations 2003
- The Waste and Emissions Trading Act 2003
- Household Waste Recycling Act 2004
- Clean Neighbourhoods and Environment Act 2005

The Waste and Emissions Trading Act 2003 has changed the relationship between waste collection and waste disposal authorities. It requires that two-tier authorities have a joint waste management strategy in place. The Act also gives waste disposal authorities the power to direct waste collection authorities to deliver waste in a state of separation that would increase recycling.

3.3 Waste strategy for England

The Government first published a National Waste Strategy in 2000. An updated Waste Strategy for England was published (following consultation during 2006) in May 2007.

The aim of the updated Waste Strategy, which sets the Government's vision for sustainable waste management, is to reduce waste by making products with fewer natural resources, and thus breaking the link between economic growth and waste growth. Products should be re-used, their materials recycled, and energy recovered, so that landfilling of residual waste should occur only where necessary.

The key points in the National Waste Strategy 2007 that are relevant to this strategy are:

- Waste minimisation - A strong emphasis on waste prevention with:
    - householders reducing their waste;
    - businesses helping consumers, for example, with less packaging;
    - development of a service which will enable households to opt-out of receiving un-addressed as well as addressed direct mail
    - a reduction in the use of free single-use plastic bags, and
    - an aspirational target of reducing residual waste production to a level of 225kg/head by 2020.

- Recovery of municipal waste – 53% by 2010, 67% by 2015 and 75% by 2020.
- Recycling – Targets to recycle or compost at least 40% of household waste by 2010, rising to 45% by 2015 and 50 per cent by 2020. This is a significant increase on the targets (30% by 2010 and 33% by 2015) in the previous Waste Strategy 2000.
- Treatment of residual waste - Increasing the amount of energy produced by a variety of energy from waste schemes, using waste that cannot be reused or recycled. It is expected that from 2020 a quarter of municipal waste nationally will produce energy, compared with 10% today.

More information on the new national Waste Strategy for England can be found in Appendix 1. This JMWMS outlines how the Partnership will meet or better the above national targets in the longer term.

3.4 Regional policies

This strategy is influenced in various ways by other plans and strategies that have been considered during the development of the SEA and are listed in Appendix 1. These include:

- Regional and local plans
- Waste management in neighbouring local authorities

These documents cover various different timescales, however, the Partnership needs to assess the impact they may have on its Waste Strategy over the longer term.

The East Midlands Regional Strategy sets out the principles and priorities for waste management for the Region:

- working towards zero growth in waste at the regional level by 2016;
- reducing the amount of waste sent to landfill in accordance with the EU Landfill Directive;
- exceeding Government targets for recycling and composting, with the objective to bring all parts of the region up to the levels of current best practice; and
- taking a flexible approach to other forms of waste recovery, on the basis that technology in this area is developing very quickly and is difficult to predict over a 20-year period.

It sets ten broad priority issues for the region including: planning waste management infrastructures; promotion and education to change behaviour; increasing resource efficiency; reducing commercial waste; procurement and market development; and reducing fly tipping.

3.5 Planning policy guidance

The County Council has a statutory duty to prepare a waste and minerals Local Development Framework, which sets out its policies and proposals for waste and mineral land use. This document in turn is used to assess waste and mineral planning applications. Planning decisions on waste treatment facilities taken now and in the near future will influence whether or not the UK will be able to meet the landfill diversion targets set by the Landfill Directive.

Planning Policy Statements (PPS) set out the Government's national policies on different aspects of land use planning in England. The following planning policy documents will have an impact on planning for any future waste management facility:

- Planning Policy Statement 10: Planning for Sustainable Waste Management
- Regional Spatial Strategy
- Waste Development Framework.

The Lincolnshire Waste Local Plan was adopted in May 2006, and sets out detailed land-use policies for waste management within Lincolnshire.

The role of the Waste Local Plan is to:

- set the policy framework for the most sustainable approach at the present time, and over the Plan period, for dealing with waste planning in Lincolnshire;
- provide a land use and development control interpretation of the Municipal Waste Management Strategy for Lincolnshire and the Draft Regional Waste Strategy for the East Midlands; and
- provide the criteria and standards by which planning applications for waste management developments can be judged.

Through Section 38(6) of the Planning and Compulsory Purchase Act 2004 the Plan's policies will take precedence over other matters, although the Plan can be overridden if a particularly strong case is made on other planning grounds.

The Waste Local Plan identified suitable sites for a number of technologies.

Within the context of European, National, Regional and countywide strategies for dealing with the many waste streams, the Waste Local Plan's strategic approach is to:

- promote waste minimisation and recycling and reuse through the land use planning system;
- with the exception of some hazardous wastes (which will require treatment and disposal outside of the County), ensure the provision of an adequate range of waste management and disposal facilities to meet the identified needs;
- minimise the transportation of waste from its source;
- make the Plan as location specific as possible and in other instances define areas of search;
- safeguard the existing network of waste management facilities from alternative development of a non-waste management nature;
- identify areas where waste facility development would be inappropriate;
- facilitate the development of integrated recovery and treatment facilities;
- facilitate the development of recycling facilities in locations where direct linkages can be made to companies using recyclables in their processes;
- show flexibility in responding to technical change in the provision of new facilities and processes;
- ensure that adequate landfill capacity is maintained to meet the needs of the County for the disposal of waste that cannot be reused, recycled or treated; and
- ensure the sitting of waste management facilities does not result in an unacceptable risk to the environment, human health or the amenity of the area.

4 How has the strategy been developed?

4.1 Background

The first Joint Municipal Waste Management Strategy for Lincolnshire was originally adopted in April 2002.

As part of the original strategy, stakeholders were consulted and subsequently an options assessment was carried out by SLR Consultants in March 2002 which evaluated the impacts of differing waste management activities in terms of cost, planning, sustainability and environmental objectives.

A review of the strategy was undertaken in 2005. A further review took place in 2006/07, which identified that a new joint waste strategy and a SEA were required.

4.2 Development of a new waste strategy

This strategy has been compiled following Government guidance on waste management strategies and assessed in accordance with the ODPM guidance 'A Practical Guide to the Strategic Environmental Assessment Directive' (2005)[3].

The strategy development process has followed a series of stages that enabled maximising stakeholder involvement. These stages are as follows:

- Develop the Waste Strategy Objectives
- Develop a series of waste management options
- Develop a set of weighted socio-economic and environmental assessment criteria
- Test how well the waste management options perform
- Assess the compatibility of the assessment criteria
- Prepare the Environmental report and Draft Strategy
- Monitor the implementation of the Strategy

The Lincolnshire Waste Partnership has consulted with stakeholders and the public during the process of developing the waste strategy. Two key consultation stages are included in the strategy development process:

- Scoping Stage – Statutory stakeholders were asked to comment on the waste strategy objectives, options, assessment criteria and weightings
- Consultation on the Draft Strategy and Environmental Report – Statutory stakeholders and the public have been consulted using a variety of methods including workshops, questionnaires and roadshows to provide opinion and feedback regarding the relative importance of the assessment criteria used to evaluate the options.

[3] The Department for Communities and Local Government (DCLG), http://www.communities.gov.uk

4.3 Scoping stage

At the scoping stage of the strategy development process, statutory stakeholders were asked to provide their feedback on a number of issues. These included:

- Is the proposed SEA methodology appropriate to cover the issues relevant to the Partnership's waste strategy?
- Are there any local issues not covered (or inadequately covered) in the Waste Strategy which need to be further assessed in the SEA?
- Does the initial list of assessment criteria cover the complete range of issues that are required to be considered in an SEA for the Partnership's waste strategy?
- Assuming an approach following the waste hierarchy, are there any other technologies which should be considered in the assessment of alternatives?
- Are the proposed weightings assigned to the evaluation criteria that will be used to assess the Waste Strategy options appropriate?

The statutory bodies consulted and their responses to the consultation are provided in appendix 2. The feedback received was incorporated as relevant to the development of the SEA methodology. In summary, the consultees provided a range of responses including:

- The need for the SEA to consider an in-vessel composting facility to allow separate collection of cooked and uncooked food waste in addition to green waste
- A number of comments on the criteria assessment and proposed weighting. These are listed in Appendix 2
- Establishing the economic benefits of the new facility in terms of the jobs created that can be filled by the local workforce
- The strategy needs to have a clear waste minimisation focus
- The need to consider "birdstrike" as a human factor in relation to the RAF's activity in the county
- The impact of population Growth Point for Lincoln and Grantham
- The consideration of potential impacts of the strategy on the historic environment

4.4 Public consultation

As part of the waste strategy development and SEA process, there is a statutory requirement to undertake public consultation. It is recommended that the public consultation period lasts for 12 weeks, but this is not statutory. The public was consulted on the proposed Draft Strategy and the Draft Environmental Report, which presented the outcomes of the Strategic Environmental Assessment (SEA).

The Partnership carried out the public consultation between 21 December 2007 and 7 March 2008. The documents made available during the consultation period were:

- The full Draft Strategy and appendices
- Summary of the strategy objectives
- Draft Environmental Report and its appendices

The consultation took the following forms:

- Web based consultation documents and questionnaire
- Postal questionnaire
- Workshops
- Roadshows

The results of the questionnaire show a broad acceptance of the new strategy. The objectives of the strategy have been accepted as being a good basis for helping the Partnership deliver more sustainable waste management services in the county. Respondents were positive about all the statements and agreed that the Partnership needs to reduce the amount of waste produced, and encourage the public through education and awareness campaigns to do more recycling and help minimise waste. It was also considered important that the Partnership maximises the value recovered from waste.

In term of alternatives to landfill, respondents were keen that the decision process should be governed by the environmental impact, the impact a new facility would have on the local communities and on cost. This is compatible with the weightings, agreed through the workshops, to be used in the criteria assessment to identify a preferred residual waste treatment option.

The outcomes of the workshops were that delegates agreed with the overall strategy but that the wording of some objectives needed to be amended. The proposed recycling targets were judged too low and that they should be in excess of 50%. In terms of technology option, there was a clear agreement in both workshops that Energy from Waste (EfW) was the preferred option to treat residual waste in Lincolnshire.

The workshop played a crucial role in setting the weightings for the criteria that have been used in the final version of the SEA.

Further details on the public consultation and its outcomes can be found in Appendix 3.

5 Where are we today?

In order to develop a robust long-term strategy we have assessed the existing baseline data and information and have determined the impacts that key drivers will have on waste management services in Lincolnshire. This section provides details of the waste services provided, the quantities of waste produced, and the performance levels being achieved.

5.1 Demographics

Within the East Midlands Region, Lincolnshire is the largest County covering 592,075 hectares, and the fourth largest in England covering 5% of England. Lincolnshire had one of the fastest growing populations in England between 1991 and 2001: at 10% compared to 3% nationwide. Lincolnshire's population grew by a further 5% between 2001 and 2005, with wide changes between the districts. North Kesteven grew by a further 8.2% compared to 2.9% in South Kesteven, and in general the rural areas are growing faster than Lincoln City. Looking at the population, Lincolnshire has an ageing population with more than 19% of its population being over 65 years of age, with the highest proportion residing in East Lindsey at 23%.

Lincolnshire was home to 678,700 people in 2005[4], living predominantly in rural areas (70%). The average household is made up of 2.26 persons compared to 2.36 for England as a whole.

5.2 Waste arisings

5.2.1 Current arisings

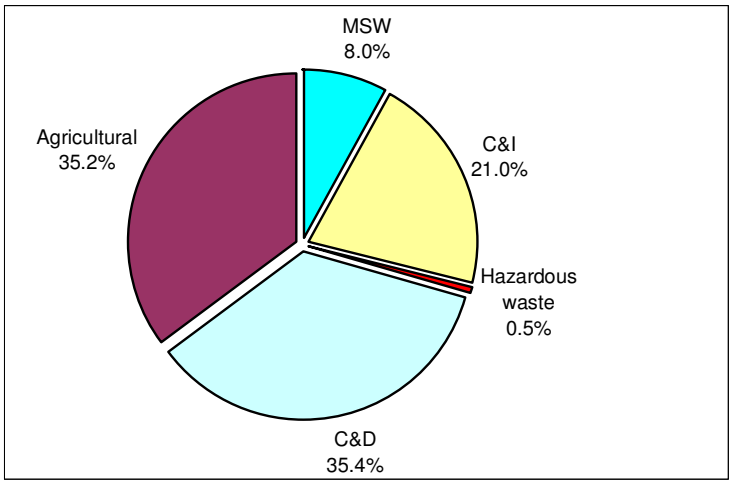
The overall arisings of all solid waste in England and Wales were estimated to be about 375 million tonnes in 2004. This includes nearly 100 million tonnes of waste from mining and quarrying, which is not subject to control under the EU Waste Framework Directive, and nearly 220 million tonnes of controlled wastes from households, commerce and industry (including construction and demolition wastes). Household wastes represent about 9% of controlled waste arisings. The total arisings of agricultural wastes, which includes manure and straw, are estimated to be 45 million tonnes. Other wastes, which include forestry wastes and fishing wastes, represent about 1% of total waste arisings.

Controlled waste is defined as waste from the following sources:

- Municipal Solid Waste (MSW);
- Waste arising from commercial premises (such as shops, offices and restaurants);
- Waste arising from industrial premises
- Waste arising from construction and demolition (C&D) activities; and
- Certain agricultural wastes (this only covers a small percentage of total agricultural waste arisings).

[4] The Changing Demographics of Lincolnshire - An update on population trends in the county, November 2006. http://www.research-lincs.org.uk/

Lincolnshire accounted for 16% of the East Midlands waste arisings in 2003 at 4,184,539 tonnes of waste. As a predominantly rural county the most significant waste stream is that which comes from agricultural services, which represented 35% of the total waste stream in 2003. This should be compared with a municipal waste stream which represented 8% of the total arisings in 2003[5]. Figure 5-1 below sets out the relative levels of each type of waste produced in Lincolnshire, along with the tonnages.



Source: Regional Waste Strategy for the East Midlands, 2006
C&D: Construction Demolition waste; C&I: Commercial and Industrial waste

Figure 5-1 Principal waste streams arising in Lincolnshire (2003)

It should be noted that the vast majority of agricultural wastes are not controlled under waste management legislation. The majority of agricultural wastes (*e.g.* slurry) are recycled to land and the provision of facilities for the management of these wastes is outside the scope of this strategy.

Municipal solid waste (MSW) is defined as household waste and any other waste collected by Waste Collection Authorities or its agents including waste from gardens and parks which comes into the possession of Waste Disposal Authorities, trade waste and waste resulting from the clearance of flytipped materials. Household waste includes waste from kerbside collection rounds (residual, dry recyclables and garden waste); Household Waste Recycling Centres (HWRC); bring schemes; bulky waste collection; hazardous waste collection, and street sweepings.

Table 5.1 shows the breakdown of MSW across Lincolnshire with 365,537 tonnes arising in 2006/07 of which 96% is household waste.

Table 5.1 Summary of Municipal Waste Arisings in Lincolnshire 2006/07

Waste Stream	2006/07 (tonnes)	% of Total waste stream
Municipal Waste	365,537	100%
Household Waste	349,663	96%
Waste Collected at HWRCs	76,043	21%
Waste Collected by WCAs	283,505	78%
Household waste recycled	140,950	40%

[5] Lincolnshire waste Local Plan, 2006

Table 5.2 presents a breakdown by district of current waste collected and recycled at the kerbside, and waste recycled at the county HWRCs.

Table 5.2 Kerbside Collection and Household Waste Recycling Centre Data 2006/07

	Boston	East Lindsey	Lincoln	North Kesteven	South Holland	South Kesteven	West Lindsey	HWRCs (excl C&D)
Total number of households	26,710	62,786	39,446	44,453	37,004	56,476	37,348	n/a
Number of households – dry recyclables	26,710	62,786	39,446	44,453	36,250	56,476	37,348	n/a
Number of households – green waste	0	56,131	27,476	43,096	0	18,370	13,000	n/a
Collected residual waste (t)	17,060	31,664	21,405	20,350	23,587	34,471	23,095	24,543
Collected dry recyclables (t)	5,283	7,848	3,850	13,320	6,715	5,390	4,868	18,806
Collected green waste (t)	0	9,413	7,048	12,924	29	7,451	4,914	19,665
Total waste arising (t)	23,903	54,352	37,607	47,776	31,894	52,804	36,094	63,013
Recycling rate (%)	**26.2**	**35.9**	**36.1**	**56.4**	**23.2**	**31.9**	**33.1**	**59.8**

5.2.2 Waste growth

The total amount of municipal waste generated in Lincolnshire has increased over the last decade, although the average growth rate has reduced from 6% between 1996-2001 to 2.12% between 2000-2006. Table 5.3 below provides a summary of waste growth trend from 2000 to 2006.

