North London Waste Authority

Strategic Environmental Assessment of the North London Joint Waste Strategy

Appendices to the Environmental Report

May 2008

Entec UK Limited

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Appendix A
Revised Scoping Report

Appendix A

North London Joint Waste Strategy

Strategic Environmental Assessment (SEA)
Revised Scoping Report
May 2008

Contents

Glossary of Terms

Term	Description
Best Value	The duty on local authorities to deliver effective, economic and efficient services and seek improvement in the quality and standard of their service provision.
Biodegradable waste	This is waste that is able to decompose through the action of bacteria and other microorganisms, including materials such as paper, food waste and garden waste.
Bring bank / site	A bring site or bring bank is a localised collection point for recyclables such as glass, paper, cans, etc.
Bulky waste	An item of waste is considered “bulky” if it weighs more than 25kg or does not fit into a householder’s bin; or if no container is provided, a cylindrical receptacle measuring 0.75 metres in diameter and 1.00 metres in height.
Central composting	Large-scale biological treatment operation converting household kitchen and garden waste into compost and which may also accept green park waste. See also “composting”.
Civic Amenity (CA) Site	Sites operated by either the Waste Disposal Authority or the local authority where residents can dispose of household waste free of charge. These sites are also known as Re-use and Recycling Centres.
Clinical waste	Waste consisting of bodily fluids or tissue that prove hazardous or cause infection to people coming into contact with it.
Commercial waste	Commercial waste arises from premises used for trade, business, sport, recreation or entertainment, but excluding municipal and industrial waste.
Composting	The microbiological degradation of organic wastes in the presence of excess oxygen to produce a material that is suitable for use as a fertiliser or soil conditioner. This can either be an enclosed or open process.
Construction and Demolition Waste	Waste arising from the construction, repair, maintenance and demolition of buildings and structures, including roads. It consists mostly of brick, concrete, subsoil and topsoil, but it can contain quantities of timber and metal.
Dry recyclables	Materials such as paper, textiles and cans that are typically collected separately through kerbside schemes, bring banks or at re-use and recycling centres.

Environment Agency (England and Wales)	The Environment Agency for England and Wales was created by the Environment Act 1995 to regulate emissions of pollutants to air, land and water. The Agency's main role in the management of waste is through its regulatory activities to protect the environment and human health. Its duties include: • licensing waste management facilities • monitoring and inspecting waste management facilities • enforcing regulations to prevent unlawful waste management activities • providing data and information on waste quantities and management regimes
Fly-tipping	The unlawful deposit of waste on land.
Gasification	The substoichiometric oxidation or steam reformation of a substance to produce a gaseous mixture containing two or all of the following substances: oxides of carbon, methane and hydrogen. Heat, power and chemicals can be recovered as part of the process.
Gershon Review	Sir Peter Gershon's review of local government funding took place in 2004. The review makes a number of recommendations to increase efficiency and places targets on local governments to reduce costs by increasing efficiencies through joint working.
Green waste	Vegetation and plant waste from household gardens and public parks and gardens.
Hazardous waste	Waste subject to the Hazardous Waste (England and Wales) Regulations 2005
Household waste	Waste from domestic properties including waste from Re-use and Recycling Centres, material collected for recycling and composting, and waste from educational establishments, nursing and residential homes and street cleansing waste.
Incineration	The controlled burning of waste, either to reduce its volume, polluting potential. Heat and power can be recovered as part of the process.
Kerbside collection	A collection of waste from households, commercial or industrial premises. Often used to describe the regular collection of separated recyclable wastes from households.

Landfill	The deposit of waste onto or into specially engineered land or void spaces. These are often quarries that have been excavated. As waste deposited in a landfill site decomposes, it creates 'leachate' and 'landfill gas'. Landfill sites are designed to facilitate the management of leachate and landfill gas to prevent pollution of the environment. Landfill gas is often used to generate electricity.
Landfill gas	Landfill gas (LFG) is a product of the degradation of biodegradable waste (any organic matter that can be broken down by micro-organisms such as paper, wood or food stuffs), and characteristically contains methane (64%) and carbon dioxide (34%) as well as a range of other components.
Leachate	Leachate is formed when water passes through the waste in a landfill site. The precipitation can be from rain, melted snow or the waste itself. As the liquid moves through the landfill many organic and inorganic compounds, like heavy metals, are transported in the leachate. This moves to the base of the landfill and collects.
Material Reclamation Facility (MRF)	A waste transfer station designed for the storage and segregation of recyclable materials. Also known as a material recycling facility or material recovery facility.
Municipal waste	All waste collected by a Waste Collection Authority, (a borough council in the case of London), or its agents, including such as waste from households, municipal parks and gardens, commercial or industrial premises, and fly-tipped wastes.
Precautionary Principle	Defined in Waste Strategy 2000: Any integrated waste management system must make allowance for the precautionary principle, which states that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.
Producer Responsibility	Producer and others involved in the manufacture, import, distribution and sale of goods taking greater responsibility for those goods at the end of the products life.
Proximity Principle	The principle that waste should be managed as near as practicable to its place of production.
Putrescible	Organic material with a tendency to decay rapidly forming unpleasant or odorous products including putrescine, e.g. kitchen waste.

Pyrolysis	The thermal degradation of a substance in the absence of any oxidising agent (other than that which forms part of the substance itself) to produce char and one or both of gas and liquid. Chemicals, heat and power can be recovered as part of the process.
Recycling	The reprocessing of waste material, either into the same product or a different one. Common materials that are recycled include paper, glass, cardboard, plastics and scrap metals.
Recovery	Recovery is the process of obtaining value from waste through re-use; recycling; composting or other means of material or energy recovery.
Reduction	The process of generating less waste by reviewing the production processes to optimise utilisation of materials and processes. This lowers disposal costs and the use of materials and energy.
Renewables Obligation Certificates (ROCs) and Renewables Obligation 2002	ROCs are issued under the terms of the Renewables Obligation Order, the Renewables Obligation Order (Scotland) and the Renewables Obligation Order (Northern Ireland). This is the Government's mechanism for increasing the proportion of electricity produced from renewable sources. ROCs demonstrate the amount of electricity generated from renewable sources. One certificate is issued for each megawatt hour of electricity generated from renewable sources. Electricity generators must produce a specified amount of electricity from renewable sources (This started at 3% in 2003, rising gradually to 10.4% by 2010, and 15.4% by 2015) and supply companies must buy a specified proportion of such electricity or pay a fine. The fine is then distributed to the generators that produce electricity from renewable sources. The scheme is administered by the Government’s watchdog Ofgem.
Residual Waste	The wastes collected from households and businesses that have not been suitably separated for recycling or composting.
Re-use	The repeated or multiple use of a product whether or not designed for such use thus saving raw materials and energy. Re-use contributes to sustainable development and can save raw materials, energy and transport costs.
Rubbish	See “Waste”.

Re-use and Recycling Centre	See Civic Amenity Site.
Separate collection	Kerbside waste collection schemes where parts of the waste stream are collected separately to the ordinary household waste collection either by a different vehicle/part of the vehicle or at a different time.
Special waste	Term previously used to describe Hazardous Waste.
Treatment	Thermal, chemical or biological processing of waste to reduce its toxicity, potential for harm or pollution, or volume, or to recycle or recover materials, heat or energy from the waste.
Unitary Authority	A local authority which has the responsibilities of both a Waste Collection and a Waste Disposal Authority.
Waste	Includes most unwanted, discarded, redundant, broken or out of specification materials including agricultural wastes. Explosives and radioactive wastes are excluded. In documents intended for non-specialist readers the term 'rubbish' is often used.
Waste arising	This is the amount of waste produced in an area during a period of time. Usually reported as "tonnes per annum".
Waste Hierarchy	The waste hierarchy, introduced by the EU Waste Framework Directive, prioritises the options for waste management. It is also used within the English Waste Strategy 2007 It represents a sliding scale starting with the most sustainable option (waste prevention) and ending with the least sustainable option (disposal): • waste prevention; • re-use; • recycle/compost • energy recovery • disposal.
Waste management industry	Businesses and not-for-profit organisations carrying out the collection, treatment and disposal of waste.
Waste streams	Waste arising from either the same or different producers and identifiable as discreet and separate from another waste stream.

Waste Integrated System for Recovery and Disposal (WISARD)	An Environment Agency 'life cycle assessment' software tool for comparing different management systems treating Municipal Solid Waste (MSW)
Waste and Resource Assessment Tool for the Environment (WRATE)	A 'life cycle assessment' software tool used to evaluate alternative waste management scenarios which has replaced WISARD

Abbreviations

AA	Appropriate Assessment
ACORN	A Classification of Residential Neighbourhoods
AD	Anaerobic Digestion
BMW	Biodegradable Municipal Waste
BPEO	Best Practicable Environmental Option
BVP	Best Value Performance
BVPI	Best Value Performance Indicator
CA	Civic Amenity
CPRE	Council for the Protection of Rural England
DEFRA	Department for Environment, Food and Rural Affairs
DETR	(former) Department for the Environment, Transport and the Regions now a part of DEFRA.
DPD	Development Plan Document
DSO	Direct Service Organisation
DTI	Department of Trade and Industry
EA	Environment Agency
EfW	Energy from Waste
EIA	Environmental Impact Assessment
ELV	End of Life Vehicle
ENCAMS	Environment Campaigns (formally Tidy Britain Group)
EPA	Environmental Protection Act 1990
EU	European Union
GDP	Gross Domestic Product
GHGs	Greenhouse Gases
HTI	Human Toxicity Index
IPCC	Intergovernmental Panel on Climate Change.
JWDPD	Joint Waste Development Plan Document
LATS	Landfill Allowance Trading Scheme
LDD	Local Development Documents
LDF	Local Development Framework
MBT	Mechanical Biological Treatment
MRF	Materials Reclamation Facility
MSW	Municipal Solid Waste
MWMS	Municipal Waste Management Strategy
NGO	Non Governmental Organisation
NLJWS	North London Joint Waste Strategy
NLWA	North London Waste Authority
OJEC	Official Journal of the European Union
PFI	Private Finance Initiative
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
RDF	Refuse Derived Fuel
ROC	Renewable Obligation Certificate
RPG	Regional Planning Guidance
RSS	Regional Spatial Strategy
RTAB	Regional Technical Advisory Body
SEA	Strategic Environmental Assessment
SA	Sustainability Appraisal

UA	Unitary Authority
UDP	Unitary Development Plan
UK	United Kingdom
WCA	Waste Collection Authority
WDA	Waste Disposal Authority
WEEE	Waste Electrical and Electronic Equipment
WET	Waste and Emissions Trading Act
WISARD	Waste Integrated System for Recovery and Disposal
WRAP	Waste Resources Action Programme
WRATE	Waste and Resource Assessment Tool for the Environment
WS2000	Waste Strategy 2000, the national waste strategy for England, now superseded by Waste Strategy 2007.

1 Introduction

1.1 Each year the seven North London boroughs of Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest collect almost 1 million tonnes of rubbish from households and businesses within their area. The responsibility for disposing of this rubbish lies with the North London Waste Authority (NLWA).

1.2 However, the amount of rubbish produced and collected is growing and as the foreword to the draft North London Joint Waste Strategy states, "the financial and environmental effects of what we currently do are not sustainable." A joint strategy, (the Mayors Draft North London Joint Waste Strategy (NLJWS), September 2004), has been produced and approved by the eight partners; (the NLWA and the seven constituent boroughs) to determine how best to manage this challenge into the future.

1.3 A 'Best Practicable Environmental Option' appraisal was carried out when the NLJWS was being prepared in 2004. This 'BPEO' appraisal reviewed four different strategy options in order to identify which of the four was the best from an environmental, social, economic and operational perspective. The one which was selected, the 'Partnership Scenario' became the 'Mayor's Draft' NLJWS. Table 1 on page 25 details the four different options.

1.4 However, with the introduction of new legislation, it is also now necessary to carry out a retrospective Strategic Environmental Assessment (SEA) for the joint strategy. The SEA aims to identify the environmental implications of such a strategy (and key alternatives). The NLJWS will then be revised to ensure any environmental effects are eliminated or minimised before it is adopted and its provisions implemented.

Key challenges

1.5 There are two aspects of the historical waste management system in North London which must, and are already starting, to change:

- Firstly, like many other authorities in the UK, the NLWA has traditionally sent a large proportion of the borough collected or 'municipal' waste to disposal in landfill. In financial year 2006/07, the NLWA disposed of 37% of borough collected household waste in this way. This is no longer acceptable for a number of reasons, including the fact that most of the landfill sites taking London's rubbish are outside of the capital and residents and authorities in those areas are no longer prepared to accept as much of London's waste as they have in the past. Government planning guidance and the London Mayor's spatial strategy, the London Plan, also set targets for managing more waste locally within the area in which it is produced. In addition to this spatial driver to reduce the reliance on remote landfill sites there is also a need to reduce reliance on landfill disposal because it is unsustainable. Landfill sites are filling up, the costs

of environmental protection measures for landfill sites are increasing which is making it more expensive to dispose of waste to landfill and there is a tax on every tonne of waste which is sent to landfill disposal which is also increasing at a rate of an extra £3 per tonne per annum and £8 per tonne from 1st April 2008 (the current tax rate is £24 per tonne). Finally, one of the major negative environmental effects of landfill disposal is that as the waste in a landfill site decomposes it produces 'landfill gas', a mixture of methane, carbon dioxide and many trace gases. Methane and carbon dioxide are potent 'greenhouse gases' and significant contributors to climate change. The government has therefore set limits on the amount of municipal waste that any waste disposal authority such as the NLWA can send to landfill disposal. The amount or allowance of waste which a disposal authority can send to landfill decreases over time to comply with the country's obligations under the Landfill Directive.

- The second aspect of our historical method for managing waste which must change is that as less of our waste is landfilled, more of the waste must be recycled, composted or re-used. Environmentally, recycling particular materials has been generally demonstrated to be more beneficial than either landfill disposal or incinerating the material (WRAP Study on the Environmental Benefits of Recycling)[1], whilst re-use extends the life of an item, delaying either recycling or its ultimate disposal. Additional recycling and re-use means collecting waste in different ways to allow the separation of particular materials for recycling, but also, involvement in selling the separated material on to outlets that can use it to make new products. Communicating with residents and businesses so that they understand the new collection and waste separation systems is also key and leading by example to purchase recycled and re-used products within the public sector is also important. Where it has not been possible to separate wastes for re-use, recycling or composting, some form of energy recovery will be preferable to landfill.

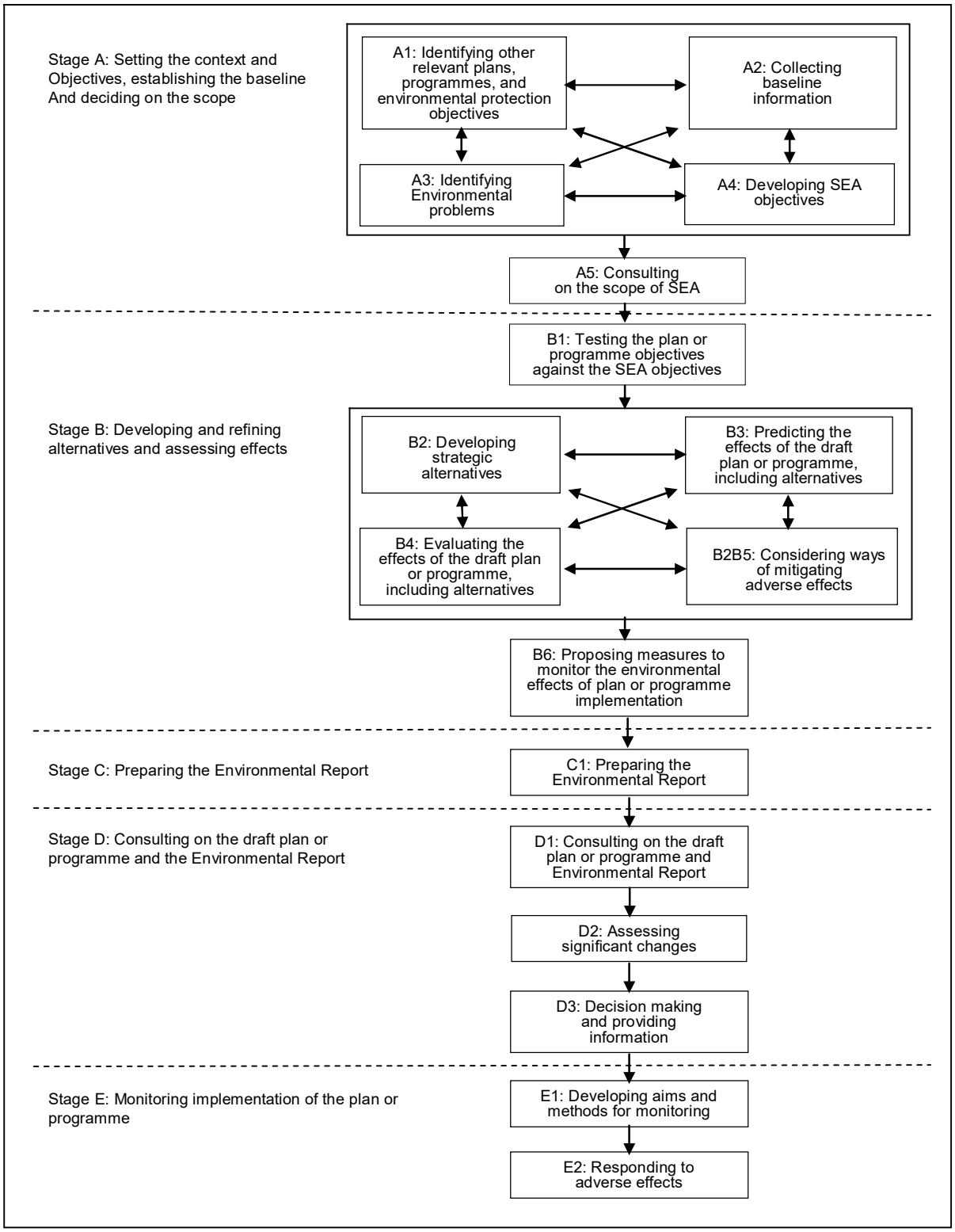
2 Stages of SEA

2.1 In September 2005 the then Office of the Deputy Prime Minister (now the Department for Communities and Local Government, DCLG), the Scottish Executive, the Welsh Assembly Government and the Department of Environment in Northern Ireland, published A Practical Guide to the Strategic Environmental Assessment Directive, (available at http://www.communities.gov.uk). This guide outlines the stages of SEA and provides guidance on the scope and how to present the information gleaned from each stage of the SEA within the resultant Environmental Report. The following Scoping Report for the SEA of the Mayor's Draft NLJWS is based upon that guide and outlines the information contained within 'Stage A' shown in the diagram below which is taken from the guide.

2.2 This 'scoping' stage assumes that 'screening' to determine the need for SEA has already been carried out.

2.3 The diagram below illustrates the key steps of the SEA process.

Figure 1: - Relationship between the SEA Tasks



3 Consultation

In accordance with the SEA Regulations the Scoping report was sent out to the three statutory consultees[2] and the Greater London Authority for comment between 10th September 2007 and 15th October 2007. Although it was not a requirement to consult more widely during this stage, the partners to the North London Joint Waste Strategy welcomed additional comments. So, the report was made publicly available on the North London Waste Authority website.

The consultees were asked to provide comments on the following;

1. Do you agree that the SEA objectives cover the breadth of sustainability issues for North London and fully address them in relation to waste management?
2. Do you know of any key baseline evidence, which will help inform the SEA process?
3. Do you agree with the appraisal criteria and possible indicators that have been selected for each SEA objective?
4. Do you think that the indicators suggested adequately measure the appraisal criteria stated? If not, can you suggest additional new indicators which would assist, or should we just accept that some of the appraisal criteria will be measured less well than others? A further option is to exclude some of the appraisal criteria on the basis that data for measuring them is incomplete – would this be preferable?
5. Do you support the proposal to rerun the environmental modelling work carried out during the original strategy preparation process, using the Environment Agency's WRATE model in addition to the above assessment?
6. And, if the modelling work is rerun, do you support the addition of a fifth scenario, the North London Waste Authority's procurement strategy.

Following the consultation period a number of comments were received. These were addressed and incorporated, where appropriate in this revised Scoping Report and in the Environmental Report.

2

4 Scoping the SEA

4.1 The SEA guidance document referred to in paragraph 5.1 says that a SEA need not be done in any more detail or using any more resources than is useful for its purpose. The SEA Directive requires consideration of the significant environmental effects of the plan or programme and of reasonable alternatives that take into account the objectives and the geographic scope of the plan or programmes. This scoping report is based upon the principle of keeping the SEA short and focused on identifying and seeking improvements on the really important impacts of the Mayor's Draft NLJWS. The following section considers some of the aspects of the scope of the SEA which have been considered but rejected and the basis for that decision.

Timescales

4.2 It is proposed, in line with the guidance, that an end point is set, where further iterations are unlikely to bring further significant improvements in predicting the environmental effects of the plan or programme. Accordingly a deadline of the end December 2007 has been set for completion of the SEA and then the NLJWS will be revised to ensure the any environmental effects of the draft strategy are eliminated or minimised before the final strategy is adopted.

Is Environmental Impact Assessment Required?

4.2 The first consideration was whether an environmental impact assessment was required, in addition to SEA. The Environmental Impact Assessment (EIA) Directive is not disapplied as a result of the SEA Directive. However, EIA is project specific and requires more detailed information on the environmental effects of a particular proposal whilst SEA is typically concerned with broad principles and alternatives. EIA is not considered as being a necessary part of the SEA of the Mayor's Draft NLJWS, because the Mayor's Draft NLJWS does not deal with specific proposals.

4.3 Although the Mayor's Draft NLJWS outlines in chapter 7, the number and types of waste facilities that will be required in order meet the requirements and targets set out in the strategy, the Authority's subsequent procurement strategy for procuring the facilities identified, as well as the strategy itself, make it clear that the technologies modelled are illustrative and do not indicate specific procurement intentions. The final technology choices for implementing the NLJWS are expected to come out of competitive dialogue procurement processes.

4.4 As an example the Mayor's Draft NLJWS identifies the need for 5 recyclables bulking facilities and materials recycling facilities. Potentially the mix could be 3 materials recycling facilities (the maximum specified) and 2 bulking facilities or 1 materials recycling facility and 4 bulking facilities. Similarly, although the Mayor's Draft NLJWS identifies the need for a range of specific facilities, which

are translated into the procurement strategy it is important to note that the full list of facilities required in the procurement strategy is for the 'Reference Project'. This is the starting point for the Authority to gain preliminary costs to assess affordability and to provide some important information for the Authority to begin procurement. It may not represent the final range and number of facilities that will eventually be provided as this will be heavily dependent on the outcomes of the procurement exercise and the availability of sites.

5 Plans & Programmes relevant to the Draft NLJWS

5.1 The table in Appendix 1 provides a list of the main plans that are relevant to the development of the SEA for the Mayor's Draft NLJWS. The table highlights the key *relevant* issues and objectives within each of the documents and ideas for how the objectives and requirements contained within each already are, or might be, incorporated into the NLJWS. This is not an exhaustive list of all plans and programmes which exist. There are many plans and documents that might be considered to bear some relationship to waste issues, however, if these are not plans and programmes which are likely to exert a direct influence on the Strategy these are not included.

5.2 For local authorities, the relevant plans are mainly scaled nationally, regionally and locally. International plans and European legislation are, for the most part, implemented in the UK through national legislation and policy and it is this to which local authorities must adhere and have regard. Therefore while many international plans (e.g. the World Summit on Sustainable Development) are important in guiding national policy towards sustainable waste management and wider issues of sustainable development, they are not directly relevant to local authorities. Another good illustration is the Landfill Directive. Local authorities do not need to have regard to that Directive; rather, they must have regard to the implementing resultant legislation in the UK (such as the WET Act and the Landfill Regulations).

5.3 In addition, to the above, the plans and programmes of neighbouring waste disposal and collection authorities are also relevant. Full details of relevant plans and programmes are included in the appendix to this report.

6 Collecting Baseline Information

6.1 An essential part of Strategic Environmental Assessment is the identification of the 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, can be identified and their subsequent success or otherwise be monitored. This information can also be used to develop a set of relevant objectives and targets against which the NLJWS can be appraised.

Background to Data Collection – Statutory Requirements

6.2 In April 2006, DEFRA published a 'Waste Data Strategy for waste streams across the UK'. The main elements of this strategy, which also impact upon the data sets which are available for monitoring progress on the NLJWS, were as follows:

- Routine, regulatory returns from waste management facilities, which replace the previous system of surveys as the main source for data.
- Quarterly data collection of waste arising data and waste management data.
- Annual data collection on waste infrastructure.
- The collection of information at a detailed level: waste types, facility types and location.
- Data uploaded to a central 'hub' which allows users to analyse the information in different ways.

6.3 The North London partner authorities now report on a prescribed set of parameters to a central hub as outlined above. This centralised reporting and recording system is called 'Waste Data Flow'. This electronic and web-based system allows government and other agencies to measure authorities' progress in meeting national waste strategy and LATS objectives. It also allows the North London partners to collectively measure progress and developments in line with the NLJWS objectives.

6.4 The other main statutory data-reporting requirement is through the data collection system required for Best Value Performance Indicator or BVPI monitoring. This system requires all 'best value' authorities to report on an agreed set of indicators, covering a range of subjects. The level of detail required for Best Value reporting on waste is not as detailed as that required for Waste Data Flow, but Best Value covers a wider range of issues. In time, Best Value annual data returns for waste data will be produced electronically from Waste Data Flow. The current set of best value indicators is currently being reviewed.

Background to Data Collection - Local Indicators and Data Gaps

6.5 In addition to the 'standard' Best Value data sets required for reporting on waste, the Authority also reports on a range of 'locally agreed' indicators which will also be useful for measuring progress.

