North London Waste Authority

Strategic Environmental Assessment of the North London Joint Waste Strategy

Environmental Report

May 2008

Entec UK Limited

Report for

[redacted]
Policy and Development Manager
North London Waste Authority
Lee Valley Technopark, Unit 169
Ashley Road
Tottenham
London
N17 9LN

Main Contributors

[redacted]

Issued by

[redacted]

Approved by

[redacted]

Entec UK Limited

Pacific House
Imperial Way
Reading RG2 0TD
England
Tel: +44 (0) 1183 775600
Fax: +44 (0) 1183 775610

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Contents

1. Introduction and Background

1.1 Requirements for Strategic Environmental Assessment of the Mayor's Draft North London Joint Waste Strategy (NLJWS)

The Strategic Environmental Assessment Directive or SEA Directive (number 2001/42/EC) was introduced in 2001. This made it a requirement for:

- An assessment of the likely 'significant environmental effects' of certain plans and programmes on the environment, prior to the plan or programme being adopted;
- An Environmental Report to be produced following such an assessment;
- Consultation on both the draft Plan and the Environmental Report; plus information to be provided once a plan or programme has been adopted to show how the results of the environmental assessment were taken into account.

The over-arching aim of the Directive was

> *"to provide high level protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development"*

The Directive was transposed into UK law in 2004 through The Environmental Assessment of Plans and Programmes Regulations 2004. The UK Regulations did not extend the scope of the requirements set out in the SEA Directive, but they defined the 'responsible authorities' whose plans and programmes would be subject to the regulations and also designated the organisations which must be consulted throughout the assessment process – 'the consultation bodies'. In addition, the UK Regulations set out the time limits and other arrangements for consulting and informing authorities and the public.

The implementation of the UK regulations gave a 2 year transposition period so that any relevant plan or programme on which preparatory work had started prior to September 2004 and which was adopted before 22nd July 2006 would not be subject to SEA. Work on the Mayor's Draft NLJWS started before September 2004, but the strategy had not been formally adopted by 22nd July 2006, so the requirement to carry out retrospective SEA applies, as outlined below.

SEA is mandatory for plans and programmes which are prepared by local authorities for waste management **and** which *set the framework for future development consent* (normally conditions or criteria which guide the way a consenting authority decides an application) for projects which are listed in Annexes I and II of the Environmental Impact Assessment (EIA) Directive (85/337/EEC). Given that Annex II 11(c) of the EIA Directive includes "*installations for the disposal of industrial and domestic waste"*", where a waste management plan or strategy makes way for development of facilities (although not necessarily specific sites), then a SEA will generally be required.

SEAs and associated Environmental Reports have been prepared for other similar waste strategies, such as the Hertfordshire Waste Management Strategy and the Mayor of London's Business Waste Strategy. The results of the screening assessment, (see paragraph 2.3) for the NLWA procurement strategy, carried out in November 2006, also concluded that whilst SEA was not required for the Procurement Strategy, this was only on the basis that retrospective SEA would be carried out for the Mayor's Draft NLJWS which forms the framework for the procurement strategy. The Authority's Legal Advisor concurred and as reported at the NLWA meeting on 20th December 2006, she also advised that it would be necessary to carry out a retrospective SEA of the Mayor's Draft NLJWS. The recommendation to carry out the retrospective SEA and provide a budget for it was approved at the same meeting.

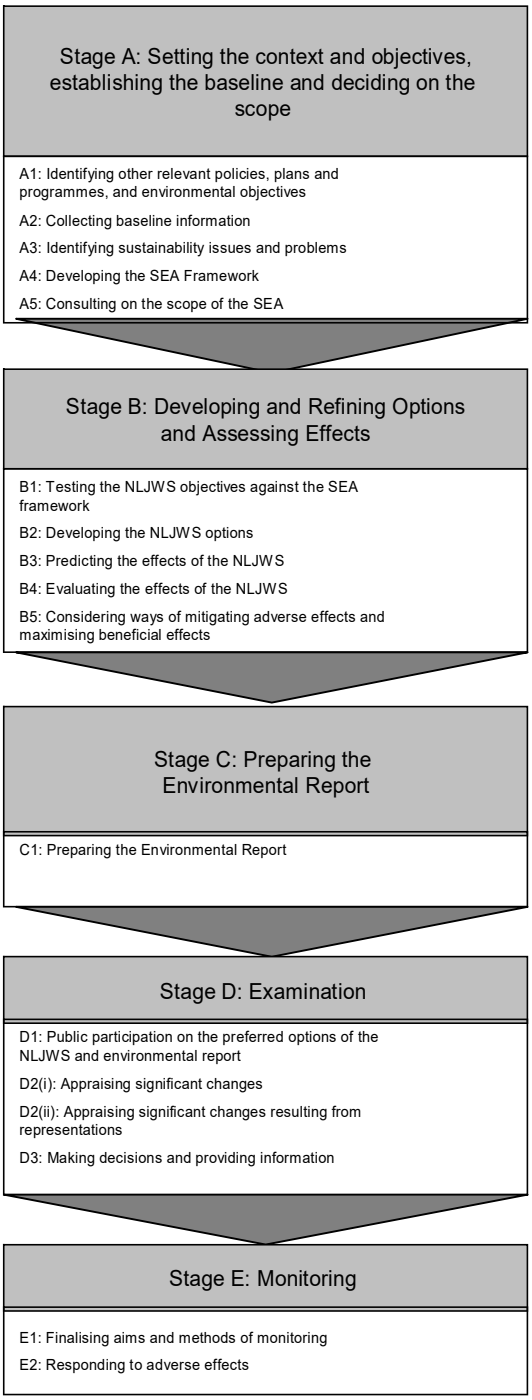
The focus of the SEA process is on environmental effects, however it has been decided to broaden the assessment out to cover social and economic effects. This will make the SEA process being carried out for the NLJWS more consistent with the Sustainability Appraisal (SA) process used by the Mayor of London on his strategy documents and also with the SA process being undertaken for the North London Waste Plan which is explained below. This is considered appropriate as the NLJWS is likely to have significant economic and social effects as well as environmental ones.

The SEA process adopted for the North London Joint Waste Strategy (NLJWS) has two key outputs:

- **Scoping Report (Stage A)**: This establishes appraisal objectives which will be used to assess the effects of the emerging Draft NLJWS; sets out a description of the baseline characteristics and the predicted future baseline; and provides a methodology and programme for appraising the emerging strategy;
- **Environmental Report (Stage C)**: This document reports on the detailed assessment of the likely significant effects of the Draft NLJWS's emerging policies and alternative options. It also summarises how the assessment was undertaken and makes recommendations on mitigation and monitoring measures.

There are five main stages of SEA, as identified in **Figure 1.1** which is shown below

Figure 1.1 Stages of SEA



1.2 The North London Joint Waste Strategy (NLJWS)

In September 2004, the seven North London boroughs and the NLWA produced the Joint Waste Strategy for North London, which set out the combined plan of the eight partners to meet the challenge of how best to manage the rising amount of municipal waste (almost 1 million tonnes) that is produced in North London each year. The Mayor's Draft, North London Joint Waste Strategy, September 2004 outlines the need for a joint strategy, the statutory requirements which would impact upon the same, the different treatment options for managing waste, including ranking these in terms of the 'waste hierarchy' with the preferred option of waste prevention at the top of the hierarchy, to landfill disposal at the bottom as the least preferred solution. The North London Joint Waste Strategy (Mayor's Draft NLJWS) also outlined the methodology and results of the Best Practicable Environmental Option (BPEO) analysis, which had been carried out on the partners' behalf. The final chapter of the Mayor's Draft NLJWS outlined the preferred solution from the above analysis. The preferred solution involved joint working between the eight partners, procurement of some new local facilities to recycle and compost more of North London's waste and shared use of the same. The preferred solution also required the NLWA's role to shift from being just a disposer of the residual waste collected by the constituent borough councils, to the NLWA procuring a wider range of services on behalf of the constituent borough councils, including, additionally, composting and recycling facilities and also new residual waste treatment and recovery facilities. The Mayor's Draft NLJWS recognised that landfill disposal and some form of energy from waste would still be required, but that a range of alternative solutions, further up the waste hierarchy would also be required and to an increasing degree.

1.3 Aims and Objectives of NLJWS

The following joint aims and objectives form the basis of the strategy:

Aims:

- To promote and implement sustainable municipal wastes management policies in North London;
- To minimise the overall environmental impacts of wastes management;
- To engage residents, community groups, local business and any other interested parties in the development and implementation of the strategy;
- To provide customer-focussed, best value services.

Objectives:

- To minimise the amount of municipal wastes arising;
- To maximise recycling and composting rates;
- To reduce greenhouse gases by disposing of less organic waste in landfill sites;
- To co-ordinate and continuously improve municipal wastes minimisation and management policies in North London;

- To manage municipal wastes in the most environmentally benign and economically efficient ways possible through the provision and co-ordination of appropriate wastes management facilities and services;
- To ensure that services and information are fully accessible to all members of the community;
- To maximise all opportunities for local economic regeneration;
- To ensure an equitable distribution of costs, so that those who produce or manage the waste pay for it.

1.4 Progress on the NLJWS

Following the production of the London Mayor's Draft of the North London Joint Waste Strategy in September 2004 an approval process was undertaken to gain formal approval of the Mayor's Draft NLJWS by all the partners. By the end of December 2004 seven of the eight North London partners had approved the Mayor's Draft North London Joint Waste Strategy. Some had also delegated a level of authority to make changes to the North London Joint Waste Strategy in response to the London Mayor's formal comments. Whilst they approved the North London Joint Waste Strategy in principle one constituent borough council however, remained concerned that there was a need to review and update the strategy. They considered that there was a need to take into account recent legislative developments and to secure inter-authority collaboration on a more sustainable and formal basis, which is now in the process of happening. One constituent borough council also remained concerned about the apportionment of costs and the amount of time allocated to finalising the structures of collection services and did not approve the NLJWS. Once these concerns were overcome however, the London Mayor finalised his formal comments in December 2006. Since that time some discussion between the partners has taken place regarding potential changes to the Mayor's Draft NLJWS in the light of these. However, no further changes to the Mayor's Draft NLJWS have formally been proposed yet, as these will be formulated alongside any outcomes from the SEA.

A Waste Prevention Plan, which outlines how the waste prevention implementation actions, (i.e. waste avoidance, reduction, re-use, home and community composting) within the Mayor's Draft NLJWS will be implemented, has also been produced and has recently (February 2008), been updated.