Table 5.3 Waste growth trends in Lincolnshire between 2000 and 2006

Year	Tonnage of MSW	% Change
2000/01	322,715	
2001/02	333,927	3.47
2002/03	339,724	1.74
2003/04	340,982	0.37
2004/05	362,662	6.35
2005/06	359,990	-0.74
2006/07	365,537	1.54
Average Rate of Change		**2.12**

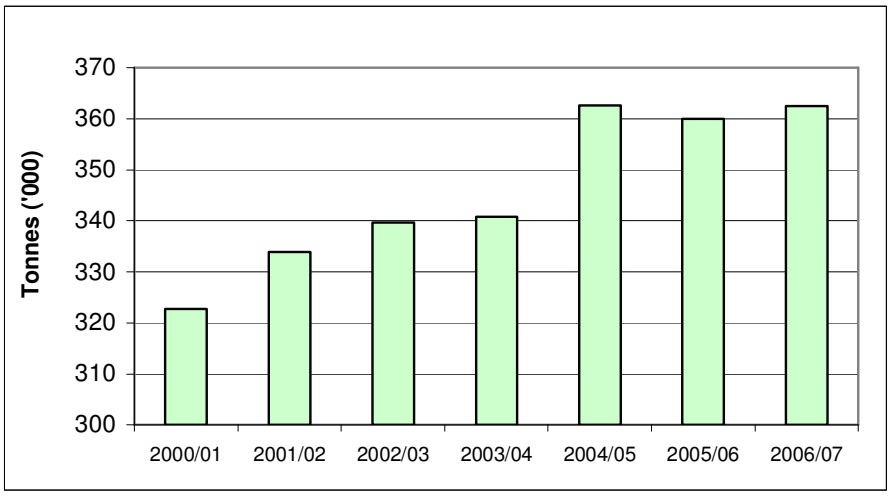


Figure 5-2 Annual Tonnage of MSW Arising in Lincolnshire

The growth rate from one year to the next has not been consistent. In particular, although there was an overall reduction in 2005/06 compared to the previous year, waste arisings increased again the following year.

However, the underlying overall trend has been around 2% year on year growth. In order to make future waste growth projections to develop this strategy, it has been assumed that the waste growth rate between 2007 and 2026 continues at just less than 2%, using a medium growth scenario of 1.7% annual waste growth. This takes into consideration the forecasted housing growth for the County. When these trends are applied municipal waste generation is projected to reach 423,200 tonnes by 2015 and 460,000 in 2020. The subject of waste forecasting is covered in more detail later in the strategy.

5.3 Waste composition

It is important to understand the composition of the waste collected from within the county, as this will determine the available proportions of materials that can be extracted and recovered from the waste. It is also key to assessing the types of facilities required and collection systems needed to extract each component of the waste. In Lincolnshire, Lincoln City (2000), East Lindsey and South Kesteven (2004) have conducted research into the composition of mixed residual waste collected from householders. Lincoln City's research was conducted in October 2000, sampling waste from 200 randomly selected properties, allowing a very detailed analysis of waste to be undertaken.

Table 5.4 presents a comparison of the outcomes of the waste composition studies completed, however this should be used carefully as each study used a different methodology.

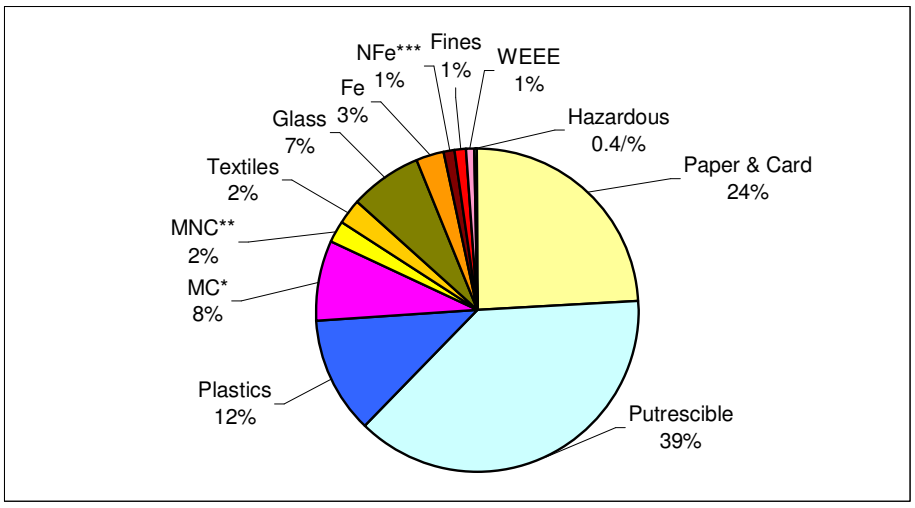
Table 5.4 Waste Composition Comparison

	East Lindsey (2004)	Lincoln City (2000)	South Kesteven (2004)
Category	**% of the total weight**	**% of the total weight**	**% of the total weight**
Recyclable paper	26.7%	12.7%	13.8%
Recyclable card	4.9%	5.4%	
Non-recyclable paper/card	3.1%	1.2%	4.2%
Garden waste	2.6%	5.4%	45.5%
Kitchen waste	26%	31.5%	
Animal waste	1.9%	5.2%	0.0%
Plastic film	5.6%	6.0%	6.8%
Dense plastic	5.1%	6.4%	5.4%
Textiles	1.3%	3.0%	3.0%
Miscellaneous combustible	1.6%	7.3%	7.4%
Miscellaneous non-combustible	4.0%	0.1%	2.9%
Glass	7.0%	7.7%	5.7%
Non-recyclable glass	0.5%	0.9%	
Ferrous metals	2.3%	3.5%	2.7%
Non-ferrous metals	0.8%	0.9%	0.7%
Other metals	0.3%	0.4%	0.0%
Fines	1.9%	0.5%	0.9%
Wood	1.5%	0.5%	0.0%
WEEE	0.6%	0.7%	0.9%
Hazardous	0.6%	0.2%	0.0%
Clinical	0.2%	0.1%	0.0%
Other		0.5%	
Total	**100%**	**100%**	**100%**

The assumed average composition for the county, based on this combined researches, is presented in Figure 5-3.

It is important to note that MSW has a high proportion of biodegradable wastes (paper and organics). These wastes break down under biological action in landfills to produce greenhouse gases, and thus are the primary target of new waste legislation designed to reduce emissions of greenhouse gases.

It is worth noting that the results of the two local studies showed a higher proportion of kitchen waste compared to WRAP's estimate of 19% for England.



* MC: Miscellaneous Combustibles, **MNC: Miscellaneous Non Combustibles, *** NFe Non Ferrous Metal

Figure 5-3 Average Waste Composition for Lincolnshire

5.4 Current Waste Management

The current waste management infrastructure needs to be reviewed to provide a baseline on which to develop the Waste Strategy. This review focuses on:

- Waste collection services
- Recycling and composting
- Treatment and disposal of residual waste
- Existing contracts
- Current waste management cost
- Best Value Performance Indicators, which are being replaced by the new Nation Indicators as of April 2008

5.4.1 Waste Collection

Within Lincolnshire it is the district councils (as WCAs) that have the responsibility to collect the waste, and the County Council (the WDA) that has the responsibility to dispose of it. This has resulted in a variety of different collection services and service providers (either in-house or contractor).

Table 5.5 below provides a summary of the current collection services offered by district councils.

Table 5.5 Collection Services offered by the Waste Collection Authorities (WCAs)

Local Authority	Residual Waste	Dry Recyclables	Green Waste
Boston	Alternate weekly collection majority in 240 litre bins	Alternate weekly in 240 litre bins Mixed paper, card, plastic bottles, tins and cans	Not currently collected
East Lindsey	Alternate weekly collection majority in 180 litre bins	Alternate weekly in 240 litre bins Mixed paper, card, plastic bottles, tins and cans	Alternate weekly in 240 litre bin
City of Lincoln	Alternate weekly collection in 240 litre bins or weekly collection in 140 litre bins (inner city areas)	Alternate weekly in 240 or 140 litre bins Mixed paper, card, plastic bottles, glass, tins and cans	Alternate weekly in 240 litre wheeled bin
North Kesteven	Alternate weekly collection majority in 240 litre bins	Alternate weekly in 240 litre bins Mixed paper, card, plastic bottles, glass containers, textiles, tins and cans	Alternate weekly in 240 litre bin
South Holland	Weekly black sack collection	Weekly sack collection Mixed paper, card, plastic bottles, plastic film, textiles, tins, cans and glass	Not currently collected
South Kesteven	Alternate weekly collection majority in 240 litre bins	Alternate weekly in 240 litre bins Mixed paper, card, plastic bottles, textiles, tins, cans and glass	Opt in system with a bin charge. Alternate weekly 240 litre bins
West Lindsey	Weekly collection majority in 180 litre bins	Alternate weekly in 240 litre bins Plastic bottles, glass, card, tins and cans Separate paper collection.	Opt in system with a bin charge. Alternate weekly 240 litre bin

In addition to the above services, the County Council operates 12 HWRCs across the county to enable residents to recycle, compost and dispose of waste materials. Table 5.6 below summarises the facilities provided at each HWRC.

Table 5.6 Materials accepted at Household Waste Recycling Centres in 2007

Site Name	Landfill Waste	Plastic Bottles	Plastic Bags	Hard Plastics	Wood	Books and CD	Used Engine Oil	LPG Cylinders	Fluorescent Tubes	Fridges & Freezers	TVs and Monitors	Used Car Batteries	Household Batteries	Printer Cartridges	Household Chemicals	Paper	Cardboard	Scrap Metals	Tins and Cans	Textiles	Green Garden Waste	Soil and Rubble	Glass Bottles
Great Northern Terrace	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Spalding	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Skegness	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Grantham	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Louth	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✘	✔	✔	✔	✔	✔	✔	✔	✔	✔
Sleaford	✔	✘	✘	✘	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Bourne	✔	✘	✘	✘	✘	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Gainsborough	✔	✔	✔	✘	✔	✘	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Boston	✔	✔	✔	✘	✔	✘	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Kirkby on Bain	✔	✔	✔	✘	✔	✘	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Leadenham	✔	✘	✘	✘	✔	✘	✔	✔	✔	✔	✔	✔	✘	✘	✔	✔	✔	✔	✔	✔	✔	✔	✔
Whisby	✔	✘	✘	✘	✔	✘	✔	✔	✔	✔	✔	✔	✘	✘	✔	✔	✔	✔	✔	✔	✔	✔	✔

Residual waste collection and disposal

Residual waste facilities in the county are currently based on the use of ten landfill sites. During 2006/07 Lincolnshire County Council disposed of a total of 219,361 tonnes of waste at these sites.

This strategy forms a key document in addressing the long-term infrastructure requirements for the treatment of residual waste. In order to implement a successful new waste strategy in Lincolnshire it is important to consider the current landfill contracts and future requirements. Table 5.7 summarises for each landfill site the type of contract, length of contract and minimum tonnages contracted.

Table 5.7 Landfill Contracts 2007

Site	Operator	Current minimum contract obligation (tonnes)	End of contract
Immingham	WRG	0	2012
Middlemarsh	WRG	5,000	Life of site
Kirkby on Bain	WRG	5,000	Life of site
Leadenham	WRG	20,000	Life of site
Colsterworth	WRG	20,000	Life of site
Boston	WRG	20,000	Life of site
Gainsborough	WRG	5,000	Life of site
Kenwick	WRG	Closed	Expired
Whisby	WRG	Closed	Life of site
North Hykeham	WRG	0	2012

A number of waste transfer stations are currently used for the bulking up of dry recyclables and residual waste prior to onward transportation to treatment and disposal sites. The current arrangements are as follows:

Bolingbroke Road, Louth

- Used by East Lindsey District Council for approximately 20,000 tonnes of residual waste destined for Kirkby on Bain Landfill.
- Used by East Lindsey District Council for approximately 13,000 tonnes of recyclables destined for Greenstar MRF at Addlethorpe, near Skegness. From April 2008 all of East Lindsey's recyclables will be delivered to the transfer station, and will be sent to an out-of-county material recovery facility (MRF) pending completion of the new Lincoln MRF.
- Used by West Lindsey District Council for approximately 2,000 tonnes of residual waste destined for Kirkby on Bain Landfill.

Fen Road Depot, Boston

- Used by Boston Borough Council for all of its dry recyclables destined for out-of-county MRF.

Stamp End Depot, Waterside South, Lincoln

- Used by City of Lincoln Council for all of its dry recyclables destined for out–of-county MRF (pending completion of new Lincoln MRF).

Mid UK Transfer Station, Market Deeping

- Used by South Holland District Council for all of its dry recyclables destined for Mid UK MRF at Caythorpe.
- Used by South Kesteven District Council for half of its dry recyclables destined for Mid UK MRF at Caythorpe.

As indicated above the County Council has entered into a contract to construct and operate a centralised MRF in Lincoln that will be available to the waste collection authorities to use in the near future (estimated completion date 2009).

Side waste policy

All authorities that are using wheelie bins for their residual waste collection have a "no side waste policy" in place. This means that residents are not allowed to place other wastes, e.g. sacks alongside their wheelie bins. South Holland operates a sack collection system and will collect side waste.

Collection of trade waste

Currently each district has its own policy on trade waste collection. The Partnership is working towards having a common policy on this area of service provision.

Bulky household waste collection

Bulky waste falls outside the scope of the regular collection service as these items are generally too bulky or too difficult to be handled by the normal means. The districts across the Partnership offer bulky waste collection on demand for item such as cookers, mattresses and other large household appliances. Each district has its own policy on charging for bulky collections.

Street cleansing

The waste collection authorities provide a regular service across their districts. Busy areas, such as shopping precincts and high streets usually have permanent cleaning staff or daily cleansing regimes. Street cleansing waste accounts for around 3% of municipal waste landfilled in the county. The Partnership is currently trialling the recycling of street sweeping waste in one district.

Clinical waste

Clinical waste is defined in the Controlled Waste Regulations 1992 and is the term applied to any waste which consists wholly or partly of:

- Human or animal tissue
- Blood or bodily fluids
- Excretions
- Drugs or other pharmaceutical products
- Swabs or dressings
- Syringes, needles

which unless made safe, may prove hazardous to any person coming into contact with it.

From January 2008 the County Council has introduced a new clinical waste collection and disposal service for householders producing this type of waste.

Abandoned and end of life vehicles

Abandoned vehicles that are on public land are removed in accordance with the relevant legislation and are dealt by each district within its area.

Fly tipped waste

Fly tipping is a serious national problem. As well as being unsightly it can lead to serious pollution of the environment and harm to human health, and is costly to remove and dispose of correctly. Across Lincolnshire 1,223 tonnes of waste was flytipped in 2006/07. The districts are responsible for clearing fly tipping in their area, and are now assisted by the County Council's Flytipping Team.

Recycling collection

Table 5.8 summarises the number of households in each districts that are currently provided with kerbside recycling and green waste collections.

Table 5.8 Households provided with recycling/green waste kerbside collection in 2006/07

	Boston	East Lindsey	Lincoln	North Kesteven	South Holland	South Kesteven	West Lindsey
Total number of HH	26,710	62,786	39,446	44,453	37,004	56,476	37,348
Number of HH – dry recyclables	27,000	62,786	39,446	44,453	36,250	56,476	37,348
Number of HH - green waste	0	56,131	27,476	43,096	0	18,370	13,000

Green waste collection

A green waste collection is standard service provision in East Lindsey, Lincoln City and North Kesteven. In West Lindsey and South Kesteven, residents may opt-in to having a green waste collection service on payment of a fee. Boston Borough and South Holland District Councils do not currently operate a green waste collection service. South Holland's policy for green waste is to encourage householders to compost at home, which is being actively promoted.

Green waste from kerbside collections and HWRCs is sent to a network of composting facilities across the county under contracts operated by the County Council. In 2006/07 59,589 tonnes of green waste was sent to these facilities which are identified in Table 5.9.