6.6 On some of the broader objectives however, the Authority and its constituent borough councils do not have data sets or they may be available but elsewhere within authorities and not linked to waste analysis.

6.7 The other key data set which is available, but currently undergoing a review, is the split between the amount of household waste collected by the constituent borough councils and the amount of 'trade' or commercial and industrial waste they collect. Typically the constituent borough councils will collect from both households and businesses with one collection vehicle, Therefore whilst the vehicle and the total tonnage of waste collected is measured accurately on a weighbridge, the proportion which is household waste and the proportion which is non-household, has to be estimated. Currently this estimate is based upon a 1995 survey. This is currently being updated to obtain a more accurate estimate of the non-household to household split within each borough.

6.8 Baseline data has also been gathered from the recent Scoping Report for the Sustainability Appraisal of the North London Waste Development Plan Document which was published in July 2007.

6.9 The following sections (listed below) outline the current baseline for the area covered by the North London Waste Management Strategy. Section 9 provides more detail on the SEA objectives and indicators that are proposed to assess the strategy. The baseline topics correspond with the SEA criteria as laid out in Annex 1 of the SEA Directive at paragraph (f), but also take account of the Sustainability Appraisal of the London Mayor's Waste Strategies Scoping Report, which in turn are referenced to the UK Sustainable Development Strategy (March 2005).

1. Ecology and Biodiversity
2. Population and Human health
6. Soil
7. Water
8. Air
9. Climatic Factors
10. Material Assets/Resource Use
11. Built and Historic Environment

6.10 Additional topics have been included in order to tie in to the Mayor of London's strategy which are:

12. A stable economy
13. Accessibility and participation
14. Equality and Diversity

Ecology and Biodiversity[3]

6.11 Within the North London Authority area there is one internationally important ecological site. This is the Lee Valley Ramsar site which is comprised of four Sites of Special Scientific Interest (SSSI). The Ramsar site passes 24km through the valley all containted within the Lee Valley Regional Park. As a result of the former gravel pits and existing reservoirs and sewage treatment lagoons the site is important for a number of nationally important bird species.

6.12 There are two sites within North London protected under European legislation. They are the Lee Valley Special Protection Area (SPA) which covers the same area as the Ramsar site, and Epping Forest Special Area of Conservation (SAC). The Epping Forest SAC covers an area of 1605 hectares which has been designated as a result of the beech forests which provide habitats for rare species. In addition, the site supports a rich population of the Stag beetle and other nationally scarce invertebrate species.

6.13 There are six SSSIs within the North London Authority area. Four are within the Borough of Waltham Forest and together cover an area of 2393.88 hectares. The majority of the SSSIs have been designated due to their water and woodland habitats. There are 5 SSSI's contained within the Lee Valley RAMSAR site of which Walthamstow Reservoirs, Waltham Abbey, Turnford and Cheshunt Pits and Chingford Reservoirs are 100% favourable condition. Parts of Walthamstow Marshes SSSI, Epping Forest SSSI and Hampstead Heath Woods SSSI are in unfavourable condition but are recovering.

6.14 There are currently no factors having a significant adverse effect on ecological character of the Lee Valley SPA. However, a significant increase in recreational pressure could impact upon wintering wildfowl numbers. Within the Epping Forest SAC existing air pollution may contribute to the poor condition of parts of the site Increasing recreational pressure could have an impact on heathland areas.

6.15 The North London area also has 20 Local Nature Reserves and 31 Biodiversity Action Plans covering various habitats and species of flora and fauna.

Population[4] and Human health[5]

6.16 The North London Area covers 293km^2 of landmass across seven London Boroughs. These are the London Boroughs of Barnet, Camden, Enfield, Hackney, Heringey, Islington and Waltham Forest.

[3] Sources: Natural England and the Joint Nature Conservation Committee - www.jncc.gov.uk and www.naturalengland.org.uk

[4] Sources Office of National Statistics, Regional Trends No.39, 2006 edition – Chapter 1 and Office of National Statistics,2006 Estimated Populations Revised, August 2007

[5] Sources: www.neighbourhood.statistics.gov.uk – Health and Care data sets and ODPM (2004) English Indices of Deprivation (revised)

6.17 Barnet, Enfield, Haringey and Waltham Forest are all outer London Boroughs. Barnet is one of the largest boroughs in London situated to the north west with a population of 314,564 people according to the 2001 Census data. Since 2001 the population has increased to an estimated 328,600 people in 2006. Enfield is the most northern London Borough which had a population of 273,559 in the 2001 Census. The ONS population estimate for mid 2006 was 285,300 people. In 2001 Haringey had a population of 216,507 people at the time of the 2001 Census. Its estimated population for mid 2006 was 225,700 people. Waltham Forest is an outer London Borough in the north east of the city. Its population at the time of the 2001 was 218,341 people. This has increased to an estimated 221,700 people in mid 2006.

6.18 Hackney, Camden and Islington are inner London Boroughs. In 2001 Hackney had a population of 202,824 people. The ONS mid 2006 population estimate suggests the population has grown to 208,400 people. Camden had a population of 198,020 people in 2001. The estimated population for mid 2006 was 227,500 people. Islington has the smallest population of all the North London Boroughs. In 2001 it had a population of 175,797 people. The mid year estimates for 2006 suggest that it has grown to 185,500 people.

6.19 All of the Boroughs have experienced population increases over the last 20 years. These increases were greater than the national average of 7% in all Boroughs except for Waltham Forest whose population increased by 2.1% between 1981 and 2004. Camden has experienced the largest population increase over this period. The average age of the population across all Boroughs is approximately 35 years old. This is average for London but young for England where the average is 38.6 years old.

6.20 Population densities across all the Boroughs are high compared to the national average. Four of the Boroughs; Islington, Hackney, Camden and Haringey; have 10,000 or more people per square kilometre.

6.21 Life expectancy across the seven Boroughs for mid 2003 indicates that there may be health issues as four of the London Boroughs; Hackney, Haringey, Islington, and Waltham Forest have shorter than average expectancies for both men and women. . Barnet and Enfield have slightly higher expectancies of males and females than the national average of 76.6 years and Camden has a higher than national average expectancy for women. .

6.22 Within the North London Boroughs people describing their health as ‘not good’ tended to be those in the inner London Boroughs of Hackney, Islington and Camden. In addition, Hackney and Islington have the highest percentages of people with a limiting long term illness. These health statistics could be linked to levels of social deprivation which are highest in the inner London Boroughs.

Soil[6]

6.23 There are 6 identified soil types in the North London area. Much of the area is classified as 'slowly permeable acid loamy and clayey soils' which is prevalent in Barnet, Enfield and Waltham Forest. 'Free draining slightly acid loamy soils' are found in eastern Enfield and small areas of Haringey and Camden. Within the Lee Valley reservoir and flood plain there are 'loamy and clayey floodplain soils with naturally high groundwater'. The main land cover of these soils are arable or grassland with some woodland.

6.24 The majority of the land in the North London area is urban however small areas in the north of the area are classified as agricultural land. Approximately one fifth of Enfield is classified as grade 3 agricultural land and the northern reaches of Barnet are grade 4 and grade 3.

Water Resources and Quality[7]

6.25 The North London Authority lies entirely within the Thames basin. The Thames region is the most populated region in the UK and consequently water is scarce. There are 12 rivers situated within the North London area within the Boroughs of Barnet, Enfield, Islington and Waltham Forest. In terms of their quality only the Grand Union Canal has significantly failed its River Ecosystem Targets and Dollis Brook is deteriorating. It should however be noted that the river targets set for all the rivers are low.

6.26 Groundwater is important for the region as it provides up to 35% of the public water supply. Source protection zones in the North London area are predominantly along the River Lee, Salmons Brook , the Reservoirs west of Stamford Hill and the New River. These areas are at risk of groundwater pollution. In the Lea Valley there are also high levels of nitrate concentrations which can harm human health.

6.27 With regard to the issue of flood risk, the Environment Agency have been consulted as to whether this issue should be considered for the NLJWS SEA. The EA state that as flood risk has been considered as part of the SA for the Early Alterations to the London Plan; is a factor in the Waste Apportionment; and is included as an objective in the North London Waste Plan SA Scoping Report this can be omitted from the NLJWS SEA assessment.

Air[8]

6.28 It is estimated that in London there are 1,500 respiratory hospital admissions as a result of air pollution. Nearly all of the North London Authority area is within an

[6] Source: www.magic.gov.uk
[7] www.environmentagency.gov.uk
[8] Mayor of London (2002) Cleaning London's Air: Highlights of the Mayor's Air Quality Strategy; Mayor of London (2003) London's Atmospheric Emissions Inventory and www.airquality.org.uk

Air Quality Management Area for nitrogen dioxide and particulate matter pollutants, with the exception of Hackney which is partly covered for nitrogen oxide emissions.

6.29 Since 2002 there has been a congestion zone covering central and west London. A secondary effect of this is expected to be the reduction in air pollution. The northern boundaries of the zone include parts of Camden, Islington and Hackney therefore over time reductions in emissions could be seen in the North London area. In addition the Mayor of London and Transport for London are considering introducing a London wide Low Emission Zone which would help achieve air quality objectives in the future. Projections of nitrogen dioxide and particulate matter are predicted to decrease over the next 5-10 years before levelling off.

Climatic Factors[9]

6.30 In October 2002, a report by the London Climate Change Partnership outlined various issues London could face as a result of climate change. It stated that as a result of the high density urban environment of London, it may experience sensitivities to temperature rises due to the urban heat island effect. In North London this would be more apparent in the Inner London Boroughs where housing densities are higher.

6.31 London is also susceptible to flooding as a result of weather changes and sea level rise. The Lee flood plain is at risk in the North London area from flooding. Climate change could also impact upon water resources for the area and may increase demand. In addition, air quality may worsen through an increase in dry sunny weather.

Material Assets/Resource Use

6.32 The North London authorities collected and managed slightly more than 800,000 tonnes of municipal solid waste (MSW) in 2006/07. In 2005/06 London's MSW waste arisings were 4.2 million tonnes which was almost 15% of England's MSW arisings.

6.33 The declared recycling rates (for both dry material recycling and organic waste composting) of each of the North London partner authorities for 2005/06 compared to best value performance standards are presented in Table 2.

[9] The London Climate Change Partnership, (2002), London's Warming: The Impacts of Climate Change on London

Table 2: Current and targeted recycling performance

Partner Authority	2005/06 Recycling Rate	2005/06 Performance Standard (Targets)	2005/06 Recycling Tonnage
Barnet	27.47%	27% (30%*)	20,307
Camden	27.14%	30% (33% **)	26,061
Enfield	27.29%	27%	34,561
Hackney	16.21%	18%	16,166
Haringey	19.23%	18%	18,250
Islington	18.29%	18%	13,588
Waltham Forest	21.85%	18% (19%**)	25,871

The NLWA recycling rate for 2006/07, subject to audit is 22.82%.

Targets:

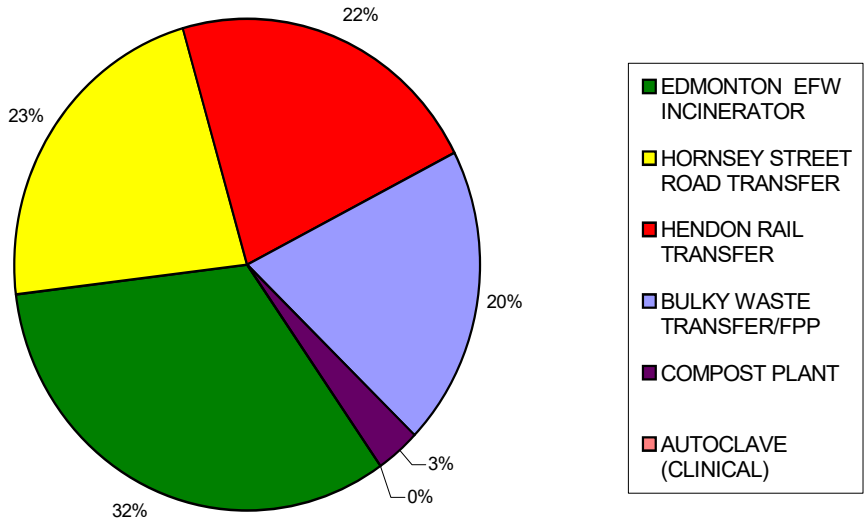
* The figure indicates the previous recycling target prior to it being capped by the Government, to 30%

** The figure indicates where the recycling target has been stretched locally by the Borough in a Public Service Agreement (PSA).

6.34 Future recycling performance assessments have been made to assist with developing targets for the NLWS. These projections are based upon the likely improvement in recycling rate performance that can be expected if the North London boroughs introduce only those services, which are currently planned, and no others. These projections show that by 2009/10 the average borough recycling rate will have improved from 22.5% in 2005/06 to reach 23.3%. In order to hit the NLJWS targets, however, additional recycling tonnage will need to be gained through the use of centralised facilities such as mechanical biological treatment. The facilities are envisaged to enable the partnership to deliver the following rates of 35% recycling and composting by 2010 and by 45% in 2015.

6.35 Waste that is either recycled or composted is sent to a large number of materials merchants and green waste composting facilities, in some cases by the authorities directly and in others by waste services contractors. Waste for disposal, however, is sent to a much smaller number of facilities on long-term contracts. The facilities directly used by NLWA (i.e. excluding material going to via the Authority's main waste disposal contractor and then on to third party recycling facilities elsewhere) are illustrated in Figure 2:

Figure 2 Proportion of waste delivered to each of the Authority's contracted facilities 2006/07



6.36 The Edmonton Energy from Waste (EfW) facility receives all waste which is not collected separately for recycling or composting. The Fuel Preparation Plant (FPP) at Edmonton sorts bulky municipal and commercial waste into separate fractions for recycling and energy recovery. At Hendon Rail Transfer Station, waste is compacted into containers and transported by rail to a landfill site in Buckinghamshire. The Hornsey Street site accommodates both the Authority's waste transfer station and Islington's depot and re-use and recycling centre which accepts a wide range of household materials. Clinical waste is directed to the clinical waste autoclave facility at Edmonton Park.

6.37 The above chart is based upon the amount of municipal waste – 817,098 tonnes - delivered to each of the different facilities and is based upon invoiced tonnages of municipal waste (i.e. both household and 'trade' waste) delivered to each facility.

6.38 Growth in total municipal waste arising in NLWA has been very similar to that which has been seen nationally. Growth rates over the whole of the last ten years average out at 3.2%. However, this very rapid growth happened very largely in the first half of this period with growth rates over the last five years much lower, at an average of 0.2%.

6.39 The same pattern of rapid initial growth ten year's ago to a slowing of growth in the last few years, can also be seen when growth trends for household waste (and municipal) arising per head and per household are considered. For example, between 1995/96 and 1999/00 household waste arising per head grew by 100 kg to reach 490 kg per person per annum. However, by 2004/05 this had only grown by another 20 kg per person to reach 510 kg per head.

6.40 The Mayor's Draft NLJWS considers a projection of waste arising showing an annual growth rate of 3% per annum until 2010 and then 2.5% per annum thereafter, starting from a figure of 855,833 tonnes of municipal waste collected and managed in 2003/4. Although the actual growth rates in the intervening years have been lower than the Mayor's Draft NLJWS predicts, the projections have remained in Authority modelling work because it is not known whether this slowing of growth represents a short term change or the start of a longer term trend.

6.41 The baseline report for the Mayor's Draft NLJWS attempts to consider growth in each of the major waste sub-streams. This document also makes two projections, the first and more detailed of which anticipates an average growth rate to 2020 of 1.2%, with a second more conservative projection showing whole waste stream growth of 2.5%.

Built and Historic Environment[10]

6.42 Across the North London area there are 14,223 listed buildings. The majority of these are concentrated in the Boroughs of Islington, Camden and Barnet. In Islington 56 listed buildings are officially registered as "at risk" due to neglect and decay. Camden has 59 Grade I listed buildings and 36 conservation areas which cover 50% of the Borough. Waltham Forest has 11 conservation areas and relatively few listed buildings (104), compared to the other boroughs.

6.43 There are 29 historic parks and gardens in the North London area The majority of these are grade II which is the lowest grade and some are II* which are of exceptional historic interest. There is one grade I park within the Borough of Camden. This is Regent's Park which is an early 19th century public park by Nash covering 167.7 ha of land.

6.44 The North London Authority area lies within the Inner London and Northern Thames Basin landscape character areas. The majority of the area is within the Inner London character area. This area is characteristically a gentle terraced landform which has been changed as a result of urban development. The urban landscape consists of broad formal streets, lined by stone and brick buildings with narrow streets in the commercial centre. Extensive housing areas surround the centre and there are local shopping centres, offices and small manufacturing works.

6.45 There are 24 parks within the area that have been awarded the 'Green Flag Award' which is an identification of a high quality green space. 8 of these parks are within the Borough of Haringey and the rest are spread across the North London area. Barnet has over 200 parks and green spaces covering 848ha; Camden has 70 parks and open spaces including Hampstead Heath; Enfield has 123 parks and open spaces covering 902ha; Hackney has 62 urban open spaces over 815ha; Haringey contains over 1,480ha of parks, recreation areas

[10] Sources: www.naturalengland.gov.uk; www.greenflagaward.org.uk ; London Borough websites

and open spaces; Islington has 127 parks and open spaces over 85ha and has the smallest amount of open space per person in England.

A stable economy[11]

6.46 Unemployment in the North London area differs amongst the Boroughs with 3.4% in Barnet and 6.91% in Hackney in 2001. All the Boroughs have higher unemployment rates than the national average of 3.35%. Hackney, Haringey and Islington are considerably higher than the national average which is likely to be linked with high levels of social deprivation in these inner London Boroughs.

6.47 The main employment sector is real estate, renting and business activities within the North London area. A large number of people are also employed in wholesale and retail trade and the repair of motor vehicles. Another large employment sector is health and social care. Across the Boroughs average gross weekly earnings are higher than the average for England. Camden has the highest and Hackney the lowest.

6.48 London faces a massive employment shortage as well as incorporating some of the most deprived areas in the country. However the green/environmental industry sector provides a potentially high employment source for local communities in the future.

6.49 In terms of new businesses in the area, business start up rates show that Barnet has traditionally had very high registration rates but this is now more in line with the London average. Haringey is below the London average and Enfield and Waltham Forest have rates which are more in line with the national average which is much lower than the London average.

Accessibility and participation

6.50 Recycling and waste services provided to households vary greatly from Borough to Borough; there is a lack of consistency on recycling and waste collection methods, materials that are collected for recycling, service frequency and bulky waste collection. Additionally recycling services to flats are very limited and inconsistent. Access to bring banks and recycling centres is further restricted due to low car ownership in significant parts of the area.

6.51 Access to recycling services is generally good across North London. The coverage of services for collecting both dry and organic materials for recycling is shown in Table 3. Coverage is expressed as a percentage of households that receive residual waste collections at the doorstep.

[11] ONS 2001 Census

Table 3: - Borough Recycling Service Coverage

Authority	Dry & green and/or kitchen waste recycling service coverage
Barnet	96%
Camden	62%
Enfield	91%
Hackney	55%
Haringey	84%
Islington	43%
Waltham Forest	100%

6.52 In addition to the above, access to bring facilities is also relatively good. The Mayor of London has suggested through conversation with the NLWA and a formal letter of recommendations on the Mayor's Draft NLJWS, for further commitment to the expansion of the existing network of Re-use and Recycling Centres.

Equality and diversity

6.53 In 2001 North London had a predominantly white population with the largest percentages being White British. However compared with the rest of England, North London is more ethnic diverse. Within the inner London Boroughs of Hackney and Haringey there are larger percentages of Mixed and Black or Black British people. In the outer London Borough of Waltham Forest there are more Asian or Asian British people. Barnet and Camden have high percentages of Chinese and other ethnic groups.

6.54 Within the North London area the Boroughs of Hackney, Islington, Camden and Haringey are relatively deprived based on the Indices of Deprivation 2004. In particular Hackney and Islington are within the top ten of most deprived authorities in England. The outer London Boroughs of Barnet and Enfield are much less deprived, with Waltham Forest ranking above the inner London Boroughs

Key Environmental Issues facing North London

The SEA Directive sets out a requirement to identify any environmental problems which are relevant to the plan or programme including any issues relating to European nature conservation sites in particular. The table below sets out problems and issues in the form of strengths and challenges for the NLWA area.

SEA Objective	Strengths	Challenges
Population and Human Health	All boroughs populations have increased over the last 20 years Average age across all boroughs is lower than national average	Reducing the existing health inequalities between the boroughs
Biodiversity	The North London Authority has a number of habitats and species of local, national and international importance.	Parts of three of the SSSIs are in unfavourable condition including areas which fall within European designated sites.
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 the North London Authority
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 Large amount of high quality open and greenspace	Protecting a number of listed buildings 'at risk' due to neglect and decay Protecting land from new urban developments (predominantly urban area)

SEA Objective	Strengths	Challenges
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 greatly from borough to borough reflecting differing local circumstances. Improving access to recycling centres

7 Strategic Environmental Assessment Objectives for the NLJWS

7.1 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 effects 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; and,
- Comments received from the statutory consultees and 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.

7.2 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. Each of the following sections is headed up with the SEA Objective, then gives a brief outline of the issue and then lists some possible appraisal criteria and potential indicators for the same.

7.3 The objective relating to Liveability and place set out in the original Scoping Report was subsequently removed from list of SEA objectives on review by Entec and NLWA officers. It was not considered possible to assess the effects of this objective for the NLJWS.

Biodiversity SEA Objective

To conserve and enhance natural habitats and wildlife, especially priority habitats and species

7.4 The biodiversity objective will allow the assessment of the effects of waste management facilities on the local area in terms of conservation of natural habitats and wildlife. By achieving elements of the Waste Hierarchy, particularly Reduce – Re-use – Recycle, waste can be diverted from landfill, conserving sites that may be further used for another purpose.

7.5 Recycling rates are already taken as part of the BVPI totals by the boroughs and submitted to the Authority, however recycling rates are very difficult to assess at a regional scale. Similarly the re-use of previous waste facilities such as landfills may be difficult to measure at a regional scale. Total tonnages of landfilled waste may also be used to measure levels of resource use.

Appraisal Criteria
Will the NLJWS protect local biodiversity?
Will the NLJWS enhance local biodiversity?

Possible Indicators
Biotic index before and after facilities are built;
Population of BAP priority habitats and species Key species sensitivity before and after waste facilities are builtrelevant to each waste facility (species to be identified on a site by site basis).

Population and Human Health SEA Objective

To maximise the health and well-being of the population.

7.6 Population growth and structure affects the strategy, but it is not an indicator of the strategy. Therefore, this set of appraisal criteria and associated indicators is focussed upon human health, rather than on population itself.

7.7 Human health assessment criteria are generally focussed on an assessment of the effects of waste management facilities on the local community at large, in terms of the impacts to way of life and neighbourhood, human health and nuisance value of the facilities. These values can be easily recognised and failing to heed them can lead to poor community “buy-in” and potentially lead to environmental crime such as fly-tipping.

7.8 Human health is an output of WISARD (now replaced by WRATE), which was used in the original BPEO assessment and can be used in the reassessment of the options; the nuisance impacts of facilities can also be assessed from comparative data and judgement.

Appraisal Criteria
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?

Possible Indicators
Number of complaints received by contractors operating municipal waste facilities in North London;
Life cycle assessment of human health impacts (WRATE output);

Soil SEA Objective

To conserve and enhance natural soil structure and composition.

7.9 Two criteria are proposed as follows:

Appraisal Criteria
Will the NLJWS conserve and enhance soil quality?
Is compost generated by the facilities proposed in the NLJWS being used locally?

Possible Indicators
Percentage of North London compost (product made from North London's waste) used within NLWA area.
Percentage of North London compost used outside of the NLWA area

Air SEA Objective

To improve air quality

7.10 The Draft NLJWS is proposing various technologies for waste management facilities. These can all have differing effects upon local air quality. The appraisal criterion proposed for this objective is:

Appraisal Criteria
Will the NLJWS improve local air quality?

Possible Indicators
Lifecycle assessment of air acidification (WRATE output)
Facility emissions as reported for pollution prevention control pemits (PPC) as appropriate;
Air quality in terms of NOx, SOx and particulates

Water SEA Objectives

To improve water quality
To achieve the wise management and sustainable use of water resources

7.11 This objective measures the affects of the Mayor's Draft NLJWS on the local air and water quality. These criteria were measured in the previous BPEO assessment, using WISARD and can be reassessed with WRATE.

Appraisal Criteria

Will the NLJWS improve the water quality of groundwater and surface water?
Will the new infrastructure impact upon water supplies?

Possible Indicators

Lifecycle assessments of water eutrophication (WRATE output)
Lifecycle assessments of freshwaster aquatic eco toxicity (WRATE output)
Number of notifiable water quality incidents.
Net water usage for waste facilities (amount of water 'in' minus amount 'out'

Climate Change SEA Objectives

To address the causes of climate change
To adapt to the unavoidable consequences of climate change

7.12 Climate change is a major factor in the future of the planet, and over the last few years its profile has risen as a key policy factor. Climate change is currently measured through many means such as CO_2 emitted, avoidance of fossil fuels, etc. As previously stated the London Mayor is committed to reducing levels of greenhouse gases to 60% below 1990 levels, so procurement decisions consequent to the NLJWS will need to have regard to this. Therefore it will be vitally important to assess this impact.

7.13 The previous BPEO study measured the climate change impact through WISARD and this figure will be used to assess the impact of the Mayor's Draft NLJWS. WISARD is a life cycle assessment that holistically measures the entire climate change impacts from avoidance of fossil fuels to levels of CO_2 emitted, avoidance of landfilling etc. The WISARD assessment has been updated using the Environment Agency's new life cycle assessment tool known as WRATE

Appraisal Criteria
Will the NLJWS minimise emissions of greenhouse gases?
Will it increase the proportion of energy both generated and purchased from renewable and sustainable sources?
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)?