A procurement strategy had also been approved by the end of December 2006, which set the framework for the NLWA procuring the additional facilities and services that will be required in the future to implement the other aspects of the Mayor's Draft NLJWS. A screening report for a Strategic Environmental Assessment had been carried out for the procurement strategy. This concluded that a strategic environmental assessment was not required for the procurement strategy provided that:

- Retrospective Strategic Environmental Assessment was undertaken on the Mayor's Draft NLJWS and that Strategic Environmental Assessment was carried out on any later review of the Mayor's Draft NLJWS, after incorporation of the first Strategic Environmental Assessment results;
- Appropriate Assessment (AA) of the effects on European Sites of nature conservation interest under the Habitats Directive does not apply.

Originally it had been planned to carry out a review of the Mayor's Draft NLJWS in 2006. However, at the NLWA meeting on 20th September 2006 the Authority approved the postponement of a formal review of the North London Joint Waste Strategy because the Mayor of London's comments on the strategy had not yet been received and also because both the National Waste Strategy for England and the London Mayor's municipal waste strategy were under review so it seemed sensible to wait to review the Mayor's Draft NLJWS in the light of the above. Accordingly, the Strategic Environmental Assessment is to be carried out upon the Mayor's Draft North London Joint Waste Strategy, September 2004, but taking account of

- The Mayor of London's comments on the strategy, which have not as yet been incorporated, but which have been received;
- The fact that a Waste Prevention Plan has been produced and recently (February 2008) updated;
- That an approved procurement strategy is in place, but that this will not be subjected to Strategic Environmental Assessment;
- Any potential changes which might result from the new Waste Strategy for England 2007 and London Business Waste Strategy, and the updated London Municipal Waste Strategy if published in time.

1.5 Other Relevant Waste Plans and Strategies

Reference has already been made above to two additional NLWA plans: the Waste Prevention Plan (which provides more detail on the short term implementation of waste prevention activities contained within the NLJWS) and the Procurement Strategy (which provides a forward plan for procuring new services and facilities for managing North London's waste, mostly once the NLWA's current contract with its main waste disposal contractor comes to an end in 2014). The Procurement Strategy, which was approved by the Authority in December 2006 is based upon a 'reference project', a theoretical mix of facilities required to meet the partners' objectives as outlined in the NLJWS and which has been used to develop costings for the procurement process. Further detail on this strategy is included in Appendix A and in table 5.1. Both the waste prevention plan and the procurement strategy have been considered as part of the SEA process. Reference is also made to relevant external strategies and plans, specifically the Mayor of London's Municipal Waste Management Strategy and the Waste Strategy 2000 (for England and Wales) and Waste Strategy for England 2007. In addition, there is the Mayor of London's London Plan adopted in 2004. Alterations to the London Plan were published in December 2006 which outline amendments to borough level waste apportionment, the amount of waste that each borough is required to manage as part of the spatial strategy for London.

However, at this stage it is useful to note that the North London boroughs have also come together as planning authorities and are in the process of preparing a Joint Waste Development Plan Document now badged as the North London Waste Plan (NLWP). The NLWP will create the shared land-use planning framework for sites for all wastes (household, commercial, industrial, construction and demolition) in North London into the future. The NLWP will be subject to Sustainability Appraisal (SA) incorporating the requirements of the SEA Directive. A Scoping Report for the SA of the NLWP was published in July 2007. The SA is not retrospective as in the case of the Mayor's Draft NLJWS and as the NLWP covers a wider range

of wastes than the Mayor's Draft NLJWS the NLWP SA will also be more extensive. For example, the Mayor's Draft NLJWS is an important input into the NLWP process, but the planning authorities must take other considerations into account in coming to their conclusions, particularly as the municipal waste stream covered by the Mayor's Draft NLJWS may be only a quarter of the total waste stream to be provided for by the NLWP. However, as there are potential synergies between the two processes, in preparing the SEA for the Mayor's Draft NLJWS SEA process, consideration has been given to the potential for using similar data sets for both processes to ensure consistency and in several cases it is considered that whilst an issue might not be covered by the SEA for the Mayor's Draft NLJWS, it might be covered by the NLWP.

2. SEA Methodology

2.1 Approach Adopted

The SEA has been carried out generally in accordance with the following guidance:

- A Practical guide to the Strategic Environmental Assessment Directive, Office of the Deputy Prime Minister September 2005.

However, as this SEA has been carried out retrospectively the approach is slightly different to that prescribed by the ODPM SEA guidance. The development of alternative options for the Strategy was carried out when the draft NLJWS was prepared in 2004 and was informed by a Best Practicable Environmental Option (BPEO) assessment undertaken at the time. Since the draft NLJWS was prepared, SEA has replaced BPEO as the principle decision making tool supporting waste management strategy preparation. The SEA has been carried out on the 2004 draft NLJWS with the intention that the SEA process will inform the updating of the Strategy prior to final adoption. The ODPM guidance states that parts of Stage B may need to be carried out more than once in the course of a plan or programme's development.

The SEA assessment uses available information to assess how the proposed strategy is aligned with each objective. The SEA ODPM guidance highlights that the areas of emphasis of the SEA Directive are on:

- Collecting and presenting baseline environmental information;
- Predicting the significant environmental effects of the plan and addressing them during its preparation;
- Identifying the strategic alternatives and their effects;
- Consulting the public and authorities with environmental responsibilities as part of the assessment process; and
- Monitoring the actual environmental effects of the plan during its implementation.

2.2 Who Has Been Consulted

To comply with the SEA regulations consultation is required at two key stages of the SEA process, during Stage A: scoping and Stage C: Environmental Report. The table below sets out the consultation which has been undertaken.

Table 3.1 Summary of SEA Consultation

Stage	Who Consulted or To Be Consulted?	How were or will they consulted?
Scoping Report	Statutory Agencies[1] and the GLA Also available for public consultation. (NLWA Members and constituent boroughs informed prior to release)	Letter sent to statutory agencies and the GLA. Public copies of the scoping report made available at all borough libraries and on the NLWA website at www..nlwa.gov.uk 5 week consultation period 10th September to 15th October 2007
Environmental Report	Statutory Agencies, the GLA, Members of the North London Waste Plan Sustainability Appraisal Panel, including planners from each constituent borough council, Government Office for London, Health Protection Agency, London Development Agency, British Waterways, Lee Valley Regional Park Authority, Environmental Services Association, Friends of the Earth Islington, North Finchley LA 21 Group, Groundwork, London 2012 Olympic Committee, London Biodiversity Partnership, London Wildlife Trust, London Waste Ltd., Imperial College London, Middlesex University, North London Business, North London Chamber of Commerce, North London Strategic Alliance. London Community Recycling Network General public	Letter to statutory agencies, the GLA, Members of the North London Waste Plan Sustainability Appraisal Panel, and London Community Recycling Network Press release about the consultation Attendance at 7 community workshops for the North London Waste Plan during January and February 2008, copies of the environmental report available in borough libraries and copy available on the NLWA website 6 week consultation period

[1] English Heritage, Natural England, Environment Agency

Difficulties Encountered

Table 3.2 Difficulties encountered during the SEA process

Stage	Difficulties
Setting the context, establishing the baseline and developing the SEA objectives	The Scoping report relied heavily on the baseline information contained in the North London Waste Plan Sustainability Appraisal Scoping Report July 2007. That report identifies a number of data gaps relating to health, economy, background noise levels, and groundwater provision. Data gaps for waste management are also noted including volumes of waste imported to/exported from the area, noise nuisance, energy generation, waste transportation and waste crime.
Designing the appraisal framework	Devising the potential indicators for monitoring the success of the strategy against the objectives was difficult as some sources of information for these indicators were not known or available therefore it was necessary to revise some and replace some of the other indicators included in the scoping report in order to monitor certain effects.
Developing and assessing options	The options assessment was not able to consider the spatial distribution and location of facilities, other than those facilities which exist currently as the location of future facilities is not known. The North London Waste Plan will propose suitable locations for waste facilities, but at this stage it is uncertain the degree to which the Plan will specify the technologies or types of facility that are suited to the locations identified. The Plan will not be adopted until 2010.. It was therefore sometimes difficult to assess the effects of the options upon the built environment; adapting to climate change; and whether waste will be disposed at the nearest appropriate installation because of the uncertainty over future facility locations.
Assessing the NLJWS	Some of the Implementation Actions were difficult to assess due to the uncertainty surrounding the securing of funding and the fact that the actions do not detail exactly how they would be implemented and their spatial distribution and location. Effects particularly upon the local population in terms of civic participation and equality were difficult to assess too as actions do not discuss how all parts of the population will be involved and how financial levy systems will be implemented in the future. Whilst some uncertainties are inevitable in a strategy document reaching forward sixteen years or more, it should be noted that in the financial year 2008-09, the NLWA will be moving to a levy system whereby it levies the seven constituent borough councils largely on the basis of the amount of household waste they generate, so the greater the amount of household waste the greater the share of the Authority's costs which are borne by that borough.

3. SEA Objectives, Baseline and Context

3.1 Introduction

The purpose of this section is to set out the SEA objectives, baseline and context for the North London NLJWS. This is set out in detail in **Appendix A**: Revised SEA Scoping Report. The key information is summarised below.

3.1.1 Consultation on the Scoping Report

Consultation was undertaken on the scoping report between 10th September 2007 and 15th October 2007 with Statutory Agencies[2] and the GLA. A copy of the scoping report was also made available for public comment, with hard copies of the report being made available in borough libraries and a downloadable version on the NLWA website at www.nlwa.gov.uk. A considerable number of comments were received which were incorporated where appropriate into a revised Scoping Report. The Revised SEA Scoping Report is therefore attached as **Appendix A.**

3.2 Links to Relevant Plans and Programmes and Environmental Objectives and How These Have Been Taken Into Account

3.2.1 Summary of Links to Relevant Plans and Programme

The SEA Regulation 2004 requires an analysis of the Plan's "relationship with other relevant plans and programmes" (Schedule 2 (1)) and of