Table 5.9 Current Composting Facilities

Composting site	Location
Shaw Trust	Gainsborough
MEC	Lincoln
Organic Recycling Ltd	Crowland
Cranberry Composting	Boston
Mid UK Recycling Ltd	Caythorpe
Land Network (Sturgate)	Gainsborough
Land Network (South Elkington)	Louth
Land Network (Waddingham)	Waddingham

Dry recycling collection

All the districts operate a kerbside recycling collection, which includes a wide range of materials: mixed paper, card, plastic bottles, tins and cans. Additional materials, such as glass, are collected by some, and the Partnership is moving towards a more standardised recyclable stream where possible.

Five of the Waste Collection Authorities have contractual arrangements with differing private sector operators to process their dry recyclables. There are currently 5 MRFs used to process recyclable materials, two of which are located out of the county. In addition to these facilities the County Council has let a contract to construct and operate a centralised MRF that will be available for the waste collection authorities to use in the near future (estimated date 2009). Between them, the WCAs also have 197 bring sites enabling the public to recycle cans, paper, glass, textiles and books. Table 5.10 summarises where dry recyclables are sent for re-processing. Each district is responsible for waste collection arrangements and these are presented in Table 5.10 below.

Table 5.10 Current Dry Recycling Arrangements

	Current Material Description	Current Destination
East Lindsey	Mixed paper, card, plastic bottles, tins and cans collected fortnightly in wheeled bins	Greenstar Ltd, Addlethorpe, Skegness (County contract)
West Lindsey	Card, plastic bottles, glass containers, tins and cans collected fortnightly in wheeled bins Separate paper collection	Fox (Owmby) Ltd, Caenby Corner (District contract)
City of Lincoln	Mixed paper, card, plastic bottles, tins and cans collected fortnightly in wheeled bins	HW Martin Ltd (Handler) transporting to Grosvenor Ltd, Peterborough MRF or Transcycle Ltd, Derby. (County contract)
North Kesteven	Mixed paper, card, plastic bottles, plastic containers, glass containers, textiles, coat hangers, tins and cans collected fortnightly in wheeled bins	Mid UK Recycling Ltd, Caythorpe (District contract)
South Kesteven	Mixed paper, card, plastic bottles, plastic containers, glass containers, textiles, tins and cans collected fortnightly in wheeled bins	Mid UK Recycling Ltd, Caythorpe (District contract)
Boston	Mixed paper, card, plastic bottles, tins and cans collected fortnightly in wheeled bins	HW Martin Ltd (Handler) transporting to Grosvenor Ltd, Peterborough MRF, or Transcycle Ltd, Derby, (District contract)
South Holland	Mixed paper, card, plastic bottles, plastic containers, plastic film, textiles, coat hangers, glass, tins and cans collected weekly in boxes	Mid UK Recycling Ltd, Caythorpe (District contract)

Table 5.11 Current Dry Recyclables Collection Contract Arrangements

Boston	Service provided in-house
East Lindsey	Service provided in-house
City of Lincoln	New contract with Cory Environmental in 2006
North Kesteven	Service provided in-house
South Holland	Service provided in-house
South Kesteven	Service provided in-house
West Lindsey	Service provided in-house

5.5 Recycling and composting rates

Recycling and composting performance has changed significantly since 2002 when the original JMWMS was produced, primarily through the expansion and introduction of new collection services and the improvement of recycling rates at household waste recycling centres. Table 5.12 below provides details of the household waste recycling rates between 2001 and 2007 for each district and for the county overall. For 2006/07 district recycling rates ranged from 56% (North Kesteven) to 23% (South Holland), with the overall county recycling rate reaching 40%.

Table 5.12 Recycling/Composting Rates between 2001 and 2007

	2001	2002	2003	2004	2005	2006	2007
Boston	7%	7%	7%	28%	20%	22%	26%
East Lindsey	8%	7%	9%	17%	20%	21%	36%
City of Lincoln	10%	10%	11%	16%	24%	29%	36%
North Kesteven	5%	5%	16%	10%	39%	*52%*	56%
South Holland	9%	9%	15%	15%	16%	21%	23%
South Kesteven	7%	7%	7%	14%	15%	26%	30%
West Lindsey	7%	7%	9%	15%	24%	32%	33%
Lincolnshire	8.7%	8.4%	12.0%	18.1%	27.6%	33.9%	39.9%

Collectively, the Partnership successfully exceeded the 2006/7 statutory targets for recycling and composting.

Figure 5-4 below shows the proportions of recyclables and green waste collected by each district, and waste brought by residents to the twelve Household Waste Recycling Centres.

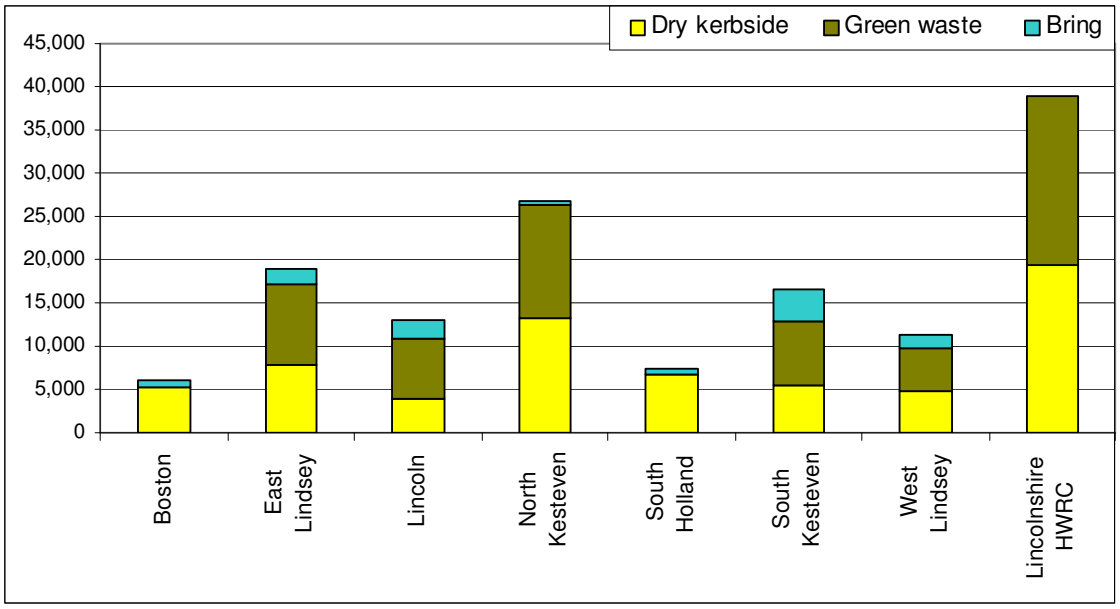
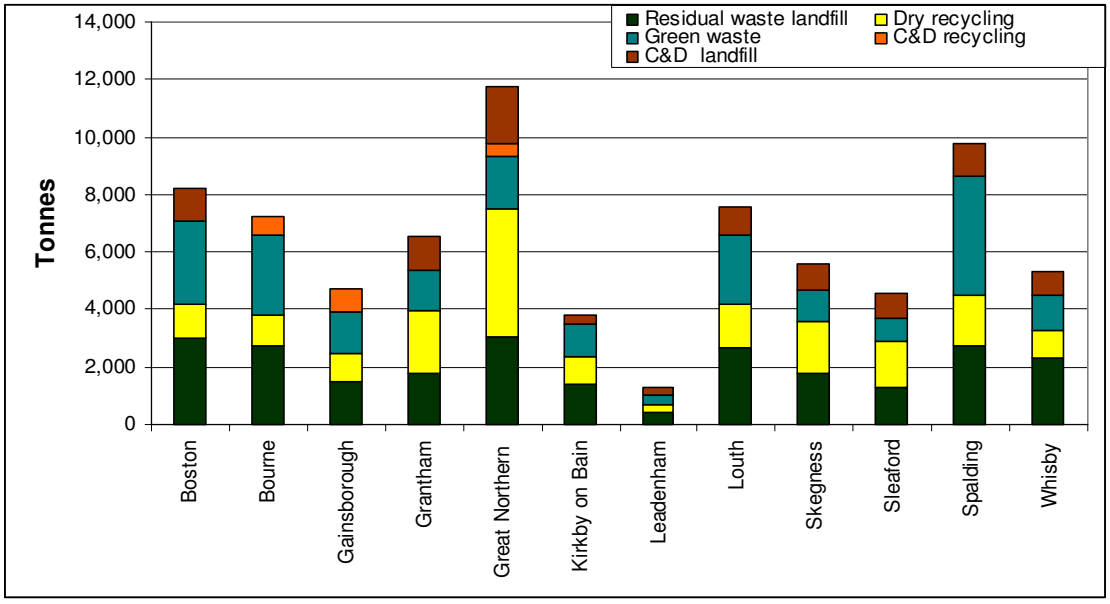


Figure 5-4 Breakdown Tonnages of Recyclables (tonnes) 2006/7

Household Waste Recycling Centres

The County Council operates twelve HWRCs which accept waste from householders. County Council policy is to not accept trade waste at any of its HWRCs. Figure 5-5 presents the tonnage breakdown for each Household Waste Recycling Centre.



C&D: Construction and Demolition waste

Figure 5-5 Tonnage breakdown by HWRC (tonnes) 2006/7

Table 5.13 shows the County Council's current contractual and operational arrangements for each Household Waste Recycling Centre.

Table 5.13 HWRC Contractual and Operational Arrangements

Site Name	Management responsibility
Great Northern Terrace	County Council
Sleaford	County Council
Skegness	County Council
Spalding	County Council
Grantham	County Council
Whisby	WRG
Leadenham	WRG
Kirkby on Bain	WRG
Boston	WRG
Louth	County Council
Bourne	Bullimores
Gainsborough	Greencycle

5.6 Current waste management costs

The costs of waste management in 2006/07 outlined in Table 5.14 and Table 5.15 are the costs reported by the individual authorities to Defra through Waste Data Flow. There are some noticeable variations between the districts: Boston has the lowest cost per household at £33.54, compared with £64.28 for East Lindsey.

Table 5.14 Cost of waste collection for 2006/07

Collection of household waste	Number of HH	Overall cost for collection	£/ HH
Boston[6]	27,130	£905,580	**33.54**
East Lindsey	63,423	£3,769,367	**64.28**
Lincoln	40,836	£2,103,621	**52.63**
North Kesteven	45,187	£2,211,074	**49.73**
South Holland	36,867	£1,808,976	**44.39**
South Kesteven	56,651	£2,646,292	**48.65**
West Lindsey	38,837	£2,273,242	**59.98**

Table 5.15 Provisional cost of waste disposal 2006/07

Final Disposal of household waste *(including landfill tax)*	Overall amount landfilled	Overall cost of disposal	£/ tonne
Lincolnshire County	365,537	£17,270,000	**£47.25**

[6] Data provided directly by Boston Borough Council

6 What are we aiming for?

Although the Partnership continues to increase the amount of waste it recycles, it needs to agree a way forward for managing the overall municipal waste stream with clear objectives and a robust plan of action.

This chapter identifies the challenges faced by the Partnership and the proposed approach to meeting these challenges.

6.1 Strategy objectives

The Partnership has developed and agreed a set of high-level objectives, which are key drivers for the Partnership to deliver this strategy. It is necessary that the objectives be constantly reviewed and updated as progress is made towards them. The ten objectives are as follows:

Objective 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.

Objective 2. To promote waste awareness through co-ordinated public education and awareness campaigns, and effective community engagement.

Objective 3. Across Lincolnshire to achieve 55% recycling and composting by 2015.

Objective 4. Across Lincolnshire to achieve a uniform dry recyclables waste stream by 2013.

Objective 5. To increase progressively the recovery and diversion of biodegradable waste from landfill, to meet and exceed the Landfill Directive diversion targets.

Objective 6. To ensure that residual waste treatment supports energy recovery and other practices higher up the waste hierarchy.

Objective 7. To deliver best value for money waste management services, addressed on a countywide basis.

Objective 8. To engage with local businesses to encourage the reduction and recycling of commercial waste.

Objective 9. To engage actively, lobby and work with local, national, governmental and other organisations on sustainable waste management issues.

Objective 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.

6.2 The challenge we face

The Partnership's main challenge will be to meet the requirements set by the Landfill Directive on reducing the amount of biodegradable waste that is landfilled. The European Commission will be able to fine Member States who do not meet their landfill diversion targets. The current estimated level of this fine is set at 500,000 Euros (about £350,000) per day. Meeting the longer-term challenge set by the Landfill Directive will be made more difficult if the amount of waste that we are producing continues to increase.

The Partnership will also need to meet the requirements of the UK Government's new performance framework[7]. These comprise of 198 measures which represent what the Government believes should be the national priorities for local government, working alone or in partnership, over the next three years. These replaced all other sets of indicators, including Best Value Performance Indicators and Performance Assessment Framework Indicators, from April 2008. The new measures on environmental sustainability include three that are discussed in this waste strategy:

- NI 191 Residual household waste per head
- NI 192 Household waste recycled and composted
- NI 193 Municipal waste landfilled.

Other measures on environmental sustainability that are relevant to the waste strategy are:

- NI 185 Carbon dioxide reduction from Local Authority operations
- NI 195 Improved street and environmental cleanliness (levels of graffiti, litter, detritus and flyposting)
- NI 196 Improved street and environmental cleanliness – fly tipping.

Each district within the Partnership will maintain its high level of street cleaning, and will continue to take enforcement action against fly tippers if the source of the waste can be identified.

6.2.1 Growth in waste arisings

Meeting the longer-term challenge set by the Landfill Directive will be made more difficult if the amount of waste that we are producing increases.

Historically, waste arisings have been shown to grow in line with, or even above, the level of economic growth. Consequently, if this trend continues, a 3% p.a. growth in waste would result in a doubling of waste arisings in 20 years. However, the continuation of this trend is now considered to be unsustainable, and thus the European Commission's Sixth Environment Action Programme set an objective to achieve a decoupling of resource use from economic growth through significantly improved resource efficiency, dematerialisation of the economy, and waste prevention.

About 96% of the total MSW which is collected across the county is household waste, Thus in order to predict future MSW arisings, we have to focus our efforts primarily on forecasting growth rates for household waste.

[7] The New Performance Framework for Local Authorities & Local Authority Partnerships: Single Set of National Indicators. Department for Communities and Local Government, October 2007.

6.2.2 Household waste growth

Growth in household waste is due to two key factors:

- An increase in the number of households
- Growth in waste produced per household due to increased consumption

Waste minimisation and re-use initiatives aim to tackle the growth in waste produced by a household. However, even if these initiatives were to reduce the growth in waste per household to zero, then arisings of household waste would still increase as a result of an increase in the number of households. Consequently, unless waste minimisation activities reduce waste arisings per household at a faster rate than the growth in the number of households, overall waste arisings will continue to increase.

A number of models for predicting future waste arisings are available (these predict average growth rates of between 1% and 2% per year), and the Waste Strategy for England 2007 developed four growth scenarios for MSW in order to assess a range of possible future outcomes to 2020:

- 2.25% per annum reflecting recent trends in growth in consumer spending
- 1.5% per annum in line with national waste growth in the five years to 2004/05
- 0.75% per annum, in line with current projections of household growth and reflecting more closely national waste growth in the five years to 2005/06
- 0% growth, representing the possibility that waste growth will be decoupled from household and economic growth.

The East Midlands Regional Plan housing forecast set a predicted growth for households for each district across the Partnership to 2020. These vary across the Partnership. For the purpose of developing this strategy we have annualised the number of additional dwellings to be built from 2007 to 2020, and added the growth rate for waste per household. This resulted in an overall growth in waste generation of 1.7%. In order to achieve this level of overall waste growth, it will be essential that the waste minimisation and public education/ awareness activities identified in this strategy are implemented. Figure 6.1 illustrates the impact different waste growth would have on the amount of MSW arising annually.