Possible Indicators
Lifecycle 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 CO2 emissions (National Indicator No. 186)
Percentage of developments with Sustainable Urban Drainage Systems (SUDS)

Material Assets / Resource Use SEA Objectives

To minimise the production of waste arising from households and local authority business customers
To maximise reuse, recycling and recovery rates by viewing waste as a resource
To minimise the global, social, and environmental impact of consumption of resources
To enable waste to be disposed of in one of the nearest appropriate installation

7.14 The material assets/ resource use objectives and criteria measure the success of the NLJWS itself by measuring predicted recycling rates and waste growth. It is important to consider use of material assets in the area e.g. compost - a large amount of compost is created within the area but its use might be limited meaning important (net) biomass is being taken away from the area

7.15 The indicators expected to be used would be recycling rates, land take, and use of materials within the area. The previous BPEO assessment also measured the affects of depletion of non-renewable resources and this will be repeated using WRATE.

7.16 The material asset / resource use topic will also be outlined further in the additional Mayor of London's sustainability criteria[12].

Appraisal Criteria
Will the NLJWS reduce waste growth relative to the past?
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?
Will the NLJWS conserve natural resources?
Will the NLJWS's new facilities be appropriately located in relation to the main sources of municipal waste?

Possible Indicators
Kg of household waste collected per head

[12] Sustainability Appraisal of the Mayor's Waste Strategies Scoping Report – June 2006

Residual household waste per household (National Indicator No. 191)
Percentage of household waste sent for reuse, recycling and composting (National Indicator No. 192)
Percentage of municipal waste landfilled (National Indicator No. 193)
Life cycle assessment of resource depletion (WRATE output)
Number of bring sites pet 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

Built and Historic Environment SEA Objectives

To enhance and protect the existing built environment including heritage assets and the wider historic environment.
To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.
To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings

7.17 These objectives measure the impacts of new infrastructure on the built and historic environment. As stated previously different treatment technologies will have varying impacts on the landscape/townscape and historic settings. Facilities will need to be judged comparatively based upon their impacts – facilities that would require a tower would be looked on less favourably as they would have greater visual impacts. As the Mayor's Draft NLJWS is dependant on new infrastructure, difficulties in planning may be important to consider at an initial stage.

7.18 Landscape and historic impacts can be measured by the visual impacts of facilities, comparison of similar facilities and technologies.

Appraisal Criteria
Will new infrastructure proposed create visual impacts?
Will new infrastructure proposed conserve and enhance heritage assets and the wider historic environment?
Will the NLJWS's take account of good practice in sustainable design and construction?
Will new infrastructure use previously developed land?

Possible Indicators
Number of waste management facilities intrusively visable from historic buildings
Number of new waste facilities having any unreasonably negative impacts on heritage assets and the wider historic environment
Number of new waste management facilities designed and built to meet minimum BREEAM standards.
Percentagr of recycled content material used in any new waste facilities which

are built Percentage of new waste infrastructure built on previously developed or industrially used land Tonnage of waste processed per hectare.

A Stable Economy SEA Objectives

To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities
To encourage a strong, diverse and stable economy
To improve the resilience of businesses and their environmental, social and economic performance

7.19 A stable economy is a measure of employment, skills and innovation. In having a strong economy it is thought that business will improve their environmental performance. This is largely a measure of how good a position business is in and can they afford measures to improve their current waste management practises and will the Mayor's Draft NLJWS improve the scope of their waste management facilities? The Mayor's Draft NLJWS, through new infrastructure, can create many new jobs in which the local community could be employed thus reducing unemployment leading to more affluent communities.

7.20 Stable economies are usually measured by business factors such as business start up, business survival, and business entering green sector market numbers.

Appraisal Criteria Will it reduce local levels of deprivation? Will it generate satisfying and rewarding jobs? Will it help stimulate regeneration? Will it reduce overall unemployment? 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? 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? **Possible Indicators** Percentage of jobs created in areas of above average deprivation of unemployment Number of direct jobs in waste services Percentage of organisations delivering waste services with a recognised environmental and quality standard accreditation

Accessibility, Equality and Participation SEA Objectives

To maximise the accessibility and equality of services
To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment

7.21 This section examines the accessibility to services, promoting civic participation, ownership and responsibility. The success of the NLJWS is dependant upon community "buy in".

7.22 This topic is also about ensuring equitable outcomes to all communities, and reducing poverty and social exclusion. By ensuring that each group of people has access to services and are responsible for ensuring that people of all cultures understand the responsibility for waste reduction and recycling.

7.23 The previous BPEO assessment measured improvements at CA site, bring bank networks, kerbside collection of dry recyclables and expansion of estate collection service. It also showed the introduction in kerbside collection in organics in areas where the service was not offered currently and the creation of additional recycling through new treatment technologies.

Appraisal Criteria
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?
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?
Will the Draft NLJWS proposals reduce poverty and social exclusion in local areas that are most affected?
Will they promote equality, fairness and respect for people and the environment?
Will they promote equality for different communities?

Possible indicators
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
Percentage of residents using waste services
Percentage of residents satisfied with waste services

8 Next Steps

8.1 Following the production of the scoping report, the next stage of the SEA process, Stage B, incorporates the following activities as outlined in Figure 1:

B1 Testing the Mayor's Draft NLJWS objectives against the sustainability appraisal framework – i.e. do the Mayor's Draft NLJWS objectives help to deliver on the sustainability objectives included above?

B2 Developing the Mayor's Draft NLJWS options –

8.2 This stage involves developing and refining alternatives or options for the NLJWS. In the draft NLJWS four scenarios were developed and assessed using a Best Practicable Environmental Option (BPEO) assessment.

8.3 The Mayor of London's response to the Mayor's Draft NLJWS requests an updated BPEO assessment particularly to take account of 'substantial developments in the field of new and emerging technologies' since the Strategy was produced, particularly, because one of the Implementation Actions (4.M2) in the Mayor's Draft NLJWS states that recovery treatments will be selected where they provide the BPEO. The BPEO assessment which was carried out when the strategy was prepared in 2004 used the Environment Agency's WISARD tool, which allows the environmental impact of different options to be modelled. WISARD has now been replaced by an updated environmental modelling tool (WRATE) which includes more information on new technologies.

8.4 Table 1 summarises the distinct assumptions within the four scenarios selected by the partner authorities to the Mayor's Draft NLJWS and modelled using WISARD, together with the fifth, procurement scenario developed subsequently.

8.5 It is proposed that the modelling work is redone on the four different scenarios outlined in Table 1, plus the fifth additional scenario based upon the reference project in the Authority's new procurement strategy. It is proposed that the new modelling work is carried out using the Environment Agency's newer WRATE tool. The results from WRATE will be fed into the appraisal of options as part of the SEA process.

8.6 Note – that the procurement scenario is similar to the partnership scenario outlined below, but does not assume all recycling collections will be commingled as three of the partner authorities have collection services with kerbside sorting.

Table 4: NLJWS – Key Scenario Assumptions to be subject to WRATE and SEA Options Appraisal

Element	Minimum Compliance Scenario	Borough-led Scenario	Partnership Scenario	Mayor's Aspirational Scenario	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 closes 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.

Four different options for delivering the strategy were reviewed on a range of environmental criteria during the preparation of the Mayor's Draft NLJWS in 2004. These options did not just focus upon different technology choices for managing waste in North London, but rather focussed upon the issue of whether it was better for each borough to develop their own strategy and facilities associated with the same, or whether it was preferable from an environmental and economic perspective to have a number of shared facilities across the North London area with the NLWA's role moving from being a contractor of waste disposal services to a contractor of a range of recycling, composting, resource recovery and disposal facilities and services. The selected option, based upon this BPEO assessment was the 'partnership' scenario outlined in Table 1 and incorporated into the NLJWS. It is not proposed that a new series of options is developed, but rather that

the original options are reviewed again, alongside the NLWA's new procurement strategy as a fifth, additional option. The new fifth 'Procurement Scenario' assumes a mix of kerbside sorted and commingled recyclables collections, thermal treatment, mechanical biological treatment and reaching 45% recycling and composting targets by 2015. It should be noted that whilst all five options assume that a number of different facilities is required to deliver on the strategy objectives, the commercial market place, i.e. the companies bidding for the Authority's contract(s) post 2014, when its contract with LondonWaste Ltd. expires, might put forward a different range of waste facilities than those included in any of the five options.

B3 Predicting and evaluating the effects of implementing the NLJWS. This will involve an appraisal of the key implementation actions within the draft NLJWS which represent the policies and proposals associated with the preferred option for the strategy.

B4 Considering ways of mitigating adverse effects and maximising beneficial effects.

B5 Proposing measures to monitor the significant effects of implementing the NLJWS.

8.2 Any options put forward in B2 above, will be assessed against the SEA framework and modelled in WRATE. They will be accompanied by a commentary to inform consultees about the impact of the different options. This process will contribute towards the selection of the preferred option for delivering the NLJWS and is expected to inform and go hand in hand with the Authority's procurement process, by which it will be selecting contractors to deliver the services required to meet the NLJWS targets from 2014 to 2020 and onwards to 2045.

APPENDIX A

Relevant Plans Considered

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
International Waste & Resources Plans		
Waste Framework Directive	Establishes basic principles of EU waste management Sets out: What is deemed to be 'recovery' and what is deemed to be 'disposal' The basis for the application of the proximity principle (to disposal facilities, not recovery facilities) May set criteria, in future, for when 'waste' is no longer to be considered as 'waste'. The European Environment Council met on 28 June 2007, and agreed amendments to a draft new directive on waste (10804/07). The main points are: 1. When waste is transferred for preliminary treatment, the responsibility for carrying out a complete recovery or disposal operation is not normally discharged. 2. Member States may limit incoming shipments of waste if (a) the shipments would have the effect that the State's own waste would have to be treated in breach of its strategy or (b) there are environmental grounds to do so. 3. The principles of proximity and self-sufficiency do not mean that each Member State must possess the full range of final recovery facilities within that Member State. 4. Member States must set benchmarks for waste prevention measures The draft directive aims to: – simplify and modernise the current legislation; – implement a more ambitious and	The main principles of this directive have been transposed into Waste Strategy 2007 and from then into the Mayor's Draft NLJWS and the principles included in the BPEO assessment of the different options reviewed for meeting the strategy's objectives.

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	effective waste prevention-policy; – encourage re-use and recycling of waste. Reforming the current legal framework, the draft directive introduces: – an environmental objective; – the clarification of the notions of recovery and disposal; – the clarification of the conditions for mixing hazardous waste; – a procedure to clarify when a waste ceases to be a waste for selected waste streams; – a new requirement to develop national prevention programmes	
The Waste Electrical and Electronic Equipment (WEEE) Directive	This Directive aims to reduce the amount of waste electrical and electronic equipment (WEEE) going to landfill, and increase recovery and recycling rates. It extends the principle of producer responsibility and requires manufacturers to meet targets reuse, recycling, and recovery of WEEE. In England and Wales this Directive was enacted through the Waste Electrical and Electronic (WEEE) Regulations 2006.	A key objective of the Mayor's Draft NLJWS is to ensure an equitable distribution of costs, so that those who produce or manage the waste pay for it.
Water Framework Directive	Establishes a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which: •Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems; •Promotes sustainable water use based on a long-term protection of available water resources; •Aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses	A key aim of the Mayor's Draft NLJWS is to minimise the overall environmental effects of wastes management.

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances; • Ensures the progressive reduction of pollution of groundwater and prevents its further pollution; and • Contributes to mitigating the effects of floods and droughts.	
Communication COM (2005) 666 Taking sustainable use of resources forward: a thematic strategy on the prevention and recycling of waste European Commission 2005	Sets a number of over-riding principles of: 1. Establishing a 'recycling' society. 2. Maximising the recovery of waste materials where this is economically and environmentally feasible 3. Recovery of energy from waste provided this is controlled by strict environmental standards. It also proposes no new EU waste legislation for five years, focusing instead on the implementation of the most recent directives.	A key aim of the Mayor's Draft NLJWS is to encourage the more sustainable use of resources, increase recycling and maximising recovery once recycling has been maximised.
National Waste & Resources Plans		
Waste Strategy 2000 & Waste Strategy for England 2007	The objectives of waste management decisions should be: • Reducing the environmental impact of waste by moving waste management up the waste hierarchy; • Managing waste in ways that protect human health and the environment and in particular; • Without risk to water, air, soil and plants and animals; • Without causing a nuisance through noise or odours; • Without adversely affecting the countryside or places of special interest; • Disposing of waste at the nearest appropriate installation, by means of the most appropriate methods and technologies. Waste decision-making should be	The Mayor's Draft NLJWS is already based upon the principles contained within the Waste Strategy 2000 and 2007 in terms of using the waste hierarchy as a driver for technology choice. The Mayor's Draft NLJWS does not however, include any information on decision making, other than reporting upon how decisions were taken when reviewing alternative courses of action as part of the strategy preparation process. The Mayor's Draft NLJWS also does not yet include any increases in recycling and composting targets to meet Waste Strategy 2007 targets for 2020. However, as the new national targets include

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	based on the following principles: • Individuals, communities and organisations should take responsibility for their waste; • In taking decisions there should be consideration of alternative options in a systematic way; • Consultation should be an important and integral part of the decision making progress; • The environmental effects for possible options should be assessed looking at both the long and short term; • Decisions should seek the best environmental outcome taking account of what is feasible and what is an acceptable cost. Waste Strategy 2007 sets national targets to reduce the amount of household waste not re-used, recycled or composted by 45% between 2000 and 2020. It also sets new and higher national targets for re-using, recycling and composting household waste: ➢ 40% of household waste by 2010 ➢ 45% of household waste by 2015 ➢ 50% of household waste by 2020 And sets targets for recovery of municipal waste of : ➢ 53% by 2010 ➢ 67% by 2015 ➢ 75% by 2020 Local authority specific targets were set for 2005/06 and 2006/07, but have not been set for 2007/08 or beyond. SA of local development documents to be carried out alongside the development of the strategy	re-use and have not yet been translated into local indicators, it is not suggested that the Mayor's Draft NLJWS targets are amended at this time.
Hazardous Waste (England and	Hazardous waste premises must notify the Environment Agency	The Mayor's draft NLJWS includes actions to provide an effective

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
Wales) regulations SI 2005/894	and hazardous waste producers must notify EA of movements of hazardous waste.	household hazardous waste service for North London residents.
Guidance on Municipal Waste Management Strategies	Sets out what the Government expects of local authorities when preparing MWMSs. Emphasises (in line with WS2000) the importance of following the waste hierarchy as the primary aim, together with ensuring protection of the environment and human health in waste management. States that key stakeholders and the local community should be engaged in the decision making process for MWMSs.	The Mayor's Draft NLJWS is already based upon the principles contained within the Waste Strategy 2000 and Waste Strategy 2007 in terms of using the waste hierarchy as a driver for technology choice. The Mayor's Draft NLJWS does not however, include any information on decision making, other than reporting upon how decisions were taken when reviewing alternative courses of action as part of the strategy preparation process.
National Spatial and Land Use Plans		
PPS10: Planning for Sustainable Waste Management 2005 (PPS – Planning Policy Statement)	Promotes delivery of sustainable development through driving waste up the hierarchy, looking at disposal as a last option. Provides a framework in which communities take more responsibility for their own waste and providing sufficient waste treatment facilities. Requires Waste Planning Authorities to allocate sites and areas such that sufficient opportunity is provided to developers to come forward with facilities to meet the requirements identified through the RSS, and apportioned to WPAs Helps implement the national waste strategy. Promotes protection of the environment and human health in waste management. Promotes design and layout of new developments to support sustainable waste management.	The Mayor's Draft NLJWS is based upon the principles of the waste hierarchy and the accompanying Best Practicable Environmental Option (BPEO) appraisal incorporated the proximity principle when identifying the BPEO. It is however recognised that BPEO no longer features in PPS10 and has been replaced by SEA as the main decision making tool for waste management decisions. A separate Joint Waste Development Plan Document (JWDPD) process is being carried out by the constituent borough councils as planning authorities which will create the shared land-use planning framework for sites for all wastes (household, commercial, industrial, construction and demolition) in North London.
Landfill Regulations	Bans certain wastes from being landfilled (e.g. tyres). Specifies that hazardous wastes must be disposed of at specific landfills (where they are to be landfilled).	The Mayor's Draft NLJWS is based upon the Authority complying with the limits on biodegradable waste to landfill included within the Landfill Directive.

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	Sets strict limits on the disposal of municipal biodegradable waste to landfill: ➢ By 2006 reduce BMW to landfill to 75% of that produced in 1995 ➢ By 2009 reduce BMW to landfill to 50% of that produced in 1995 ➢ By 2016 reduce BMW to landfill to 35% of that produced in 1995	
Waste and Emissions Trading (WET) Act 2003	Gives WDAs powers of direction over WCAs to require material to be delivered in separated streams. Requirement to produce Joint Waste Management Strategies (with some exceptions) Provides basis for Landfill Allowances Trading Scheme (LATS)	The Mayor's Draft NLJWS is based upon the NLWA providing facilities into the future which meet the needs of the differing recyclables collection systems currently in place within the constituent borough councils. The options which were modelled within the BPEO analysis allowed for different combinations of recyclables collection system, but all based upon meeting the LATS targets.
Landfill Allowances Trading Scheme	Sets out basis for allocating landfill allowances to WDAs in England. Establishes rules for banking, borrowing and trading of allowances Provides for sanctions in the event that WDAs hold insufficient allowances to cover their landfilled biodegradable municipal waste	All the BPEO scenarios included within the Mayor's Draft NLJWS enable the 2015 recycling target to be met, but the 'minimum Compliance' scenario will not meet the 2020 Landfill Directive target, unless it is possible to purchase significant quantities of landfill allowances. The scenario selected as a result of the BPEO analysis was the 'Partnership Scenario' which is based upon self sufficiency, without the need to purchase landfill allowances.
Household Waste Recycling Act 2003	This Act requires that by 31 December 2010 all local authorities should collect at least two types of recyclable waste separate from the rest of the household waste. The circumstances in which they do not have to comply are where the cost of doing so is unreasonably high or where comparable alternative arrangements are	As all the constituent borough partners within the NLJWS are already collecting more than 2 recyclable materials at the kerbside, this Act does not have any further impact upon or implications for the development of the Mayor's Draft NLJWS.

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	available.	
National Climate Change, Air Quality & Energy Plans		
Air Quality Strategy for England, Wales, Scotland and Northern Ireland. 2000	Sets targets for local authorities for seven types of air pollutants. Local authorities must monitor local air pollution levels and where breaches are likely to occur, establish local air quality management areas.	The Mayor's Draft NLJWS doesn't specifically focus on air quality although the BPEO/WRATE assessment of options and any solutions proposed to deliver on this strategy would incorporate an assessment of the same.
Climate Change Strategy	Sets out the commitment to reduce emissions of CO_2 by 20% below 1990 levels by 2010.	The Mayor's Draft NLJWS does not incorporate specific targets for reducing CO_2 emissions. It is suggested that plans for reducing CO_2 emissions be included as an evaluation criteria when procuring new services to deliver on the NLJWS objectives and that the Mayor's Draft NLJWS makes reference to this.
Renewables Obligation Order 2002	Sets out which forms of energy generation qualify for Renewable Obligation Certificates (ROCs) Sets out the proportion of electricity to be supplied through renewable energy sources in future years Effectively establishes the value of ROCs and the waste treatments for which these are available	The Mayor's Draft NLJWS Implementation Action 4.M2 states that 'Where recovery treatment is selected under the North London Joint Waste Development Plan Document or within any new waste disposal contract, the Partner Authorities undertake to favour processes that qualify for the Renewable Obligation Certificates where these provide the Best Practicable Environmental Option.
National Biodiversity Plans		
UK Biodiversity Action Plan	Key objectives are to conserve and enhance biological diversity within the UK and to contribute to the conservation of biodiversity through all appropriate mechanisms.	The NLJWS should give consideration in broad terms to potential effects on biodiversity reflecting particular designated areas, including 2 European sites as well as local Biodiversity Action Plan priorities. The NLJWS does not identify locations therefore the only assessment which can be made concerns the varying impacts of technologies on emissions likely to be harmful to habitats or species in general. This will be done through WRATE modelling.
Regional Waste & Resources Plans		

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
Rethinking Rubbish in London. The Mayor's Municipal Waste Management Strategy 2003	The Mayor's vision for waste in London is that by 2020, municipal waste should no longer compromise London's future as a sustainable city. The strategy is led by waste reduction, re-use and recycling. The strategy is currently under review.	These policies have already been taken into account in the Mayor's Draft NLJWS.
Regional Spatial and Land Use Plans		
Draft Further Alterations to the London Plan (due to be adopted in early 2008)	Review has addressed the following: •his statutory duty to monitor the London Plan and keep it under review •new government policy guidance •emerging new regional spatial strategies for the East and South east of England •issues highlighted through the process of preparing Sub Regional Development Frameworks with a wide range of partners •new data illuminating existing and emerging trends and issues •changing policy priorities and concerns, particularly in regard to climate change •the need to roll forward the plan to 2025/26 •the Planning and Compulsory Purchase Act which gave the London Plan development plan status	The Mayor's Draft NLJWS will take account of proposed changes to policies in the London Plan
Early Alterations to the London Plan	Waste alterations to the plan were published in December 2006 and outline amendments to borough level waste apportionment.	The Mayor's Draft NLJWS takes into account the borough level waste apportionments when deciding what facilities the area needs.
The London Plan	The spatial strategy for London, including for housing, waste and minerals. Apportions waste from those boroughs with inadequate capacity to accommodate sufficient waste facilities to manage their own waste to other boroughs identified as having spare capacity. Sets a target for 85% of London's waste to be managed within the capital by 2020. Defines 'managed' as composted,	Encourages building of new waste facilities to manage North London's waste within North London, rather than relying on remote outlets for recycling, composting or disposal. Whilst not specifically incorporated within the Mayor's Draft NLJWS the principle upon which the procurement strategy is based assumes 100% sub-regional self sufficiency within North London, i.e. that the NLWA procures facilities to manage

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	bulked to a reprocessor or sorted within a local MRF. Bulking and transfer of unsorted waste is not defined as 'management'. Encourages the use of sustainable waste transport, particularly by water.	100% of the municipal waste arising within North London, in North London – except for that which is landfilled.
Lee Valley Regional Park Plan 2000	This sets out the vision for the Park to be a regional green lung, an area of enhanced and protected natural biodiversity for the enjoyment of all, to achieve full utilisation of the land and water assets for the park, and to be an accessible and permeable integrated visitor attraction	This plan will have a bigger impact on the North London Waste Plan – the regional Joint Waste Development Plan Document which will identify sites for future waste facilities.
Mayor of London's Lower Lee Valley Opportunity Area Planning Framework 2007	This sets out an overall vision to transform the Lower Lee Valley into a vibrant, high quality and sustainable mixed use city district that is fully integrated into the urban fabric of London and is set within an unrivalled landscape that contains new quality parkland and a unique network of waterways. This will be the main location of the 2012 Olympics.	As above, this plan has a primary impact on the North London Waste Plan and the siting of new facilities required to deliver on the NLJWS.
Draft Regional Spatial Strategy for the South East	Sets out 14 specific objectives for working towards a sustainable society in the area. Will replace the RPG once adopted. Objectives relevant to the NLJWS include those relating to social inclusion, environmental protection, resource use and waste management and transport policies. Sets provision for housing growth which will have an impact on waste production.	Policies ENV10 – ENV14 specifically relate to waste management and where possible, the NLJWS will have regard to these.
Regional Climate Change, Air Quality, Water & Energy Plans		
Action Today to Protect Tomorrow: The Mayor's Climate Change Action plan (GLA 2007)	The Mayor's key priorities for action to reduce emissions from the Mayoral Group and demonstrate best practice are: • Improving the energy efficiency of our buildings. • Maximising use of decentralised energy through the installation of combined cooling heat and power (CCHP), micro-wind, photovoltaic (PV) and solar thermal heating at all appropriate GLA group sites.	One of the Mayor's Draft NLJWS objectives is to reduce greenhouse gases by disposing of less organic waste to landfill. One of the strategy's aims is also to engage residents, community groups, local business and other interested parties in the development and implementation of the strategy.

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	• Promoting staff energy-savings behaviour at home and at work • Minimising emissions from travel. • Following high green procurement standards for contracting all goods and services	
Water Matters: The Mayor's Draft Water Strategy (GLA 2007)	This strategy's aims are: Ensuring the long-term sustainability of assets, thereby giving the proper attention and maintenance to existing assets Building on the excellent state of drinking water and the much-improved water environment with further improvements that make a difference Paying attention to costs and how it affects those water customers who pay for it, specifically those least able to pay.	Identification of BPEO for implementing the Mayor's Draft NLJWS takes account of the protection of water.
Green light to clean power: the Mayor's Energy Strategy (GLA 2004)	The Strategy's specific aims are: 1.Reducing London's contribution to climate change by minimising emissions of carbon dioxide from all sectors (commercial, domestic, industrial and transport) through energy efficiency, combined heat and power, renewable energy and hydrogen 2.Helping to eradicate fuel poverty by giving Londoners, particularly the most vulnerable groups, access to affordable warmth 3.Contributing to London's economy by increasing job opportunities and innovation in delivering sustainable energy, and improving London's housing and other building stock.	One of the Mayor's Draft NLJWS objectives is to reduce greenhouse gases by disposing of less organic waste to landfill.
Cleaning London's Air. The Mayor's Air Quality Strategy 2002	The primary focus of the Mayor of London's Air Quality Strategy is to reduce pollution from road traffic. This will be achieved by reducing the amount of traffic and reducing emissions from individual vehicles	The Mayor's draft NLJWS already includes two policies relating to sustainable transport by water and rail 7C1 and 7C2.
Water Resources for the Future: A strategy for the Thames region	The strategy's vision is to provide enough water for all human uses with an improved water environment.	Identification of BPEO for implementing the Mayor's Draft NLJWS takes account of the protection of water.