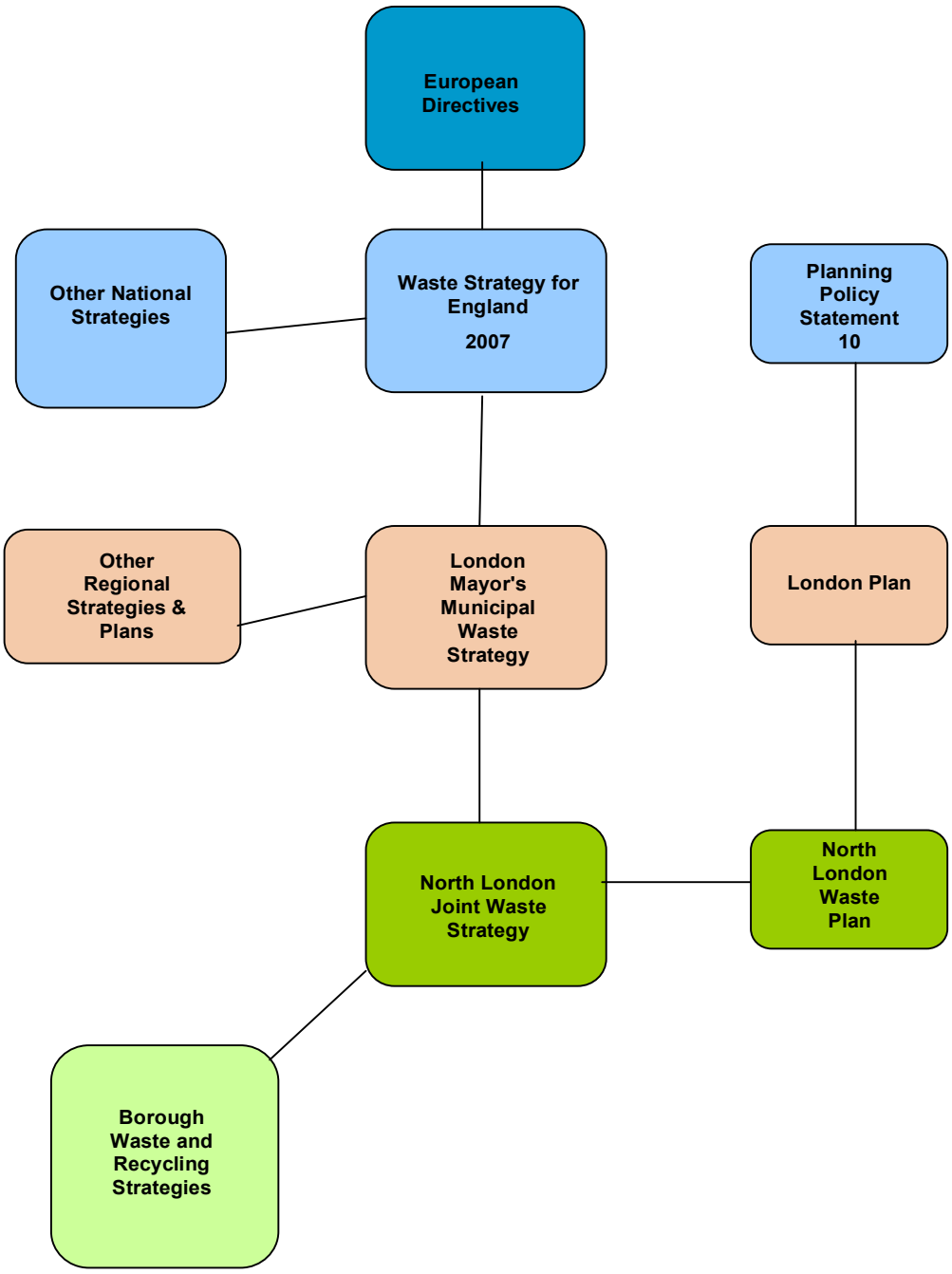
> *"the environmental protection objectives which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation."(Schedule 2 (5)).*

In order to document other factors, a list of polices plans and programmes and SEA objectives relevant to the NLJWS has been compiled and analysed by Entec. An assessment of the implications of the documents for the SEA process is provided within **Section 4 of Appendix A.**

Figure 3.1 illustrates the main plans and programmes relevant to the North London partners.

There were no issues of conflict identified between the NLJWS objectives and other plans and programmes although it is noted that there are potential issues regarding the detail of the draft strategy document, as national government policy has altered since 2004 with the publication of Planning Policy Statement 10: Planning for Sustainable Waste Management 2005 and the Waste Strategy for England 2007.

Figure 3.1 Main Relevant Plans and Programmes



[2] English Heritage, Natural England and the Environment Agency

3.3 Baseline Characteristics and Future Baseline

3.3.1 Introduction

An essential part of the SEA process is the identification of current baseline conditions and their likely evolution. It is only with a knowledge of existing conditions, and a consideration of their significance, that the issues which a plan or programme should address (in this case the North London Joint Waste Strategy) can be identified and its subsequent success or otherwise be monitored.

Pertinent baseline data was identified that could be used as indicators of the effects of the NLJWS, and point to environmental issues and objectives specific to the area. The baseline data is identified in **Section 8 Appendix A:** Revised SEA Scoping Report**.**

The SEA Directive requires consideration of the environmental characteristics of the areas likely to be significantly affected by the plan or programme, i.e. the North London Joint Waste Strategy.

As the NLJWS focuses on an overall strategy for municipal waste management across the boroughs it is appropriate to identify environmental characteristics across the whole of the North London Waste Authority area.

3.3.2 Future Baseline

The SEA Directive requires consideration of the likely evolution of the environment without the implementation of the plan or programme.

As a part of the review of baseline data, information on trends was collected where possible. The baseline is constantly changing. The environment changes as a result of natural processes and impacts from a variety of sources. The economy fluctuates, as does the population, due to births and deaths and migration. Therefore, in order to identify and assess the actual effects of the NLJWS, the likely changes to the baseline data needed to be considered. A summary of the key future baseline is set out below based on information contained in the North London Waste Plan Sustainability Appraisal Scoping Report July 2007 and other information used to compile the Scoping Report.

- Population is continuing to grow placing greater pressure on water demands and capacity of infrastructure;
- Sites of Special Scientific Interest (SSSIs) in unfavourable condition are beginning to improve;
- In the boroughs bordering the congestion zone air quality has steadily improved;
- Waste growth rates have slowed compared to the predictions made in 2004 when the Mayor's draft of the North London Joint Waste Strategy was produced and recycling rates throughout the boroughs are improving (e.g. in December 2007 the

North London Waste Authority was predicting a net reduction of 2.99% in the residual municipal waste stream for financial year 2007-08 compared to 2006-07)[3];

- The green/environmental industry sector may provide a high source of future employment;
- The potential for North London to experience climate change including increasing average temperatures and increased risk of flooding in the Lee Valley.

3.4 Environmental Issues and Problems

The environmental baseline characteristics are set out in detail in **Appendix A** Revised Scoping Report. **Table 3.1** below provides a summary of the key Environmental issues facing North London

Table 3.1 Key Environmental Strengths and Challenges

SEA Objective	Strengths	Challenges
Population and Human Health	All boroughs populations have increased over the last 20 years	Reducing the existing health inequalities between the boroughs
	Average age across all boroughs is lower than national average	
Biodiversity	The North London Authority has a number of habitats and species of local, national and international importance.	Three of the SSSIs are in unfavourable condition
Soil		Maximising the use of previously developed land
Water	Quality of rivers in generally good. Only one river failed its River Ecosystems Targets	Water consumption – The Thames region is the most populated region in the UK and consequently water is scarce
		Some areas at risk of groundwater pollution. Some high levels of nitrate concentrations
Air	Emissions reducing in some boroughs as a result of the congestion zone	Reducing nitrogen dioxide and particulate matter pollutants across North London
Climatic Factors		Inner boroughs more susceptible to temperature rises as result of high densities
		Risk of flooding from the Lee flood plain
Material Assets/Resources	Average waste growth over the last 5 years of just 0.2%	Meeting statutory targets for recycling, recovery and landfill diversion
Built and Historic Environment	The area has a number of historic parks and gardens, listed buildings and conservation areas	Protecting a number of listed buildings 'at risk' due to neglect and decay
	Large amount of high quality open and greenspace	Protecting land from new urban developments (predominantly urban area)

[3] 2007/08 Third Budget Review and 2008/09 Budget Forecast, NLWA Authority Meeting 12th December 2007

A Stable Economy	The green/environmental industry sector provides a potentially high employment source for local communities in the future	Maximising employment opportunities arising from implementing the NLJWS
Accessibility and participation	Access to all services is generally good	Recycling and waste services provided to households vary from borough to borough reflecting differing local circumstances Improving access to recycling centres

3.5 Limitations of Data and Assumptions Made

Table 3.2 Assumptions and Limitations

Nature of Data Limitation	Commentary	Assumption Made
Date of data collection	Available data has been collected at different dates. Up to date data has been used wherever possible. Some of the information is based on the 2001 Census and as such is somewhat dated and may not be representative of current circumstances	2001 Census data has been used as the basis for helping to identify sustainability issues.
Data gaps	The Scoping report relied heavily on the baseline information contained in the North London Waste Plan Sustainability Appraisal Scoping Report July 2007. That report identifies a number of data gaps relating to health, economy, background noise levels, and groundwater provision. Data gaps for waste management are also noted including volumes of waste imported to/exported from the area, noise nuisance, energy generation, waste transportation and waste crime.	
Prediction of future baseline	There is limited information available on the predicted future baseline in the absence of the plan being implemented	Annual Monitoring gives some future projections of baseline information. Through establishing a structured monitoring framework for the SEA with appropriate indicators the NLWA will be better placed to analyse existing trends and hence predict future baseline.

3.6 SEA Objectives and Framework

3.6.1 Introduction

This Section outlines the SEA Objectives for the NLJWS. Objectives are not specifically required by the SEA Directive, however they are a valuable way of assessing the environmental effects of the strategy. The SEA objectives have been informed by the analysis of other plans and programmes, the review of baseline information and environmental issues relevant to the

NLJWS. Appraisal criteria and proposed monitoring indicators were then developed for each of the SEA objectives.

The key considerations in devising the objectives, appraisal criteria and indicators were:

- Assessing the potential environmental effects of the NLJWS and therefore the requirement for objectives to minimise these effects;
- A review of the 'implementation actions' contained within the NLJWS itself and the need to make sure that the SEA objectives were relevant to the NLJWS objectives;
- Consideration of existing baseline information available to measure impact and environmental issues;
- The Mayor of London's Business Waste Strategy Sustainability Appraisal, as this represented the most recent regional strategy relating to waste, however objectives were amended and modified for North London where appropriate to take account of the specific nature of the NLJWS, and the considerations above;
- Comments received from the statutory consultees and the GLA to the SEA Scoping Report leading to further amendments and modifications were made.

For the NLJWS SEA the objectives are broad and cover environmental, social and economic issues. This is because one of the objectives of the SEA Directive includes the promotion of sustainable development which includes alongside environmental protection, social and economic development. The NLJWS is likely to have significant social and economic effects and it is therefore appropriate to consider these as well. Including these broader objectives is also consistent with the approach taken by the Mayor of London through Sustainability Appraisal of his strategies. The SEA Objectives can be viewed in Table 4.4 below.

A key tool for appraising and recording SEA performance is the SEA Framework. This consists of a number of objectives that seek to ask questions of an option, or policy relative to its performance. The development of the SEA Framework is set out in detail in **Appendix A**: Revised SEA Scoping Report.