Table 6.1 Projected waste growth rate for Lincolnshire

	Number of households	Household growth (%)	Waste growth rate/HH (%)	Overall waste growth rate (%)
2006	304,223			0.7%
2007	308,173	1.30%	0.40%	1.7%
2008	312,123	1.28%	0.42%	1.7%
2009	316,073	1.27%	0.43%	1.7%
2010	320,023	1.25%	0.45%	1.7%
2011	323,973	1.23%	0.47%	1.7%
2012	327,923	1.22%	0.48%	1.7%
2013	331,873	1.20%	0.50%	1.7%
2014	335,823	1.19%	0.51%	1.7%
2015	339,773	1.18%	0.52%	1.7%
2016	343,723	1.16%	0.54%	1.7%
2017	347,673	1.15%	0.55%	1.7%
2018	351,623	1.14%	0.56%	1.7%
2019	355,573	1.12%	0.58%	1.7%
2020	363,473	1.10%	0.60%	1.7%

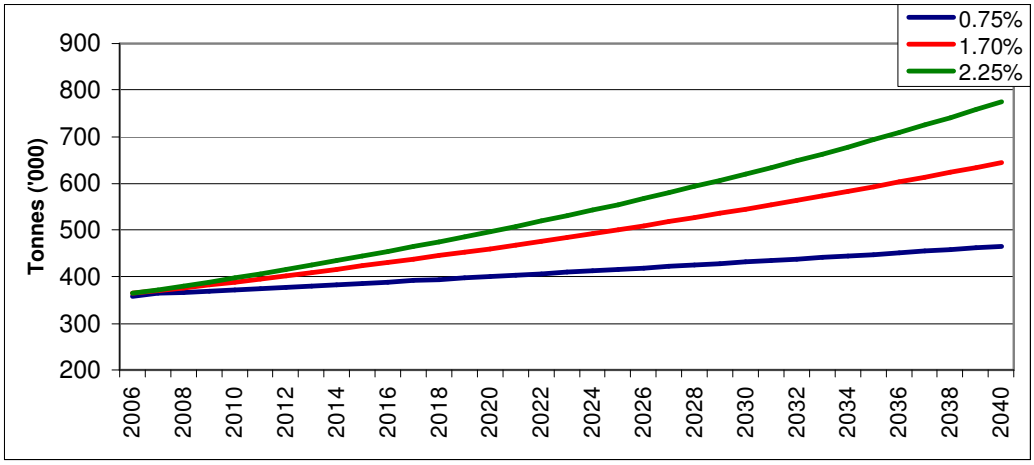


Figure 6-1 Effect of different household waste growth forecasts in Lincolnshire

6.2.3 Waste emissions trading legislation

The UK Government has implemented the Landfill Directive through the Waste Emissions Trading Act 2003. This spreads the responsibility for meeting the Landfill Directive target among all authorities and each disposal authority has been set targets for the amount of waste that it can landfill each year to 2020. It is important that every authority within the UK meets its target, so as to ensure that the UK's government will not have to pay any fines to the European Commission.

The targets, or allowances as they are referred to, are based on the presumption that MSW contains 68% of biodegradable material by weight. The initial allowance for biodegradable municipal waste (BMW) disposal for Lincolnshire County Council was set at:

- 194,120 tonnes of BMW to landfill in 2005/06
- 131,376 tonnes of BMW to landfill in 2009/10
- 87,506 tonnes of BMW to landfill in 2012/13
- 61,231 tonnes of BMW to landfill in 2020

The Waste Emissions Trading legislation enables the UK Government to fine authorities that do not meet their yearly targets. For English local authorities, the level of this fine is £150 for each tonne of BMW waste landfilled above the specified targets. The LATS targets were implemented in April 2005. The Government has recognised that while some authorities are already easily meeting their allowances because they have installed a suitable treatment plant, other authorities, which include the Partnership, will not be able to meet their longer-term targets until they have both increased the level of recycling and installed a suitable treatment facility to treat the remaining (residual) waste. Consequently, the legislation enables allowances to be traded between authorities. The aim of the trading of allowances is to enable authorities to meet their obligations through purchasing allowances at a lower cost than the cost of paying a fine to the Government, though the cost of the allowances could approach the level of the fine if demand is high.

If the amount of waste continues to increase at an average rate of 1.7% per year between now and 2020, the total amount of municipal waste in Lincolnshire will increase from its current level of about 365,000 tonnes per year to about 460,000 tonnes by year 2020.

If Lincolnshire achieves its overall recycling and composting targets of 55% by 2015 it means that in 2020 we will divert about 253,000 tonnes of waste (through recycling and composting), and there will remain a further 207,000 tonnes of residual waste to landfill. This will equate to about 115,000 tonnes of BMW, whereas the maximum Lincolnshire allowance for 2020 will be 61,231 tonnes. Thus Lincolnshire would exceed its allowance and would be fined as estimated £23.46 million. This would be equivalent to a fine of £65 per household in the year 2020 in addition to the basic costs of waste management.

In addition to establishing a clear direction for recycling and composting it is crucial that this strategy addresses how the residual waste is going to be treated and disposed of to avoid such costs.

7 How will we get there?

In order to deliver the aims and objectives to which the Partnership aspires, each element of the waste hierarchy needs careful consideration.

This strategy reinforces the initial commitment from past strategies and identifies new opportunities that will move the Lincolnshire Waste Partnership towards achieving its objectives. Lincolnshire currently disposes of 60% of its waste to landfill, which is at the bottom of the waste hierarchy. Therefore we must curb waste generation and invest in treatment technologies to move up the waste hierarchy: to ensure a more sustainable approach and to use waste as a valuable resource rather than landfilling it.

7.1 Waste minimisation and re-use

Waste reduction is at the top of the waste hierarchy (see Figure 1) and is pivotal to the development of sustainable waste management practices, although it is arguably the most difficult objective to achieve and measure.

Waste reduction refers to the minimisation of waste at source, which means not producing waste in the first place. In some countries, householders are charged to dispose of the actual amount of waste that they present for collection, and this has been shown to have an effect on the amount of waste produced and material recycled. However, so-called 'pay-as-you-throw' schemes are likely to be unpopular with a large section of the public. The Partnership may nevertheless wish to consider this approach in the long term.

The new National Waste Strategy (2007) places a strong emphasis on the prevention and minimisation of waste, setting an aspirational target of 225kg/head of residual waste, and includes the following initiatives:

- Government will work with the Direct Marketing Association to develop a service so that people will be able to opt-out of receiving un-addressed as well as addressed direct mail. The Government is also considering moving towards an approach where people would only get direct mail if they opted in by placing their name on the direct mail register.
- Government will work with retailers to reduce the use of free single use bags. This could involve retailers only selling long-life bags, or retailers charging for disposable bags and using the proceeds to sell long-life bags at a discount.

There are a number of other initiatives for reducing waste arisings. These include:

- Re-using plastic bottles, containers and carrier bags.
- Avoiding buying products that have excessive packaging.
- Purchasing longer lasting products, e.g. rechargeable batteries.

However, one of the greatest problems associated with this tier of the waste management hierarchy is quantifying how effective such programmes actually are. Although waste minimisation within industrial and commercial sectors appears to be more prominent in the public eye, due to the benefit of such schemes to participating businesses, the prevention of household waste has always been difficult to implement. In addition the Government approach to monitoring the diversion of biodegradable waste from landfill is in conflict with schemes such as discouraging the use of plastic bags in favour of biodegradable ones. However the Government is considering steps that will address this imbalance.

Lincolnshire's original waste strategy (2002) provided some discussion addressing the short, medium and long term actions required to deliver the then preferred options. This strategy is building on the existing programme and expanding it.

Lincolnshire has seen the average rate of waste growth slow down over the last decade (6% to 2%), although with the introduction of wheeled bin schemes and garden waste collections waste generation has fluctuated considerably. However, with a sustained approach to promoting waste prevention and minimisation activities, the Partnership aims to reduce the growth in waste even further.

Taking the above into consideration, the waste growth that has been agreed and applied to the scenarios modelled in the SEA, was set at 1.7% from 2007 onwards. This rate takes into consideration the growth in housing forecast for the county, although the actual waste growth per household is set at less than 1% (see Table 6.1).

The Partnership is working closely to develop and implement joint activities to drive waste reduction. Those already in operation or planned include the following:

- Joint public information and awareness campaigns – including a food waste awareness campaign
- Partners in WRAP home composting initiative (since January 2007)
- Lincolnshire Real Nappy campaign
- Prevention of junk mail
- Supporting community group and social enterprise activities
- Furniture re-use scheme
- Reduce packaging waste – by raising resident awareness and working with Trading Standards
- Mobile phone re-use and recycling campaign
- Wood reuse banks

These initiatives will help the Partnership work towards the zero waste growth target in the East Midlands Regional Waste Strategy.

7.1.1 Home Composting

For a number of years the County, Borough and District Councils have promoted the use of home composters by providing subsidised composters to residents. Since 2005 over 12,000 compost bins have been supplied to help householders deal with their garden waste at home. The Partnership is committed to encouraging more home composting, to minimise the quantity of waste requiring disposal.

7.1.2 Real nappies

In Lincolnshire around 9,500 tonnes of disposable nappies are thrown away every year and end up in landfill. The Partnership launched the Real Nappy Campaign in 2005 and offers a £30 cash back incentive to parents using real nappies. Since its launch 600 residents have used the scheme.

7.1.3 Re-use

The Partnership is fully supportive of waste reuse schemes and many of the district authorities offer encouragement through supporting furniture re-use projects that collect unwanted furniture that can be re-used. These re-use projects are usually run by charities or not-for-profit organisations. The Partnership will continue to support these programmes

actively and consider additional schemes that could improve the reuse of materials within the county and subsequently divert more material from landfill. Options being considered include mobile phones and wood reuse schemes.

7.2 Recycling and composting

The Partnership has increased its recycling and composting rate significantly since the original waste strategy was adopted (April 2002). This is the result of a dramatic change in waste collection services across the county. All of the districts provide a kerbside collection for recyclable materials, and five out of seven districts also provide green waste collections. The success of these schemes is reliant on the support and co-operation of householders.

The Partnership has set itself the following recycling target:

- **55% overall recycling by 2015**

This exceeds the Government's current target as set in Waste Strategy for England 2007[8], and the Regional target for 2015.

To achieve this target the Partnership is keen to achieve a greater commonality of services and continued delivery of improvements in performance. In order to deliver higher performance the Partnership recognises the need to increase the recycling performance of HWRCs, and to complete the Household Waste Recycling Centre network by providing sites at Stamford, Market Rasen, Long Sutton and Mablethorpe. Progress is being made to standardise the types of material accepted at all HWRCs, subject to site constraints.

The number of bring facilities will be reviewed and the expansion of existing recycling and composting services, to remote locations and problematic types of dwelling, will be considered wherever feasible.

The Partnership has an open mind towards the introduction of new services and the separate collection of differing materials such as food waste and the wide range of potential recyclables. As legislation is becoming more focused on individual materials within the waste stream, there may be an increasing requirement to extract and recover value from these materials.

In response to the introduction of new waste collection services, the County Council has procured a contract for a centralised materials recycling facility (MRF) to sort and bulk up recyclable materials collected by the district authorities, which is estimated to be on stream by 2009.

The Districts are all achieving different recycling and composting rates reflecting their individual circumstances, and will work closely to achieve the countywide 55% recycling/composting target by 2015.

[8] Waste strategy targets: 40% recycling by 2010, 45% in 2015 and 50% in 2020

7.3 Addressing the residual waste issue

Within Lincolnshire, in 2006/07, a significant proportion in (60%) of the residual waste (the waste that was not recycled, re-used or composted) was disposed of at landfills within or on the borders of the county.

While landfill is currently a flexible and cost-effective method to dispose of residual waste in Lincolnshire, increases in landfill tax and the Government landfill diversion targets will make it increasingly and significantly more expensive. In addition to the cost implications, landfilling of residual waste is an environmentally damaging and non-sustainable practice.

The Partnership is committed to continue the diversion of biodegradable waste through recycling and composting and is on course to achieve the 2010 landfill diversion target. However, despite high recycling rates, relying solely on recycling and composting will not be sufficient to meet the medium (2013) and long-term (2020) landfill diversion targets. Therefore, in addition to recycling and composting, a significant proportion of the residual waste will need to be treated in some way, other than landfilling, to ensure the Partnership meets its landfill diversion targets. This will require investment in new waste treatment infrastructure to treat approximately 150,000 tonnes per annum of residual waste.

Lincolnshire's original waste strategy identified that Energy from Waste treatment process formed the basis of the preferred option. However, as part of this new waste strategy, a Strategic Environmental Assessment has been completed both to re-evaluate this option and to assess other waste treatment technologies before confirming the preferred waste management scenario.

The selection of the scenarios was based around a number of objectives as set by the strategy:

- To manage our waste sustainably and to move up the waste hierarchy
- To minimise the amount of waste generated across the county
- To maximise the amount and range of materials recycled and composted to meet and exceed the National and Regional targets
- To limit the amount of waste landfilled and ensure landfill diversion targets are met
- To maximise recovery and use of waste as a resource

The treatment of residual waste has been modelled for a number of different technologies. The assumptions for each scenario are as follows:

- Baseline year is 2006/07 with MSW arising of 365,537 tonnes
- Average waste growth across the County of 1.7% (includes growth in the number of households)
- Increased recycling and composting rates to achieve 55% recycling in 2015 (23% composting, 32% recycling)
- Biodegradable content of MSW set at 68% as per the Landfill Allowance Trading Schemes Regulation 2004
- New residual waste treatment facility with a 150,000 tonnes per annum capacity to exceed the LATS diversion targets.
- Limited landfilling may continue but only within permitted allowance

The residual waste treatment options that have been assessed in the SEA are presented in Table 7.1.

Table 7.1 Residual Waste Treatment Scenarios

Scenario		
Scenario 1	Baseline	100% of residual waste to landfill
Scenario 2	Mechanical Biological Treatment with aerobic stabilisation phase	MBT with an aerobic stabilisation phase, the output is landfilled
Scenario 3	Mechanical Biological Treatment with Refuse Derived Fuel combusted on site	MBT with the output used as a RDF on site in a small scale energy from waste plant
Scenario 4	Mechanical Biological Treatment with Refuse Derived Fuel to a 3rd party	MBT with the RDF being sold to 3rd party such as cement kiln
Scenario 5	Mechanical Biological Treatment with anaerobic digestion and aerobic stabilisation phase	MBT with anaerobic digestion and aerobic stabilisation phases. The outputs are a compost product (which might be used in landfill engineering) and a biogas
Scenario 6	Mechanical Biological Treatment with anaerobic digestion and Refuse Derived Fuel combusted on site	MBT with anaerobic digestion and aerobic stabilisation phases. There are two outputs: a stabilised output which is landfilled and a RDF which is used on site
Scenario 7	Energy from Waste + Electricity	Energy from waste with electricity generation
Scenario 8	Energy from Waste + Combined Heat and Power	Energy from waste with electricity and heat generation
Scenario 9	Gasification	Advanced thermal treatment (ATT)

These scenarios and technologies are fully explained and developed in the accompanying Environmental Report.

Once the preferred option was identified in the development of this strategy, further modelling was undertaken to assess the benefits and impacts that a kitchen waste collection service might have, and understand the impact it would have towards diverting biodegradable waste from landfill. The results of this exercise are presented in the Environmental Report.

A list of assessment criteria was agreed through the early consultation on the scoping stage of the SEA. These have been applied to each scenario in turn, and the primary results are presented in Table 7.2. The assessment evaluates a number of criteria that are categorised as follows:

- Environmental objectives
- Economic objectives
- Social objectives
- Deliverability of scenarios
- Waste hierarchy and policy

Table 7.2 below presents the total assessment score and the ranking of each scenario. The assessment score is the sum of each category score for each scenario. The results are presented in the form of un-weighted and weighted criteria:

- Un-weighted means that all criteria have been given the same importance.
- Weighted means that each criterion has been given a weight depending on its importance at the local level. The weighting was established through the consultation process. Further information is provided in the Environmental Report and the Consultation Report.