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
(March 2001)		
Regional Biodiversity Plans		
Mayor of London's Biodiversity Strategy (and associated London Biodiversity Action Plan)	The plan aims to protect and enhance biodiversity. The key objectives include the following: - to ensure all Londoners have ready access to wildlife and natural green spaces - to conserve London's plants and animals and their habitats for their own sake - to ensure that the economic benefits of natural green space and greening are fully realised – recognising the role that greening plays in attracting and keeping workers and enterprises in London - to ensure that the functional benefits of biodiversity are realised, e.g. the reduction in runoff associated with greening previous areas of hard standing - to recognise biodiversity conservation as an essential element of sustainable development	In any assessment of individual sites put forward for waste facilities as mechanisms for implementing the NLJWS, then the impact on biodiversity will be a key consideration. See also comment on National Biodiversity Action Plan.
Local Waste and Resources Plans		
Barnet Waste Prevention Strategy 2005 - 2020	Sets out a number of objectives and initiatives to reach them. The key targets are to: - reduce the overall amount of waste to a target level of 375kg household waste per person per year by 2020 - increase participation in waste prevention activities Specific measures are grouped under the following headings: sharing responsibility (which includes community work and real nappy promotion); working in partnership (which includes business waste prevention) and enforcing and regulating (which include charging for certain types of waste and packaging).	The Mayor's Draft NLJWS does not include a waste prevention target, although it estimates that the combined actions in the plan will result in a reduction in waste growth from 3% per annum to 2.5% per annum from 2010/11. However, the NLWA's annual Best Value Performance Plan records the amount of household waste per head of population compared to the metropolitan average – 463.66 kg/head compared to the metropolitan average of 461.2 kg/head in 2006/07. Consideration should be given to including some targets within the NLJWS.
Draft Camden Waste Strategy 2006-2010	Three key objectives included: - to reduce waste arising – target to reduce household waste collected per household by 5%	As outlined above the Mayor's Draft NLJWS does not include any prevention targets. Neither does it include any targets in relation to

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	by 2010 - to maximise recycling – with 35% of household waste recycled by 2010 and 10% of commercial waste collected by the Authority recycled by 2010 - to increase spend on green purchases – with 25% of Camden businesses signed up to the Mayor's Green Procurement Code by 2010 and 30% of all council purchases to be made from recycled materials by 2010	recycling borough collected commercial waste. Consideration should be given to including both.
Recycling Strategy for Haringey 2006 – 2020	Key plans highlighted include: - giving every resident easy access to doorstep, kerbside or 'near-entry' recycling facilities and the ability to recycle a full range of materials, including plastic bottles and cardboard - the introduction of a trade waste recycling service for businesses, new wheeled bins for recyclable waste, more recycling services for schools and an increase in the range of materials accepted at re-use and recycling centres. - a new 'waste' swap shop on the Haringey Council website - expansion of the subsidised real nappies scheme - promoting free recycling collections to charities, faith groups, community centres and places or worship - running a campaign to encourage residents to reduce waste - continued promotion and expansion of home composting through the subsidised home composter scheme for homes and schools	As outlined above, the NLJWS does not include any targets in relation to recycling borough collected commercial waste. Consideration should be given to including this.
The Hertfordshire Joint Municipal Waste Management Strategy	This sets out how the Hertfordshire Waste Partnership intends to manage municipal waste up to 2020 and beyond. It establishes a number of core objectives including waste	This is a report for noting

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
	reduction from 315 kg household waste per person in 2008 to 285 in 2012 (the NLWA's 2007 figure is 463.66 kg). The Strategy also sets a recycling target of 45% of municipal waste by 2010 and 50% of municipal waste by 2012.	
Municipal Waste Management Strategy for Essex	Sets out plans and proposals to pursue a recycling led waste policy with a target of recycling 40% of household waste by 2009/10 and using biological treatment to further reduce total quantity of material requiring landfill disposal.	This is a report for noting
Joint Municipal Waste Management Strategy for Buckinghamshire	Sets out plans and proposals to pursue a recycling led strategy hitting a 45% recycling and composting rate by 2011 and 65% by 2025. Also aims to reduce waste biodegradable municipal waste to landfill in line with LATS limits. Reducing from 102,044 tonnes in 2010 to 48,000 tonnes in 2020.	This is a report for noting
Municipal Waste Management Strategy for Bedfordshire	Considers plans and policies relating to all waste arising within and exported to the County. Favours a recycling led approach supported by incineration of all non-recyclable material. Aspires to discourage the import of waste for landfill and other treatment.	This is a report for noting
MWMS for Cambridgeshire	Sets out plans and proposals to pursue a recycling led strategy and proposes treating residual waste using EfW facilities to reduce landfill dependence.	This is a report for noting
MWMS for West London	This strategy provides for a recycling led approach supported by the EfW treatment of some residual waste. The NLWA's Hendon waste disposal facility is also used by WLWA, and the interaction between waste management in the two areas is light but positive.	This is a report for noting
Local Spatial and Land Use Plans		

Plan	*Relevant Objectives or Requirements of the Plan*	*How the objectives & requirements are or might be incorporated into the NLJWS*
All seven boroughs in North London have a Unitary Development Plan		The impact of these strategies will be felt more closely on the North London Waste Plan and when facility needs are determined more closely.
Barnet Draft SPD Sustainable Design and Construction 2006	This sets out planning guidelines for sustainable design and construction	Its key relevance is in relation to building new waste and recycling facilities to incorporate sustainable design principles, rather than by making specific reference to this in the Mayor's Draft NLJWS.
Local Biodiversity Plans		
Each of the constituent boroughs in North London has a Biodiversity Action Plan	Each of these consists of a number of Species Action Plans and a number of Habitat Action Plans specific to the area	The impact of these strategies will be felt more closely on the North London Waste Plan and when potential sites are identified for new waste facilities.
Other Local Plans		
All seven boroughs also have a Community Strategy	All seven strategies incorporate objectives relating to education and lifelong learning, environment and sustainability, active citizenship and community, crime and safety, health & wellbeing, housing, jobs and training.	Consideration needs to be given to each of these strategies during the implementation of the NLJWS as well as during the plan preparation process for the North London Waste Plan.

Appendix B

SEA Topic	SEA Objective	Appraisal Criteria	Possible Indicators
Biodiversity	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?	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).
Population and human health	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?	Number of complaints received by contractors operating municipal waste facilities in North London; Lifecycle assessment of human health impacts (WRATE output)
Soil	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?	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 .

Air	O4: To improve air quality	Will the NLJWS improve local 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
Water	O5: To improve water quality	Will the NLJWS improve the water quality of groundwater and surface water?	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	Will the new infrastructure impact upon water supplies?	Net Water usage for waste facilities (amount of water 'in' minus amount 'out').
Climatic factors	O7: To address the causes of climate change	Will the NLJWS minimise emissions of greenhouse gases? Will it increase the proportion of energy both generated and purchased from renewable and sustainable sources?	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 produce and used by facilities proposed Per capita reduction in CO2 emissions (National Indicator No. 186)

	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)?	Percentage of developments with Sustainable Urban Drainage Systems (SUDS)
Material assets/ resource use	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?	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	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?	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	Will the NLJWS conserve natural resources?	Life cycle assessment of resource depletion (WRATE output)
	O12: To enable waste to be disposed of at the nearest appropriate installation.	Will the NLJWS's new facilties be appropriately located in relation to the main sources of municipal waste?	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
Built and Historic Environment	O13: To enhance and protect the existing built environment including heritage assets and the wider environment. O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	Will new infrastructure proposed create visual impacts? Will new infrastructure proposed conserve and enhance heritage assets and the wider historic environment? Will the NLJWS's new facilities take account of good practice in sustainable design and construction?	Number of waste facilities intrusively visible from historic buildings Number of new waste facilities having any unreasonably negative impacts on heritage assets and the wider historic environment 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.	Will new infrastructure use previously developed land?	Percentage of new waste infrastructure built on previously developed or industrially used land Tonnage of waste processed per hectare
A stable economy	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?	Percentage of jobs created in areas of above average deprivation of unemployment .

	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?	Number of direct jobs in waste services
	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?	Percentage of organisations delivering waste services with a recognised environmental and quality standard accreditation
Accessibility, Equality and Participation	O19: To maximise the accessibility 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?	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

		Will the Mayor's Draft NLJWS proposals reduce poverty and social exclusion in local areas that are most affected? Will they promote equality, fairness and respect for people and the environment? Will they promote equality for different communities?	
	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?	Percentage of residents using waste services Percentage of residents satisfied with waste services

Appendix B
Compatibility of NLJWS Objectives with SEA Objectives, and Compatibility of SEA Objectives with Themselves

		NLJWS Objectives							
		To minimise the amount of municipal waste 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**
SEA Objectives	**O1: To conserve and enhance natural habitats and wildlife, especially priority habitats and species**	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Neutral
	O2: To maximise the health and well-being of the population	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral
	O3: To conserve and enhance natural soil structure and composition	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Neutral
	O4: To improve air quality	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Neutral

		NLJWS Objectives							
		To minimise the amount of municipal waste 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**
SEA Objectives	**O5: To improve water quality**	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Neutral
	O6: To achieve the wise management and sustainable use of water resources	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral
	O7: To address the causes of climate change	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Neutral
	O8: To adapt to the unavoidable consequences of climate change	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral
	O9: To minimise the production of waste arising from households and local authority business customers	Positively aligned	Neutral	Neutral	Positively aligned	Neutral	Positively aligned	Neutral	Positively aligned

		NLJWS Objectives							
		To minimise the amount of municipal waste 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**
	O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	Neutral	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned
	O11: To minimise the global, social and environmental impact of consumption of resources	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral
	O12: To enable waste to be disposed of in one of the nearest appropriate installations in the management of waste.	Neutral	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral
	O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment.	Positively aligned	Neutral	Neutral	Positively aligned	Positively aligned	Neutral	Neutral	Neutral

		NLJWS Objectives							
		To minimise the amount of municipal waste 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**
	O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	Neutral	Neutral	Neutral	Positively aligned	Positively aligned	Neutral	Positively aligned	Neutral
	O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	Neutral	Neutral	Neutral	Positively aligned	Positively aligned	Neutral	Positively aligned	Neutral
	O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities.	Neutral	Positively aligned	Neutral	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral

		NLJWS Objectives							
		To minimise the amount of municipal waste 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**
SEA Objectives	**O17: To encourage a strong, diverse and stable economy.**	Neutral	Positively aligned	Neutral	Positively aligned	Positively aligned	Neutral	Positively aligned	Neutral
	O18: To improve the resilience of businesses and their environmental, social and economic performance.	Positively aligned	Positively aligned	Neutral	Positively aligned	Positively aligned	Neutral	Neutral	Positively aligned
	O19: To maximise the accessibility of services	Neutral	Positively aligned	Neutral	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral
	O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	Positively aligned	Positively aligned	Neutral	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral

O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13	O14	O15	O16	O17	O18	O19
	Neutral	Neutral	Positively aligned	Positively aligned	Neutral	Positively aligned	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral
Neutral		Neutral	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned
Positively aligned	Neutral		Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral
Positively aligned	Positively aligned	Positively aligned		Positively aligned	Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Positively aligned	Positively aligned	Positively aligned	Neutral		Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Neutral	Positively aligned	Neutral	Neutral	Positively aligned		Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Neutral	Positively aligned	Neutral	Positively aligned	Neutral	Positively aligned		Positively aligned	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Positively aligned		Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Neutral	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Positively aligned	Neutral		Positively aligned	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral

Neutral	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Positively aligned	Neutral	Positively aligned		Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Positively aligned	Positively aligned
Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Positively aligned	Neutral	Neutral	Positively aligned	Positively aligned		Positively aligned	Neutral	Positively aligned	Positively aligned	Neutral	Positively aligned	Neutral	Neutral
Neutral	Positively aligned	Neutral	Positively aligned	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral	Positively aligned		Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Positively aligned
Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral		Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral
Neutral	Positively aligned	Positively aligned	Neutral	Neutral	Neutral	Positively aligned	Neutral	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral		Positively aligned	Neutral	Neutral	Positively aligned	Neutral
Positively aligned	Positively aligned	Positively aligned	Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral		Positively aligned	Neutral	Positively aligned	Neutral

Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Positively aligned	Positively aligned		Neutral	Positively aligned	Neutral
Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Positively aligned		Positively aligned	Positively aligned
Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Positively aligned	Positively aligned	Positively aligned	Positively aligned		Positively aligned
Neutral	Positively aligned	Neutral	Positively aligned	Neutral	Neutral	Positively aligned	Neutral	Neutral	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Neutral	Neutral	Positively aligned	Positively aligned	
Neutral	Positively aligned	Neutral	Neutral	Neutral	Neutral	Positively aligned	Neutral	Positively aligned	Positively aligned	Positively aligned	Positively aligned	Neutral	Neutral	Neutral	Positively aligned	Neutral	Positively aligned	Positively aligned

Appendix C
Summary results of WRATE modelling

WRATE Modelling Results Discussion

The following text sets out a summary of the Waste and Resource Assessment Tool for the Environment (WRATE) modelling of the NLJWS scenarios undertaken by AEA Technology on behalf of the North London Waste Authority. The results of this exercise feed into the options appraisal as set out in Appendix D.

1.1.1 Summary of Scenarios

Scenario 1: EfW (450k tonnes)

Scenario 2: Gasifier (250k tonnes)/MBT-AD (270k tonnes)/MBT-RDF (385k tonnes)

Scenario 3: EfW (450k tonnes)/MBT-AD (250k tonnes)

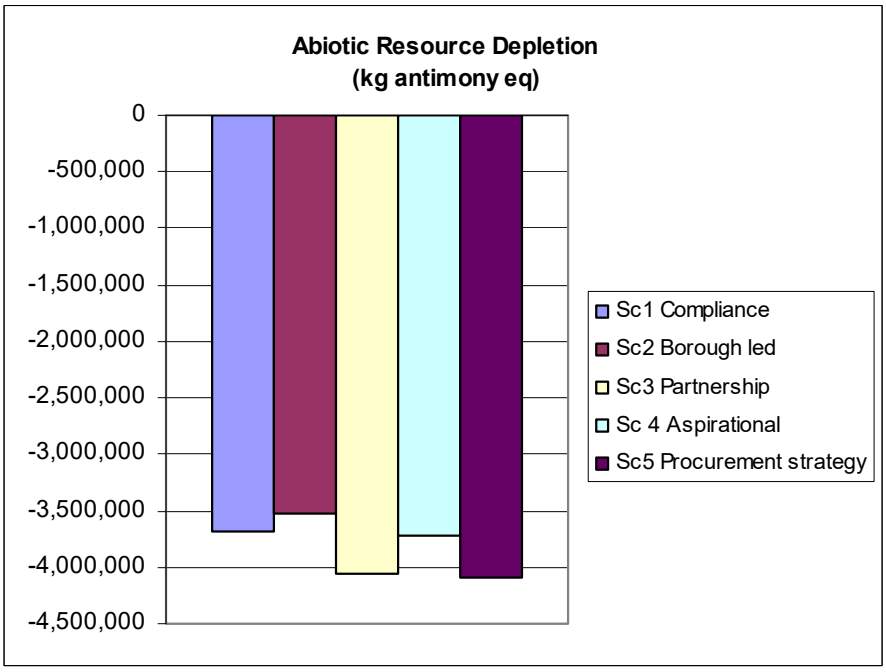
Scenario 4: EfW (270k tonnes)/ MBT-AD (200k tonnes)

Scenario 5: EfW (540k tonnes)/ MBT-RDF (250k tonnes)

1.2 Abiotic Resource Depletion

1.2.1 Background

The world contains limited resources of both minerals and fossil fuels (i.e. coal, oil and gas), and the depletion of such resources is important when assessing the sustainability of any particular scenario. Some waste management scenarios produce energy (electricity) that would otherwise be generated from traditional power stations, so the consumption of coal, gas, uranium or oil is avoided. Also, the recycling of plastics reduces the amount of oil that is required during the manufacture of new plastic products using virgin materials. Recycling and composting of materials contributes most to conserving renewable resources when compared to energy production.



1.2.2 Explanation

- All the scenarios show a low impact on natural resources as the large amounts of energy generated can be offset against the use of direct fossil fuels;
- The procurement strategy in Sc5 shows the lowest impact on natural resources, due to the high energy outputs from the EfW and the MBT-RDF which can be offset against the use of direct fossil fuels;
- The benefit in Sc5 is only marginally lower from the aspirational scenario (Sc3). This is because the amount of waste burnt in Sc3 is slightly lower and therefore less energy is produced which can be offset against the direct use of fossil fuels;
- The Borough led scenario (Sc2) has the highest impact on natural resources of all the options. This is due to less waste being combusted in this scenario and also the lower energy produced by the gasifier compared to the EfW in the other scenarios;
- The higher recycling rate in the aspirational scenario (Sc4) has a beneficial impact on resource depletion.

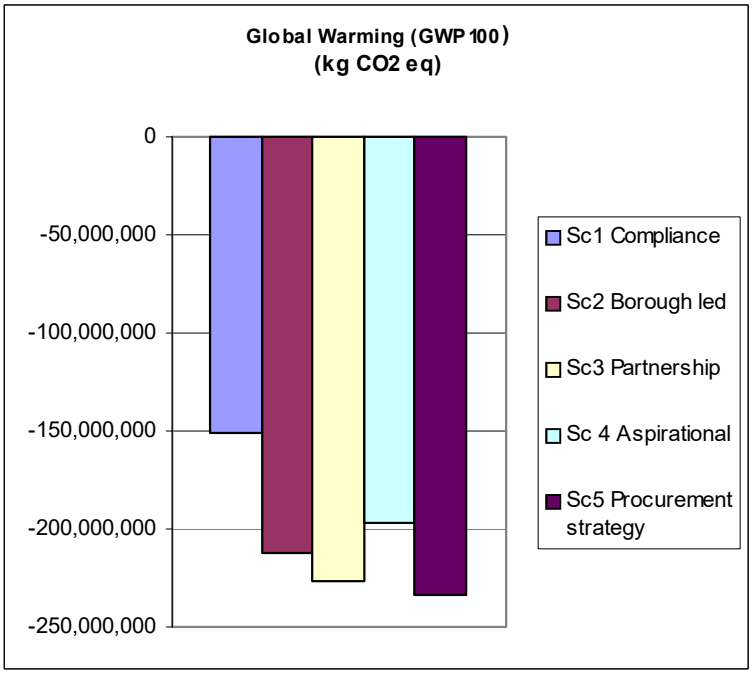
1.3 Global Warming (GWP 100)

1.3.1 Background

There is now an international consensus that emissions of greenhouse gases are responsible for ‘global warming’ or 'Global climate change’. Global climate change could lead to substantial changes in global temperatures, weather patterns and sea levels, with subsequent effects in a diverse number of areas, e.g. agriculture, water resources, human health, natural ecosystems.

The main sources of greenhouse gases from a waste management perspective are methane (CH_4) emissions from landfill sites and carbon dioxide (CO_2) from the combustion of fossil fuels. Fossil fuels including; vehicle fuels (e.g. diesel in the operation of refuse vehicles), power station fuel sources to produce electricity used at waste treatment facilities and the combustion of fossil fuel originated material, such as plastics, in EfW plants. CO_2 emissions from the combustion or degradation of 'organic' material such as putrescibles and paper are not considered to contribute to climate change, as they are carbon neutral – they release carbon that was originally recently sequestered from the air.

Waste management scenarios that produce energy (e.g. EfW plant and/or beneficial use of landfill gas) will assist in reducing greenhouse gas emissions by decreasing the amount of fossil fuels required to produce the equivalent quantity of electricity – the assumption is made that the displaced power generation capacity is from coal fired plants. Recycling has a similar effect in that it often saves energy in the production of raw materials.



1.3.2 Explanation

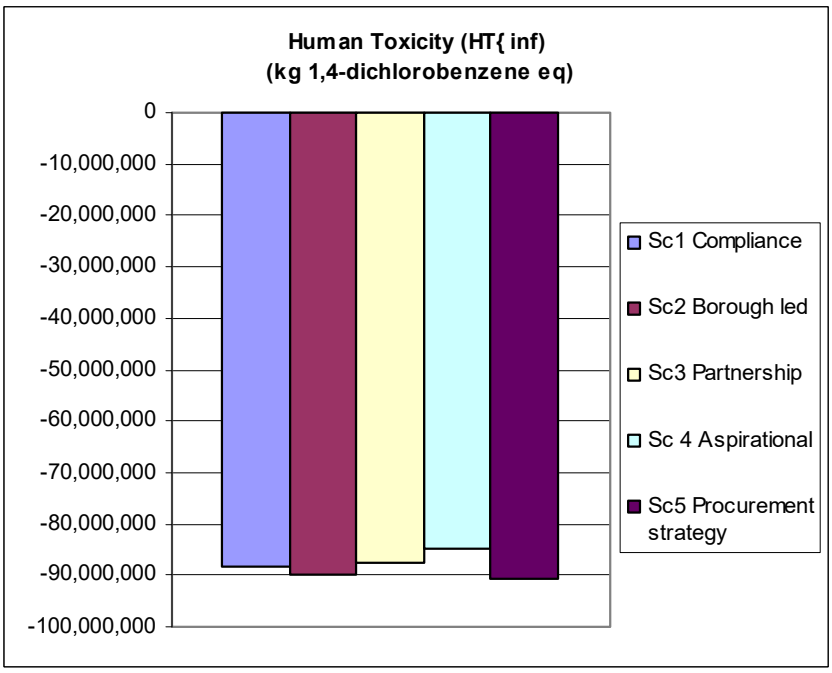
- All the scenarios show a low impact on global warming as the large amounts of energy generated can be offset against the use of direct fossil fuels;
- The procurement strategy in Sc5 shows the lowest impact on global warming, due to the high energy outputs from the EfW and the MBT-RDF which can be offset against the use of direct fossil fuels;

- The benefit in Sc5 is only marginally lower from the aspirational scenario (Sc3). This is because the amount of waste burnt in Sc3 is slightly lower and therefore less energy is produced which can be offset against the direct use of fossil fuels;
- Scenario 2 performs very well compared to the other scenarios because although less energy is produced in this scenario, the NOx emissions from the gasifier are much lower than for the EfW and NOx emissions and emissions of N2O whilst small part of the NOx emission have a large impact (approximately 310 times CO_2 equivalents);
- The compliance situation shown in scenario 1 has the highest impact on global warming as all the waste is incinerated producing higher NOx emissions.

1.4 Human Toxicity (HTP inf)

1.4.1 Background

Some substances can accumulate in living organisms (e.g. through the lungs, skin from food etc), increasing the risk that toxic concentrations will be reached. Some of the best known of these substances are mercury, DDT and dioxins.



1.4.2 Explanation

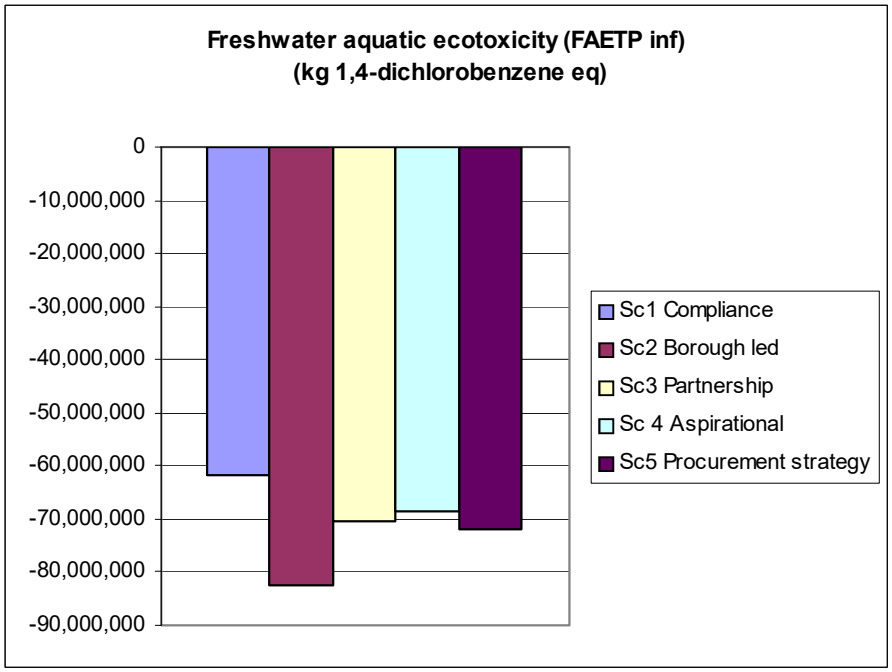
- All the scenarios show a benefit in the effect on human toxicity as the large amounts of energy generated can be offset against the use of direct fossil fuels and the associated toxic emissions from power plants and only limited amounts of residual waste are sent to landfill;

- The scenarios with the MBT-AD facilities (Sc 2, 3 & 4) all send more waste to landfill resulting in an increased impact on human toxicity (leachate emission and gas flaring). Scenario 2 has a greater benefit due to the large amount of waste that is combusted resulting in a high energy output. It also has the benefit gained by the lower NOx emissions from the gasifier when compared to the other EfW scenarios;
- The higher recycling rate in the aspirational scenario (Sc4) will also have a beneficial impact although it masked by other factors in the assessment. However the higher recycling rate will avoid the combustion of waste with the potential to impact on human toxicity.

1.5 Freshwater Aquatic Ecotoxicity (FAETP inf)

1.5.1 Background

Some substances can accumulate in living organisms (e.g. through the lungs, skin from food etc), increasing the risk that toxic concentrations will be reached. Some of the best known of these substances are mercury, DDT and dioxins.