3.6.2 SEA objectives

Table 3.3 SEA Objectives

	SEA Objective	SEA Appraisal Criteria	SEA Directive topic
O1	To conserve and enhance natural habitats and wildlife, especially priority habitats and species	Will the NLJWS protect local biodiversity? Will the NLJWS enhance local biodiversity?	Biodiversity
O2	To maximise the health and well-being of the population	Are the new facilities proposed by the NLJWS going to create unnecessary noise? Are the new facilities as proposed by the NLJWS going to create odour and dust problems? Will the new facilities proposed by the NLJWS lead to an increase in litter and vermin generation? Will the new facilities proposed by the NLJWS affect local infrastructure such as road movements? Will emissions from the NLJWS's new facilities impact upon health of the local community?	Population and human health
O3	To conserve and enhance natural soil structure and composition	Will the NLJWS conserve and enhance soil quality? Is compost generated by the facilities proposed in the NLJWS being used locally?	Soil
O4	To improve air quality	Will the NLJWS improve local air quality?	Air
O5	To improve water quality	Will the NLJWS improve the water quality of groundwater and surface water?	Water
O6	To achieve the wise management and sustainable use of water resources	Will the new infrastructure impact upon water supplies?	Water
O7	To address the causes of climate change	Will the draft NLJWS minimise emissions of greenhouse gases? Will it increase the proportion of energy both generated and purchased from renewable and sustainable sources?	Climatic factors

Table 3.4 (continued) SEA Objectives

	SEA Objective	SEA Appraisal Criteria	SEA Directive topic
O8	To adapt to the unavoidable consequences of climate change	Will the NLJWS's new facilities avoid areas at risk of flooding? Will the NLJWS's new facilities include sustainable urban drainage systems (SUDS)? Will the NLJWS's facilities and services been designed and delivered to cope with climate change impacts (e.g. higher temperatures, increased winter precipitation)?	Climatic factors/Water
O9	To minimise the production of waste arising from households and local authority business customers	Will the NLJWS reduce waste growth relative to the past?	Material Assets
O10	To maximise reuse, recycling and recovery rates by viewing waste as a resource	Will the NLJWS result in increased diversion of Biodegradable Municipal Waste (BMW) from landfill? Will the NLJWS improve recycling/composting? How and where are the recycled/composted materials being used?	Material Assets
O11	To minimise the global, social and environmental impact of consumption of resources	Will the NLJWS conserve natural resources?	Material Assets
O12	To enable waste to be disposed of at the nearest appropriate installation	Will the NLJWS's new facilities be appropriately located in relation to the main sources of municipal waste?	Material Assets
O13	To enhance and protect the existing built environment including heritage assets and the wider historic environment.	Will new infrastructure proposed create visual impacts? Will new infrastructure proposed conserve and enhance heritage assets and the wider historic environment?	Cultural heritage and landscape
O14	To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way	Will the NLJWS's new facilities take account of good practice in sustainable design and construction?	Cultural heritage and landscape
O15	To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	Will new infrastructure use previously developed land?	Soil

Table 3.5 (continued) SEA Objectives

	SEA Objective	SEA Appraisal Criteria	SEA Directive topic
O16	To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	Will it reduce local levels of deprivation? Will it generate satisfying and rewarding jobs? Will it help stimulate regeneration? Will it reduce overall unemployment?	Not directly related to an SEA Directive topic but contributes to sustainable development
O17	To encourage a strong, diverse and stable economy.	Will it expand the green industry sector? Will it improve the resilience of the area's business and economy? Will it help diversify the economy? Will it encourage business start-ups and growth of business in the North London area?	Not directly related to an SEA Directive topic but contributes to sustainable development
O18	To improve the resilience of businesses and their environmental, social and economic performance.	Will it encourage investment in new technologies and solutions that will contribute to achieving sustainability? Will it encourage ethical and responsible investment? Will the NLJWS improve sustainable business development and increase competitiveness?	Not directly related to an SEA Directive topic but contributes to sustainable development
O19	To maximise the accessibility and equality of services	Will the NLJWS reduce the overall need for people to travel by improving their access to the environmental services in the place in which they live? Will the NLJWS proposals reduce poverty and social exclusion in local areas that are most affected? Will it promote equality, fairness and respect for people and the environment? Will it promote equality for different communities?	Population and human health

Table 3.6(continued) SEA Objectives

	SEA Objective	SEA Appraisal Criteria	SEA Directive topic
O20	To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	Will it promote social cohesion and encourage engagement in community activities? Will it encourage the involvement and participation of a diverse range of stakeholders? Will it enable participation in environmental services by all North Londoners? Will it demonstrate and encourage all North Londoners to take responsibility for the sustainable management of their waste?	Population and human health

Table 3.3 illustrates the matrix developed to comprehensively meet the requirements of the SEA regulations and SEA Directive. It contains the SEA objectives and appraisal questions. The matrix also includes the timescale of the effect and a commentary. These are briefly explained below:

- Timing of Effect – Will the effect manifest itself in the short, medium or the long term? In the context of the NLJWS the short term can be interpreted as being up to 2014, the medium term to the end of the Strategy i.e. 2020, and the longer term up to 2045;
- Commentary – The commentary text within the matrix and summary text within the report will identify possible mitigation measures, in the form of amendments to policy or inclusion/removal of policy to increase the opportunity for sustainable development. Where a score is indicated as 'uncertain' the commentary should identify ways in which this uncertainty could be reduced, for example, through subsequent actions or gathering more data;
- The commentary will identify secondary, cumulative and synergistic effects. Basic definitions of these effects are provided in the SEA guidance as follows:
    - Secondary or indirect effects are effects that are not a direct result of the plan, but occur away from the original effect or as a result of a complex pathway. Examples of secondary effects are a development that changes a water table and thus affects the ecology of a nearby wetland; and construction of one project that facilitates or attracts other development;
    - Cumulative effects arise, for instance, where several developments each have insignificant effects but together have a significant effect; or where several individual effects of the plan(e.g. noise, dust and visual) have a combined effect;
    - Synergistic effects interact to produce a total effect greater than the sum of the individual effects. Significant synergistic effects often occur as habitats, resources or human communities get close to capacity. For example, a wildlife habitat can become progressively fragmented with limited effects on a particular species until the last fragmentation makes the areas too small to support the species at all;
- Consideration will be given to whether the effects are temporary or permanent. Temporary effects can occur for example during the construction of a development. Whilst these are generally short lived, they may occur over several years with larger development schemes. The likelihood of the effects occurring will also be considered;
- Geographical effects will be noted where the effect is felt differentially within, or outside the NLWA area.

4. Options Appraisal

4.1 Testing Plan Objectives Against SEA Objectives

The NLJWS aims are separate from the SEA objectives of the framework but must be compatible with each other and with the sustainability objectives. Where conflicts arise, the sustainability of the plan will be compromised.

The ODPM SEA Guidance states that it is important to test the objectives of the Plan (i.e., NLJWS) against the SEA objectives and against each other. The results of this exercise are set out in **Appendix B**.

The NLJWS objectives were compatible with each other as were the SEA objectives with themselves and further amendments were not considered necessary.

4.2 Options Considered and How They Were Identified

The SEA Directive requires that the SEA Report outlines the nature of the options to be considered by the NLJWS, and which will be appraised against the SEA framework. It also requires that the details of further methodologies to be used in the consideration of options be provided.

In developing the strategic waste management options, for the draft NLJWS the North London partner authorities used an options appraisal tool developed by the North London Waste Authority to assess which options to model. Each of the options had to be realistic, achievable and a workable solution; therefore the "do nothing" scenario was ruled out. This was because it was unlikely that the North London stakeholders would consider the status quo as acceptable given the likely environmental and financial advantages of the alternatives and the increasing restrictions on landfill were likely to make this impractical in any case. However a baseline scenario was considered necessary therefore a 'minimum compliance' option was included.

Four options were chosen to be modelled and assessed. The preferred option was identified through a 'Best Practicable Environmental Option' appraisal which was carried out when the NLJWS was being prepared in 2004. As part of this BPEO appraisal the four options were reviewed with regard to their environmental, social, economic and operational effects and the 'Partnership Scenario' was selected as the preferred option based on the appraisal results.

An updated BPEO assessment was requested by the Mayor of London in December 2006 in response to the Mayor's Draft NLJWS, which should take account of new technologies since the Strategy was first produced. The original BPEO assessment was carried out using the Environment Agency's life cycle assessment tool WISARD, which models the environmental impacts of the different options.

As a result of changes to national Waste Management Decision Making Principles in July 2005 BPEO was replaced as a decision making tool for waste management by Strategic Environmental Assessment. WISARD has also recently been replaced by WRATE, an updated model which has information regarding newer technologies.

In order to address the concerns raised by the Mayor of London the NLWA has undertaken updated life cycle assessment modelling using WRATE which has been incorporated into the SEA process. The results of the WRATE modelling are shown in Appendix C. The assessment also includes a fifth option which is based upon the reference project in the North London Waste Authority's more recent Procurement Strategy. The detail of the appraisal of the residual treatment options is set out in **Appendix D:** Options Appraisal Matrices.

A summary of the 5 options considered is shown below in **Table 4.1**

Table 4.1 Key Scenario Assumptions

Element	Option 1 Minimum Compliance Scenario	Option 2 Borough-led Scenario	Option 3 Partnership Scenario	Option 4 Mayor's Aspirational Scenario	Option 5 Procurement Scenario
Recycling and Composting Standards	Waste Strategy 2000 (30% by 2010, 33% by 2015), 50% by 2020 from kerbside collection	Strategy Unit proposals (35% by 2010, 45% by 2015), 50% by 2020 from kerbside collection	Strategy Unit proposals (35% by 2010, 45% by 2015), 50% by 2020 from kerbside collection	50% by 2010, 55% by 2020 from kerbside collection Recycling/composting through the MBT performance increases the level to 60%.	45% by 2015 50% by 2020 from kerbside collection
Recycling and Composting Collection Method	Mix of kerbside sorting and commingled collections	Mix of kerbside sorting and commingled collections	Mix of kerbside sorting and commingled collections	Mix of kerbside sorting and commingled collections	Mix of kerbside sorting and commingled collections
Recycling and Composting Processing Method	Sorting and bulking materials before delivery to reprocessors In-vessel and open windrow composting facilities	Sorting and bulking materials before delivery to reprocessors In-vessel and open windrow composting facilities	Sorting and bulking materials before delivery to reprocessors In-vessel and open windrow composting facilities	Sorting and bulking materials before delivery to reprocessors In-vessel and open windrow composting facilities	Sorting and bulking materials before delivery to reprocessors In-vessel and open windrow composting facilities
Energy Recovery Treatment Technology	New Energy from Waste (EfW) plant (450,000 tonnes per year) replaces existing Edmonton EfW plant in 2015)	Edmonton EfW plant ceases to be available in 2015 and is replaced by 2 gasification plants taking a total of 250,000 tonnes per year; 2 Mechanical and Biological Treatment (MBT) Plants with Refuse Derived Fuel (RDF) facilities capacity to take 385,000 tonnes per year; 2 MBTs with Anaerobic Digesters (AD) to take 270,000 tonnes per year.	New EfW plant (450,000 tonnes per year) replaces existing Edmonton EfW plant in 2015, plus a 250,000 tonnes per year MBT with AD Plant	New EfW plant (270,000 tonnes), representing North London's per capita share of London's current energy from waste capacity, replaces Edmonton EfW plant in 2015 plus 200,000 tonnes per year MBT with AD plant.	New EfW plant (540,000 tonnes per year) replaces Edmonton EfW in 2015 plus a 250,000 tonnes per year MBT with RDF plant.