Table 7.2 Ranking of he scenarios resulting from the SEA

Scenario	Total assessment score	Ranking (without weightings)	Score with weighting	Ranking weighted
Sc 1- Base Case	10.45	**6**	**40.43**	**7**
Sc 2- MBT-Aerobic	8.32	**8**	**35.72**	**8**
Sc 3- MBT-RDF on-site	7.60	**9**	**32.73**	**9**
Sc 4- MBT-RDF to 3rd party	10.99	**5**	**42.14**	**5**
Sc 5- MBT-AD + Aerobic	11.08	**4**	**47.80**	**2**
Sc 6- AD + Aerobic (RDF onsite)	9.11	**7**	**41.53**	**6**
Sc 7- EfW + electricity	11.88	**3**	**47.73**	**3**
SC8 – EfW + CHP	14.18	**1**	**55.95**	**1**
Sc 9- Gasification	12.00	**2**	**47.54**	**4**

Overall, the un-weighted results show that the scenarios using thermal treatment are scoring the highest (scenarios 7, 8 and 9). The thermal treatment scenarios all perform well overall due to a solid environmental performance, being less expensive than other options and because they offer the highest recovery and BMW diversion levels. After applying the weightings to the scores, scenario 8 is still ranked first, and scenario 5 (MBT – AD + Aerobic) is now second closely followed by scenario 7 (EfW) and scenario 9 (ATT).

Scenario 8 (EfW with CHP) ranks the highest, primarily due to the enhanced environmental performance that CHP provides. Scenario 7 (EfW) and scenario 8 also have a more favourable score for deliverability, when compared to scenario 9 (ATT). The ATT technology scores lower in deliverability due to its lack of provenness and reliability at similar scale within the UK.

It should be noted that the next best scenarios 5 (MBT-AD + Aerobic), 7 (EfW) and 9 (ATT) achieved very similar scores., which demonstrate that the residual waste treatment solution could be delivered by either a thermal option or a biological one and achieve the overarching strategy objectives. Consequently a clear and decisive conclusion regarding which technology is best suited to Lincolnshire will ultimately be driven by the local circumstances and more detailed site-specific assessments.

Overall the MBT scenarios (2, 3, 4, 5 and 6) score lower that the thermal treatment technology scenarios. The best scoring MBT scenario is scenario 5 mainly due to the fact that it has lower environmental impacts and lower costs overall.

Scenario 3 (MBT with RDF onsite) achieved the lowest score due to performing poorly in terms of environmental objectives, recycling and recovery, and cost.

Interestingly, the base case scenario compares more favourably than some of the MBT scenarios (2 and 3) in a number of the assessment criteria, particularly the environmental ones. This is because most of the MBT scenarios still rely on landfill, in addition to the operation of the MBT facility.

These results are further explained in the SEA report.

7.4 Approach to non-municipal waste

The majority of the waste produced within the county consists of industrial and commercial waste, most of which is managed by private waste management businesses. Many of these wastes are subject to differing legislation and therefore require specialist collection and treatment processes. The Partnership authorities have a duty to arrange for the collection of trade waste on request from businesses, however it is subject to a charge. Where trade waste is collected by the authorities, it forms part of the municipal waste arisings and is subject to the biodegradable waste diversion targets. As private sector operators are not subject to the diversion targets, it currently gives them a competitive advantage over the Partnership authorities. Although the Partnership does not currently offer recycling services to commercial waste producers, it actively promotes organisations that do provide these services. The Partnership will be considering the short, medium and long-term options for dealing with commercial/trade waste collected by the waste collection authorities, in particular the potential for commercial waste recycling services.

7.5 Education and communication

A key Partnership objective, which will improve waste prevention and increase recycling and composting rates, is to raise awareness of waste issues and educate the public on sustainable waste management. The Partnership authorities are committed to delivering a joint information and education campaign that will deliver common messages and provide information on how the public can help implement the strategy. In addition the Partnership has developed a Partnership website, which provides a central point for the Partnership authorities and other organisations to promote sustainable waste management and also act as an educational/ consultation resource.

The Partnership views the educational sector as offering major opportunities for the promotion of sustainable waste management. Lincolnshire County Council actively promotes the Schools Waste Action Club (SWAC). This provides an established education programme that offers schools the opportunity to incorporate waste education into the curriculum and cut waste from schools by up to 80%. Trained staff support teachers and help deliver a series of activities to introduce the ideas of reducing, reusing and recycling. The Partnership will continue to support the SWAC programme and the Eco-schools (Green Flag) initiatives, and offer sustainable waste management advice and activities to schools across Lincolnshire.

8 The next steps: Monitoring and implementing the strategy?

To help identify the best option for managing our waste in the future, we have:

- assessed options for residual waste treatment; and
- undertaken a SEA to identify the most environmentally sustainable options for managing Lincolnshire's waste.

However there are further considerations required to ensure the strategy can be implemented successfully.

8.1 Funding and support

As mentioned previously, the costs of waste management are increasing year on year, and combined with the need to adopt more sustainable waste management practices further pressure will be placed on service budgets. While the Partnership authorities would need to continue to fund general service improvements, the funding to deliver future infrastructure development will be of key importance. As part of the procurement process for a new residual waste treatment facility a business case is being developed by the County Council, together with a review of the potential funding options available. To ensure an adequate balance of risk is achieved, the funding may involve private sector sources in combination with other financial support from Government that is specific to delivering improvements in recycling/composting performance and landfill diversion.

8.2 Partnership working

To ensure the Partnership authorities of Lincolnshire continue to improve services and develop efficiencies it is essential that they work together to deliver the strategy. The Partnership has already made significant progress through improving the interface between the waste collection and disposal authorities. Working together enables the collection and disposal requirements to be coordinated to ensure that future collection service provision is provided with adequate treatment and disposal infrastructure.

8.3 Implementing the strategy

The Partnership has made a commitment to implement this strategy and has recognised that significant changes are required over the next 10 years. To deliver these changes an action plan is being prepared by the Partnership which will break down the actions and tasks required to meet Lincolnshire's targets and objectives set in the strategy.

The delivery of tasks within the action plan will need to be monitored and reviewed annually to ensure the Partnership will deliver the targets it sets itself through this strategy. Where significant changes occur, the action plan will be updated accordingly.

The action plan will establish how the strategy will be delivered, considering what will be required by the Partnership in terms of:

- Action required to deliver waste minimisation and further increase recycling and composting,
- Future changes or improvements to collection services (residual waste, dry recycling, garden waste and potential kitchen waste),
- Investments required to deliver future residual waste treatment facility and additional recycling infrastructures.

Appendices

APPENDIX 1: **Legislation review**

APPENDIX 2: **Summary of scoping report consultation replies**

APPENDIX 3: **Public consultation report**

APPENDIX 4: **Glossary of terms**

APPENDIX 1: Legal requirements

This appendix outlines the main legal requirements regarding waste management that the Lincolnshire Waste Partnership either already has met or will need to meet as new legislation and requirements are introduced.

European waste policy and legislation

The European Union has become the major source of environmental legislation and guidance in relation to the management of waste. A number of European Directives have been introduced which aim to increase levels of recycling and recovery, and thus reduce the amount of waste which is land filled, namely:

- Framework Directive on Waste (75/442/EEC)
- Landfill Directive (1999/31/EC)
- Directive on Packaging and Packaging Waste (94/62/EEC)
- Waste Electrical and Electronic Equipment Directive (2002/96/EC)
- End of Life Vehicles Directive (2000/53/EC)
- Ozone Depleting Substances (Regulation 2037/2000)
- Directive on Batteries (2006/66/EC)
- Waste Incineration Directive (2000/76/EC)

Framework Directive on Waste (75/442/EEC)

This Directive established the fundamental principles for waste management in Europe, which must be reflected in National, Regional and Local Strategies. The key principle is:

- **The Waste Hierarchy –** this provides a framework of how sustainability in waste management can be increased progressively. The aim is to move up the waste hierarchy by significantly reducing reliance on landfill to increased recycling, reuse, composting and recovery and ultimately waste reduction. However, the waste hierarchy should be used as a guide rather than being applied rigidly, and a certain amount of flexibility is needed to arrive at the most balanced environmental, social and economic solution, which will inevitably result in a mixed solution.

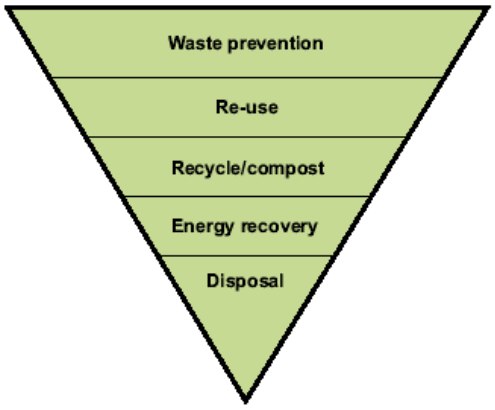


Figure A1-1: The Waste Hierarchy

The requirements of the Framework Directive on Waste were implemented in the UK through the Environmental Protection Act 1990. This legislation defines the different categories of waste and how waste should be managed and controlled. It also defines the duties of Waste Collection and Waste Disposal Authorities, and sets out the Duty of Care applicable to all those handling and disposing of waste, including householders.

The European Commission is developing a Directive on Waste that will succeed the Waste Framework Directive. This new Waste Directive is currently being discussed in the European Parliament, and is expected to:

- Introduce targets to halt the growth in waste generation in Europe at 2008 levels from 2012, with Member States required to draw up national waste prevention programmes.
- Set targets for re-use and recycling, including re-using or recycling 50% of municipal waste by 2020.
- Define when recycled materials or products are no longer deemed to be waste. This would see materials or products that have been fully recycled (perhaps according to a standard) no longer falling under waste legislation.
- Develop efficiency criteria that would enable incinerators to qualify as recovery plants if they meet these criteria.

The European Parliament has also requested the European Commission to develop a Directive on Biowaste (kitchen and garden waste) by June 2008.

The European Commission is also developing a Thematic Strategy on waste prevention and recycling. This will lead to a further reduction in the amount of waste which is landfilled through further recycling and composting, and through an increase in the amount of energy which is recovered from residual waste.

The Commission plans to review the amounts of waste going to landfill in the EU in 2010, and if the move away from landfill is not progressing quickly enough, further landfill bans will be considered.

Landfill Directive (1999/31/EC)

The main aim of the Landfill Directive is to prevent, or minimise the negative effects on both the environment and human health caused by land filling of wastes. It has and will continue to have a significant impact on landfill practices in the UK, as it bans certain materials from being land filled, requires waste to be pre-treated before it is land filled, and requires improvements to landfill management. The introduction of the Directive has resulted in a significant reduction in the number of landfill sites in the UK accepting hazardous wastes. The ban on land filling of certain wastes, such as tyres, from 2006, has meant that new arrangements for their collection and management have been introduced.

Land filled biodegradable waste is a major source of methane, which is a greenhouse gas over 20 times more potent than carbon dioxide in terms of global warming. The Landfill Directive will require the amount of biodegradable municipal solid waste sent to landfill in the UK to be reduced:

- to 75% of 1995 levels by 2010,
- to 50% of 1995 levels by 2013, and
- to 35% of 1995 levels by 2020.

The Government has implemented the requirements for land filling of biodegradable waste through the Waste and Emissions Trading Act 2003. This sets Waste Disposal Authorities (such as Lincolnshire County Council) annual allowances limiting how much biodegradable municipal waste (BMW) can be landfilled in any particular year with effect from April 2005. The Government will fine Authorities that do not achieve their annual targets, but will allow Authorities to buy allowances from other Waste Disposal Authorities if they expect to landfill more than their allocations and sell their surplus if they expect to landfill less than their allowance.

Directive on Packaging and Packaging Waste (94/62/EEC)

The aim of the Directive is to reduce the amount of packaging waste sent for final disposal by introducing recovery and recycling targets for packaging waste. The UK has implemented this Directive through the Producer Responsibility (Packaging Waste) Regulations 1997. The European Commission regularly increases the amounts of packaging waste that need to be recycled. The current target is to recover 60% of all packaging waste by December 31 2008, and meet recycling targets for specific materials, which include a 60% recycling target for both glass and paper/board.

Waste Electrical and Electronic Equipment Directive (2002/96/EC)

The aims of this Directive are to require hazardous components to be removed from waste electrical and electronic equipment (WEEE), and to reduce the amount sent to landfill by introducing recovery and recycling targets. Some types of WEEE items, such as washing machines, are already being recycled, but additional systems for recycling items such as televisions and computers will need to be provided. The UK has implemented this Directive through the Waste Electrical and Electronic Equipment Regulations 2006, and this will require manufacturers to meet the treatment and recycling costs for WEEE items from July 2007.

The European Commission plans to review the existing targets set out by the WEEE Directive in 2008.

End of Life Vehicles Directive (2000/53/EC)

The aims of this Directive are to require hazardous fluids (such as brake fluid) to be removed from end-of-life vehicles (ELVs) and to set recovery and recycling targets. Although ELVs are already being recycled, the Directive will require all ELVs to be treated in authorised treatment facilities (ATFs) and manufacturers will be required to meet the treatment and recycling costs from 2007.

The Department of Trade and Industry introduced the first set of UK ELV regulations in November 2003. These introduced design standards for vehicle manufacturers and environmental standards for the dismantling, recycling and disposal of ELVs by authorised treatment facilities (ATFs). The second set of UK ELV regulations came into force in February 2005, and addresses how manufacturers will set up networks of ATFs to process vehicles at no cost to last owners from 2007.

The current reuse and recycling targets are 80% by 2006 and 85% by 2015. The Commission started a review process of the targets in 2007.

Ozone Depleting Substances (Regulation 2037/2000)

European Council Regulation No. 2037/2000 on substances that deplete the ozone layer came into effect at the end of 2001. The aim of this Regulation is to require the removal of all ozone depleting substances (ODS) (including CFCs and HCFCs) from refrigeration equipment before such appliances are recycled. Ozone depleting substances are present in both the refrigerant liquid and the insulating foam in fridges and freezers, but until this Regulation was introduced, the only requirement was to remove the refrigerant liquid before the appliance was recycled.

Directive on Batteries (2006/66/EC)

A new Directive on batteries was published in September 2006, and Member States, which includes the UK, will have to implement it by September 2008.

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 Incineration Directive (2000/76/EC)

This Directive ensures that energy from waste (EfW) incinerators continue to be tightly regulated in terms of their emissions, and sets minimum technical requirements for waste incineration and co-incineration. The Directive applies to all incinerators from the beginning of 2006, and has been implemented in the UK through the present Pollution Prevention and Control (PPC) regime.

UK Waste Policy

Although most waste legislation in the UK has been introduced to meet the requirements set by European Directives, the UK Government has also introduced additional legislation, some of which is specifically aimed at encouraging recycling:

- The Financial Act 1996 and Landfill Tax Regulations 1996
- Waste Minimisation Act 1998
- Animal By-Products Order and Regulations 2003
- Household Waste Recycling Act 2004
- Clean Neighbourhoods and Environment Act 2005
- Local Government Act 1999 – Best Value Regime

The Financial Act 1996 and Landfill Tax Regulations 1996

Landfill Tax is a tax payable for each tonne of waste sent to landfill and was introduced by the Government in 1996 as a way of encouraging more sustainable means of waste management through recognising the hidden financial effects of the environmental impact of landfill. The landfill tax, which was £24/tonne in 2007, had been increasing at a rate of £3 each year, but it was announced in the Budget in March 2007 that the increase would be £8 per year from April 2008 until at least 2010/11, which would result in a level of £48 per tonne in the 2010/11 financial year.

This increase in landfill tax will cause a significant increase in waste disposal costs and will provide a further incentive to move to more sustainable means of waste treatment in the near future.

Waste Minimisation Act 1998

The Waste Minimisation Act enables local authorities to implement schemes to minimise the amount of household waste generated. However, the Act does not place an obligation on authorities to carry out such initiatives, nor does it allow councils to impose any requirements on businesses or households in their area.

Animal By-Products Order and Regulations 2003

As a result of the foot and mouth crisis in the UK, the Government introduced legislation which states that any material that has possibly been contaminated by meat products has to be composted in a suitable composting facility. The regulations also place restrictions on the subsequent use of the compost material (that has been produced by material which has or may have contained meat products) on land where animals (including wild birds) may have access.

Household Waste Recycling Act 2004

The aim of the Act is to increase recycling of household waste by requiring that English waste collection authorities (WCAs) should collect at least two types of recyclable material separately from the remainder of waste. The deadline for implementation is 2010.

Clean Neighbourhoods and Environment Act 2005

The Clean Neighbourhoods and Environment Act deals with many of the problems affecting the quality of our local environment which forms part of a continuum with anti-social behaviour, vandalism, disorder and levels of crime.

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 behaviour. In particular the Act includes sections on nuisance and abandoned vehicles, litter, graffiti, waste, noise and dogs. The section on waste covers fly tipping, and enables local authorities to issue fixed penalty notices if waste is left out on the street.