1.5.2 Explanation

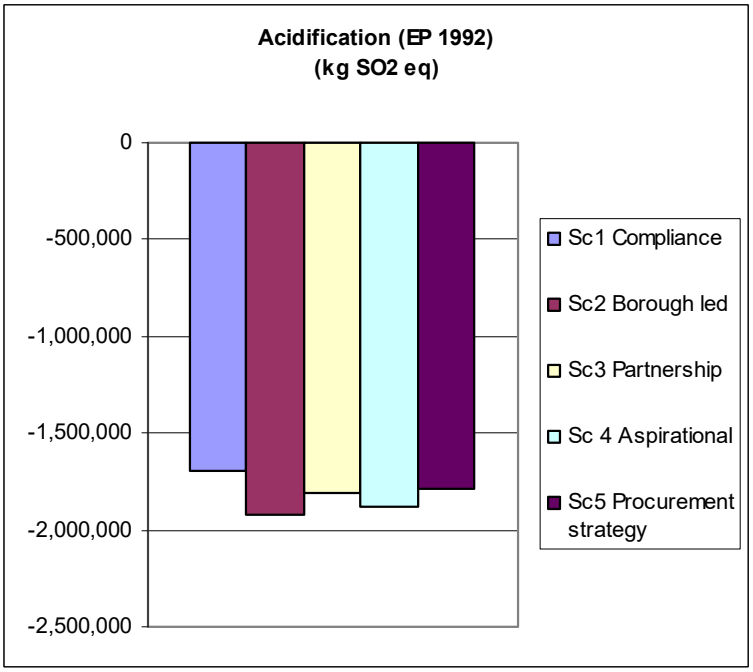
- The scenarios all show similar results and the differences are linked to the amount of waste processes and the associated energy generated or material recycled by it. This energy/resource impact can then be offset against the use of direct fossils fuels/ materials and their impact on aquatic ecotoxicity;

- Scenarios 3 and 4 have a slightly lower benefit as more waste is landfilled as a result of the MBT-AD process;
- Scenario 1 performs the worst as a larger proportion of the waste when compared to the other options is sent to landfill. The benefit of the larger combustion facilities in the other scenarios in avoiding landfill is to some extent offset by the production of larger amounts of fly ash which is associated with the potential for harm to aquatic ecosystems.

1.6 Acidification (EP 1992)

1.6.1 Background

Emission of acid gases into the air can have a number of environmental impacts at a local to regional level, including effects on human health, sensitive ecosystems, soiling and deterioration of building facades, forest decline and acidification of lakes. The main acid gases arising from waste management operations are sulphur dioxide (SO_2), nitrogen oxides (NO_X) and hydrogen chloride (HCl). NO_X are emitted whenever fuels are burnt, and the main source of SO_2 is combustion of coal and oil. HCl is mainly emitted from EfW plants. Overall, there are possibilities for reducing emissions wherever energy is recovered from waste treatment facilities (e.g. EfW plant), or saved through recycling.



1.6.2 Explanation

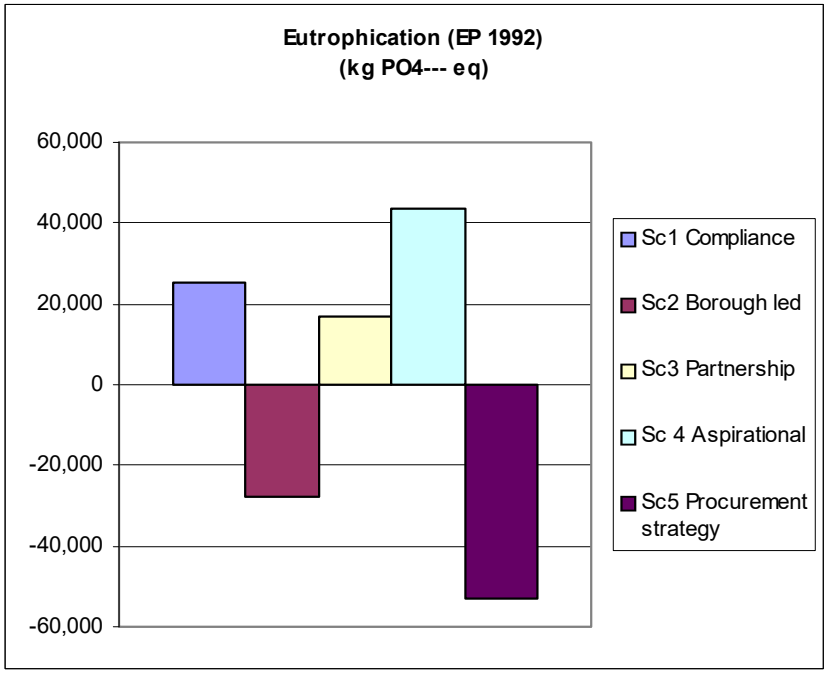
- The scenarios all show a benefit on acidification releases;

- The gasifier in scenario 2 has the greatest benefit in terms of acidification. This is because the gasifier has lower NOx emissions than the incinerator and NOx is a contributor to atmospheric acidification;
- The aspirational scenario (Sc4) also performs well due to its higher recycling rate. This has a beneficial impact as it can be offset against the need for the use and production of further raw materials.

1.7 Eutrophication (EP 1992)

1.7.1 Background

The release of compounds containing the nutritive elements nitrogen, phosphorus or organic matter, can lead to eutrophication of lakes and in some case rivers and coastal marine waters. The accumulation of nutritive elements in the water leads to the growth of particular types of algae, resulting in a subsequent depletion of oxygen in the water, and a change in species living in the body of water (e.g. the disappearance of fish such as trout). Leachate from landfills and treatment facilities are the main source of such compounds in waste management.



1.7.2 Explanation

- Scenarios 2 and 5 both show an overall benefit to eutrophication. This is due to the combustion of the organics in these scenarios and the avoidance of these going to landfil;
- Scenarios 1, 3 and 4 result in an overall contribution to eutrophication (i.e. detriment to the environment). One of the key factors in this is the quantity of waste sent to land as compost or landfill and the potential releases through leaching

or leachate release, which these scenarios have a larger quantity that scenarios 2 and 5.

Appendix D
Options Appraisal Matrices

1.8 SEA of the NLJWS Options

1.8.1 Introduction

This appendix presents the detailed findings of the Strategic Environmental Assessment (SEA) of the five options for the North London Joint Waste Strategy (NLJWS). Each of the options has been appraised against the 21 SEA objectives proposed in the earlier Scoping Report for the SEA.

1.9 Options Identification

In developing the strategic waste management options 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 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 have undertaken updated life cycle assessment modelling using WRATE which has been incorporated into the SEA process. The assessment also includes a fifth option which is based upon the reference project in the North London Waste Authority's new Procurement Strategy.

1.10 Options Synopsis

The five options considered in this SEA are detailed in this section.

Option 1: Minimum Compliance Scenario
This option is based on meeting the minimum recycling and composting targets as outlined in Waste Strategy 2000. A 30% target for recycling and composting is set for 2010 and 33% by 2015. This option would use kerbside sorting as a collection method and the processing method would involve bulking materials before delivery to reprocessors. The treatment technology proposed for this option is an Energy from Waste plant to replace the existing Edmonton EfW plant in 2015. This new facility would have the capacity to take 450,000 tonnes of waste per year.

Option 2: Borough-led Scenario
This option would involve the individual Boroughs providing separate and distinct waste collection and recycling services with the North London Waste Authority providing relatively localised disposal options. Targets for recycling and composting would be based on the Strategy Unit's proposals of 35% by 2010 and 45% by 2015. This option would use kerbside sorting as a collection method and the processing method would involve bulking materials before delivery to reprocessors. The treatment technologies proposed for this option include two gasification facilities; two Mechanical Biological Treatment (MBT) with anaerobic digesters (AD) and two MBT facilities with Refuse Derived Fuel (RDF) facilities. These would have a combined capacity to take 905,000 tonnes per year. These facilities would replace the Edmonton EfW plant which closes in 2015.

Option 3: Partnership Scenario
This option would involve the North London Boroughs agreeing to use shared recycling, composting and waste disposal facilities provided by the North London Waste Authority. Targets for recycling and composting would be based on the Strategy Unit's proposals of 35% by 2010 and 45% by 2015. Waste would be collected through co mingled collections and then sorting and bulking of materials would take place before delivery to reprocessors. This option proposes a new EfW plant with a capacity to take 450,000 tonnes of waste per year which would replace the existing Edmonton EfW in 2015. In addition to this there would be an MBT with AD built to take 250,000 tonnes per year.

Option 4: Mayor's Aspirational Scenario
This option models the developing approach set out within the Mayor's draft Municipal Waste Management Strategy. The Mayor's draft Strategy included a vision for waste management in London, including achievement of very high recycling targets. Targets for recycling and composting are 50% by 2010 and 60% by 2015. This option would use kerbside sorting as a collection method and the processing method would involve bulking materials before delivery to reprocessors. The treatment technologies proposed are for a new EfW plant, which would take 270,000 tonnes per year, representing North London's per capita share of London's current energy from waste capacity. This would replace the existing EfW at Edmonton and there would also be a MBT facility with a RDF facility which would have the capacity to take 200,000 tonnes per year.

Option 5: Procurement Strategy
This option is based upon the North London Waste Authority's new procurement strategy. This assumes a mix of kerbside sorted and co-mingled recyclables collections with sorting and bulking of materials before delivery to reprocessors. Treatment facilities will include a new

EfW which will have the capacity to take 540,000 tonnes of waste per year and a MBT-AD facility with a RDF facility which will take 250,000 tonnes of waste per year. Targets for recycling are 45% by 2015.

1.11 SEA Objectives

The 21 SEA objectives which have been used to appraise the options are set out in Appendix A: Revised Scoping Report. This report also includes relevant baseline information.

1.12 Appraisal Method

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 WRATE modelling which is explained in more detail in the draft NLWS and the results are summarised in Appendix C;
- WASTE FLOW model: AEA Technology's waste 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).

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 of 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.

1.13 Marking System

Each option is awarded a mark according to the system set out in Table 1. The colour coding is aimed to help visually present an overview of the results. The accompanying commentary for each of the objectives gives an overall rationale for the assessment and also notes any uncertainties due to a lack of data.

The methodology of this assessment does not seek to rank the marks in order of importance. The aim has been to establish an evaluation framework which although rigorous allows for discussion and reasoned argument.

SEA Marking System

SEA Marking System						
- - Move away significantly	- Move away marginally	+ Move towards marginally	++ Move towards significantly	/ No relationship	? Uncertain	0 Neutral

1.14 Results

This section sets out the results of the SEA of the five options for the North London Joint Waste Strategy. These results also for part of the Environmental Report which accompanies the North London Waste Strategy. The purpose of this appraisal is to evaluate the environmental effects of the different options and includes:

- Identification of changes to the baseline as a result of the different options. The 'Minimum Compliance' option 1 is considered to be the baseline scenario;
- As required by the SEA Directive, describing the changes in terms of their geographical scale, significance, permanence, direction of effect, timing, likelihood and whether or not they are indirect, cumulative or synergistic effects.

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SEA Objective	O1: To conserve and enhance natural habitats and wildlife, especially priority habitats and species				
Option number	**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)**
Freshwater Eco toxicity	+ +	+ +	+ +	+ +	+ +
Air acidification	+ +	+ +	+ +	+ +	+ +
Eutrophication	-	+	-	- -	+ +
Overall Cumulative Effect	+?	+ +	+?	+?	+ +
Commentary/ Explanation	This assessment uses the predictions derived from the WRATE modelling assessment relating to freshwater aquatic eco toxicity; air acidification; and eutrophication as shown above in the differential scoring. All the options score well in terms of the WRATE modelling assessment for freshwater aquatic eco toxicity. Eco toxicity is where substances such as dioxins can accumulate in living organisms increasing the risk that toxic concentrations will be reached. This can impact upon ecology. The WRATE results for eco toxicity show slight differences between the options. Option 2 in particular is very beneficial which is linked to the amount of waste processed and the associated energy generated or material recycled. This energy/resource impact is then offset against the use of direct fossil fuels/ materials and their impact upon aquatic eco toxicity. Option 1 performs the worst as more waste is sent to landfill. Options 3 and 4 have a slightly lower benefit due to more waste being land filled as a result of the MBT-AD process. In terms of acidification, emissions of acid gases into the air can have a number of biodiversity impacts at a local and regional scale including effects on sensitive eco systems, forest decline and acidification of lakes. The main acid from waste management operations are sulphur dioxide (SO_2), nitrogen oxides (NOx) and hydrogen chloride (HCl). NOx are emitted whenever fuels are burnt and the main source of SO_2 is combustion of coal and oil. HCl is mainly emitted from EfW plants. Although the WRATE results show that the options will produce beneficial impacts in terms of acidification, they do indicate some slight differences. Option 2, which proposes 2 gasifiers, has the greatest benefit because a gasifier has lower NOx emissions compared with an EfW plant and NOx is a contributor to atmospheric acidification. Option 4 also scores slightly better due to the higher recycling rate proposed offsetting against the need for the use and production of raw materials. The WRATE results for eutrophication impacts indicate that options 1, 3 and 4 will make an overall contribution to eutrophication. Eutrophication occurs when there is a release of compounds containing the nutritive elements nitrogen, phosphorous or organic matter which leads to the growth of particular types of algae in lakes and rivers. This then results in the depletion of oxygen in water and a change in species living in the body of water. In terms of waste management landfills are the main source of such compounds. The 3 options which will have a negative impact all have more waste going to landfill compared with options 2 and 5. There is therefore a higher potential risk of leachate release which would cause eutrophication. Option 4 in particular scores poorly due to the mixture of EfW and MBT treatments proposed which will result in a high level of BMW going to landfill. Option 2 and 5 are beneficial as a result of the combustion of organics and the large amount of waste being diverted from landfill.				

SEA Objective		O2: To maximise the health and well-being of the population				
Option number		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)
Assessment of Overall Effect	Human Toxicity	+ +	+ +	+ +	+ +	+ +
	Air Acidification	+ +	+ +	+ +	+ +	+ +
Commentary/ Explanation		This assessment uses the predictions derived from the WRATE modelling assessment relating to human toxicity, air acidification and the findings presented in DEFRA's 2004 Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes. Substances such as mercury or dioxins can accumulate in living organisms increasing the risk that toxic concentrations will be reached. The WRATE human toxicity data indicates whether these toxins accumulate as a result of the particular waste technologies proposed for each of the options. The results show that all the options will have beneficial effects upon human health. All the options perform well due to the large amounts of energy generated which can be offset against the use of fossil fuels and the associated toxic emissions from power plants. In addition only limited amounts of residual waste are sent to landfill. Looking at the subtle differences in the WRATE results, the data shows that options 2, 3 and 4, which are proposing Anaerobic Digesters, all send more waste to landfill resulting in an increased impact upon human toxicity due to leachate emissions and gas flaring. It is assumed that all AD output would go into landfill. In addition, option 5 proposes to deal with 540,000 tonnes of waste per year with an EfW which gives a greater benefit due to the large amount of waste that is combusted resulting in a high energy output. Similarly option 2 combusts a large amount of waste as it is proposing 2 gasifiers and also has lower NOx emissions compared to EfW. The higher recycling rate in option 4 also has a beneficial impact as this will avoid combustion of waste with the potential to impact upon human toxicity; however this is masked by other factors in the assessment. All the treatment technologies proposed will have to adhere to planning requirements, waste licences and Pollution, Prevention Control (PPC) permits which will require waste infrastructure to be operated in a manner that does not cause a public nuisance and meets European standards for a range of emissions. All facilities would be regulated by the Environment Agency to monitor compliance with statutory conditions. In 2004, DEFRA published a Review of Environmental and Health Effects of Waste Management. It states that the 'treatment of municipal solid waste has at most a minor effect on health in the UK particularly compared with other health risks in day to day living'. In terms of EfW the report states that the effects on health from emissions from incineration, largely to air, are likely to be small in relation to other known health risks.' The review also notes that landfills account for between 10 and 25% of all odour complaints to local authorities. It could therefore be argued those options that send more waste to landfill would have a higher potential to generate negative effect upon health and well being. This study does state that the evidence on environmental effects of waste management is limited and that there were research gaps which meant health impacts from emissions from composting; mechanical biological treatment and anaerobic digestion were unknown.				

SEA Objective	O3: To conserve and enhance natural soil structure and composition				
Option number	**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)**
Assessment of Overall Effect	0	0 ?	0 ?	0 ?	0 ?
Commentary/ Explanation	This assessment is based on professional judgment and technical guidance from DEFRA's Waste Management Technology Briefs (2007) [1]. Each of the technologies proposed has a different residual output which has to be disposed of and may therefore impact upon soil structure and composition. EfW produces a bottom ash which is used as an aggregate replacement. Gasification produces a bottom residue which has a lower carbon content and can be also used as aggregate. Outputs from MBT include a refused derived fuel and a compost like output produced when the digestate material is anaerobically digested. The compost like output can be used as a source of organic matter to improve certain low quality soils for landfill capping and restoration of Brownfield sites. DEFRA state that compost like outputs from mixed wastes are likely to be of lower quality compared to compost derived from source segregated materials due to higher contamination levels like metals and glass. Although option 2, 3 and 4 would produce a compost like output, it is assumed that this will be landfilled as this is not currently considered for soil improvement. However, there is some uncertainty regarding this as potential outlets could emerge during the implementation of the strategy				
SEA Objective	**O4: To improve air quality**				
Option number	**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)**
Assessment of Overall Effect	+ +	+ +	+ +	+ +	+ +
Commentary/ Explanation	This assessment uses the predictions derived from the WRATE modelling assessment relating to air acidification and the findings presented in the DEFRA's 2004 Review of Environmental and Health Effects of Waste Management. Emissions of acid gases into the air can have a number of environmental impacts at a local and regional scale. The main acid from waste management operations are sulphur dioxide (SO_2), nitrogen oxides (NOx) and hydrogen chloride (HCl) NOx are emitted whenever fuels are burnt and the main source of SO_2 is combustion of coal and oil. HCl is mainly emitted from EfW plants. The WRATE results indicate that all the options show a benefit on acidification releases. There are differences between the scenarios. Option 2, which proposes 2 gasifiers, has the greatest benefit because a gasifier has lower NOx emissions than an EfW plant and NOx is a contributor to atmospheric acidification. Option 4 also performs very well as its higher recycling rate means that there will be less waste needed to go to EfW. It also has a beneficial impact as it can be offset against the				

[1] Defra (2007) Advanced Thermal Treatment of Municipal Solid Waste; Defra (2007) Incineration of Municipal Solid Waste; Defra (2007) Mechanical Biological Treatment of Municipal Solid Waste

	need for the use and production of further raw materials. The 2004 DEFRA health study concluded that EfWs do contribute local air pollution however this is 'usually a small proportion of existing background levels which is not detectable through environmental monitoring' especially if the facilities are located within urban areas.				
SEA Objective	**O5: To improve water quality**				
Option number	**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)**
Eco toxicity	+ +	+ +	+ +	+ +	+ +
Eutrophication	-	+	-	- -	+ +
Assessment of Overall Effect	+?	+ +	+?	+?	+ +
Commentary/ Explanation	This assessment uses the predictions derived from the WRATE modelling assessment relating to eco toxicity and eutrophication. All the options score well in terms of the WRATE modelling assessment for freshwater aquatic eco toxicity. Eco toxicity is where substances such as dioxins can accumulate in living organisms increasing the risk that toxic concentrations will be reached. This can impact upon the water quality of rivers and lakes. The WRATE results for eco toxicity show slight differences between the options. Option 2 in particular is very beneficial which is linked to the amount of waste processes and the associated energy generated or material recycled. This energy/resource impact is then offset against the use of direct fossil fuels/ materials and their impact upon aquatic eco toxicity. Option 1 performs the worst as more waste is sent to landfill. Options 3 and 4 have a slightly lower benefit due to more waste being land filled as a result of the MBT-AD process. The WRATE results for eutrophication impacts indicate that options 1, 3 and 4 will make an overall contribution to eutrophication. Eutrophication occurs when there is a release of compounds containing the nutritive elements nitrogen, phosphorous or organic matter which leads to the growth of particular types of algae in lakes and rivers. This then results in the depletion of oxygen in water and a change in species living in the body of water. In terms of waste management, landfills are the main source of such compounds. The 3 options which will have a negative impact all have more waste going to landfill compared with options 2 and 5. There is therefore a higher potential risk of leachate release which would cause eutrophication. Option 4 in particular scores poorly due to the mixture of EfW and MBT treatments proposed which will result in a high level of BMW going to landfill. Option 2 and 5 are beneficial as a result of the combustion of organics and the large amount of waste being diverted from landfill.				

SEA Objective	O6: To achieve the wise management and sustainable use of water resources				
Option number	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)
Assessment of Overall Effect	?	?	?	?	?
Commentary/ Explanation	This assessment uses information from DEFRA's Waste Management Technology Briefs (2007). The briefs for each of the management technologies within the options state that consumption of water will only be known when the specific technologies are selected. The nature of the effluent that may be generated is therefore unknown at the options stage. The briefs also note that facilities will be required to devise a management plan for effluent as part of the permitting requirements. This lack of detail at the options stage means that impacts upon water usage are uncertain and will only be determined at the planning application stage when the technology is chosen.				
SEA Objective	**O7: To address the causes of climate change**				
Option number	**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)**
Assessment of Overall Effect	+	+ +	+ +	+ +	+ +
Commentary/ Explanation	This assessment uses the predictions derived from the WRATE modelling assessment relating to global warming. Global climate change could lead to substantial changes in temperatures, weather patterns and sea levels. Research suggests that greenhouse gas emissions are responsible for this. The main sources of greenhouse gases in terms of waste management are methane emissions from landfill sites and carbon dioxide from the combustion of fossil fuels. This will include vehicle emissions from refuse vehicles, power station fuel sources to power the waste management facilities and the combustion of fossil fuel originated material such as plastics in EfW plants. Combustion of organic material is considered to be carbon neutral. All of the options show a low impact upon global warming as the large amounts of energy generated can be offset against the use of direct fossil fuels. Option 5 shows the lowest impact compared with other options due to the high energy outputs of the EfW proposed and the MBT. Option 3 is similar however burnt slightly less waste. Option 2 also performs well even though less energy is produced from the facilities proposed. This is due to the NOx emissions from the gasifier being much lower than EfW. The baseline scenario of option 1 is considered only to be moving towards this objective marginally as all the waste in this option is incinerated producing higher emissions compared with the other options.				

SEA Objective	O8: To adapt to the unavoidable consequences of climate change				
Option number	**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)**
Assessment of Overall Effect	?	?	?	?	?
Commentary/ Explanation	The potential to contribute towards climate change adaptation will largely be dependent on the specific locations and nature of waste facilities developed. Avoiding areas at risk of flooding, enhancing ecological networks and designing buildings to cope with climate extremes can all contribute however as site specific details are not known at this stage the effects of all the options are uncertain.				
SEA Objective	**O9: To minimise the production of waste arising from households and local authority business customers**				
Option number	**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)**
Assessment of Overall Effect	/	/	/	/	/
Commentary/ Explanation	This assessment has been carried out using professional judgement The options themselves do not specifically implement measures to minimise the production of waste from households and local authority business customers, therefore the options do not have a relationship with this SEA objective.				

SEA Objective	**O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource**				
Option number	**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)**
Short term	+	+	+	+	+
Med term	-	++	++	-	++
Long term	?	?	?	?	++
Assessment of Overall Effect	-?	++?	++?	-?	++
Commentary/ Explanation	This assessment has been carried out using analysis of the WASTE FLOW modelling for each of the options. All of the options will recycle and recover waste. The modelling results show that they all meet the recycling BVPI targets by 2015. The modelling also analyses the options in terms of the amount of bio degradable municipal waste to landfill which will help determine whether the options would meet Landfill Allowance Trading Scheme (LATS) Targets. The results show that up to 2014 Options 1, 2, 3 and 5 perform similarly with about 200,000 tonnes BMW going to landfill in 2014. Option 4 performs slightly better during this period with approximately 175,000 tonnes BMW going to landfill by this point. In the long term beyond the life of the strategy the scenarios are not directly comparable. This is because the waste flow modelling did not model technologies/facilities required to achieve LATS targets after 2020. As a result the long term effects of options 1 – 4 are uncertain. Option 5 which has been modelled beyond 2020 performs well against this objective				
SEA Objective	**O11: To minimise the global, social and environmental impact of consumption of resources**				
Option number	**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)**
Assessment of Overall Effect	+ +	+ +	+ +	+ +	+ +
Commentary/ Explanation	This assessment uses the WRATE resource depletion modelling results. Minimising the impacts of resource consumption can be achieved with all of the options proposed. The WRATE results indicate that all the options will have a beneficial impact upon natural resources as the large amounts of energy generated can be offset against the direct use of fossil fuels. In comparison to others, options 3 and 5 show the lowest impact upon natural resources because of the high energy outputs of the EfW and the MBT with RDF or AD facilities. The Borough led scenario (option 2) has the highest impact on natural resources due to less waste being combusted and also the lower energy produced by the gasifier compared with the EfWs proposed in all the other options. Option 4 scores has a slightly higher beneficial impact as it has higher recycling targets which would recycle more plastic and reduce the amount of oil required during the manufacture of new plastic products.				