4.3 Comparison of Significant Effects

4.3.1 Summary of Methods Used to Carry Out Appraisal

The appraisal has been carried out using a mixture of quantitative and qualitative assessment. This has included the use of

- **Professional judgement:** members of the Entec waste management and planning and environmental appraisal group were consulted in order to appraise the options. They have considerable experience of waste strategy development and implementation and Strategic Environmental Assessment of Waste Strategies and Waste Local Development Frameworks;
- **WRATE model** : The Environment Agency's life cycle assessment tool, WRATE was used to model the potential environmental impacts of the options, further detail on the WRATE assessment tool and the detailed outputs is included in Appendix C;
- **WASTEFLOW model**: AEA Technology's performance model which models the flows of waste between processes and facilities and estimates the costs of providing the service;
- **Technical guidance** – for example DEFRA's 2004 Review of Environmental and Health Effects of Waste Management; DEFRA's Waste Management Technology Briefs (2007).

4.3.2 Limitations of the Assessment

The scope of this assessment was to evaluate the options at a sub regional level for the management of North London's waste. The options to implement the strategy do not specify where the various treatment facilities will be located in the North London area. Therefore site specific and spatial distribution issues have not been addressed and would be subject to a more detailed investigation through the North London Waste Plan and at the planning application stage and as part of an Environmental Impact Assessment.

For the evaluation it has been assumed that all the options have been assessed based on the assumption that they comply with all regulatory requirements such as discharge consents and Pollution Prevention and Control (PPC) permits.

In terms the long term effects on Objective 10 reuse, recycling and recovery of waste, the scenarios are not directly comparable. This is because for Scenarios 1 -4 the waste flow modelling does not look at the technologies/facilities that would be required to achieve LATS targets beyond the life of the strategy i.e.2020.

4.3.3 Summary of Results of Options Appraisal

Table 4.2 below summarises the performance of the five options against the 20 SEA objectives. A detailed appraisal is available in **Appendix D: Options Appraisal Matrices** The following marking system has been used to represent the results of the appraisal in a graphical form in table 4.2:

SEA Marking System (based on degree of influence on achieving the objectives)						
- - Move away significantly	- Move away marginally	+ Move towards marginally	++ Move towards significantly	/ No relationship	Neutral 0	? Uncertain

Table 4.2 Appraisal of Treatment Options

	SEA Objective	1.EfW (450ktpa)	2.Gasifier (250ktpa)/ MBT-AD (270ktpa)/ MBT-RDF (385ktpa)	3.EfW (450kt)/ MBT-AD (250ktpa)	4.EfW(270ktpa) /MBT-AD(200ktpa)	5.EfW (540kt)/MBT-RDF(250ktpa)
O1	Biodiversity	+?	+ +	+?	+?	+ +
O2	Health	+ +	+ +	+ +	+ +	+ +
O3	Soil	0	0?	0?	0?	0?
O4	Air	+ +	+ +	+ +	+ +	+ +
O5	Water Quality	+?	+ +	+?	+?	+ +
O6	Water resources	?	?	?	?	?
O7	Addressing Climate Change	+	+ +	+ +	+ +	+ +
O8	Adapting to climate change	?	?	?	?	?
O9	Production of waste	/	/	/	/	/
O10	Reuse, recycling and recovery	-?	++?	++?	-?	++
O11	Consumption of resources	+ +	+ +	+ +	+ +	+ +
O12	Waste disposal	+ ?	+ ?	+ ?	+?	+ ?
O13	Built environment.	?	?	?	?	?
O14	Infrastructure	?	?	?	?	?
O15	Land use	+ + ?	- ?	+ ?	+ ?	+ ?
O16	Deprivation	+ ?	+ + ?	+ + ?	+ + ?	+ + ?
O17	Stable economy.	?	?	?	?	?
O18	Economic performance.	+	+ +	+	+	+
O19	Accessibility and equality	+?	+ ?	+?	+?	+?
O20	Civic participation	?	?	?	?	?

The results table above indicates that overall the options all score positively for the majority of the SEA objectives. There are however differences between the options which are discussed below.

Option 1, The Minimum Compliance Scenario is the worst performing option as it scores negatively against objectives for re use, recovery and recycling as a result of the option only proposing an Energy from Waste facility with a capacity for 450,000 tonnes of waste. It will therefore not produce any soil improvers like other options. It is predicted to have positive effects on most other aspects of the environment, based on the WRATE modelling and will also result in efficient use of land as the option will not require a large amount of land to be developed.

Option 2, The Borough-Led Scenario performs well against the majority of the objectives as a result of the number of facilities being provided and the types of technology proposed. This option proposes six facilities using technologies including gasification, MBT with anaerobic digestion (AD), MBT with refuse derived fuel and in total these facilities will treat 905,000 tonnes of waste. The technologies proposed will reduce greenhouse gas emissions, recover energy and have beneficial effects upon air and water. In addition, the number of facilities will have positive effects upon economic performance and deprivation as these facilities would create employment. The negative effects of this option will be in relation to the efficient use of land as six facilities will require a large amount of land to be developed.

Options 3 and 4, The Partnership Scenario and Mayor's Aspirational Scenario score positively for effects upon health, air, climate change, reuse, recycling and recovery, resource consumption, due to the technologies they are proposing. These include EfW, MBT and anaerobic digesting facilities. Under Option 4, overall recovery levels are lower and therefore more biodegradable municipal waste is going to landfill up to 2020.

Option 5, The Procurement Scenario is similar to Option 2 and will have similar environmental effects, as both scenarios will treat 700,000 plus tonnes of waste (scenario 5 treats 790,000 tonnes) and include MBT technology. For most aspects of the environment this option scores very well due to the large capacity of the EfW and other facilities which can divert large amounts of waste from landfill and which will help meet LATS targets in the long term and provide other beneficial effects to biodiversity, health and water. In addition, the large capacity of the EfW facility will enable the recovery of energy and reduction in the consumption of natural resource. There are no significant negative effects identified although there are some uncertainties, as the location of future facilities is not known. Option 5 is the best performing option as a result of its choice of technologies, the high volume of waste it will be able to treat and its high recycling targets.

For all the options there was uncertainty regarding their effects upon water resources; adapting to climate change; the built and historic environment; whether waste would be disposed of at the nearest appropriate installation; the economy; civic participation; and equality. This is because effects upon these aspects of the environment will only be known at the options implementation stage when specific sites and technologies are chosen for the new facilities. These can be assessed by Environmental Impact Assessment discussed in **section 5.6.2**.

4.3.4 Cumulative, Synergistic and Secondary effects

The cumulative, secondary and synergistic effects of the options are considered in Appendix D. A summary of the key findings is set out below.

Positive cumulative, synergistic and secondary effects were noted in respect of effects on wildlife habitats, human health and well being, climate change and the economy. For options 2 (borough led) and 5 (procurement) positive cumulative effects may arise as a result of the combined effects of air acidification, freshwater eco-toxicity and eutrophication. The effects of options 1, 3 and 4 (minimum compliance, partnership and aspirational) are less certain as positive effects in terms of air acidification and eco toxicity are countered by negative effects on eutrophication.

All options show positive individual effects on human toxicity and air acidification. This could lead to positive cumulative effects on human health and well being. In addition positive effects on CO_2 emissions and resource depletion are likely to have secondary beneficial effects on human health by helping to mitigate against climate change and reducing the pressure on natural resources.

All options have a positive effect on greenhouse gas emissions although Option 1 (minimum compliance) performs less well than other options. Climate change is influenced by many other process and factors and therefore the effect of the options plus other initiatives put forward in other plans and programmes to minimise emissions are likely to combine to have a positive cumulative effect.

There are potential cumulative effects resulting from the delivery of new waste treatment facilities. These could include the direct creation of jobs as well as the creation of secondary jobs in supporting services and industries. There is also the potential to assist with regeneration and to stimulate interest in new technologies and waste related businesses. Effects are positive for most of the options although perhaps less so for Option 1 (minimum compliance) which focuses on a single EfW facility.

4.4 How Environmental Issues Were Considered in Choosing Preferred Strategic Alternatives

Chapter 6 of the NLJWS explains how the four different strategic alternatives or options were originally produced for the NLJWS. Local authorities must ensure that each scenario that is reviewed must be a realistic, achievable and workable solution. The partners used an options appraisal tool – 'The Million Tonne Waste Challenge' developed by the NLWA, to assess which scenarios to model. During the preparation of the Mayor's Draft NLJWS the Authority, on behalf of the partner authorities, also arranged for AEA Technology Ltd. to conduct the procedure required in order to identify the Best Practicable Environmental Option, based upon the four scenarios put forward, in consultation with elected cabinet members for environment and technical officers from each of the partner authorities. Due to the NLJWS not having been formally adopted by 22nd July 2006 however, (the deadline date for the end of the transitional arrangements for the implementation of the SEA Directive in the UK), it became necessary to prepare a retrospective Strategic Environmental Assessment (SEA) of the NLJWS. The original assessment of options based on BPEO had to be replaced with SEA to follow the requirements of the SEA Regulations.

A number of new environmental issues were considered in carrying out the SEA which assisted in arriving at reasonable alternatives to appraise:

- Firstly it was agreed that all four original scenarios contained within the NLJWS would be updated to reflect current recycling collection systems, so each scenario

assumes that the collection system for recyclables which operates in the borough into the future is the same as currently;

- Secondly it was agreed that it was not realistic to have any scenarios which did not meet the new English Waste Strategy 2007 target of 50% recycling and composting of household waste by 2020, so all scenarios were updated to reflect this;
- Thirdly it was agreed that it would be useful to review the 'reference project' for the Authority's procurement strategy alongside the four original options which were modelled, so this formed a fifth scenario, and
- Finally, the SEA assessment was carried out using the Environment Agency's new WRATE assessment tool rather than WISARD, the previous Environment Agency life cycle assessment tool which was used in the previous BPEO assessment.