Local Government Act 1999 – Best Value Regime

All Authorities are required under the Local Government Act 1999 to provide “Best Value” services and to secure continuous improvement by regularly reviewing the economics, efficiency, and effectiveness of their functions. Authorities have ‘Best Value Performance Indicators’ (BVPI) for all of their services on which they are required to report annually. The BVPIs include a broad range of waste related measurements for example, the percentage of total household waste recycled. These indicators have since been replaced by National Indicators as defined in The New Performance Framework for Local Authorities & Local Authority Partnerships: Single Set of National Indicators. Department for Communities and Local Government, October 2007.

National Waste Strategy 2007

The Government first published a national waste strategy in 2000. The Prime Minister's Strategy Unit reviewed the progress towards the targets set within Waste Strategy 2000 in 2002. The unit's report suggested that "Waste Strategy 2000" may not be sufficient to move waste onto a more sustainable footing, and the Government established the Waste Implementation Programme to address the recommendations made by the Strategy Unit.

An updated waste strategy for England was published (following consultation during 2006) in May 2007. The aim of this updated Waste Strategy, which sets the Government's vision for sustainable waste management, is to reduce waste by making products with fewer natural resources, and thus breaking the link between economic growth and waste growth. Products should be re-used, their materials recycled, energy from waste recovered, and landfilling of residual waste should occur only where necessary. The key objectives are to:

- Decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use
- Meet and exceed the Landfill Directive diversion targets for biodegradable municipal waste in 2010, 2013 and 2020
- Increase diversion from landfill of non-municipal waste and secure better integration of treatment for municipal and non-municipal waste
- Secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste
- Maximise the environmental benefit from that investment through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.

The main points of the waste strategy are:

- A strong emphasis on waste prevention with householders reducing their waste (for example, through home composting and reducing food waste) and business helping consumers, for example, with less packaging. There will also be a new national target to help measure this.
- More effective incentives for individuals and businesses to recycle waste, leading to at least 40 per cent of household waste recycled or composted by 2010, rising to 45% by 2015 and 50 per cent by 2020. This is a significant increase on the targets (30% by 2010 and 33% by 2015) in the previous waste strategy (which was published in 2000).
- Plastics and aluminium - proposals (subject to further analysis) for higher packaging recycling requirements beyond the 2008 European targets to increase recycling (because of savings in carbon dioxide emissions)
- Increasing the amount of energy produced by a variety of energy from waste schemes, using waste that cannot be reused or recycled. It is expected that from 2020 a quarter of municipal waste - waste collected by local authorities, mainly from households - will produce energy, compared with 10 per cent today.

Other measures include:

- Removing the ban on local authorities introducing household financial incentives for waste prevention and recycling, through early legislative change so that local authorities would have the option to introduce revenue-neutral schemes

(potentially reducing annual residual waste land filled by up to 15% – equivalent to 1.5 million tonnes or 130 kg per household)

- Government will work with the Direct Marketing Association to develop a service so that people will be able to opt-out of receiving un-addressed as well as addressed direct mail. The Government is also considering moving towards an approach where people would only get direct mail if they opted in, by placing their name on the direct mail register.
- Government will work with retailers to reduce the use of free single use bags. This could involve retailers only selling long-life bags, or retailers charging for disposable bags and using the proceeds to sell long-life bags at a discount.
- Recycling extended from the home and office to public areas by providing recycling facilities in shopping malls, train stations and cinema multiplexes, so that recycling becomes a natural part of everyday life.
- Subject to further analysis and consultation, banning biodegradable and recyclable waste from being put into landfill sites.

Regional and local context

The East Midlands Sustainable Development Framework: The Integrated Regional Strategy (IRS) January 2005:

This document sets out the vision for sustainable development in the East Midlands Region. The document identifies priorities for action through the setting of regional objectives and indicators. It also discusses how the region contributes to sustainable development by highlighting the pressure on natural resources, the environment, society, and local economy

Part of the IRS is specifically relevant to waste and the Partnership's strategy will need to consider how it can work towards achieving the Regional objectives and indicators.

East Midlands Regional Waste Strategy (January 2006)

The Regional strategy sets out the principles and priorities for waste management:

- Working towards zero growth in waste at the regional level by 2016;
- Reducing the amount of waste sent to landfill in accordance with the EU Landfill Directive;
- Exceeding Government targets for recycling and composting, with the objective to bring all parts of the region up to the levels of current best practice; and
- Taking a flexible approach to other forms of waste recovery, on the basis that technology in this area is developing very quickly and is difficult to predict over a 20-year period.

It sets 10 broad priority issues for the region from planning waste management infrastructures, promotion and education to change behaviour, increase resource efficiency and reducing commercial waste, procurement and market development, to reducing fly tipping. The Partnership's strategy contributes to meeting the Regional goals and targets.

Regional Spatial Strategy for the East Midlands (March 2005)

The RSS was adopted in March 2005 and sets out broad strategic policies for the spatial development of the region up to 2021. The strategy sets 10 objectives for the Region including identifying the scale and distribution for new housing and priorities for the environment, transport, economic development, minerals, and waste treatment and disposal.

The RSS sets the objectives that have since been encompassed in the regional waste strategy of working toward a zero waste growth by 2016, reducing the amount of waste sent to landfill in accordance with the landfill directive, meeting or bettering government recycling targets.

It also sets a target for all waste collection authorities to achieve a minimum of 50% household waste recycling and composting by 2015.

Regional Environment Strategy

The document contains a key policy on waste management: To promote and support sustainable waste management practices and minimise the impact of waste on the environment

The Partnership's strategy works toward the Regional Environment Strategy's overall policies and objectives help the region to be more sustainable in the way it treats its waste.

Lincolnshire Waste Local Plan (2006)

The Waste Local Plan sets the framework for directing and assessing proposals, which require planning permission and are related to treating or disposing of waste (both commercial and household). The Plan does not, however, deal directly with waste collection, home composting, encouraging, or educating people to reduce their waste, as this is the role of the Municipal Waste Management Strategy. The role of the Plan is to:

- Help set the agenda for waste reduction, re-use and recycling in Lincolnshire;
- Set the framework for the most sustainable approach at the present time, and over the plan period, for dealing with waste in Lincolnshire;
- Provide a land use and development control interpretation of the Municipal Waste Management Strategy for Lincolnshire and the Regional Waste Strategy for the East Midlands;
- Provide the criteria and standards by which planning applications for waste management development can be judged.

Regional Economic Strategy (2006)

The Regional Economic Strategy sets out what are the issues to be addressed to allow the Region to grow to 2020. It set a number of aims some of which are directly linked to resource and waste management such as:

- Developing and enhancing the region's communities and its assets of physical infrastructure and the natural environment to ensure they contribute effectively to the region's productivity and economic well-being, both now, and into the future.
- To transform the way we use resources and use and generate energy to ensure a sustainable economy, a high quality environment and lessen the impact on climate change.

Neighbouring authorities

North Lincolnshire Municipal Waste Management Strategy June 2007

The NLMWMS covers the period 2007 to 2025. The main objectives of the strategy are to:

- Limit the growth in municipal waste arisings through the use of waste reduction and minimisation programmes
- Increase the level of recycling and composting to a minimum of 45% by 2010, and meet any future statutory targets set by the Government
- Treat the remaining residual waste to ensure that North Lincolnshire exceeds yearly UK Government landfill targets between now and 2020
- Provide sufficient future landfill capacity for any waste which is either unsuitable for recycling or treated to recover value from it

Nottinghamshire County Council and Nottingham City Council Municipal Waste Management Strategy

A MWMS was published in 2001 and covers a period of 20 years. The MWMS was intended to:

- Provide a framework for the Councils to plan and manage their waste management services in an integrated way;
- Increase the sustainability of waste management in Nottinghamshire by promoting waste minimisation, and increasing the re-use, recycling and composting of waste; and
- Meet the needs of the residents of Nottinghamshire, be environmentally acceptable and affordable to the Councils.

The Strategy set out three key objectives for municipal waste management in the County over the next 20 years:

- To stabilise (and in due course reduce) the amount of municipal waste generated in Nottinghamshire.
- To achieve the national targets for waste recycling, recovery and disposal of waste to landfill.
- To deliver an affordable and environmentally acceptable waste management service. To implement solutions that have the support of the public

In June 2006 Nottinghamshire County Council signed a 26 years PFI with Veolia to deliver these objectives.

Leicestershire Municipal Waste Management Strategy

In order to reflect the primacy of waste prevention, the Leicestershire authorities will move towards a long-term service design that to really increase and encourage home-composting.

The Leicestershire authorities will take measures to minimize the landfilling of the non-household element of municipal waste, either through continuing to collect such material and managing it in different ways or by reducing collection of it in the first place.

The strategy has targets to achieve recycling and composting rates of:

- 40% of municipal waste by 2007;
- 50% of municipal waste by 2010; and
- 58% of municipal waste by 2017

and targets for residual municipal waste generated per person of:

- 395Kg in 2007
- 325Kg in 2010
- 310Kg in 2015
- 295Kg in 2020

They will aim to achieve self-sufficiency in Landfill Allowances where this represents best value and to minimize the need to have recourse to the LATS**.**

Cambridgeshire and Peterborough Municipal Waste Management Strategy

Their waste strategy is currently under review.

Norfolk Municipal Waste Management Strategy March 2006

The strategy set policies and objectives for Norfolk for the period 2006 to 2020. The key objectives are:

- To reduce the growth in municipal waste by promoting waste reduction and reuse initiatives; to promote waste awareness through public education and awareness campaigns;
- To achieve statutory performance standards and national recycling and recovery standards; and comply with LATS.
- To deliver an efficient, effective and affordable waste management service that promotes the implementation of the most practical, social, environmental and economically acceptable solutions.
- To procure appropriate technologies to manage and treat residual municipal waste; and ensure that residual waste is treated using technologies higher up the waste hierarchy.

APPENDIX 2: Summary of scoping report consultation replies

The first stage of the SEA process was to prepare a Scoping Report. This considered the impact of relevant strategies, plans and programmes, providing background information and outlining the criteria and waste management scenarios to be used for conducting the assessment. It was developed through consultation with statutory bodies, and key local stakeholders. This engagement defined the assessment criteria and proposed targets for waste minimisation, re-use, recycling/composting and recovery of waste. The consultation period was three weeks and the following stakeholders were invited:

- Environment Agency
- English Heritage
- Natural England
- East Midlands Regional Assembly
- 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
- Lincolnshire County Council Sustainability Officer
- Lincolnshire County Council Waste Planning Authority

Eight replies received from the above organisations, and these are summarised in this appendix.

The replies covered a wide range of aspects and included comments on the criteria that are used within the assessment of the waste treatment options.

Advice was given to consider the potential impacts of the strategy on the historic environment; for example, the choice of methods for waste collection/ recycling services that could affect historic buildings/ areas; potential impacts of development on historic sites/ landscape and townscape.

It was noted that Grantham and Lincoln are two areas that are seeing a noticeable population growth. This will have an impact in the amount of waste arisings in these areas and maybe added pressure to the current waste and recycling services.

A comment was made that as Lincolnshire is a geographic area which is affected by low flying military aircraft, which potentially can be affected by activity that can attract birds (predominantly landfill operations), this specific aspect should be given consideration when assessing the future location and type of treatment facilities.

Criteria and weightings

A number of comments were made on the proposed criteria and weightings such as:

- The list of criteria could include one to determine the benefits in providing any infrastructure for local industry/business to tap into as to potentially recycle their waste.
- The weightings seem appropriate however there could be more emphasis on criteria such as maximising public acceptability, the likelihood of obtaining planning permission, the ease of participation, and Health & Safety implications. The stakeholder considered that public acceptability would be driven by ease with which the public could participate, and therefore this criterion should either be weighted the same, or public participation be set higher then acceptability.
- The need to consider that some factors will have major impact in one area and little in others.
- For the economic criteria there will be a need to assess how many of the created jobs would go to the local population.
- Local transport weighting could have been set higher, and the impact on health reduced: recognising that modern treatment plants are very tightly regulated.
- There is a need to take into consideration the visual impact of the treatment facility that could have serious impact and seriously affect local economy/property values.

Scenarios proposed

The comments received on the technology options proposed in the modelling scenarios, included the need to consider all types of technology at the onset of the project such as autoclaving, pyrolysis and gasification.

It was recommended that an in-vessel composting scenario be included to enable the Partnership to consider in the medium to long term the introduction of cooked and separate uncooked food waste collection as the standard type of composting facility, replacing the current form of windrow composting for just green waste. This, in turn, would allow for greater diversion from landfill.

APPENDIX 3: Public Consultation report

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Outcomes of the consultation

The review of the feedback from the consultation process indicates strong views that the countywide recycling target should be increased. It is now agreed across the Partnership that the target for recycling and composting for the county should be increased from 50% to 55% by 2015. The assumed split is approximately 30% recycling and 25% composting.

The conclusions of the consultation were:

- The Draft Strategy was generally well received.
- Aspirations with respect to recycling and composting were not felt to be ambitious enough in the light of progress in recent years. It has therefore now been proposed that a target of 55% recycling and composting should be set for 2014/15 (compared with 50% in the draft strategy and the East Midlands Regional Waste Strategy).
- With respect to residual waste treatment, the aspiration should be to 'exceed' rather than just 'meet' the LATS targets and to divert the optimum amount of residual waste from landfill.
- The conclusion of the draft SEA that Energy from Waste (EfW) is the preferred form of residual waste treatment for the county was broadly supported.

A number of the overarching objectives of the strategy will be reviewed to incorporate the feedback received, and the SEA will be revised to assess the impact of the higher recycling rates.

Consultation process

As part of the waste strategy and SEA process there is a statutory requirement to undertake public consultation.

It is recommended that the consultation period lasts for 12 weeks, but this is not statutory. The public was consulted on the proposed draft strategy and the draft environmental report, which presents the outcomes of the Strategic Environmental Assessment (SEA).

There are numerous public consultation methods available and each authority is free to choose how their consultation is undertaken.

Lincolnshire consultation method

The Lincolnshire Waste Partnership chose to carry out public consultation between 21 December 2007 and 7 March 2008. The documents made available during the consultation period were:

- The full draft strategy and appendices
- Summary of the strategy objectives
- Draft environmental report and its appendices

The consultation took the following forms:

- Web based consultation documents and questionnaire
- Postal questionnaire
- Workshops
- Roadshows

Web based approach

Local residents and interested parties could access all consultation documents through Lincolnshire County Council's LCC Connects website. In addition a web based questionnaire (the same as the postal questionnaire) and an email account was available for the public to feedback their views on the documents.

In total 82 completed questionnaires were submitted via the internet.

Postal questionnaire

A postal questionnaire was sent to 7,000 households across the county, one thousand per district. The sample population was randomly selected using the Lincolnshire Research Observatory's existing database.

The questionnaire was posted during the week commencing 28 January 2008 and respondents were given three weeks to return the completed document. A copy of the questionnaire and document sent with it can be found in Annex 1.

Roadshows

The Partnership put together a roadshow that toured the county's key towns, to inform local residents about waste management in Lincolnshire and how the key issues are being addressed. It helped emphasise the need for the Council to procure a new residual waste treatment facility to replace landfill.

At the roadshow residents were able to ask questions on all waste and recycling issues. People were given the opportunity to fill in the consultation questionnaire at the time or return it by post. A total of 79 questionnaires were received from the roadshow campaign.

Workshops

Workshops are an excellent way to gather detailed and constructive feedback on the strategy and SEA.

The Partnership decided to run two workshops, one aimed at local stakeholders and a second one aimed at elected members. The two events were run on the 28 and 29 February 2008 at the Olde Barn Hotel in Marston.

The workshops were whole day events, and included presentations by the Partnership on the strategy, and presentations on the SEA and the technologies by AEA.

22 participants attended the stakeholder day and 18 participants attended the elected members day.

The workshops were interactive with participants being encouraged to share their views, as well as undertaking a number of syndicate exercises relating to the strategy objectives and SEA.

Postal questionnaire results

This section presents the results of the postal questionnaires. Overall the number of questionnaires presented for analysis was 1,141, thereby giving statistically robust results.

Looking at the demographic profile of the respondents, 49% were male, 98% of respondents described themselves as white British, a further 1% as white other and just 1% as an ethnic minority. The age groups were all represented at various levels, as expected in a postal survey it is mainly people aged 35+ that are likely to respond (table A3.1).