SEA Objective	O12: To enable waste to be disposed of in the nearest appropriate installation				
Option number	**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)**
Short term	+ ?	+ ?	+ ?	+ ?	+ ?
Med term	+ ?	+ ?	+ ?	+?	+ ?
Long term	+ ?	+ ?	+ ?	+?	+ ?
Assessment of Overall Effect	+ ?	+ ?	+ ?	+?	+ ?
Commentary/ Explanation	Up to 2014 the existing pattern of waste facilities within the NLWA area will remain. This includes the Edmonton EfW, transfer stations at Hornsey Street and Hendon and recycling facilities at Edmonton and Hornsey Street. In addition, new material recycling facilities (MRF's) and In Vessel Composting (IVK) facilities are planned. This is supported by network of 9 civic amenity sites. Residual waste is transferred to landfill in Buckinghamshire, Bedfordshire and Cambridgeshire. In terms of this objective there are benefits in that a number of existing facilities within the NLWA area are utilised for managing and treating wastes. However significant quantities of waste are currently transported out of North London for landfill disposal, with consequent impacts on the environment around those sites and also in terms of transport impacts although a significant proportion of waste is transferred by rail. In the medium term the aim of the strategy is to develop new treatment facilities within the NLWA area. This should lead to a network of facilities which can provide for treatment and disposal in the nearest appropriate locations. Here is some uncertainty as the detailed locations of future facilities are not known. Uncertainty is much greater in the longer term as this will depend on the review of the NLJWS and future waste contracts; however on the basis that existing policy and trends prevail it is likely that the options would contribute positively to this objective.				
SEA Objective	**O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment**				
Option number	**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)**
Assessment of Overall Effect	?	?	?	?	?
Commentary/ Explanation	This assessment is based upon professional judgement. All the options do not specify where the various treatment facilities will be located in the North London area or how they will be designed and to what scale. It is therefore considered that the effects of the options upon the existing built and historic environment are unknown until sites for the facilities are chosen.				

SEA Objective	**O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.**				
Option number	**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)**
Assessment of Overall Effect	?	?	?	?	?
Commentary/ Explanation	This assessment is based on professional judgement. All the options do not specify how this new infrastructure will be designed and what materials will be used in construction. As a result the effects of the options upon this SEA objective are uncertain. However within the strategy and/or the North London Joint Waste Development Plan Document a commitment to sustainable design and construction could be included.				
SEA Objective	O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings				
Option number	**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)**
Assessment of Overall Effect	+ + ?	- ?	+ ?	+ ?	+ ?
Commentary/ Explanation	This assessment uses professional judgement and information from DEFRA's Waste Management Technology Briefs (2007) which consider the technologies generally. The land take for each type of facility will determine approximately whether there is an efficient use of land however because the options do not detail the locations of these facilities this assessment will be unable to determine whether the options will re use previously developed land and existing buildings. Land take for EfWs is dependent upon the technology. The DEFRA 2007 brief for incineration suggests that for a 250,000tpa facility 4 hectares of land is required. For a gasifier a site of 1-2 ha would be required for 50,000tpa. For a general MBT plant taking 180,000tpa a site of 3.5 hectares would be required. Using these measures to assess the options, the results indicate that option 2 would have the most inefficient use of land as there would be 4 MBT facilities in total needing 12 ha of land and the 2 gasifers would need approximately 8ha. Option 1 is the most efficient as this would provide 1 facility needing only one piece of land approximately 6ha. The other 3 options are proposing 2 facilities of EfW and MBT technology and therefore will only need approximately 8ha of land each in total.				

SEA Objective	O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities				
Option number	**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)**
Assessment of Overall Effect	+ ?	+ + ?	+ + ?	+ + ?	+ + ?
Commentary/ Explanation	This assessment is based on professional judgement and DEFRA's Waste Management Technology Briefs (2007) looking at the number of jobs generated by the respective scenarios. Each of the waste management facilities proposed will create jobs for the local economy which will help stimulate regeneration in the North London area. This will however depend on where the facilities are located in relation to areas in need of regeneration and the options do not detail locations for these facilities. The scores for each of the options are therefore partially uncertain. DEFRA's 2007 briefs indicate that for EfW plants of 50,000tpa capacity there would be 2-6 workers per shift and 3 shifts a day. MBT plants of the same capacity would employ approximately 2-8 persons at any one time and more if manual picking operations were used like EfW the facility could be on a shift system in which case more people would be employed. Gasification plants typically need 2-6 workers per shift for a 50,000tpa facility. Assessing the options with this generic information indicates that option 2 would create the most jobs as it would develop 6 facilities, 4 of which would be MBT. Options 5 and 3 also score well as they have large EfWs with 1 MBT facility. Option 4 similarly would create job opportunities at a medium sized EfW and 1 MBT. Option1 scores positively as it would create jobs however this number would be considerably less than all the other options. Clearly the precise numbers of employees and type of jobs generated will vary according to the precise nature of the technology provided.				

SEA Objective	O17: To encourage a strong, diverse and stable economy				
Option number	**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)**
Assessment of Overall Effect	?	?	?	?	?
Commentary/ Explanation	This assessment has been carried out using information by DEFRA in the waste technology briefs (2007) Effects on the economy can be measured in a number of ways including calculating monetary value of health and environmental impacts, disamenity impacts such as house price impacts as well as the value to the economy of the recovering resources from waste treatment/recycling. DEFRA's technology briefs provide an overview of the potential markets and outlets for the outputs of the different waste management facilities; however it does not detail their value. Each of the options will provide outputs to various markets. For gasification this will include aggregates, power generation and fuel chemical applications. For EfWs this will include aggregates, re smelting and heat and power. Outputs from MBTs will be used for land restoration, heat and power; cement kilns; paper industry and renewable energy. Due to the lack of information regarding the market value of these outputs the scores are uncertain for each of the options.				

SEA Objective	**O18: To improve the resilience of businesses and their environmental, social and economic performance**				
Option number	**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)**
Assessment of Overall Effect	+	+ +	+	+	+
Commentary/ Explanation	This assessment is based on professional judgement. All of the options score positively for this SEA objective as each of the options is proposing new facilities using new technologies. The new infrastructure will be expected to comply with all the latest regulatory requirements such as discharge consents and Pollution Prevention and Control (PPC) permits. Option 2 scores particularly well as a result of the number of facilities being proposed. The number of facilities provides greater opportunity for competition and to implement a variety of technologies. This could therefore encourage businesses to improve their environmental, social and economic performance.				
SEA Objective	**O19: To maximise the accessibility and equality of services**				
Option number	**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)**
Assessment of Overall Effect	+?	+ ?	+?	+?	+?
Commentary/ Explanation	This assessment has been carried out using professional judgement for each of the options. The modelling shows that each of the options will include a kerbside collection for households and businesses which provide accessibility to some extent to waste service. However the modelling does not give any details of these collections. Effects upon this objective will therefore depend on how the strategy is implemented. All of the options do not specify how they will be implemented and therefore it is uncertain as to whether there will be equitable outcomes for all communities. The waste strategy could include a commitment to ensuring equitable outcomes for all communities.				

SEA Objective	O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment				
Option number	**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)**
Assessment of Overall Effect	?	?	?	?	?
Commentary/ Explanation	This assessment is based on professional judgement. As the options do not specify how they will be implemented nor detail any methods of participation or encouraging responsibility the effects are uncertain. Community participation could for example be encouraged by commitment to the inclusion of an educational centre within a facility. The effects on this SEA objective are therefore uncertain. The waste strategy could include a commitment to promoting participation, ownership and responsibility.				

1.14.1 Secondary, Cumulative and Synergistic effects

The tables below give consideration to secondary, cumulative and synergistic effects. These are defined in more detail in the main document.

	O1: To conserve and enhance natural habitats and wildlife, especially priority habitats and species				
Cumulative, Secondary or Synergistic Effects	**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)**
Habitats and species	+?	+ +	+?	+?	+ +
Human health	+ +	+ +	+ +	+ +	+ +
Climate Change	+	+ +	+ +	+ +	+ +
Economic effects	+	++	++	++	++

Cumulative, Secondary or Synergistic Effects	Affected Receptor	Commentary
Loss of habitats/species	Wildlife habitats	Cumulative effects may arise as a result of the combined effects of air acidification, freshwater eco-toxicity and eutrophication. With Options 2 and 5 there is potential for overall positive cumulative effects in reducing habitat/species loss due to the positive individual effects. With options 1, 3 and 4 the nature of any cumulative effects is less certain as positive effects in terms of air acidification and eco toxicity are countered by negative effects on eutrophication. There may be specific cumulative locational effects arising from the delivery of waste facilities and other projects within particular area however as the NLJWS does not set out specific locations these effects are uncertain.
Human health and well being	Humans	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 ion CO2 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.
Climate Change	Global environment	All options have a positive effect on greenhouse gas emissions although Option 1 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.
Economic effects	Economy/Population	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 which focuses on a single EfW facility.

Appendix E
Implementation Actions Screening

Table E1 Screening of Implementation Actions in Mayor's Draft NLJWS

Implementation Action	Assessment required?	Comment
1.A: reducing rubbish	No	This is an overarching statement of intent/aim which guides the aims, objectives and actions of the strategy rather than a specific action. As the objectives and actions of the Strategy are being appraised it is not considered necessary to appraise this statement
1.B: aims and Objectives	No	Completed through Stage B1
1.C: requirements	No	This implementation action refers to primarily to administrative or procedural issue which are unlikely to have any significant environmental, social or economic effects
2A: demographic information	No	Implementation action relates to information sharing and therefore is unlikely to have any significant environmental, social or economic effects
2.B: planning for new waste facilities	No	Implementation actions which refer to and comply with a higher tier strategy, and are not therefore considered to require SA/SEA.
2.C: waste composition analysis	No	This implementation action relates to the evidence base to be used for implementing the strategy and will not in itself have any significant environmental effects
3.A: relevant policies and proposals	No	Implementation actions which refer to and comply with a higher tier strategy, and are not therefore considered to require SA/SEA.
3.B: contractual requirements	No	Implementation action refers to an administrative or procedural issue which is unlikely to have any significant environmental, social or economic effects
3.C: best value reviews	No	Implementation action refers to an administrative or procedural issue which is unlikely to have any significant environmental, social or economic effects
3.D. waste information	No	Implementation action relates to information sharing and therefore is unlikely to have any significant environmental, social or economic effects
3.E. joint WDPD	No	This is a procedural issue which relates to a separate statutory process. The Waste DPD will be subject to a separate SA/SEA process
4.A1: greater action to reduce waste	Yes	**Appraise as a group of related implementation actions for waste minimisation, reduction and re-use (4.A1,4.A2,4.A3,4.B1,4.B2,4.B3,4.B4,$.C1,4.C2)**
4.A2: prevention and minimisation	Yes	
4.A3: waste prevention campaign	Yes	
4.B1: public awareness campaigns	Yes	
4.B2: good practice on reduction	Yes	
4.B3: tonnage based levy system	Yes	
4.B4: charging for waste	Yes	

Table E1 (continued) Screening of Implementation Actions in Mayor's Draft NLJWS

Implementation Action	Assessment required?	Comment
4.C1: effective re-use services	Yes	
4.C2: rewarding effective re-use services	Yes	
4.D1: promotion of home composting	Yes	**Appraise as a group of related implementation actions for composting (4.D1,4.D2, 4.D3, 4.H2, 4.K1,4.K2)**
4.D2: garden composts in residents homes	Yes	
4.E: community compost projects	Yes	
4.F1: bring collection system	Yes	**Appraise as a group of related implementation actions for recycling (4.F1,4.F2, 4.G1,4.G2,4.G3,4.H1, 4.I1,4.I2, 4.K2,7.A1)**
4.F2: collection for occupants	Yes	
4.G1: improve re-use and recycling centres	Yes	
4.G2: recycling and composting rates at centres	Yes	
4.G3: recycling and composting rate	Yes	
4.H1: door to door recycling services	Yes	
4.H2: organic door to door collections	Yes	Appraise as a group of related implementation actions for composting (4.D1,4.D2, 4.D3, 4.H2, 4.K1,4.K2)
4.I1: multi-occupancy collection services	Yes	Appraise as a group of related implementation actions for recycling (4.F1,4.F2, 4.G1,4.G2,4.G3,4.H1, 4.I1,4.I2, 4.K2,7.A1)
4.I2: multi-occupancy capture rates	Yes	
4.J1: development and delivery of facilities	Yes	**Appraise as a group of related implementation actions for delivering facilities (4.J1, 4.J2 , 7.A2, 7.B1,7.B2)**
4.J2: contractual mechanism	Yes	
4.K1: compost street leaves	Yes	Appraise as a group of related implementation actions for composting (4.D1,4.D2, 4.D3, 4.H2, 4.K1,4.K2)
4.K2: minimise need to purchase landfill allowances	Yes	
4.L1:meeting or exceeding government standards	No	Implementation actions which refer to and comply with a higher tier strategy, and are not therefore considered to require SA/SEA.

Table E1 (continued) Screening of Implementation Actions in Mayor's Draft NLJWS

Implementation Action	Assessment required?	Comment
4.L2: national/regional targets	No	Implementation actions which refer to and comply with a higher tier strategy, and are not therefore considered to require SA/SEA.
4.M1: Edmonton EFW	Yes	**Appraise individually**
4.M2: renewables obligations certificate	Yes	**Appraise individually**
4.N:Landfill and energy from landfill gas	Yes	**Appraise individually**
5.A1: integrated approach to abandoned vehicles	No	**Appraise as a group of related implementation actions for abandoned vehicles/fly tipping (5..A1,5..A2, 5..A3, 5.1)**
5.A2: managing abandoned vehicles	No	
5.A3: authorised treatment facilities	No	
5.B: collection and disposal of asbestos	Yes	**Appraise as a group of related implementation actions for other household wastes (5..B.5.C,5.D1,5.D2,5.E1, 5.E2, 5.H,5.J1,5.J2,5.J3,5.K, 5.O)**
5.C recycling of batteries	Yes	
5.D1: effective bulky waste collection	Yes	
5.D2: recycling bulky waste	Yes	
5.E1: free clinical waste collection	Yes	
5.E2: improvements to collections of clinical waste	Yes	
5.F1: appropriating waste charges for non-household waste	Yes	**Appraise as a group of related implementation actions for commercial wastes (5.F1,5.F2)**
5.F2: unpaid commercial and industrial waste	Yes	
5.G1: construction and reprocessing facilities	Yes	**Appraise as a group of related implementation actions for construction and demolition waste (5.G1,5.G2)**
5.G2: recycling construction and demolition waste	Yes	
5.H: new liquid waste facilities	Yes	Appraise as a group of related implementation actions for other household wastes (5..B.5.C,5.D1,5.D2,5.E1, 5.E2, 5.H,5.J1,5.J2,5.J3,5.K, 5.O)
5.I: fly-tipping and littering	Yes	Appraise as a group of related implementation actions for abandoned vehicles/fly tipping (5..A1,5..A2, 5..A3, 5.1)

Table E1 (continued) Screening of Implementation Actions in Mayor's Draft NLJWS

Implementation Action	Assessment required?	Comment
5J.1 hazardous household waste service	Yes	Appraise as a group of related implementation actions for other household wastes (5..B.5.C,5.D1,5.D2,5.E1, 5.E2, 5.H,5.J1,5.J2,5.J3,5.K, 5.O)
5.J2: household waste collection and disposal service	Yes	
5.J3: hazardous waste at re-use and recycle centres	Yes	
5.K: ozone depleting substances	Yes	
5.L: Producer Responsibility	Yes	**Appraise as a group of related implementation actions for working in partnership. (5.L, 8.A, 8.B1,8.B2,8.C1,8.C2, 8.D, 8.E,8.F1,8.F2)**
5.M: Polychlorinated biphenyls	Yes	Implementation action which refers to specific compliance with Mayor's Municipal Waste Management Strategy and is not therefore considered to require SA/SEA
5.N1: waste management at public events	Yes	**Appraise as a group of related implementation actions for special events (5..N1,5.N2)**
5.N2: Olympic bid	Yes	
5.O: waste electrical and electronic equipment directive	Yes	Appraise as a group of related implementation actions for other household wastes (5..B.5.C,5.D1,5.D2,5.E1, 5.E2, 5.H,5.J1,5.J2,5.J3,5.K, 5.O)
6.A: BPEO	No	BPEO is no longer a decision making tool in national guidance and therefore it would not be appropriate to appraise the implementation action as it stands
6.B: Preferred strategy	No	This is being tested through the detailed appraisal of options for Stage B
7.A1: collection service targets	Yes	Appraise as a group of related implementation actions for recycling (4.F1,4.F2, 4.G1,4.G2,4.G3,4.H1, 4.I1,4.I2, 4.K2,7.A1)
7.A2: Delivering recycling, sorting and bulking facilities	Yes	Appraise as a group of related implementation actions for delivering facilities (4.J1, 4.J2 , 7.A2, 7.B1,7.B2)
7.B1: material recycling facilities	Yes	
7.B2: residual waste treatment facilities	Yes	
7.C1: waste by rail	Yes	**Appraise as a group of related implementation actions for transportation (7.C1, 7.C2)**
7.C2: waste by water	Yes	
7.D1: delivering recycling and composting facilities	No	The financial implications of the strategy are considered separately from the SEA process

Table E1 (continued) Screening of Implementation Actions in Mayor's Draft NLJWS

Implementation Action	Assessment required?	Comment
7.D2: waste disposal contracts	No	
8.A: public awareness campaign	Yes	Appraise as a group of related implementation actions for working in partnership. (5.L, 8.A, 8.B1,8.B2,8.C1,8.C2, 8.D, 8.E,8.F1,8.F2)
8.B1: community sector involvement	Yes	
8.B2waste community compact partnership	Yes	
8.C1: sustainable services	Yes	
8.C2: waste management sites	Yes	
8.D: national funding	Yes	
8.E stakeholder engagement	Yes	
8.F1: new reprocessing infrastructure	Yes	
8.F2: sustainable purchasing policies	Yes	
8.G1: strategy implementation board	No	This implementation action refers primarily to an administrative or procedural issue which is unlikely to have any significant environmental, social or economic effects
8.G2: review and update strategy	No	This implementation action refers primarily to administrative or procedural issues which are unlikely to have any significant environmental, social or economic effects

1.14.2 Summary of groupings of implementation actions for assessment

1. Waste minimisation, reduction and re-use (4.A1,4.A2,4.A3,4.B1,4.B2,4.B3,4.B4,4.C1,4.C2)
2. Composting (4.D1,4.D2, 4.D3, 4.H2, 4.K1,4.K2)
3. Recycling (4.F1,4.F2, 4.G1,4.G2,4.G3,4.H1, 4.I1,4.I2, 4.K2,7.A1)
4. Delivering facilities (4.J1, 4.J2 , 7.A2, 7.B1,7.B2)
5. M1: Edmonton EFW
6. 4.M2: renewables obligations certificate
7. 4.N:Landfill and energy from landfill gas
8. Abandoned vehicles/fly tipping (5..A1,5..A2, 5..A3, 5.1)
9. Other household wastes (5..B.5.C,5.D1,5.D2,5.E1, 5.E2, 5.H,5.J1,5.J2,5.J3,5.K, 5.O)
10. Commercial wastes (5.F1,5.F2)
11. Construction and demolition waste (5.G1,5.G2)
12. Working in partnership. (5.L, 8.A, 8.B1,8.B2,8.C1,8.C2, 8.D, 8.E,8.F1,8.F2)
13. Special events (5.N1,5.N2)
14. Transportation (7.C1, 7.C2)

Appendix F
Implementation Actions Matrices

Implementation Actions – 1. Waste Minimisation, Reduction and Re-Use				
SEA 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	0	+	?	**Commentary** Has potential positive effect due to reduction in waste to landfill which should help to protect habitats. Unlikely to be any significant effects in the short term as these measures will take time to have an impact. **Temporary/Permanence:** Permanent **Likelihood of effect**: Uncertain as the link is indirect and will depend on specific impacts of land filling waste on habitats and species. **Geographical effect**: Potential effects outside the NLWA area if there is a reduction in waste exported to landfill elsewhere. **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	+	+	?	**Commentary** Positive effect as the amount of waste needing to be managed and treated should reduce; hence the risk of negative effects on people's health should be reduced. **Likelihood of effect**: Likely to occur **Geographical effect**: Could have effects both within and outside the NLWA area.
O3: To conserve and enhance natural soil structure and composition	0	+	?	**Commentary:** Has potential positive effect due to reduction in waste to landfill which should avoid disturbance of soil. Unlikely to be any significant effects in the short term as these actions will take time to implement. **Likelihood of effect:** Uncertain as it depends on the nature of the disposal and treatment which is avoided by this group of actions **Geographical effect:** Local – within NLWA area

Implementation Actions – 1. Waste Minimisation, Reduction and Re-Use				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O4: To improve air quality	0	+	?	**Commentary:** The actions will reduce the amount of waste going to landfill and needing to be treated. There will be no significant effects in the short term as these measures will take time to implement. **Likelihood of effect:** Uncertain as effects are indirect and it depends on the nature of the disposal and treatment which is avoided by this group of actions **Geographical effect:** Could have effects both within and outside the NLWA area
O5: To improve water quality	0	+	?	**Commentary:** The actions will reduce the amount of waste going to landfill and needing to be treated. This will reduce the amount of leachate from waste which can harm water quality. **Likelihood of effect:** Uncertain as effects are indirect and it depends on the nature of the disposal and treatment which is avoided by this group of actions **Geographical effect:** Could have effects both within and outside the NLWA area
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	0	+	?	**Commentary:** Potential indirect positive effects in helping to reduce waste to landfill and the transportation of waste hence reducing greenhouse gas emissions. There will be no significant effects in the short term as these measures will take time to implement. **Likelihood of effect:** Uncertain as effects are indirect and it depends on the nature of the disposal and treatment which is avoided by this group of actions **Geographical effect:** Could have effects both within and outside the NLWA area
O8: To adapt to the unavoidable consequences of climate change	/	/	/	**Commentary:** No relationship

Implementation Actions – 1. Waste Minimisation, Reduction and Re-Use				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O9: To minimise the production of waste arising from households and local authority business customers	+	++	?	**Commentary:** Positive effects which should increase in the medium/long term as the measures are further developed and implemented **Likelihood of effect** Uncertain as many of the actions depend on securing external funding or new charging systems being agreed and implemented. **Geographical effect:** Mainly within the NLWA area
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	+	+	?	**Commentary:** No direct relationship; however there may be positive indirect effects, as a result of awareness rising about reducing waste. **Likelihood of effect** Uncertain as many of the actions depend on securing external funding or new charging systems being agreed and implemented. In addition, public participation is required. **Geographical effect:** Mainly within the NLWA area
O11: To minimise the global, social and environmental impact of consumption of resources	+	++	?	**Commentary**: These actions will help reduce the amount of natural resources being used by encouraging better packaging and re using materials. **Likelihood of effect:** Uncertain as many of the actions depend on securing external funding or new charging systems being agreed and implemented. In addition, public participation is required. **Geographical effect:** National/global
O12: To enable waste to be disposed of at the nearest appropriate installation.	/	/	/	**Commentary** No relationship

Implementation Actions – 1. Waste Minimisation, Reduction and Re-Use				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment.	0	+	?	**Commentary:** Has potential positive effect due to reduction in waste to landfill and to other treatment technologies which should help to protect the historic environment. Unlikely to be any significant effects in the short term as these measures will take time to have an impact. **Likelihood of effect**: Uncertain as the link is indirect and will depend on specific impacts of land filling waste in the historic environment. **Geographical effect:** Potential effects outside the NLWA area if there is a reduction in waste exported to landfill elsewhere
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	/	/	/	**Commentary:** No relationship
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary** No relationship
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	+ ?	+ ?	?	**Commentary** Potential positive effects through the involvement of the community sector in re-use of unwanted materials. **Temporary/Permanence**: Uncertain as this will depend on the success of such actions being maintained in the future and also on the role played by the community sector. **Likelihood of effect:** Uncertain for the reasons set out above **Geographical effect:** Within the NLWA area. It is uncertain whether this would positively affect those most deprived communities within the NLWA as this depends on the detailed implementation of particular schemes.