The conclusion of the options appraisal was that Option 5, the procurement scenario performed best against the range of environmental, social and economic effects. This Option performed very well against the environmental objectives and appraisal criteria, considered through WRATE modelling in terms of positive effects on air and water quality, greenhouse gas emissions, human health and depletion of resources. It also performs well in terms of efficient use of land. In terms of performance against the waste recycling and recovery objective option 5 also performs very well. The outcome of the options appraisal has therefore influenced the choice of the strategic option 5, the procurement strategy, for the NLJWS. The preferred option selected by NLWA is based on Option 5, the Procurement Scenario. The reference project assessed as part of this scenario was based on provision of an Energy from Waste facility. The Partner Authorities recognise that Energy from Waste incineration, which is included in this scenario, offers the only energy recovery treatment technology that is currently proven at the scale, cost and efficiency necessary for delivery of the Procurement Scenario. However it is also recognised that this may change before any final procurement decisions are taken and at this stage, no technology choices have been fixed. Consideration will also need to be given to the Mayor of London's preference for new and emerging waste technologies when making final technology choices in relation to residual waste treatment.

The final preferred strategy is expressed in an amended version of Implementation Action 6B and this reflects that consideration will given to advanced conversion technoloigies as set out below (amendments from Mayor's Draft are shaded):

> *6.B - The best option for North London will involve achievement of 50% recycling and composting rates by 2020, with treatment of the residual waste not being landfilled provided initially through the existing Energy from Waste incineration facility, and later through processing capacity, giving preference to advanced conversion technologies, especially where the products of waste treatment could be used as fuels, that are the best overall option taking account of net environmental impact, deliverability, reliability and affordability, looking at implied collection services too.*

This amended Implementation Action has been subject to assessment against the SEA objectives and further detail is provided in Section 5.

The NLJWS is also being updated throughout to take account of new legislative and other developments to include updated data and statistics and this revised NLJWS has been prepared for public consultation along with this SEA Environmental Report. Section 5 provides further

information on proposed amendments to the Implementation Actions within the NLJWS resulting from this review.

5. Appraisal of Implementation Actions

5.1 Significant Environmental Effects of Policies and Proposals

5.1.1 Screening Process to Identify Implementation Actions Requiring Appraisal

The NLJWS contained 84 separate implementation actions relating to the management and disposal of waste within the boroughs. In order to make the appraisal process more manageable and ensure the policies appraised were the most likely to have significant environmental effects a screening process was used to reduce and group the implementation actions for appraisal.

Actions relating to administrative or procedural issues or information were deemed unlikely to have any significant environmental, social or economic effects and were therefore screened out. Actions which made reference to compliance with higher tier, regional or national strategies were not specifically assessed as they were considered to have been subject to an appropriate appraisal process during their preparation. The remaining actions were grouped together under broader topics as a basis for appraisal. As a result of the screening process the total number of groups of actions to be appraised was 14.

A full list of the original implementation and the screening process can be viewed in **Appendix E.**

5.1.2 Assessing the Implementation Actions Against the SEA Objectives

Each of the groups of implementation actions was appraised against the 20 SEA objectives using the following matrix. The assessment was undertaken based on a qualitative judgement of the effects informed by relevant baseline information, relevant technical reports (referenced as appropriate in Appendix F) and other background information.

Table 5.1 Example Section of the SEA Appraisal Matrix

Implementation Action					
SEA Objectives	**Sub objectives**	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
		Short Term	**Medium Term**	**Long Term**	
O1: To conserve and enhance natural habitats and wildlife, especially priority habitats and species	Will the NLJWS protect local biodiversity? Will the NLJWS enhance local biodiversity?	++ 0 ?	++ - ?	+ - - ?	Commentary Temporary/Permanence: Likelihood of effect: Geographical effect:

The full appraisal matrices results can be viewed in Appendix F

5.1.3 Summary of Significant Effects

Based on detailed matrices set out in Appendix F, a summary of the significant effects found during the assessment stage is provided in this section.

There are 14 groups of implementation actions which have been assessed. The detailed assessment of these can be found in Appendix F and a summary of the results is described below.

Group 1 are actions to minimise, reduce and reuse waste. This set of actions scores well against biodiversity, human health, water and soil (objectives 1 to 5) as it is reducing the amount of waste therefore minimising any negative effects of disposing of waste either to landfill or other facilities. The assessment indicates that in the short term effects will not be seen upon some aspects of the environment as it will take time to implement these actions. These actions have been considered to have a highly positive effect upon minimising the production of waste (objective 9) and the reduction in the consumption of natural resources (objective 11). In addition, the actions should help with accessibility to services (objective 19) by increasing awareness and will promote civic participation and encourage the public to take more responsibility for their waste (objective 20). No negative scores were given, however there is some uncertainty regarding the effects upon equality of services (objective 19) as the actions do not detail how they will specifically implement actions or how they would include hard to reach groups.

Group 2 are actions to encourage household and commercial composting. These actions score positively against the majority of the objectives where information is known. Overall the actions will be diverting biodegradable waste from landfill which will have positive effects although there could be adverse effects from composting locally due to air emissions (e.g. bioaerosols) if not adequately controlled. This could have potentially adverse impacts on human health

(objective 2) and air quality (objective 4). On balance the effects against these objectives is considered to neutral. The assessment also indicates that there will be major positive effects upon soil (objective 3) and maximising reuse, recycling and recovery of waste (objective 10) as the outputs of composting could be used as soil improvers locally. In addition, community and household composting will mean there will be positive effects on disposing biodegradable waste at the nearest appropriate installation (objective 12). Similar to policy group 1 no negative scores were given however the assessment does show that there is uncertainty relating to the effects upon accessibility and equality of services(objective 19), as the actions do not detail the nature of the incentives and the provision of composting bins which could exclude certain groups from taking part in composting.

Group 3 covers the topic of recycling. There is some uncertainty as to the effects of these actions as it is not known where recycling facilities that are proposed will be located, and what mitigation measures will be implemented. However, generally positive scores have been achieved, especially for objectives 7, 10, 11 and 19 on addressing the causes of climate change, maximising reuse, recycling and recovery, minimising impact of consumption of resources, and maximising accessibility and equality of services respectively. No negative scores were given, but there are some uncertain effects on the built environment and sustainable construction.

Group 4 relates to delivering facilities. There is some uncertainty regarding the effects of this group of actions as it is not known where facilities will be located. Most new facilities will not come on stream until after 2014 when the existing waste contract ends. However, the effects of this group are mainly positive, in particular for objective 7 on addressing causes of climate change, objective 10 on maximising reuse, recycling and recovery, objective 11 on minimising consumption of resources and objective 12 on disposing of waste at the nearest appropriate installation. One minor negative score has been awarded for Objective 15 on efficient use of land which is due to the continuing landfill of significant quantities of waste in the short term.

Group 5 relates to the continued use of the Edmonton EfW until 2014. This policy has no relationship with many of the SEA objectives. As this action focuses on the period of the current contract to 2014, there is no relationship with the objectives in the medium to long term. In the short term it will have positive effects addressing climate change (objective 7); biodiversity (objective 1); water quality (objective 5); resource consumption (objective 11); the built environment (objective 13); improving the efficient use of land (objective 15) because this action will use an existing facility and divert waste from landfill. There will be no change to the baseline in terms of maximising reuse, recycling and recovery and the consumption of natural resources (objectives 10 and 11) as this facility will continue working under the waste contract currently in place.

Group 6 proposes to promote energy recovery which is eligible for Renewables Obligations Certificates. The assessment shows that this policy will have highly positive effects upon addressing the causes of climate change (objective 7) because it promotes the reduction of greenhouse gas emissions. The action also has a positive effect upon maximising recovery (objective 10); resource consumption (objective 11) when there is a new waste contract post 2014. In addition, major positive effects have been predicted for the economy and encouraging businesses to improve their environmental and economic performance (objectives 17 and 18). This is because the recovery eligible for renewables obligations will have a higher market price and is considered to be green energy. Encouraging recovery may also enable businesses to be self sufficient in their energy usage.

Group 7 proposes to minimise disposal to landfill and recover energy from landfill gas. By diverting waste from landfill this action is likely to have positive effects upon biodiversity (objective 1), human health (objective 2), air (objective 4), water (objective 5) and climate change (objective 7). This is because there will be less disturbance to land, and odour and dust effects will be reduced. This implementation action will also have positive effects upon maximising recovery from waste and minimising impacts upon the consumption of resources (objectives 10 and 11) due to the recovery of energy from landfill gas therefore avoiding the use of fossil fuels. There are likely to be positive effects on economic objectives 17 and 18 due to encouraging energy recovery.

Group 8 proposes actions which address the problems of flytipping and abandoned vehicles. These actions score well against biodiversity, human health, soil and water (objectives 1, 2, 3 and 5) because these measures should reduce the risks of pollution to the environment and the social effects of this type of waste. They will also assist with recycling and recovery (objective 10) and consumption of resources (objective 11). These policies encourage the public to use facilities to deal with abandoned vehicles which will increase public participation (objective 20). There will potentially be economic benefits of these actions as by tackling these waste problems regeneration could be stimulated and the local economy as the local area will be more attractive. However these scores do carry a level of uncertainty because it will depend on the success of the arrangements and assumes that disposal facilities will not have adverse effects.

Group 9 is concerned with 'other' household waste such as hazardous and bulky waste. These actions have positive effects on Objectives 1-5 as they help to reduce landfill. Highly positive effects are likely for maximising reuse, recycling and recovery (objective 10), and for improving efficiency of land use (objective 15) as this policy group proposes making better use of existing facilities. There have also been major positive scores awarded for maximising accessibility and equality of services (objective 19) and promoting public participation (objective 20) as this policy group involves door-to-door collection services. No negative scores have been given.

Group 10 on commercial waste charges is very specific to charging and therefore has no relationship to several of the objectives. There is considerable uncertainty related to this policy group as it is not explained how charges will be implemented. The lack of detail means that no major positive scores have been awarded, but minor positive scores have been given against several of the objectives, namely objective 9 on minimising waste arisings, objective 10 on maximising reuse, recycling and recovery, objective 11 on minimising the consumption of resources and objective 20 on promoting public participation, ownership and responsibility.

Group 11 supports the recycling of construction and demolition waste. This policy group has been awarded significantly positive scores to objectives relating to the consumption of resources and maximising reuse, recycling and recovery (objectives 10 and 11). The actions also score well against improving the efficient use of land (objective 15) as the strategy promotes the use of existing sites. It will divert C&D waste from landfill which will reduce the adverse effects of the disturbance of land upon biodiversity and soil (objectives 1 and 3). In addition, there could be indirect effects around ensuring sustainable construction of buildings occurs (objective 14) as businesses may be more inclined to reuse this waste if they are also charged to dispose of it. Human health (objective 2) effects are uncertain as effects will depend on the location and nature of facilities provided. This policy group does not receive any negative scores although there are uncertainties regarding the location of these facilities.