Table A3.1 Age of respondents

18-24	25-34	35-44	45-54	55-64	65-69	70-74	75+
2%	6%	15%	19%	23%	12%	10%	13%

Question 1

The first question was about the objectives of the strategy. Overwhelmingly more than two thirds of all respondents across the county agreed that the strategy's objectives will help the Partnership manage its waste more sustainably. Table A3.2 presents the details by district. East Lindsey respondents were more likely to strongly agree (31%) rather than Boston respondents (22%).

Table A3.2 Having read the Strategy Objectives, do you agree that they will help the Partnership to manage our waste in a more sustainable manner?

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
North Kesteven	24%	69%	1%	0%	7%
South Kesteven	30%	66%	1%	1%	3%
South Holland	26%	68%	1%	1%	4%
Boston	22%	65%	3%	1%	9%
Lincoln City	24%	67%	1%	0%	8%
East Lindsey	31%	59%	4%	2%	5%
West Lindsey	22%	72%	1%	0%	5%
Countywide	**26%**	**66%**	**2%**	**1%**	**6%**

Question 2

Respondents were asked if the LWP should aim to reduce the amount of waste produced as much as possible. Overwhelmingly 99% of respondents either strongly agreed or agreed with this statement. The responses are consistent across the districts. Table A3..3 presents the results.

Table A3.3 To what extent do you agree that we should aim to reduce the amount of waste we produce as much as possible?

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
North Kesteven	73%	24%	1%	0%	1%
South Kesteven	70%	30%	1%	0%	0%
South Holland	72%	26%	1%	0%	1%
Boston	66%	32%	0%	1%	1%
Lincoln City	71%	29%	0%	0%	1%
East Lindsey	78%	22%	0%	0%	0%
West Lindsey	70%	29%	1%	0%	0%
Countywide	**72%**	**27%**	**1%**	**0%**	**0%**

Question 3

We asked respondents how they felt about the new recycling targets proposed by the strategy, i.e. 44% recycling by 2010 and 50% by 2015. The majority, 54% of respondents, said that the targets were about right, and 44% said they were too low. The results are noticeably consistent between the districts.

Table A3.4 Lincolnshire achieved a 40% recycling rate in 2006/07. The Strategy proposes targets of 44% recycling in 2010 and 50% recycling in 2015. Do you think these targets are:

	Too low	About right	Too high
North Kesteven	44%	54%	1%
South Kesteven	41%	58%	1%
South Holland	42%	56%	2%
Boston	41%	55%	3%
Lincoln City	45%	51%	5%
East Lindsey	49%	49%	2%
West Lindsey	43%	56%	1%
Countywide	**44%**	**54%**	**2%**

Question 4

The majority of respondents, 52%, strongly agreed that the Partnership should invest in new waste treatment facilities so as to avoid fines in the future. A further 44% agreed with that statement. The breakdown is presented in Table A3..5.

Table A3.5 To what extent do you agree that we should invest in new waste treatment facilities now to prevent significant fines in the future

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
North Kesteven	46%	49%	1%	0%	4%
South Kesteven	49%	47%	1%	0%	2%
South Holland	56%	42%	1%	0%	2%
Boston	50%	44%	1%	1%	3%
Lincoln City	50%	46%	1%	0%	2%
East Lindsey	56%	39%	2%	1%	3%
West Lindsey	53%	44%	1%	0%	2%
Countywide	**52%**	**44%**	**1%**	**0%**	**3%**

Question 5

Public education and awareness campaigns are seen as key tools for the Partnership to help achieve its recycling targets and minimise the amount of waste produced. The majority of respondents, 88%, either strongly agreed or agreed that this was true. Again the results are fairly consistent between the districts.

Table A3.6 To what extent do you agree that public education and awareness campaigns will help us meet our objectives?

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
North Kesteven	34%	57%	3%	1%	6%
South Kesteven	39%	50%	6%	1%	4%
South Holland	39%	48%	4%	2%	7%
Boston	38%	49%	6%	1%	6%
Lincoln City	36%	54%	4%	3%	3%
East Lindsey	33%	53%	8%	1%	6%
West Lindsey	31%	59%	4%	1%	6%
Countywide	**35%**	**53%**	**5%**	**1%**	**6%**

Question 6

Waste is increasingly being seen as a valuable resource. In addition to recycling waste to recover materials for further use, waste has a value in terms of the energy it can release.

The strategy aims to maximise the recovery of the value of its waste through recycling but also by treating residual waste before final disposal

The majority of respondents, 72%, strongly agreed with that view, and a further 27% agreed.

Table A3.7 To what extent do you agree that we should aim to recover as much value, in terms of materials and energy, from our waste as possible?

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
North Kesteven	71.9%	26.9%	0.0%	0.0%	1.3%
South Kesteven	69.6%	29.7%	0.7%	0.0%	0.0%
South Holland	72.0%	27.4%	0.6%	0.0%	0.0%
Boston	65.0%	33.6%	0.0%	0.7%	0.7%
Lincoln City	72.3%	27.1%	0.0%	0.0%	0.6%
East Lindsey	77.5%	21.3%	1.2%	0.0%	0.0%
West Lindsey	73.9%	25.6%	0.0%	0.0%	0.6%
Countywide	**71.7%**	**27.4%**	**0.4%**	**0.1%**	**0.4%**

Question 7

The last question focused on asking respondents to rank in order of priority what should be the priority issues in the decision making process to identify alternatives to landfill. The ranking was 1 to 6 where 1 is the most important and 6 the least important.

According to respondents the most important issue that should be driving the decision making process about new waste treatment facilities should be its environmental impact, 45% of respondents giving it a score of 1, and 82% giving it a ranking between 1 and 3.

The impact on the local community was scored the second highest priority with a total of 75% of respondents ranking this issue between 1 and 3, followed thirdly by cost with 59% of respondents ranking it between 1 and 3. Proven reliability of the method was given a ranking of between 1 and 3 by 58% of respondents.

It appears that "opportunities for public involvement" was the least important area with just 21% of respondents ranking this between 1 and 3.

Table A3.8 We are committed to maximising recycling and composting, but will still need to choose an alternative to landfill to treat the remaining waste. In making our decision, how do you feel we should prioritise the following issues? Please rank from 1 to 6 with 1 being most important and 6 being the least important.

	Environmental Impact	Impact on the local community	Cost	Opportunities for public involvement and education	Proven reliability of treatment method	Other
1	**45%**	15%	17%	3%	16%	4%
2	21%	**30%**	20%	7%	**21%**	1%
3	15%	**30%**	21%	12%	**21%**	1%
4	12%	18%	**25%**	20%	24%	1%
5	5%	6%	14%	**55%**	16%	3%
6	2%	1%	3%	3%	1%	90%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Conclusion

The results of the questionnaire show a broad acceptance of the new strategy.

The objectives of the strategy have been accepted as being a good basis for helping the Partnership deliver more sustainable waste management services in the county.

Respondents were positive about all the statements and agreed that the Partnership needs to reduce the amount of waste produced, and encourage the public through education and awareness campaigns to do more recycling and help minimise waste. It was also considered important that the Partnership maximises the value recovered from waste.

In term of alternatives to landfill, respondents were keen that the decision process should be governed by the environmental impact, the impact a new facility would have on the local communities and on cost.. This is compatible with the weightings agreed through the workshops to be used in the criteria assessment to identify a preferred residual waste treatment option.

Workshops

The first workshop took place on 28 February 2008 and was for stakeholders, the second workshop was held on the 29 February 2008 and was for local elected members.

The aim of the workshops was to provide delegates with the opportunity to learn more about the draft waste strategy, to ask questions or clarification and to offer views on aspects of the plan.

Representatives from the Lincolnshire Waste Partnership and consultants, AEA Technology, attended to give presentations and to help with technical aspects of the discussion.

The session was facilitated by Peter Woodward and Jane Lloyd of Quest Associates, who are experienced independent facilitators.

The workshops took place in Lincolnshire at the Olde Barn Hotel, Marston. For workshop 1 (stakeholders) participants were sat around tables in groups of six and were asked to sit with people they did not know wherever possible. For workshop 2 (elected members) we asked representatives of each authority to sit together as for some of the exercises an authority rather than an individual view was required.

This section features the outcomes from the sessions

First session: Strategy objectives

The first part of the day was focused on the overarching objectives of the strategy. We addressed objectives in pairs in the order of the strategy. For each objective a short presentation took place followed by clarifications and discussion. Participants were then asked to discuss the objectives amongst themselves and feedback to the group afterwards.

On a number of occasions participants were asked to contribute by using stickers on boards. Pictures of the exercises have been included where relevant.

The following tables present the summary of comments for each objective.

Objective 1:

To prevent the growth in municipal waste by promoting waste reduction and reuse initiatives

Workshop 1	Workshop 2
This was felt to be a key objective, which will require working/ engaging with local and national retailers on issues such as packaging. This will require all seven districts to provide a more harmonious service to local residents. There is the issue of commercial and trade waste and the need to ensure that businesses as well as residents are engaged in this process. This objective is closely linked to objective 2.	The focus of the discussion was around whether the Partnership should set a waste minimisation target and if so at what level. The discussion then revolved around how waste minimisation can be measured.

Objective 2:

To promote waste awareness through co-ordinated public education and awareness campaigns, and effective community engagement

Workshop 1

Participants agreed with the objective.

The comments were around:

- The need to harmonise the message across the county
- How this will be measured
- The need to work with schools but also retailers

Workshop 2

Generally there were few comments on this objective. Some participants would like the objective to include the use of enforcement if necessary.

Objective 3:

Across Lincolnshire to achieve 44% recycling and composting by 2010 and 50% by 2015

Workshop 1

There was a split between the participants:

Those that agreed the targets were realistic and achievable. That there is a need to consider that in the last 2 years the county has done extremely well to increase its recycling, but higher recycling rates will become harder and more expensive to achieve.

Those that thought the targets were un-ambitious, and too easy. There was a call for a 55% or 60% recycling rate for 2015.

Workshop 2

Participants again were divided between thinking the targets were realistic and achievable, and those who wanted more ambitious targets.

The comments also included the issue of political willingness, the need for additional funding in some of the districts, the fact that some districts have recently heavily invested in their recycling collection and so could not foresee more funding in near future, thus the targets would need to be achieved with current services.

For Objective 3 delegates were also invited to indicate with two sticky dots what they thought the recycling target for 2010 and 2015 should be (see photos).

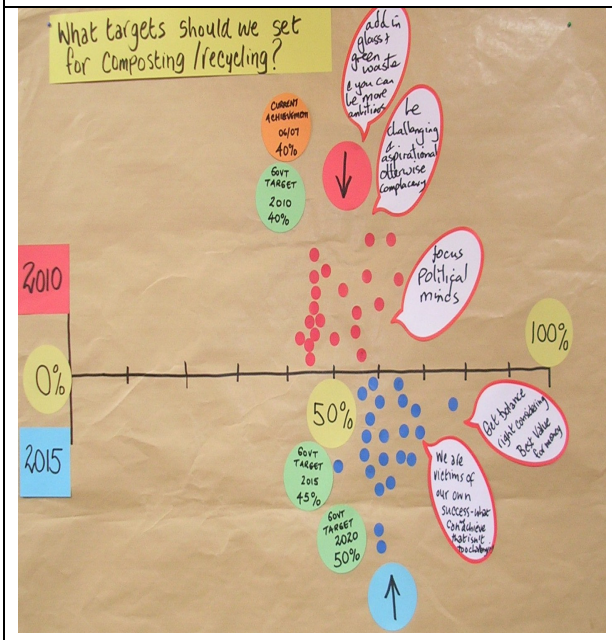
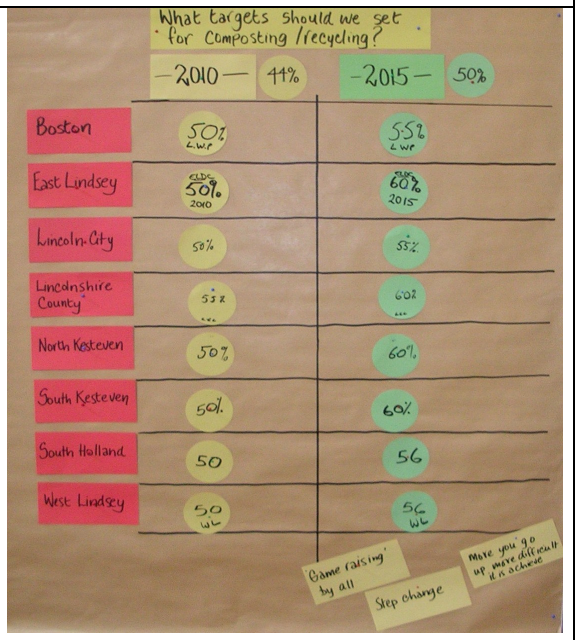
Stakeholder workshop	Elected Members Workshop
	

Figure A3-1 What recycling levels should the Partnership set itself?

Objective 4:

Across Lincolnshire to achieve a uniform dry recyclables waste stream

Workshop 1

Generally participants agreed that this would have many benefits.

It was identified though that there are different political agendas and that these might be hard to overcome.

There is also the need to consider end markets and that currently districts are responsible for where their recycling is sent which influences what they collect.

Discussion around kitchen waste collections.

Issues around exporting waste and moving it long distances, acknowledging that this is influenced by the reprocessing markets which are now global.

Workshop 2

Generally participants agreed that this would have many benefits, but wanted to see a list of what materials have to be collected with targets dates for some materials like batteries for example.

Should we consider kitchen waste? If so should it be implemented by all districts?

.

Overall agreement that further consideration should be given to this in the medium term.

Objective 5:

To progressively increase the recovery and diversion of bio-degradable waste from landfill to meet and exceed the Landfill Directive diversion targets

Workshop 1	Workshop 2
Overall participants agreed with the objective.	Overall agreement.
There is a need to understand by how much LATS should be exceeded.	Lincolnshire should be leading by example in tackling climate change, and diverting waste from landfill is key.
LATS is a driver but landfill is also becoming more expensive every year.	General agreement that the Partnership should aim to exceed rather than just meet LATS. Need some security in case recycling rates are not achieved or if waste growth is higher than that predicted.
	Need to consider the issue and potential fines linked to the current landfill contracts.

Objective 6:

To ensure that residual waste treatment supports practices higher up the waste hierarchy

Workshop 1	Workshop 2
General agreement for this objective.	General agreement, but participants would like to see some clarification in the wording of this objective.

Objective 7:

To deliver better value for money services addressed on a countywide basis

Workshop 1	Workshop 2
Generally agreed with the objective, but did not like the wording. The word better needed to be replaced.	Generally agreed with the objective, would like the word better changed to best.
Issue discussed around how to measure this.	Need to take into consideration the impact on the districts and the county.
Comments around the power of the Partnership brand, which is not widely known.	

Objective 8:

To consider approaches to managing waste from commercial and industrial sources

Workshop 1	Workshop 2
This objective needs to be reworded to reflect actions that will be taken.	Agreed with the objective, again the wording needs to be amended.
There is a need to address commercial and industrial waste and encourage more recycling.	There is a gap in the market for SME and the Partnership should provide them with recycling services.
	Need to consider the end market for recyclate.
	Need to clarify what type of waste is referred to (i.e. not hazardous).

Objective 9:

To lobby and work with others on waste management issues

Workshop 1	Workshop 2
Generally agreed, but the objective needs to be more focused. Who will the Partnership lobby and how.	Generally agreed, need to amend the wording to "lobby, work and cooperate with…."
	There is a need for a more integrated thinking and influencing through planning. For example, new housing schemes and industrial parks should be made to include recycling facilities

Objective 10:

As Local Authorities to set an example by preventing, reusing, recycling and composting own waste and using our buying power to positively encourage sustainable resource use

Workshop 1	Workshop 2
Agreed and saw this as a key objective. The Partnership needs to be seen as leading by example	No comments, agreed
All local authorities should influence this through an extensive green procurement policy	

Workshop 2 only:

After discussion of each Objective, each district was invited to indicate whether it would support the Objective, by placing a tick in the matrix. A large 'C' indicates a significant comment to be considered in the strategy re-draft. A small 'C' indicates a less significant, but nevertheless important comment (see photo below).