Implementation Actions – 1. Waste Minimisation, Reduction and Re-Use				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O17: To encourage a strong, diverse and stable economy.	0	+	?	**Commentary:** May possibly encourage new businesses with new technologies to help minimise waste e.g.: new sustainable packaging. Short term effects unlikely as it will take time to implement measures. **Likelihood of effect:** Will depend on the success of the awareness and prevention campaigns and the funding needed for these campaigns. **Geographical effect:** Local/national depending on success
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+	+	?	**Commentary:** There is likely to be positive impacts as businesses may improve their environmental performance as a result the packaging prevention campaign suggested. **Temporary/Permanence**: Potentially permanent if fundamental changes in the way businesses work are made **Likelihood of effect:** Uncertain as many of the actions depend on securing external funding. **Geographical effect:** Could be within or outside NLWA area
O19: To maximise the accessibility and equality of services	+?	+?	?	**Commentary:** Waste minimisation actions should have a positive effect in terms of improving awareness of services however the effect on different groups within the community and on hard to reach groups is uncertain.
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	+	++	?	**Commentary:** Actions will develop waste reduction public awareness campaigns which will have a positive impact by getting people involved and enabling them to take responsibility. Over time participation should increase through these campaigns. **Likelihood of effect:** Uncertain as many of the actions depend on securing external funding or new charging systems being agreed and implemented. In addition, public participation is required. **Geographical effect:** NLWA area

Implementation Actions – 2. Composting				
SEA 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	+	+	?	**Commentary:** Reduction in waste going to landfill therefore will be less land taken for landfill sites which could have a positive effect upon biodiversity. **Temporary/Permanence:** Duration of the strategy **Likelihood of effect**: Uncertain as the link is indirect and will depend on specific impacts of land filling waste on habitats and species. In addition how and where the composting waste from collections will be treated could alter the effects. **Geographical effect**: Potential effects outside the NLWA area if there is a reduction in waste exported to landfill elsewhere. **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	+/-	+/-	?	**Commentary** Positive and negative effects as there would be less disturbance to amenity due to the reduction of waste going to landfill however the composting could create odour and vermin issues which may have health effects. **Likelihood of effect**: Likely to occur **Geographical effect**: Could have effects at the household level and also within the NLWA and outside.
O3: To conserve and enhance natural soil structure and composition	0	++	?	**Commentary:** Has potential positive effect due to reduction in waste to landfill which should avoid disturbance of soil. In addition, composting outputs could be used as soil improvers for the householder with a garden and also as outputs of subsequent treatment. Unlikely to be any significant effects in the short term as these actions will take time to implement. **Temporary/Permanence:** Permanent

Implementation Actions – 2. Composting				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
				Likelihood of effect: Uncertain as it depends on the quality of the outputs. **Geographical effect:** Local – within NLWA area
O4: To improve air quality	0	0	0	**Commentary:** The actions will reduce the amount of waste going to landfill which will reduce emissions to air however there will be emissions from the composting process e.g. bioaerosols which can have effects locally.. **Temporary/Permanence:** Duration of the strategy – if people participate in composting. **Likelihood of effect:** It will depend on the uptake of composting. **Geographical effect:** NLWA area
O5: To improve water quality	+?	+?	+?	**Commentary:** The actions will reduce the amount of waste going to landfill. This will reduce the amount of leachate from waste which can harm water quality. However composting of waste if not controlled could harm water quality **Likelihood of effect:** Will depend on whether the composting is controlled. **Geographical effect:** Could have effects both within and outside the NLWA area
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship

Implementation Actions – 2. Composting				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O7: To address the causes of climate change	+?	+?	+?	**Commentary:** The actions will reduce the amount of waste going to landfill which will reduce greenhouse gas emissions to air however there will be emissions from the composting. Research for DEFRA in 2007[2] indicated that *"for some organic materials we found increased greenhouse gas and/or energy demand impacts associated with composting. In practice it is considered that the balance of greenhouse gas potential may swing either way"* **Temporary/Permanence:** Duration of the strategy – if people participate in composting. **Likelihood of effect:** It will depend on the uptake of composting. **Geographical effect:** Global
O8: To adapt to the unavoidable consequences of climate change	?	?	?	**Commentary:** There are some potential links with this objective. For example as a result of predicted higher temperatures and increased decomposition rates, however, the detailed effects are uncertain
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship – these actions relate to disposal not minimising the production of waste.
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	++	++	?	**Commentary:** There will be a positive effect as these actions should increase composting, the outputs of which can be used for gardens or agriculture as soil improvers. **Likelihood of effect** Uncertain – will depend on the public participation **Geographical effect:** Within the NLWA area

[2] Carbon Balances and Energy Impacts of the Management of UK Waste Streams ERM December 2006

Implementation Actions – 2. Composting				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O11: To minimise the global, social and environmental impact of consumption of resources	+	+	?	**Commentary**: Potentially positive effects as increasing household composting should help reduce resource consumption..
O12: To enable waste to be disposed of at the nearest appropriate installation.	?/+	?/++	?	**Commentary:** Potentially positive effects as household composting bins will be the nearest appropriate installation for biodegradable waste however where compost is collected it is unknown whether this waste is taken to the nearest appropriate installation. **Likelihood of effect:** Uncertain will depend on public participation and the composting facilities will be located. **Geographical effect:** Within the NWLA area
O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment.	0	+	?	**Commentary:** Has potential positive effect due to reduction in waste to landfill and to other treatment technologies which should help to protect the historic environment. Unlikely to be any significant effects in the short term as these measures will take time to have an impact. **Likelihood of effect**: Uncertain as the link is indirect and will depend on specific impacts of land filling waste in the historic environment. **Geographical effect:** Potential effects outside the NLWA area if there is a reduction in waste exported to landfill elsewhere
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	/	/	/	**Commentary:** No relationship
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary** No relationship

Implementation Actions – 2. Composting				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	+	+	?	**Commentary:** Potential positive effects as businesses will be needed to collect the composting where door to door collections are required. Markets could be created for the compost outputs. **Temporary/Permanence**: Duration of the strategy if uptake is maintained. **Likelihood of effect:** Uncertain – will depend on public participation **Geographical effect:** NLWA area
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+	+	?	**Commentary:** Potential positive effect as these actions could encourage businesses to compost and possibly invest in technology. **Likelihood of effect:** Will depend on businesses taking part **Geographical effect:** NLWA area
O19: To maximise the accessibility and equality of services	++?	++?	?	**Commentary:** Potential positive effect as these actions allow people to compost in their own home/garden with collection services if they do not have a garden. The uptake of home composting is dependent on the detail of how it is implemented by the partner authorities and the nature of incentives provided e.g. subsidised compost bins. The effects on different parts of the community are therefore uncertain. There is little evidence within the actions as to how hard to reach groups within the community will be engaged **Likelihood of effect:** Likely **Geographical effect**: NLWA area - especially deprived boroughs

Implementation Actions – 2. Composting				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	+?	++?	?	**Commentary:** These actions allow people to take part in community compost projects **Likelihood of effect:** Uncertain as these actions depend on funding and the uptake by the public. Geographical effect: NLWA area

Implementation Actions – 3 Recycling				
SEA 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	+	+?	+?	**Commentary:** No change until 2014 (medium term) as this is the end of the current waste contract. Has potential positive effect due to reduction in waste to landfill which should help to protect habitats. Do not know location of future facilities therefore longer term effects uncertain. **Temporary/Permanence:** For duration of the strategy although the momentum of recycling is likely to be maintained beyond the life of the strategy. **Likelihood of effect:** Uncertain **Geographical effect:** Could benefit areas around receiving landfill sites outside NLWA area. **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	?	?	?	**Commentary** There may be indirect effects on health and well being. Increased recycling will divert waste from landfill, potentially reducing impacts associated with these sites. Greater local recycling provision does have the potential to create local impacts on communities although this can be managed by appropriate controls. **Geographical effect:** Within and outside NLWA area
O3: To conserve and enhance natural soil structure and composition	/	/	/	**Commentary:** No relationship
O4: To improve air quality	?	?	?	**Commentary:** Although this will divert from landfill, both recycling facilities and landfill sites could have air quality impacts. Effects will depend on specific location of sites. **Geographical effect:** Within and outside NLWA area

Implementation Actions – 3 Recycling				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O5: To improve water quality	?	?	?	**Commentary:** Secondary effects could occur as a result of diverting waste from landfill, which may help improve water quality in the areas affected. Local recycling facilities and landfill sites have impacts on water quality. Effects will depend on specific location of sites. **Geographical effect:** Uncertain
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	++	++	++?	**Commentary:** Enhanced recycling will divert waste from landfill, and this will help reduce contribution to climate change through reducing greenhouse gas emissions. Research for DEFRA in 2007[3] indicated that recycling and recovery of waste paper and card has significant potential for greenhouse gas emission savings. The recycling of plastics and textiles also had potential benefits **Temporary/Permanence:** For duration of the strategy although the momentum of recycling is likely to be maintained beyond the life of the strategy. **Likelihood of effect:** Likely **Geographical effect:** Global
O8: To adapt to the unavoidable consequences of climate change	?	?	?	**Commentary:** There could be potential links with this objective as a result of higher temperatures, increased winter precipitation and storms. This could affect the design and operation of recycling services and facilities although specific effects are uncertain.

[3] Carbon Balances and Energy Impacts of the Management of UK Waste Streams ERM December 2006

Implementation Actions – 3 Recycling				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O9: To minimise the production of waste arising from households and local authority business customers	+	+	+?	**Commentary:** Although these actions are related to recycling there are potential indirect effects on encouraging people to minimise the production of waste. **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	++	++	++?	**Commentary:** These implementation actions will contribute positively to this objective as they are all about reuse, recycling and recovery. **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area
O11: To minimise the global, social and environmental impact of consumption of resources	++	++	++?	**Commentary**: Research for DEFRA in 2007[4] indicated that recycling and recovery of waste paper and card has significant potential for fossil fuel demand savings. The recycling of plastics and textiles also had potential benefits **Likelihood of effect:** Likely **Geographical effect:** Global
O12: To enable waste to be disposed of at the nearest appropriate installation.	/	/	/	**Commentary:** No relationship

[4] Carbon Balances and Energy Impacts of the Management of UK Waste Streams ERM December 2006

Implementation Actions – 3 Recycling				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	?	+?	+?	**Commentary:** The provision of local recycling facilities including sites could have effects on the built environment; however without further information the effects are uncertain. There may also be indirect effects as a result of reducing landfill and positive effects on areas around landfill sites. **Geographical effect:** Uncertain
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	?	?	?	**Commentary:** Uncertain as dependent on implementation. Potential for greater influence in the med/long term as new facilities are brought on stream
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary:** No relationship
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	+	+	+?	**Commentary:** Potential for businesses to develop recycling facilities and for local markets to develop for residual waste **Likelihood of effect:** Likely **Geographical effect:** Local/National/Global – depends on the companies involved
O18: To improve the resilience of businesses and their environmental, social and economic performance.	/	/	/	**Commentary:** No relationship as these actions are focused on households

Implementation Actions – 3 Recycling				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O19: To maximise the accessibility and equality of services	+?	++ ?	++?	**Commentary:** Positive effect through greater provision of local services, which should improve in the medium/long term. Increasing facilities to 95% door-to-door will almost meet this objective, but does discriminate against the remaining 5% who will not have those facilities. No clear actions as to how more deprived or hard to reach groups would be targeted. **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	+	+	+?	**Commentary:** More facilities are being provided, therefore likely to be more participation, but promotion will be needed to maximise participation. **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area

Implementation Actions – 4 Delivering Facilities				
SEA 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	?	?	?	**Commentary**. Do not know where new facilities will be located under and therefore cannot predict impacts. **Temporary/Permanence:** For duration of the strategy **Likelihood of effect:** Uncertain **Geographical effect:** Uncertain **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	?	?	?	**Commentary** Proposals for new facilities will divert waste from landfill reducing resultant effects in these areas. New recycling facilities could have adverse impacts in terms of health and well being although this not possible to predict as location of sites is not known.
O3: To conserve and enhance natural soil structure and composition	+?	+?	?	**Commentary:** Commitment to provide new composting facilities may help in encouraging production of soil improvers and also indirectly in reducing the potential need for further landfill elsewhere. However without further detail it is difficult to predict effects.
O4: To improve air quality	+?	+?	?	**Commentary:** Uncertain effects although locating sites at new facilities within the NLWA will help reduce distances travelled by waste vehicles, therefore potential for positive impact. Reference to proximity principle is noted in 4J1; however this principle is no longer present in government guidance. **Likelihood of effect:** For duration of the strategy **Geographical effect:** Local/Regional

Implementation Actions – 4 Delivering Facilities				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O5: To improve water quality	?	?	?	**Commentary:** Uncertain effects without further information about sites.
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	+	++	++?	**Commentary:** Commitment to provide new facilities should help in reducing landfill and hence reducing greenhouse gas emissions and also indirectly in reducing the potential need for further landfill elsewhere. However without further detail it is difficult to predict effects. **Temporary/Permanence:** For duration of the strategy, although benefits likely to be felt beyond life of strategy **Likelihood of effect:** Uncertain **Geographical effect:** Global
O8: To adapt to the unavoidable consequences of climate change	?	?	?	**Commentary:** The identification of future sites and upgrading of existing ones could contribute to this objective; however the effects are uncertain as the locations and nature of facilities are not known. The extent of climate adaptation measures within existing facilities is also not known
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship. Providing sites does not minimise production of waste.
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	+	++	?	**Commentary:** These implementation actions involved providing facilities for reuse, recycling and recovery and a commitment to deliver these. **Likelihood of effect:** Likely

Implementation Actions – 4 Delivering Facilities				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
				Geographical effect: Within the NLWA area

Implementation Actions – 4 Delivering Facilities				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O11: To minimise the global, social and environmental impact of consumption of resources	++	++	?	**Commentary**: Reuse, recycling and recovery facilities will reduce the need for resource use. **Likelihood of effect:** Likely **Geographical effect:** Global
O12: To enable waste to be disposed of at the nearest appropriate installation.	+?	++?	?	**Commentary:** Uncertain effects although locating sites at new facilities within the NLWA will help reduce distances travelled by waste vehicles, therefore potential for positive impact. Reference to proximity principle is noted in 4J1; however this principle is no longer present in government guidance. **Temporary/Permanence:** For duration of the strategy. **Likelihood of effect:** Likely **Geographical effect:** Global
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	0	?	?	**Commentary:** No change until 2014 (medium term) as this is this is based primarily on a network of existing facilities. Do not know where new facilities will be located under the new contract and therefore cannot predict impacts.
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	?	?	?	**Commentary:** Uncertain effects as do not know how new facilities will be designed or constructed.
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	?	?	?	**Commentary:** Existing reliance on landfill for disposal does not contribute positively to this objective. There is no commitment to focus on previously developed land although strategy indicates that efficient use is being made of existing facilities. Do not know where new recycling facilities will be located, therefore cannot predict effects.

Implementation Actions – 4 Delivering Facilities				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	+?	?	?	**Commentary:** Redevelopment of Hornsey Street and proposed redevelopment of Hendon are associated with regeneration schemes. Do not know where new recycling facilities will be located beyond 2014 therefore cannot predict effects. **Temporary/Permanence:** For duration of the strategy **Likelihood of effect:** Uncertain **Geographical effect:** Uncertain
O17: To encourage a strong, diverse and stable economy.	0	+	?	**Commentary:** Potential for business to develop sites/facilities **Temporary/Permanence:** For duration of the strategy **Likelihood of effect:** Likely **Geographical effect:** Local/National/Global – depends on the companies involved
O18: To improve the resilience of businesses and their environmental, social and economic performance.	/	/	/	**Commentary:** No relationship
O19: To maximise the accessibility and equality of services	/	/	/	**Commentary:** No relationship
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	/	/	/	**Commentary:** No relationship

Implementation Actions – 5. Edmonton EfW				
SEA 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	+?	/	/	**Commentary:** Commitment to Edmonton helps reduce waste to landfill and potentially benefits biodiversity in these areas, although the detail of any effects is uncertain. **Permanence/Likelihood:** As the action only relates to the current contract period there is no relationship with this objective post 2014. The effects are therefore temporary to 2014 and there is uncertainty beyond 2014. **Geographical Effect:** The effects will be felt both within and outside the NLWA area. **NB Comments above relating to permanence, likelihood and geographical apply to all the objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	0	/	/	**Commentary**: It understood that Edmonton currently complies with or exceeds the Environment Agency's emission standards and assuming this continues until 2014 any effects in the short term are considered to be neutral. As the action only relates to the current contract period there is no relationship with this objective post 2014.
O3: To conserve and enhance natural soil structure and composition	/	/	/	**Commentary:** No relationship
O4: To improve air quality	0	/	/	**Commentary:** It understood that Edmonton currently complies with or exceeds the Environment Agency's emission standards and assuming this continues until 2014 any effects in the short term are considered to be neutral. As the action only relates to the current contract period there is no relationship with this objective post 2014.
O5: To improve water quality	+?	/	/	**Commentary:** Current effects of the facility not known however there should be potential indirect benefits in reducing waste to landfill and consequent potential pollution risks.
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship

Implementation Actions – 5. Edmonton EfW				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O7: To address the causes of climate change	+	/	/	**Commentary:** Commitment to Edmonton will help reduce landfill and therefore resultant greenhouse gas emissions. **Geographical effect**: Global
O8: To adapt to the unavoidable consequences of climate change	/	/	/	**Commentary:** No relationship
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	0	/	/	**Commentary:** There will not be any change from the baseline in the short term as this facility is already in use and will be until 2014 after which the effects will be uncertain.
O11: To minimise the global, social and environmental impact of consumption of resources	0	/	/	**Commentary:** There will not be any change from the baseline in the short term as this facility is already in use and will be until 2014 after which the effects will be uncertain.
O12: To enable waste to be disposed of at the nearest appropriate installation.	+	/	/	**Commentary:** Commitment to existing facility within NLWA area is positive in the short term.
O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment.	+?	/	/	**Commentary:** Commitment to Edmonton helps reduce waste to landfill and potentially benefits to the built environment in these areas, although the detail of any effects is uncertain.
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	/	/	/	**Commentary:** No relationship

Implementation Actions – 5. Edmonton EfW				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	+	/	/	**Commentary:** As Edmonton is a pre-existing facility effects are positive in the short term.
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	?	/	/	**Commentary:** Effects are uncertain without more detailed information on the economic impacts of Edmonton.
O18: To improve the resilience of businesses and their environmental, social and economic performance.	/	/	/	**Commentary:** No relationship.
O19: To maximise the accessibility and equality of services	/	/	/	**Commentary:** No relationship
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	/	/	/	**Commentary:** No relationship

Implementation Actions – 6. Recovery eligible for Renewable Obligations Certificates				
SEA 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	/	/	/	**Commentary:** No relationship
O2: To maximise the health and well-being of the population	/	/	/	**Commentary:** No relationship
O3: To conserve and enhance natural soil structure and composition	/	/	/	**Commentary:** No relationship
O4: To improve air quality	0	+	?	**Commentary:** Potentially positive effects as a result of renewable energy recovery from waste therefore not burning fossil fuels to generate energy which could improve air quality by a reduction in emissions. There will not be any change in the short term as the current treatment is the Edmonton EfW which is already in use. **Temporary/Permanence:** Duration of the strategy. **Likelihood of effect**: Uncertain as effects may not be noticeable due to other factors such as vehicle emissions affecting air quality **Geographical effect**: NLWA and nationally. **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O5: To improve water quality	/	/	/	**Commentary:** No relationship
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	+	++	?	**Commentary:** Potentially positive effects as a result of renewable energy recovery from waste therefore not burning fossil fuels to generate energy which would reduce greenhouse gas emissions.

Implementation Actions – 6. Recovery eligible for Renewable Obligations Certificates				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O8: To adapt to the unavoidable consequences of climate change	/	/	/	**Commentary:** No relationship
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	0	+	?	**Commentary**: Potentially positive impacts post 2014 when there is a new waste disposal contract as the strategy is encouraging energy recovery from treatment facilities. **Likelihood of effect**: Will be dependent upon the Waste Development Plan Document and decisions taken by the Partner Authorities. **Geographical effect**: NLWA area.
O11: To minimise the global, social and environmental impact of consumption of resources	+	+	?	**Commentary:** Potentially positive effects as a result of renewable energy recovery from waste therefore not burning fossil fuels (natural resources) to generate energy. **Likelihood of effect**: Uncertain as effects may not be noticeable due to other pressures on resources. **Geographical effect**: NLWA and nationally.
O12: To enable waste to be disposed of at the nearest appropriate installation.	/	/	/	**Commentary:** No relationship
O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment.	/	/	/	**Commentary:** No relationship

Implementation Actions – 6. Recovery eligible for Renewable Obligations Certificates				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	/	/	/	**Commentary:** No relationship
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary:** No relationship
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	+	++	?	**Commentary:** Potentially highly positive effects upon the economy as recovery of energy eligible for Renewables Obligations provides a significant boost to the market price of renewable electricity. Encouraging this energy production will create a strong market for green electricity. **Likelihood of effect**: Will be dependent upon the Waste Development Plan Document and decisions taken by the Partner Authorities. **Geographical effect**: NLWA area/National/International
O18: To improve the resilience of businesses and their environmental, social and economic performance.	0	++	?	**Commentary:** Potentially highly positive effects upon the resilience of waste businesses and their environmental and economic performance. Recovery of energy eligible for Renewables Obligations provides a significant boost to the market price of renewable electricity and is considered to be green electricity. Recovering energy will also reduce the consumption of natural resources by businesses and could make their facilities self sufficient in terms of energy usage. **Temporary/Permanence:** Duration of the waste contract

Implementation Actions – 6. Recovery eligible for Renewable Obligations Certificates				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
				Likelihood of effect: Will be dependent upon the Waste Development Plan Document and decisions taken by the Partner Authorities. **Geographical effect**: NLWA area/National/International
O19: To maximise the accessibility and equality of services	/	/	/	**Commentary:** No relationship
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	/	/	/	**Commentary:** No relationship

Implementation Actions – 7. Minimise disposal to landfill and recover energy from landfill gas				
SEA 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	+?	+?	+?	**Commentary:** Reduction in waste going to landfill therefore there will be less land taken for landfill sites which could have a positive effect upon biodiversity on those areas. This is however dependent on the alternative facilities being developed to minimise biodiversity impacts. The effects could therefore be positive but there is some uncertainty. **Temporary/Permanence:** Duration of the strategy but effects likely to be maintained beyond end of strategy life. **Likelihood of effect**: Uncertain **Geographical effect**: Within and outside NLWA area. **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	?	+?	+?	**Commentary:** Reduction in waste going to landfill therefore there will be less land taken for landfill sites which could have a positive effect upon health on those areas. This is however dependent on the alternative facilities being developed to minimise health impacts. The effects could therefore be positive but there is some uncertainty.
O3: To conserve and enhance natural soil structure and composition	+?	+?	+?	**Commentary:** Has potential positive effect due to reduction in waste to landfill which avoids disturbance of soil as landfill sites are predominantly in agricultural areas with quality soils.
O4: To improve air quality	+?	+?	+?	**Commentary:** Has potential positive effect due to reduction in waste to landfill which reduces effects of odour and dust however effects uncertain as it depends on the alternative treatments and the effects of these.
O5: To improve water quality	+?	+	+?	**Commentary:** The actions will reduce the amount of waste going to landfill. This will reduce the amount of leachate from waste which can harm water quality. Alternatives to landfill option are unknown however likely to have less risk to water quality.

Implementation Actions – 7. Minimise disposal to landfill and recover energy from landfill gas				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	+	+	+?	**Commentary:** The actions will reduce the amount of waste going to landfill which will reduce methane emissions to air. Energy will be recovered where practicable from any methane from landfills that will be needed. **Geographical effect:** Global
O8: To adapt to the unavoidable consequences of climate change	?	?	?	**Commentary:** There could be potential links with this objective as a result of higher temperatures, increased winter precipitation and storms. This could effect the amount of energy recovered from landfill gas although specific effects are uncertain
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship – this action relates to disposal not minimising the production of waste.
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	+ ?	+	?	**Commentary:** There will be a positive effect as there will be energy recovery where practicable from landfill gas. **Likelihood of effect** Likely **Geographical effect:** Within the NLWA area
O11: To minimise the global, social and environmental impact of consumption of resources	+ ?	+	?	**Commentary:** Potentially positive effects as a result of energy recovery from landfill gas therefore not burning fossil fuels (natural resources) to generate energy. **Geographical effect**: Global.