Group 12 relates to working in partnership and leveraging funding from external sources. This group of actions has no relationship to several of the objectives, but scores positively against most of the remaining objectives, including objectives 2 on human health, objective 9 minimising waste production and on economic objectives. Highly positive effects are likely for objective 10 on maximising reuse, recycling and recovery, and objective 20 on public participation, ownership and responsibility. There is some uncertainty about how effective these actions will be as little detail is given about how the various goals will be achieved or delivered and they are dependent on securing external funding.

Group 13 is specifically on special events such as the Olympics, and as such there is no relationship to many of the objectives. No major positive scores have been awarded as the waste minimisation, recycling and recovery is only encouraged at special events, it is not clear how this could be enforced or assessed. Minor positive scores were awarded against objective 2 on human health, objective 7 regarding addressing the causes of climate change, objective 10 on maximising reuse, recycling and recovery, objective 11 on minimising resource consumption, objective 14 on ensuring new buildings and infrastructure are designed and built sustainably, objective 18 on improving the environmental performance of businesses and objective 19 on accessibility and equality of services.

Group 14 on transportation supports rail and water transport. As with other policy groups, these actions have no relationship to many of the objectives as it is very specific. Minor positive scores have been awarded against the following objectives: objective 2 on maximising health and well-being, objective 3 on improving air quality, objective 7 on addressing the causes of climate change, objective 11 on minimising resource consumption. This is because rail and water transport should result in less emissions of greenhouse gases and other pollutants. Objective 18 on improving the environmental performance of businesses could also benefit as using rail/water will help improve the environmental performance of businesses.

Updates to Implementation Actions

Some updating of actions in the Mayor's Draft NLJWS was required to reflect changing circumstances and policy framework. The following 23 implementation actions were therefore changed: 1C, 2B, 2C, 3A 3C, 3D, 3E, 4C2, 4G1, 4H2, 4K2, 4L2, 4N, 5A3, 5D2, 5F1, 5G1, 5J3, 5K, 5O, 6B, 8C1 and 8C2.

Entec has reviewed those implementation actions which have been updated (see Appendix G). For the majority of changes it was not considered necessary to update the assessment as the amendments largely related to updated factual information or legislative references.

Some of the changes, notably to Action 4G1 on Reuse and Recycling Centres and 5G2 on maximising reuse and recycling from the bulky waste stream, are likely to have positive effects on certain objectives. However Entec consider that no changes to the appraisal matrix in Appendix F nor to the conclusions are necessary as these effects are already recorded as positive.

With regard to Implementation Action 6B, the changes proposed were considered significant enough to warrant further assessment. Previously the old wording of 6B had been considered to be broadly in line with the preferred residual treatment option (the Procurement Scenario) which had been assessed under the Options Appraisal reported in Appendix C. The modified wording of 6B differs somewhat from the Procurement Scenario approach in that it gives preference for processing residual waste not recycled or composted after 2014 to advanced conversion technologies that are the best overall option (taking account of a range of factors). The

Procurement Scenario focuses on a reference project based on conventional Energy from Waste as this is currently proven at the scale, cost and efficiency necessary for delivery of the Procurement Scenario.

The results of this assessment have been incorporated into Appendix F as an additional assessment matrix under the heading –15 Overall preferred strategy for residual waste treatment.

The outcome of this assessment is that the Action performs well against a number of the objectives. No negative effects are likely. Overall there are likely to be significant positive effects on objective 10 maximising re-use, recycling and recovery, objective 11 minimising resource consumption and objective 10 on addressing climate change. Clearly the action allows for a potential range of waste treatment options to come forward through the procurement process. Minor positive effects are recorded for objective 1 on enhancing biodiversity, objective 2 maximising health and well being, objective 4 on improving air quality, objective 9, minimising the production of waste and objective 17 on the economy. For the remaining objective the effects are generally uncertain as the location and nature of the facilities and how they will be developed is not known at this stage.

The detailed effects on the environment including greenhouse gas emissions cannot therefore be predicted at this stage however would need to given more detailed consideration during procurement. The SEA objectives should help form the basis of the detailed assessment criteria for environmental, social and economic factors in the procurement of residual treatment services and infrastructure.

5.1.4 Cumulative, Secondary and Synergistic Effects

The cumulative, secondary and synergistic effects of the implementation actions are considered in Appendix F. A summary of the key findings is set out below.

In overall terms there are likely to be positive cumulative effects on SEA objectives relating to key environmental factors, objectives 1- 5 and 7 as a result of the combined effects of the actions in reducing the amount of waste going to landfill. This will have indirect effects on biodiversity, water quality, air and soil quality by reducing the environmental impacts of landfilling waste. In addition greenhouse gas emissions from landfill will be reduced.

Positive cumulative effects are predicted for objectives 9, minimising waste, 10 recycling and recovery and 11 relating to resource consumption. This is to be expected given the primary focus of the strategy on more sustainable waste management and increasing re-use, recovery and recycling of waste.

In terms of objective 12 relating to the disposing of waste in the nearest appropriate installation, the cumulative effects of the actions are likely to be positive given the focus on the strategy of encouraging the services and facilities for treating waste within its own area.

On objective 13 on the built environment and objective 14 on sustainable construction and design there is potential for positive cumulative effects, both from measures which lead to a reduction in landfill and also indirectly from measures which might encourage more sustainable design in general. However at this stage it is uncertain as to how the strategy actions might be implemented to influence these objectives.

The cumulative effects on objective 15, relating to efficient use of land are likely to be positive given the focus of the strategy in moving way from landfill. There is potential for significant effects on objective 16 relating to regeneration, from the strategy actions and also other plans and programmes within the NLWA which facilitate regeneration.

The emphasis of the strategy on developing and delivering new waste recycling, composting and recovery facilities through range of actions and initiatives should have positive cumulative effects on the economic objectives (17, 18 and 19). However, with regard to equality issues under objective 19 it is considered that there is insufficient information within the actions as to how they might contribute in particular in engaging more deprived communities and hard to reach groups. For this reason the cumulative effects are uncertain.

Objective 20 relates to civic participation and the range of actions to encourage participation in more sustainable waste management should have a positive effect on this objective.

5.1.5 How Environmental Problems Were Considered in Developing Policies and Proposals

The BPEO assessment undertaken for the Mayor's draft NLJWS helped to inform the development of actions for the strategy and including consideration of environmental issues. . The actions themselves were not however subject to an environmental assessment process, at the time. As a result of the need to comply with the requirements of the SEA Directive an assessment of the actions was undertaken.

The outcome of the assessment of actions which is summarised above has indicated that the implementation actions set out in the Mayor's Draft NLJWS are broadly compatible with the SEA objectives. In a number of areas there were considered to be uncertain effects notably in relation to objectives relating to sustainable design, efficient use of land and equality. There was some uncertainty regarding environmental effects, resulting from uncertainty as to the location of new facilities. As a result of the broadly positive outcome of the of the assessment of the Mayor's Draft NLJWS it was not recommended that any of the policies or 'implementation actions' within the strategy should be changed as a result of the assessment. However some mitigation measures to improve the effects of the NLJWS are proposed in Section 5.1.6.

The generally positive performance of the Mayor's Draft NLJWS against the SEA Objectives reflects the fact that early consideration of environmental issues during preparation through BPEO and careful consideration by the partner authorities.

5.1.6 Proposed Mitigation Measures

The SEA Directive requires the Environmental Report to include measures to prevent, reduce or offset any significant adverse effects on the environment of implementing the plan or programme. These could include changes to specific actions, new actions, identifying issues to be addressed in project EIA or other technical measures. Very few of the actions assessed have negative effects however there are a large number of uncertain effects where mitigation may be beneficial.

Potential mitigation measures are set out in the table below. This table also covers mitigation measures for cumulative effects.

Table 5.2 Mitigation Measures

Effect	Relevant Implementation Actions	Mitigation
Uncertain effects on environmental objectives resulting from provision of new recycling, composting and recovery facilities/services.	Actions relating to composting, recycling and delivery of facilities.	Consider amending strategy actions/text to provide clear reference as to how environmental impacts of projects will be dealt with. This could include for example referencing the need for EIA for projects or providing a clear commitment to minimise the environmental impacts of introducing new services. Outline links to NLWP site selection process.
Uncertain effects on objectives relating to sustainable design and construction.	Actions relating to and delivery of facilities.	There is potential to improve the performance of the strategy against this objective by providing a clearer commitment to achieving high standards of sustainable design and construction when commissioning new facilities e.g. use of BREEAM standards.
Uncertain effects on the efficient use of land (objective 15)	Actions relating to composting, recycling, delivery of facilities, other household wastes.	Although mentioned in the strategy the actions could make a clearer commitment to the use of previously developed land for new treatment facilities and for the co-location of services and facilities on existing waste sites where appropriate.
Uncertain effects on the objective 19 relating to equality	Actions relating to waste minimisation, recycling, composting , commercial waste charging, working in partnership	The strategy actions/text could explain more clearly how the strategy will ensure that the needs of the more deprived and hard to reach groups within the community will be addressed.

In addition it should be noted that the strategy actions refer in places to principles and concepts which no longer form part of government guidance. These include the proximity principle and Best Practicable Environmental Option. Those actions should be amended to be consistent with Waste Strategy 2007 and Planning Policy Statement 10: Planning for Sustainable Waste Management.

5.1.7 Issues to be Taken into Account in Project Consents

Implementing the preferred option and the strategy actions will require sites to be chosen to develop new facilities for waste treatment. This process will be undertaken in the development of the North London Joint Waste Development Plan Document. At this site specific level environmental effects of implementing the option should be assessed through Environmental Impact Assessment under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. Potential topics to be covered in the Environmental Statement will be identified at the scoping stage for the EIA. In broad terms likely topics for a strategic waste facility would include the following, although the scope would be determined individually for each facility; biodiversity, air quality and odour, noise, landscape and visual impacts, water quality and flood risk, cultural heritage, land quality, socio-economic effects, climatic factors and transport.

5.1.8 Uncertainties and Risks

In carrying out the appraisal a number of the effects on sustainability objectives were determined to be uncertain. This is because the strategy does not deal in detail with the type and location of facilities which will be delivered. The risks associated with this uncertainty will however be mitigated by controls which exist at other levels of the strategy implementation, most notably the land use planning process and other regulatory controls.

Effects on, for example, biodiversity, landscape and cultural heritage are very much dependent on the location of the facility. The location of the waste facilities is not dealt with in the strategy as this is a matter for consideration through the land use planning process and the North London Waste Plan. Therefore whilst some effects are uncertain due to a lack of detail regarding location these issues will be addressed through the North London Waste Plan and planning controls.

Some of the effects, for example those relating to air quality and health are dependent on the type of facilities which are selected. Whilst this is not specified in the strategy, these effects will be regulated by planning and environmental controls.

In addition many of the strategy actions are dependent on working in partnership with other organisations and/or securing funding from external sources. As these actions may not always be in the direct control of the NLWA there is a potential risk in terms of the effects resulting from those actions.