Figure A3-2 Do we agree with the Strategy's objectives?

Second session: Strategic Environmental Assessment

This session presented the aims and objectives of the SEA, and why it was required. It presented the scenarios that have been considered to treat residual waste and how we assess the impacts, in term of environmental factors, socio-demographic factors, deliverability of technology, and waste policy factors.

The weighting of criteria is very important, as it will be applied to the SEA results for the final scoring of options.

Weighting the criteria

Delegates were invited to give relative weightings to the 14 criteria used in the SEA to assess the scenarios, by placing 25 dots on the following grid:

		Criteria	4%	8%	12%	16%	20%
Environmental factors	1	Minimise nuisance from noise, odour, dust, litter and vermin generation					
	2	Minimise local transport movements					
	3	Minimise local health impact from waste treatment technologies					
	4	Minimise impact to soil and water and air quality					
	5	Help tackle climate change by minimising greenhouse gas emissions					
	6	Minimise visual impact					
	7	Maximise resource efficiency (land, water and other resources)					
Economic factors	8	Minimise costs of waste management					
	9	Maximise economic and social benefits					
Deliverability	10	Minimise risks through ensuring maturity and flexibility of technology					
	11	Maximise public acceptability and likelihood of obtaining planning permission					
	12	Ease of public participation and health and safety implications					
Waste hierarchy and policy	13	Meet targets for reduction, recycling/composting and recovery					
	14	Meet government targets set for diverting biodegradable waste from landfill					

All the outcomes from the exercise were put together and an average relative weighting was calculated. In workshop 2 all delegates were asked to first weigh the criteria as an individual who lives/works in Lincolnshire. They were then asked to agree one weight per criterion by districts. The results are presented in Table A3.9 and Figure A3.1

Table A3.9 Weight given

			Stake-holders	Elected Members as individuals	Districts	**AVERAGE weight**
Environmental factors	1	Minimise nuisance from noise, odour, dust, litter and vermin generation	6.40%	8.00%	9.00%	**7.80%**
	2	Minimise local transport movements	6.40%	7.56%	9.50%	**7.82%**
	3	Minimise local health impact from waste treatment technologies	6.60%	7.33%	6.50%	**6.81%**
	4	Minimise impact to soil and water and air quality	7.20%	4.89%	4.00%	**5.36%**
	5	Help tackle climate change by minimising greenhouse gas emissions	10.80%	10.00%	8.50%	**9.77%**
	6	Minimise visual impact	2.60%	3.33%	2.50%	**2.81%**
	7	Maximise resource efficiency (land, water and other resources)	6.20%	4.00%	3.50%	**4.57%**
Economic factors	8	Minimise costs of waste management	7.00%	9.33%	9.50%	**8.61%**
	9	Maximise economic and social benefits	5.60%	6.89%	6.50%	**6.33%**
Deliverability	10	Minimise risks through ensuring maturity and flexibility of technology	8.40%	4.00%	4.50%	**5.63%**
	11	Maximise public acceptability and likelihood of obtaining planning permission	6.20%	7.78%	6.50%	**6.83%**
	12	Ease of public participation and health and safety implications	4.80%	4.89%	6.00%	**5.23%**
Waste hierarchy and policy	13	Meet targets for reduction, recycling/composting and recovery	10.60%	11.11%	10.50%	**10.74%**
	14	Meet government targets set for diverting biodegradable waste from landfill	11.20%	10.89%	13.00%	**11.70%**
		TOTAL	100.00%	100.00%	100.00%	**100.00%**

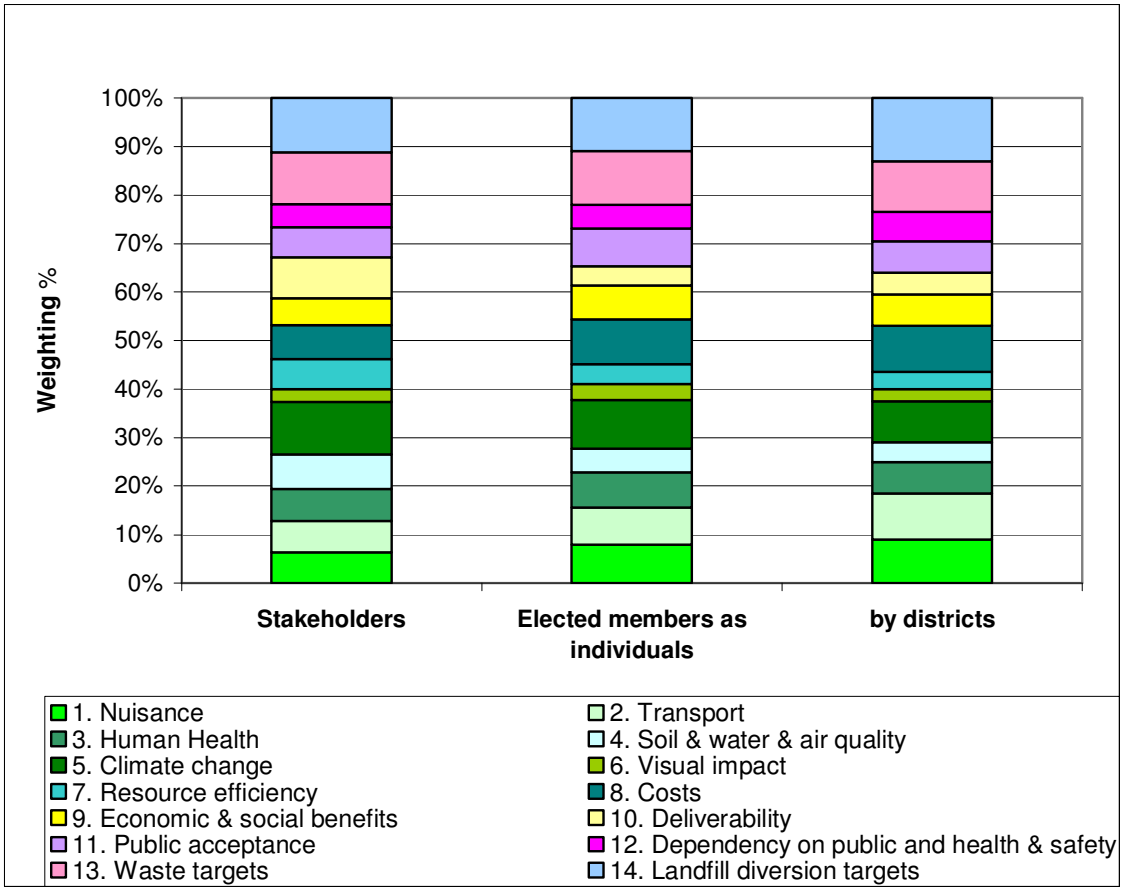


Figure A3-3 Weights comparisons

Session 3: Residual treatment options

The last session of the day featured a non-technical presentation of the technologies the SEA considered for treating residual waste.

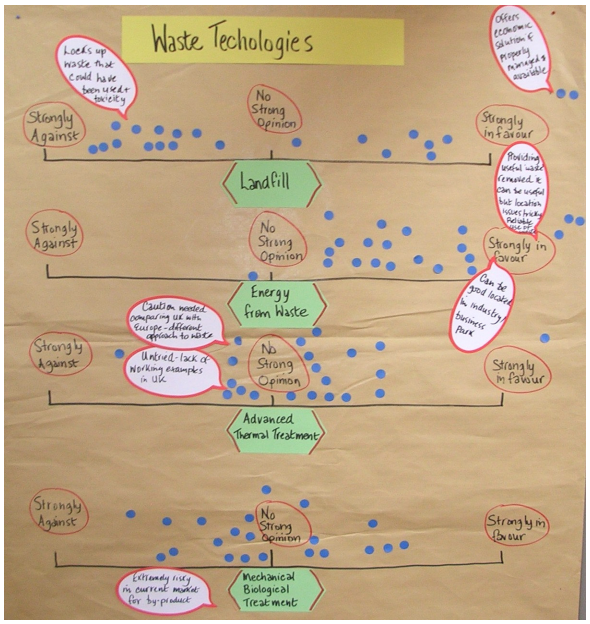
Delegates were able to ask questions for clarification and then discussed the options amongst themselves. Delegates were then invited to indicate their views on the four main residual treatment technologies as shown below.

It can be seen that in both workshops incineration with energy recovery was the most favoured technology to treat the residual waste. It was generally agreed that there will always be a need for landfilling. The elected members were much more confident in their choice than the stakeholders.

The comments on gasification (advanced thermal technology) were that it was an interesting technology but that there is a distinct lack of confidence in whether it can be delivered.

The MBT technology received a more cautious ranking, elected members were concerned that it might not deliver sufficient waste diversion to meet LATS in the longer term.

Stakeholders



Elected members

Figure A3-4 Which residual treatment technologies?

Final views

The final comments and views were that delegates agreed with the overall strategy but that the wording of some objectives needed to be amended.

The recycling targets have been reviewed and are now set at 55% for 2015.

In terms of technology option, there was a clear agreement in both workshops that Energy from Waste (EfW) was the preferred option to treat residual waste in Lincolnshire.

The weightings set for the criteria have been averaged and will be fed into the SEA.

Annex 1:
Feedback questionnaire and document sent by post

Joint Municipal Waste Strategy for Lincolnshire

PUBLIC CONSULTATION SURVEY

The Lincolnshire Waste Partnership
December 2007

Boston Borough Council
East Lindsey District Council
Environment Agency
City of Lincoln Council
Lincolnshire County Council
North Kesteven District Council
South Kesteven District Council
South Holland District Council
West Lindsey District Council

What is the Joint Municipal Waste Strategy for Lincolnshire?

The County Council, the seven District Councils and the Environment Agency have formed the Lincolnshire Waste Partnership and our aim is to deliver sustainable waste management services to the community.

How the Partnership plans to achieve this vision is set out in the draft waste strategy which is based on the following objectives:

Objective 1	To prevent the growth in municipal waste by promoting waste reduction and reuse initiatives
Objective 2	To promote waste awareness through co-ordinated public education and awareness campaigns, and effective community engagement
Objective 3	Across Lincolnshire, to achieve 44% recycling and composting by 2010 and 50% by 2015
Objective 4	Across Lincolnshire to achieve a uniform dry recyclables waste stream
Objective 5	To progressively increase the recovery and diversion of biodegradable waste from landfill to meet and exceed the Landfill Directive diversion targets
Objective 6	To ensure that residual waste treatment supports practices higher up the waste hierarchy
Objective 7	To deliver better value for money services addressed on a countywide basis
Objective 8	To consider approaches to managing waste from commercial and industrial sources
Objective 9	To lobby and work with others on waste management issues
Objective 10	As Local Authorities to set an example by preventing, reusing, recycling and composting our own waste and using our buying power to positively encourage sustainable resource use

Where are we today?

In Lincolnshire we produce around 360,000 tonnes of municipal waste each year, and it's growing annually by about 1.7%. Last year we recycled and composted 40% of our waste, with the remaining 60% being sent to landfill. However, waste management in the county now needs to change to meet new national and European laws.

Some of the main challenges are to:

- Reduce the amount of waste we produce to stop the 1.7% annual growth rate
- Increase recycling, composting and energy recovery
- Divert waste away from landfill to new treatment facilities

The Partnership aims to deliver these objectives by:

- Delivering a long term education and awareness campaign to help reduce waste and increase recycling and composting
- Providing a greater commonality of waste management services across Lincolnshire
- Providing a new residual waste treatment facility to reduce the amount of biodegradable waste being sent to landfill

Are waste reduction and recycling still important?

Reducing the amount of waste we produce is very important and is the first step we will be taking. Recycling and composting are also vital to our strategy, and we are aiming to boost recycling rates to 44% by 2010 and 50% by 2015.

However, there will still be a large amount of waste to dispose of after recycling and composting have taken place.

Why can't we continue to landfill our rubbish?

Landfill is the least environmentally friendly way of dealing with our rubbish. Over time it breaks down releasing polluted liquid and gases that contribute to global warming.

Since 2005 the amount of waste we can send to landfill has been set by the Government. This quantity is being significantly reduced each year. If we exceed this limit we will have to pay a fine of £150 per tonne for each tonne landfilled over our allowance. This could lead to the County Council being fined millions of pounds each year.

To prevent these fines we need to invest in new residual waste treatment facilities now so that we can stop sending so much waste to landfill.

How do we choose the right residual waste treatment method?

There are a number of different technologies that can be used to treat residual waste. The waste strategy has looked at nine different options. These options have been assessed against a wide range of factors including reliability, flexibility, environmental impact, impact on the local community, cost, and opportunities for public involvement and education.

The assessment indicates that the highest scoring options involve thermal treatment. The most common option of this type is Energy from Waste which involves thermally treating the waste to recover energy and generate electricity for use in the National Grid. However, although scoring less well the other types of technology considered may also offer a possible solution.

How can I get involved?

A public consultation exercise is now underway seeking your views on the draft waste strategy. Please take a few minutes to share your views by completing our survey.

Your views will help us to confirm our objectives, and help us choose the right residual treatment solution for Lincolnshire.

Please return in the pre-paid envelope by **Friday 22 February 2008**.

Waste Strategy Consultation Survey

1. **Having read the Strategy Objectives, do you agree that they will help the Partnership to manage our waste in a more sustainable manner?**

(Please tick one box)

Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know
☐	☐	☐	☐	☐

2. To what extent do you agree that we should aim to reduce the amount of waste we produce as much as possible?

Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know
☐	☐	☐	☐	☐

3. Lincolnshire achieved a 40% recycling rate in 2006/07. The Strategy proposes targets of 44% recycling in 2010 and 50% recycling in 2015. Do you think these targets are:-

Too low	About right	Too high
☐	☐	☐

4. To what extent do you agree that we should invest in new waste treatment facilities now to prevent significant fines in the future?

Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know
☐	☐	☐	☐	☐

5. To what extent do you agree that public education and awareness campaigns will help us meet our objectives?

Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know
☐	☐	☐	☐	☐

6. To what extent do you agree that we should aim to recover as much value, in terms of materials and energy, from our waste as possible?

Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know
☐	☐	☐	☐	☐

7. We are committed to maximising recycling and composting, but will still need to choose an alternative to landfill to treat the remaining waste. In making our decision, how do you feel we should prioritise the following issues?

Please rank from 1 to 6 with 1 being the most important and 6 the least important. Please use each number only once.

Environmental impact	
Impact on the local community	
Cost	
Opportunities for public involvement and education	
Proven reliability of the treatment method	
Other	

If other please specify

8. Please enter your postcode:

Personal Details (Optional)

1. Are you male or female?

Male ☐ Female ☐

2. What was your age on your last birthday?

18-24 ☐ 55-64 ☐

25-34 ☐ 65-69 ☐

35-44 ☐ 70-74 ☐

45-54 ☐ 75+ ☐

3. Do you have any longstanding illness, disability or infirmity? (Longstanding means anything that has troubled you over a period of time or that is likely to affect you over a period of time.

Yes ☐ No ☐

4. To which of these groups do you consider you belong?

White		**Black or Black British**	
British	☐	Caribbean	☐
Irish	☐	African	☐
Other white background	☐	Other black background	☐

Mixed		**Asian**	
White & Black Caribbean	☐	Indian	☐
White & Black African	☐	Pakistani	☐
White & Asian	☐	Bangladeshi	☐
Other mixed background	☐	Other Asian background	☐

Black or Black British		**Chinese & Other Ethnic Groups**	
Caribbean	☐	Chinese	☐
African	☐	Other Ethnic Group	☐
Other white background	☐		

If other please specify ☐

APPENDIX 4: Glossary of terms

AD	Anaerobic Digestion
ATT	Advanced Thermal Treatment (gasification/pyrolysis)
BMW	Biodegradable Municipal Waste
BPEO	Best Practicable Environmental Option
CHP	Combined Heat & Power
EfW	Energy from Waste
IVC	In-vessel composting
JMWMS	Joint Municipal Waste Management Strategy
LATS	Landfill Allowance Trading Scheme
LWP	Lincolnshire Waste Partnership
MBT	Mechanical Biological Treatment
MSW	Municipal Solid Waste
MWMS	Municipal Waste Management Strategy
RDF	Refuse Derived Fuel
SEA	Strategic Environmental Assessment
WCA	Waste Collection Authority
WDA	Waste Disposal Authority
WPA	Waste Planning Authority