6. Implementing the NLJWS

6.1 Proposals for Monitoring

The NLJWS will need to be monitored to identify any environmental effects of the implementation of the preferred option and the strategy's policies. Table 6.1 outlines possible indicators to be used to measure the environmental effects.

Table 6.1 Possible Indicators

Proposed NLJWS SEA Objectives	Possible Indicators
O1: To conserve and enhance natural habitats and wildlife, especially priority habitats and species	Biotic index before and after facilities are built;
	Population of BAP priority habitats and species relevant to each waste facility (species to be identified on a site by site basis).
O2: To maximise the health and well-being of the population	Number of complaints received by contractors operating municipal waste facilities in North London;
	Lifecycle assessment of human health impacts (WRATE output)
O3: To conserve and enhance natural soil structure and composition	Percentage of North London compost (product made from North London's waste) used within the NLWA area
	Percentage of North London compost used outside of the NLWA area .
O4: To improve air quality	Lifecycle assessment of air acidification (WRATE output)
	Facility emissions as reported for pollution prevention control permits (PPC) as appropriate
	Air quality in terms of NOx, SOx and particulates
O5: To improve water quality	Life cycle assessments of water eutrophication (WRATE output).
	Life cycle assessment of freshwater aquatic eco toxicity (WRATE output)
	Number of notifiable water quality incidents
O6: To achieve the wise management and sustainable use of water resources	Net Water usage for waste facilities (amount of water 'in' minus amount 'out').
O7: To address the causes of climate change	Life cycle assessment of climate change (WRATE output)
	Percentage of waste transported by road, rail and water
	Tonnes of waste transported by road, rail and water
	Amount of energy produced and used by facilities proposed
	Per capita reduction in CO_2 emissions (National Indicator No. 186)

Table 6.1 (continued) Possible Indicators

Proposed NLJWS SEA Objectives	Possible Indicators
O8: To adapt to the unavoidable consequences of climate change	Percentage of developments with Sustainable Urban Drainage Systems (SUDS)
O9: To minimise the production of waste arising from households and local authority business customers	Kg of household waste collected per head Residual household waste per household (National Indicator No. 191)
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	Percentage of household waste sent for reuse, recycling and composting (National Indicator No. 192) Percentage of municipal waste landfilled (National Indicator No. 193)
O11: To minimise the global, social and environmental impact of consumption of resources	Life cycle assessment of resource depletion *(*WRATE output*)*
O12: To enable waste to be disposed of at the nearest appropriate installation.	Number of bring sites per 100,000 people Number of reuse and recycling centres per 100,000 people Percentage of households served by recycling and composting collections Percentage of trade waste customers offered a recycling and/or composting collection service
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	Number of waste facilities intrusively visible from historic buildings Number of new waste facilities having any significant adverse impacts on heritage assets and the wider historic environment
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	Number of new waste management facilities designed and built to meet minimum BREEAM standards; Percentage of recycled content material used in any new waste facilities which are built.
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	Percentage of new waste infrastructure built on previously developed or industrially used land Tonnage of waste processed per hectare
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities.	Percentage of jobs created in areas of above average deprivation of unemployment .
O17: To encourage a strong, diverse and stable economy.	Number of direct jobs in waste services
O18: To improve the resilience of businesses and their environmental, social and economic performance.	Percentage of organisations delivering waste services with a recognised environmental and quality standard accreditation

Table 6.1 (continued) Possible Indicators

Proposed NLJWS SEA Objectives	Possible Indicators
O19: To maximise the accessibility and equality of services	Number of bring sites per 100,000 people Number of reuse and recycling centres per 100,000 people Percentage of households served by recycling and composting collections Percentage of trade waste customers offered a recycling and/or composting collection service
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	Percentage of residents using waste services Percentage of residents satisfied with waste services

The monitoring of performance is not an end in itself. Instead its role is to identify areas of under and over-performance and where appropriate activate remedial action. The following table provides a format against which the information can be collected, recorded and ultimately acted upon and is based on Appendix 10 of the ODPM SEA guidance.

Table 6.2 Documenting the monitoring data

Potential Indicator	What sort of information is required	What are the existing sources of monitoring information	Are there any gaps in existing information, and how can these be filled	What should be done if adverse effects are found	Who is responsible for monitoring

6.2 Taking account of SEA report in finalising strategy

The SEA Directive requires that information in the Environmental Report and the responses to the consultation be taken into account during the preparation of the strategy before a final decision is taken to adopt it. The NLWA will produce a summary of how the findings of the SEA have been taken into account and how environmental considerations have been integrated into the strategy.

7. Conclusion

This report sets out the retrospective Strategic Environmental Assessment (SEA) of the Mayor's Draft North London Joint Waste Strategy (NLJWS) prepared by the North London Waste Authority (NLWA)

The report follows the relevant government guidance in respect of SEA, but it has been broadened out to also address social and economic issues and effects in line with the process of Sustainability Appraisal undertaken by the Mayor of London on his strategies.

In terms of establishing the sustainability baseline and context the report draws heavily on the work already undertaken for the Sustainability Appraisal of the North London Waste Plan much of which is directly relevant to the SEA of the NLJWS together with other sources of information. Where this process has differed most significantly is in developing the SEA objectives. The NLJWS SEA objectives were initially developed prior to the NLWP SA objectives, and have been primarily drawn from the SA Mayor of London's Business Waste Strategy amended as appropriate for the NLJWS.

In the very early preparation of the NLJWS four options were chosen to be modelled and assessed. The preferred option was identified through a 'Best Practicable Environmental Option' appraisal which was carried out when the NLJWS was being prepared in 2004. As part of this BPEO appraisal the four options were reviewed with regard to their environmental, social, economic and operational effects and the 'Partnership Scenario' was selected as the preferred option based on the appraisal results.

Through this SEA process this options appraisal has been updated and a fifth option, the procurement scenario, (effectively an update and refinement of the partnership scenario) has also been appraised. The appraisal was informed by use of the Environment Agency's life cycle assessment tool WRATE.

The conclusion of the options appraisal was that Option 5, the procurement scenario performed best against the range of environmental, social and economic effects. This means that the NLJWS requires some changes. A separate document entitled '*Proposed 2008 Update to the North London Joint Waste Strategy, Mayor's Draft 2004*' has been prepared for public consultation along with this SEA Environmental Report which outlines the proposed changes to the NLJWS resulting from this review.

An assessment was then undertaken of the implementation actions in the draft NLJWS although these were first screened to remove those which were unlikely to have significant effects and grouped into common themes. The assessment process indicated that where effects were identified then they were generally positive, although there were a significant number of uncertain effects particularly related to the lack of certainty regarding the location of sites and effects on sustainable construction and design, efficient use of land and equality objectives.

A number of mitigation measures were put forward to address the uncertain effects and these included suggesting amendments to the actions/text of the strategy to enhance their performance against these objectives. Again these proposed changes are included in the accompanying report '*Proposed 2008 Update to the North London Joint Waste Strategy, Mayor's Draft 2004'*.

The SEA report sets out some proposals for monitoring including suggested indicators, however it is considered that there is potential for improving and enhancing the monitoring framework and aligning it more closely with the North London Waste Plan SA monitoring framework.

7.1 Quality Assurance

The following table provides an indication of how the Environmental Report meets the quality assurance checklist set out in Appendix 9 of the SEA ODPM Guidance.

Table 7.1 Quality Assurance Checklist

Quality Assurance Checklist	
Objectives and Context	
The plan's or programme's purpose and objectives are made clear.	Section 1.2 and 1.3
Environmental issues and constraints, including international and EC environmental protection objectives, are considered in developing objectives and targets.	Section 3.4 and 3.6
SEA objectives, where used, are clearly set out and linked to indicators and targets where appropriate.	Section 3.6 and 6.1
Links with other related plans, programmes and policies are identified and explained.	Section 3.2 and Appendix A
Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described.	Section 2 and Appendix B
Scoping	
Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report.	Section 2.2 and Appendix A
The assessment focuses on significant issues.	Appendix E, section 3.4 and Appendix A
Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit.	Appendix F, Section 2.3, 3.5, 5.1.8, and Appendix A
Reasons are given for eliminating issues from further consideration.	Appendix E, Section 4.4 and Appendix A
Baseline Information	
Relevant aspects of the current state of the environment and their likely evolution without the plan or programme are described.	Section 3.3
Environmental characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan.	Appendix A , Appendix F, Section 3.3
Difficulties such as deficiencies in information or methods are explained.	Appendix A, Appendix F, Section 3.5

Table 7.1 (continued) Quality Assurance Checklist

Quality Assurance Checklist	
Prediction and evaluation of likely significant environmental effects	
Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape), as relevant; other likely environmental effects are also covered, as appropriate.	Section 4 and 5 and Appendices D & F
Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) is addressed.	Section 4 and 5 and Appendices D and F
Likely secondary, cumulative and synergistic effects are identified where practicable.	Section 4 and 5 and Appendix D and F
Inter-relationships between effects are considered where practicable.	Section 4 and 5 and Appendices D and F
The prediction and evaluation of effects makes use of relevant accepted standards, regulations, and thresholds.	Appendix F
Methods used to evaluate the effects are described.	Section 4.3.1 & 5.1.2
Mitigation measures	
Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated.	Section 5.1.6
Issues to be taken into account in project consents are identified.	Section 5.1.7
The Environmental Report	
Is clear and concise in its layout and presentation.	The Environmental Report is clear and concise and follows the structure set out in Figure 7,1 of the ODPM SEA guidance
Uses simple, clear language and avoids or explains technical terms.	The Environmental Report defines technical terms where necessary
Uses maps and other illustrations where appropriate.	The Environmental Report used illustrations where appropriate and cross refers to the North London Waste Plan Sustainability Appraisal which provides mapping of baseline information
Explains the methodology used.	Section 2
Explains who was consulted and what methods of consultation were used.	Section 2.2
Identifies sources of information, including expert judgement and matters of opinion.	These are set out where relevant throughout the document
Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA.	Non- technical summary has been prepared as a separate stand alone document

Table 7.1 (continued) Quality Assurance Checklist

Quality Assurance Checklist	
Consultation	
The SEA is consulted on as an integral part of the plan-making process.	Consultation is explained in Section 2.2
Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate time frames to express their opinions on the draft plan and Environmental Report.	Consultation is explained in Section 2.2
Decision-making and information on the decision	
The environmental report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme.	To be provided by NLWA prior to adopting the NLJWS
An explanation is given of how they have been taken into account.	To be included in final Environmental Report post consultation.
Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered.	Section 4.4
Monitoring measures	
Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	Section 6.1
Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.	To be carried out once the Strategy has been implemented
Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect.)	To be carried out once the Strategy has been implemented
Proposals are made for action in response to significant adverse effects.	To be carried out once the Strategy has been implemented