Implementation Actions – 7. Minimise disposal to landfill and recover energy from landfill gas				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O12: To enable waste to be disposed of at the nearest appropriate installation.	+ ?	+?	?	**Commentary:** As land filling currently takes place some distance from the NLWA area, aims to reduce landfill should assist in waste being disposed of/treated in more appropriate facilities closer to the source of wastes in NLWA although the exact locations of the new facilities are not known.
O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment.	0	?	?	**Commentary:** Has potential positive effect due to reduction in waste to landfill which should help to protect the historic environment however uncertain of effects as other treatment facilities needed may effect the built and historic environment.
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	/	/	/	**Commentary:** No relationship
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	+?	+?	**Commentary:** Has potential positive effect due to reduction in waste to landfill which should help to protect Greenfield sites however uncertain of effects as other treatment facilities needed may take more land that is Greenfield. **Temporary/Permanence**: Permanent
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	+	+	?	**Commentary:** Potential positive effects upon the economy as recovery of energy can be sold to the national grid. **Likelihood of effect**: Will be dependent upon the amount of energy produced. **Geographical effect**: NLWA area/National/International

Implementation Actions – 7. Minimise disposal to landfill and recover energy from landfill gas				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+	+	?	**Commentary:** Potential positive effects upon waste operators as recovery of energy can improve their environmental and economic performance. **Likelihood of effect**: Will be dependent upon the amount of energy produced. **Geographical effect**: NLWA area/National/International
O19: To maximise the accessibility and equality of services	/	/	/	**Commentary:** No relationship
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	/	/	/	**Commentary:** No relationship

Implementation Actions – 8. Abandoned Vehicles and Fly tipping				
SEA 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	+	+	?	**Commentary** Has potential positive effect due to reducing the polluting risks of abandoned vehicles and fly tipping in areas of local biodiversity. Uncertain whether measures will remain post strategy. **Temporary/Permanence:** Duration of strategy. **Likelihood of effect**: Uncertain as will depend on the success of the arrangements for dealing with abandoned vehicles and fly tipping and assumes that disposal facilities will not have adverse effects. **Geographical effect**: NLWA area **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	+	+	?	**Commentary** Has potential positive effect due to reducing social effects of abandoned vehicles and fly tipping. Improves people's amenity if these are managed appropriately. Uncertain whether measures will remain post strategy.
O3: To conserve and enhance natural soil structure and composition	+	+	?	**Commentary** Has potential positive effect due to reducing the polluting risks of abandoned vehicles and fly tipping in areas of high soil quality. Uncertain whether measures will remain post strategy.
O4: To improve air quality	/	/	/	**Commentary:** No relationship
O5: To improve water quality	+	+	?	**Commentary** Has potential positive effect due to reducing the polluting risks of abandoned vehicles and fly tipping to water. Uncertain whether measures will remain post strategy.
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship

Implementation Actions – 8. Abandoned Vehicles and Fly tipping				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O7: To address the causes of climate change	/	/	/	**Commentary:** No relationship.
O8: To adapt to the unavoidable consequences of climate change	/	/	/	**Commentary:** No relationship
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	+	+	?	**Commentary:** Potential positive impact as it will provide recycling facilities for abandoned vehicles and recover materials. **Likelihood of effect** Likely
O11: To minimise the global, social and environmental impact of consumption of resources	+	+	?	**Commentary:** Potential positive impact as it will provide facilities for abandoned vehicles to recover materials such as metals. **Likelihood of effect** Likely
O12: To enable waste to be disposed of at the nearest appropriate installation.	?	?	?	**Commentary** Uncertain effects as there is no knowledge of where the proposed facilities will be located.
O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment.	+	+	?	**Commentary** Has potential positive effect due to reducing the amount of abandoned vehicles and fly tipping. It could therefore enhance the existing built and historic environment. Uncertain whether measures will remain post strategy.
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	/	/	/	**Commentary:** No relationship

Implementation Actions – 8. Abandoned Vehicles and Fly tipping				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary** No relationship
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	+	+	?	**Commentary:** Potential positive effects as clearing up fly tipping and abandoned vehicles could stimulate the regeneration of the area.
O17: To encourage a strong, diverse and stable economy.	0	+	?	**Commentary:** May possibly encourage new businesses as it will make the area more attractive by clearing abandoned vehicles and fly tipping. **Likelihood of effect:** Will depend on the success of these actions and other economic factors.
O18: To improve the resilience of businesses and their environmental, social and economic performance.	/	/	/	**Commentary:** No relationship
O19: To maximise the accessibility and equality of services	+	+	?	**Commentary:** . Actions may encourage respect for people and their environment by dealing with waste problems. Short term effects will not be seen as the facilities will need to be built. **Likelihood of effect:** Likely
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	+	+	?	**Commentary:** Providing facilities to dispose of vehicles and encouraging general public to use them. Short term effects will not be seen as the facilities will need to be built. **Likelihood of effect:** Likely

Implementation Actions – 9 Other Household Wastes				
SEA 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	+	+	?	**Commentary:** Diverting from landfill and reducing pollution from hazardous waste. Action does not mention additional sites as part of this. **Temporary/Permanence:** For duration of the strategy **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	+	+	?	**Commentary** There will be better access to facilities as a result of this action and will make it easier for people to dispose of hazardous and bulky waste.
O3: To conserve and enhance natural soil structure and composition	+	+	?	**Commentary:** Diverting from landfill and reducing pollution from hazardous waste. Action does not mention additional sites as part of this.
O4: To improve air quality	+	+	?	**Commentary:** Could have positive effect on air quality through provision of services for hazardous waste, fridge disposal etc. **Likelihood of effect:** Uncertain **Geographical effect:** Uncertain
O5: To improve water quality	+	+	?	**Commentary:** Diverting from landfill and reducing pollution from hazardous waste. Action does not mention additional sites as part of this.
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship

Implementation Actions – 9 Other Household Wastes				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O7: To address the causes of climate change	/	/	/	**Commentary:** No relationship
O8: To adapt to the unavoidable consequences of climate change	?	?	?	**Commentary:** There could be potential links with this objective as a result of higher temperatures, increased winter precipitation and storms. This could affect the ability to reuse and recycle other household waste although specific effects are uncertain.
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	++	++	?	**Commentary:** Increasing provision of recycling and reuse facilities will help to increase reuse, recycling and recovery rates.
O11: To minimise the global, social and environmental impact of consumption of resources	+	+	?	**Commentary**: Reuse and recycling will help reduce the need for resource use. **Geographical effect:** Global
O12: To enable waste to be disposed of at the nearest appropriate installation.	?	?	?	**Commentary:** Do not know where sites are located, therefore uncertain
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	0	0	?	**Commentary:** No effects, as no new sites proposed **Likelihood of effect:** Uncertain **Geographical effect:** Uncertain
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	/	/	/	**Commentary:** No relationship

Implementation Actions – 9 Other Household Wastes				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	++	++	?	**Commentary:** Action suggests new sites are not proposed, but existing sites will be used more efficiently.
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	+	+	?	**Commentary:** May help to diversity the economy by creating new markets for new waste streams. **Geographical effect:** Local/National/Global – depends on the companies involved
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+	+	?	**Commentary:** When increased facilities are available will enable businesses to recycle waste that they cannot at present. **Geographical effect:** Local/National/Global – depends on the companies involved
O19: To maximise the accessibility and equality of services	++ ?	++ ?	?	**Commentary:** Increases service provision including collection services therefore making services more accessible. Do not know how the services will be advertised and who will be able to make the most use of them. **Likelihood of effect:** Likely **Geographical effect:** Uncertain
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	++	++	?	**Commentary:** Increases service provision including collection services therefore making services more accessible.

Implementation Actions – 10 Commercial waste charging				
SEA 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	/	/	/	**Commentary:** No relationship
O2: To maximise the health and well-being of the population	/	/	/	**Commentary:** No relationship
O3: To conserve and enhance natural soil structure and composition	/	/	/	**Commentary:** No relationship
O4: To improve air quality	/	/	/	**Commentary:** No relationship
O5: To improve water quality	/	/	/	**Commentary:** No relationship
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	/	/	/	**Commentary :**No relationship
O8: To adapt to the unavoidable consequences of climate change	/	/	/	**Commentary:** No relationship
O9: To minimise the production of waste arising from households and local authority business customers	+	+	?	**Commentary:** The proposals are intended to help reduce household and business waste generation. **Temporary/Permanence:** For duration of the strategy **Likelihood of effect:** Uncertain **Geographical effect:** Within the NLWA area

Implementation Actions – 10 Commercial waste charging				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	+	+	?	**Commentary:** The proposals are intended to help reduce household and business waste generation.

Implementation Actions – 10 Commercial waste charging				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O11: To minimise the global, social and environmental impact of consumption of resources	+	+	?	**Commentary:** The proposals are intended to help reduce household and business waste generation, and should therefore help reduce resource consumption
O12: To enable waste to be disposed of at the nearest appropriate installation.	/	/	/	**Commentary:** No relationship
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	/	/	/	**Commentary:** No relationship
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	+?	+?	?	**Commentary:** Could be indirect effects if business are charged for disposing of waste they may be more inclined to reuse building materials.
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary:** No relationship
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	?	?	?	**Commentary:** Current extent of non-payment for commercial waste is not evident from strategy. Could be negative impact on small businesses in forcing them to pay for waste disposal, although there are wider benefits to the economy of ensuring equitable charging across the business community.
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+?	+?	?	**Commentary:** If businesses are charged for disposing of waste they may consider environmental impact of their waste more carefully.

Implementation Actions – 10 Commercial waste charging				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O19: To maximise the accessibility and equality of services	/	/	/	**Commentary:** No relationship
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	+	+	?	**Commentary:** Proposals promote more responsibility for individual businesses for the waste they produce **Likelihood of effect:** Uncertain as depends on implementation

Implementation Actions – 11. Construction and demolition waste				
SEA 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	0	+	?	**Commentary:** Reduction in waste going to landfill and the promotion of existing sites for C&D recycling therefore there will be less land taken for landfill sites which could have a positive effect upon biodiversity. **Temporary/Permanence:** Duration of the strategy. **Likelihood of effect**: Likely **Geographical effect**: NLWA area. **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	?	?	?	**Commentary**: Do not know the location and nature of the facilities and therefore effects are uncertain. **Likelihood of effect**: Uncertain
O3: To conserve and enhance natural soil structure and composition	0	+	?	**Commentary:** Has potential positive effect due to reduction in C&D waste to landfill which avoids disturbance of soil as landfill sites are predominantly in agricultural areas with quality soils.
O4: To improve air quality	?	?	?	**Commentary:** Impacts dependent on location of facilities and therefore uncertain
O5: To improve water quality	?	?	?	**Commentary: :** Impacts dependent on location of facilities and therefore uncertain
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship

Implementation Actions – 11. Construction and demolition waste				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O7: To address the causes of climate change	+?	+?	?	**Commentary:** Reduction in landfill of biodegradable C&D waste should have positive effects, although transport emissions will depend on location of facilities which is not known. **Geographical effect:** NLWA area and national.
O8: To adapt to the unavoidable consequences of climate change	/	/	/	**Commentary:** No relationship
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship – this action relates to disposal not minimising the production of waste.
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	+	++	?	**Commentary:** There will be a gradual positive effect as there will be recycling of C&D waste and recovery of the material. Actions promote the use of existing sites.
O11: To minimise the global, social and environmental impact of consumption of resources	+	++	?	**Commentary:** There will be a positive effect as there will be recycling of C&D waste and recovery of the material therefore conserving natural resources. Actions promote the use of existing sites.
O12: To enable waste to be disposed of at the nearest appropriate installation.	?	?	?	**Commentary:** Uncertain as do not know where the sites will be located in relation to waste arisings.
O13: To enhance and protect the existing built environment including heritage assets and the wider historic environment.	+?	+?	?	**Commentary:** Has potential positive effect due to reduction in C&D waste to landfill and the promotion of existing sites which should reduce disturbance to the historic environment. **Temporary/Permanence**: Permanent **Likelihood of effect**: Uncertain as the link is indirect and will depend on specific impacts of land filling waste in the historic environment.

Implementation Actions – 11. Construction and demolition waste				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
				Geographical effect: Potential effects outside the NLWA area if there is a reduction in waste exported to landfill elsewhere
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	+	+	?	**Commentary:** has potential positive effect by potentially providing recyclable material for new buildings to be constructed in a sustainable way. **Temporary/Permanence**: Duration of the strategy **Likelihood of effect**: Uncertain – as this is indirect and would need some other policy statement to ensure that materials recycled are used sustainably. **Geographical effect:** NLWA area or outside if materials are exported.
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	+	+	?	**Commentary:** Has potential positive effect due to the promotion of using existing sites for recycling facilities.
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	+	+	?	**Commentary:** Potential positive effects upon the economy as actions may create bigger markets for recycled C&D waste **Temporary/Permanence:** Duration of the strategy. **Likelihood of effect**: Will be dependent upon the value of the C&D waste, supply and demand. **Geographical effect**: NLWA area/National/International

Implementation Actions – 11. Construction and demolition waste				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+	+	?	**Commentary:** Potential positive effects upon waste operators as actions encourage further investment in recycling technologies for C&D waste. **Temporary/Permanence:** Duration of the strategy. **Likelihood of effect**: Uncertain – as existing sites are promoted therefore investment may have already occurred. **Geographical effect**: NLWA area/National/International
O19: To maximise the accessibility and equality of services	/	/	/	**Commentary:** No relationship
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	/	/	/	**Commentary:** No relationship

Implementation Actions – 12 Working in Partnership				
SEA 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	/	/	/	**Commentary:** No relationship
O2: To maximise the health and well-being of the population	+?	+?	?	**Commentary:** Potential Indirect effects from increased partnership working which should assist in delivery of facilities which minimise effects on human health although this is uncertain. **Temporary/Permanence:** For duration of the strategy **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O3: To conserve and enhance natural soil structure and composition	/	/	/	**Commentary:** No relationship
O4: To improve air quality	/	/	/	**Commentary:** No relationship
O5: To improve water quality	/	/	/	**Commentary:** No relationship
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	/	/	/	**Commentary:** No relationship
O8: To adapt to the unavoidable consequences of climate change	/	/	/	**Commentary:** No relationship

Implementation Actions – 12 Working in Partnership				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O9: To minimise the production of waste arising from households and local authority business customers	+?	+?	?	**Commentary:** Potential indirect effects from increased partnership working which should assist in promoting waste minimisation **Likelihood of effect:** Uncertain **Geographical effect:** Uncertain
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	++	++	?	**Commentary:** Providing additional facilities and increasing involvement from all parties will help increase reuse, recycling and recovery rates.
O11: To minimise the global, social and environmental impact of consumption of resources	+	+	?	**Commentary:** Providing additional facilities and increasing involvement from all parties will help increase reuse, recycling and recovery rates which will in turn help reduce consumption of resources. **Geographical effect:** Global
O12: To enable waste to be disposed of at the nearest appropriate installation.	/	/	/	**Commentary:** No relationship
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	/	/	/	**Commentary:** No relationship
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	?	?	?	**Commentary:** Effects uncertain **Likelihood of effect:** Uncertain
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary:** No relationship

Implementation Actions – 12 Working in Partnership				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	0	+	?	**Commentary:** Action 8F.1 specifically mentions regeneration contribution. **Temporary/Permanence:** Not until medium term as likely to take time to implement **Likelihood of effect:** Uncertain **Geographical effect:** Within the NLWA area
O17: To encourage a strong, diverse and stable economy.	+	+	?	**Commentary:** May help to diversity and expand recycling and 'green' industries **Likelihood of effect:** Likely **Geographical effect:** Local/National/Global – depending on companies involved
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+	+	?	**Commentary:** May help to diversity and expand recycling and 'green' industries. This will help improve environmental performance of some businesses. **Likelihood of effect:** Likely **Geographical effect:** Local/National/Global – depending on companies involved
O19: To maximise the accessibility of services	?	?	?	**Commentary:** Regeneration aspect may help reduce inequalities but not enough information to determine effects
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	++	++	?	**Commentary:** Lots of these implementation actions include increasing community involvement. **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area

Implementation Actions – 13 Special Events				
SEA 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	/	/	/	**Commentary:** No relationship
O2: To maximise the health and well-being of the population	+/?	+/?	?	**Commentary:** By encouraging waste management plans at special events, this should have indirect positive effects on human health and well being **Temporary/Permanence:** For duration of the strategy **Likelihood of effect:** Uncertain **Geographical effect:** Within the NLWA area/ regional **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O3: To conserve and enhance natural soil structure and composition	/	/	/	**Commentary:** No relationship
O4: To improve air quality	/	/	/	**Commentary:** No relationship
O5: To improve water quality	/	/	/	**Commentary:** No relationship
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	+	+	?	**Commentary:** If recover energy from waste produce, will not have to emit as much greenhouse gas. **Geographical effect:** Global

Implementation Actions – 13 Special Events				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O8: To adapt to the unavoidable consequences of climate change	/	/	/	**Commentary:** There could be potential links with this objective as a result of higher temperatures, increased winter precipitation and storms. This could effect the management of special events although specific effects are uncertain
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	+	+	?	**Commentary:** These implementation actions are all about increasing reuse, recycling and recovery.
O11: To minimise the global, social and environmental impact of consumption of resources	+	+	?	**Commentary:** Reuse, recycling and recovery will help reduce consumption of resources. **Geographical effect:** Global
O12: To enable waste to be disposed of at the nearest appropriate installation.	/	/	/	**Commentary:** No relationship
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	/	/	/	**Commentary:** No relationship
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	+	+	?	**Commentary:** May encourage people involved in special events to use recycled materials etc.
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary:** No relationship

Implementation Actions – 13 Special Events				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	/	/	/	**Commentary:** No relationship
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+	+	?	**Commentary:** Businesses involved in events will have to improve their environmental performance. **Geographical effect:** Local/National/Global – depending on companies involved
O19: To maximise the accessibility and equality of services	+	+	?	**Commentary:** Ensuring more sustainable management of waste at events should benefit local communities
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	/	/	/	**Commentary:** No relationship

Implementation Actions – 14 Transportation				
SEA 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	/	/	/	**Commentary:** No relationship
O2: To maximise the health and well-being of the population	+	+	?	**Commentary:** Rail and water transport have less emissions per tonne of waste transported than road transport therefore less damage to health. **Temporary/Permanence:** For duration of the strategy **Likelihood of effect:** Uncertain **Geographical effect:** Within the NLWA area/ regional **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O3: To conserve and enhance natural soil structure and composition	/	/	/	**Commentary:** No relationship
O4: To improve air quality	+	+	?	**Commentary:** Rail and water transport have less emissions per tonne of waste transported than road transport.
O5: To improve water quality	?	?	?	**Commentary:** Uncertain effects dependent on implementation
O6: To achieve the wise management and sustainable use of water resources	/	/	/	**Commentary:** No relationship
O7: To address the causes of climate change	+	+	?	**Commentary:** Rail and water transport have less emissions per tonne of waste transported than road transport, therefore helps address causes of climate change. **Geographical effect:** Global

Implementation Actions – 14 Transportation				
SEA Objectives	**SEA Objectives**			**SEA Objectives**
O8: To adapt to the unavoidable consequences of climate change	?	?	?	**Commentary:** There are potential links with the design and operation of transport infrastructure including avoiding flood risk however, detailed effects are uncertain
O9: To minimise the production of waste arising from households and local authority business customers	/	/	/	**Commentary:** No relationship
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	/	/	/	**Commentary:** No relationship
O11: To minimise the global, social and environmental impact of consumption of resources	+	+	?	**Commentary:** Rail and water transport use less fossil fuels overall than road transport. **Geographical effect:** Global
O12: To enable waste to be disposed of at the nearest appropriate installation.	?	?	?	**Commentary:** Uncertain if rail/water transport facilities will enable waste to be disposed of at nearest installation.
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	0	0	?	**Commentary:** Effects uncertain, dependent on implementation.
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	/	/	/	**Commentary:** No relationship
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	/	/	/	**Commentary:** No relationship

Implementation Actions – 14 Transportation				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	/	/	/	**Commentary:** No relationship
O18: To improve the resilience of businesses and their environmental, social and economic performance.	+	+	?	**Commentary:** Could improve businesses environmental performance if they use sustainable transport for their waste transfer. **Geographical effect:** Local/National/Global – depending on companies involved
O19: To maximise the accessibility and equality of services	/	/	/	**Commentary:** No relationship
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	/	/	/	**Commentary:** No relationship

Implementation Actions – 15 Overall preferred strategy for residual waste treatment (Amended Implementation Action 6B)				
SEA 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	+	+?	+?	**Commentary:** No change until 2014 (medium term) as this is the end of the current waste contract. Has potential positive effect due to reduction in waste to landfill which should help to protect habitats. Do not know location of future facilities therefore longer term effects uncertain. **Temporary/Permanence:** For duration of the strategy although the momentum for alternative treatment methods to landfill likely to maintained in the longer term. **Likelihood of effect:** Uncertain **Geographical effect:** Could benefit areas around receiving landfill sites outside NLWA area as landfill will be reduced. **NB. Permanence/Likelihood/Geographical effects above applies to all objectives unless otherwise stated.**
O2: To maximise the health and well-being of the population	0	+?	+?	**Commentary :** It is understood that the existing EfW at Edmonton currently complies with or exceeds the Environment Agency's emission standards and assuming this continues until 2014 any effects in the short term are considered to be neutral. In the longer term increased recycling and recovery will divert waste from landfill, potentially reducing impacts associated with these sites. The specific local effects of any new infrastructure is uncertain, although the Action does make reference to minimising net environmental impact which should assist in reducing the potential for negative effects on local communities **Geographical effect:** Within and outside NLWA area
O3: To conserve and enhance natural soil structure and composition	/	/	/	**Commentary:** No relationship

Implementation Actions – 15 Overall preferred strategy for residual waste treatment (Amended Implementation Action 6B)				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O4: To improve air quality	0	+?	+?	**Commentary: :** It is understood that Edmonton currently complies with or exceeds the Environment Agency's emission standards and assuming this continues until 2014 any effects in the short term are considered to be neutral. Uncertain effects in the medium to long although locating sites at new facilities within the NLWA will help reduce distances travelled by waste vehicles, therefore potential for positive impact. Action refers to minimising net environmental impact which should assist with this objective. **Geographical effect:** Within and outside NLWA area
O5: To improve water quality	?	?	?	**Commentary:** Secondary effects could occur as a result of diverting waste from landfill, which may help improve water quality in the areas affected. Effects of new infrastructure will depend on specific location and nature of development. **Geographical effect:** Uncertain
O6: To achieve the wise management and sustainable use of water resources	?	?	?	**Commentary:** There could be a relationship with this objective as different technologies may result in different levels of water consumption. Reference in the Action to minimising the net environmental impact should assist in meeting this objective although this can only be properly considered in the design of the facility.
O7: To address the causes of climate change	++	++	++?	**Commentary:** Enhanced recycling and recovery will divert waste from landfill, and this will help reduce contribution to climate change through reducing greenhouse gas emissions. Certain technologies can claim Renewables Obligation Certificates on the biomass fraction of waste, which is classed as a renewable energy source under the EC Directive on Renewables. These technologies are gasification, pyrolysis, anaerobic digestion and EfW with CHP. As such technologies would be considered under this action there is a potentially positive effect on encouraging renewable energy generation.

Implementation Actions – 15 Overall preferred strategy for residual waste treatment (Amended Implementation Action 6B)				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
				Temporary/Permanence: For duration of the strategy although the momentum of recycling and recovery is likely to be maintained beyond the life of the strategy. **Likelihood of effect:** Likely **Geographical effect:** Global
O8: To adapt to the unavoidable consequences of climate change	?	?	?	**Commentary:** There could be potential links with this objective as a result of higher temperatures, increased winter precipitation and storms. This could affect the design and operation of new infrastructure although specific effects are uncertain.
O9: To minimise the production of waste arising from households and local authority business customers	+	+	+?	**Commentary:** Although this actions is related to recycling and recover there are potential indirect effects on encouraging people to minimise the production of waste. **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area
O10: To maximise reuse, recycling and recovery rates by viewing waste as a resource	++	++	++?	**Commentary:** This implementation action will contribute positively to this objective as they are all about reuse, recycling and recovery. **Likelihood of effect:** Likely **Geographical effect:** Within the NLWA area

Implementation Actions – 15 Overall preferred strategy for residual waste treatment (Amended Implementation Action 6B)				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O11: To minimise the global, social and environmental impact of consumption of resources	++	++	++?	**Commentary**: Research for DEFRA in 2007[5] indicated that recycling and recovery of waste paper and card has significant potential for fossil fuel demand savings. The recycling of plastics and textiles also had potential benefits **Likelihood of effect:** Likely **Geographical effect:** Global
O12: To enable waste to be disposed of at the nearest appropriate installation.	+	+?	+?	**Commentary:** Commitment to existing facility within NLWA area is positive in the short term. In the medium to longer term the effects are less certain although establishing new facilities within the NLWA area should contribute positively to this objective.
O13: To enhance and protect the existing built environment including heritage assets and the wider environment.	+?	+?	+?	**Commentary:** Commitment to existing EfW at Edmonton helps reduce waste to landfill and potentially benefits to the built environment in these areas, although the detail of any effects is uncertain. The provision of new recovery facilities sites could have effects on the built environment; however without further information the effects are uncertain. There may also be indirect effects as a result of reducing landfill and positive effects on areas around landfill sites. **Geographical effect:** Uncertain
O14: To ensure new buildings and associated infrastructure are designed and constructed in a sustainable way.	?	?	?	**Commentary:** Uncertain as dependent on implementation. Potential for greater influence in the med/long term as new facilities are brought on stream

[5] Carbon Balances and Energy Impacts of the Management of UK Waste Streams ERM December 2006

Implementation Actions – 15 Overall preferred strategy for residual waste treatment (Amended Implementation Action 6B)				
SEA Objectives	**Timescale**			**Commentary/Explanation (to include secondary, cumulative and synergistic effects)**
	Short Term	**Medium Term**	**Long Term**	
O15: To improve efficiency of land use through the sustainable re use of previously developed land and existing buildings.	+	?	?	**Commentary:** As Edmonton EfW is a pre-existing facility effects are positive in the short term. In the medium to longer term effects are uncertain as the location of new facilities is not known.
O16: To stimulate regeneration and urban renaissance that benefits the most deprived areas and communities	/	/	/	**Commentary:** No relationship
O17: To encourage a strong, diverse and stable economy.	+?	+?	+?	**Commentary:** The detailed economic effects of the exiting Edmonton EfW are not known although it contributes to the economy at present through the provision of employment and business generated in ancillary and related services. By encouraging consideration of advanced conversion technologies this action could have positive effects on encouraging investment in new technologies. New waste processing infrastructure can also provide employment.
O18: To improve the resilience of businesses and their environmental, social and economic performance.	?	?	?	**Commentary:** The effects on this objective are uncertain as this will depend on the detail of implementation.
O19: To maximise the accessibility and equality of services	?	?	?	**Commentary:** The effects on this objective are uncertain as this will depend on the detail of implementation of new infrastructure.
O20: To promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to improving their environment	?	?	?	**Commentary:** The effects on this objective are uncertain as this will depend on the detail of implementation of new infrastructure.

Cumulative, Synergistic and Secondary effects

The tables below consider the cumulative (including secondary and synergistic effects) of the implementation action groupings.

	SEA Objective				
Implementation Actions	**Biodiversity**	**Health**	**Soil**	**Air**	**Water Quality**
Minimisation	+	+	+	+	+
Composting	+	+/-	++	0	+
Recycling	+	+ ?	/	?	?
Delivery	?	?	+	+	?
Edmonton	+	0	/	0	+
Renewables	/	/	/	+	/
Landfill	+	+	+	+	+
Fly tipping	+	+	+	/	+
Other household wastes	+	+	+	+	+
Commercial	/	/	/	/	/
Construction and demolition	+	?	+	?	?
Partnerships	/	+	/	/	/
Special events	/	+	/	/	/
Transportation	/	+	/	+	?
Preferred strategy for residual treatment	+?	+?	/	+?	?
Cumulative effects/Recommendation	+	+?	+?	+	+

	SEA Objective				
Implementation Actions	**Biodiversity**	**Health**	**Soil**	**Air**	**Water Quality**
	Overall effects are positive due to the reduction in need for landfill which should have resultant benefits on habitats and species. Recommendations – Ensure development of new facilities includes measures to enhance biodiversity	Overall effects are positive due to the reduction in need for landfill which should have resultant benefits on health and well being. However information on the health impacts of waste facilities is not conclusive and there is potential for cumulative effects of localised recycling, composting and treatment facilities. Recommendations – Commitment to ensure that local impacts of services/facilities on human health are considered.	Overall effects are positive due to the reduction in need for landfill which should have resultant benefits in reducing disturbance to soils.	Overall effects are positive due to the reduction in need for landfill which should have resultant benefits in improving local air quality and in reducing transport emissions.	Overall effects are positive due to the reduction in need for landfill which should have resultant benefits in improving local air quality and in reducing transport emissions.

	SEA Objective					
Implementation Actions	**Climate Change mitigation**	**Climate Change adaptation**	**Waste production**	**Reuse, recycling, recovery**	**Resource consumption**	**Nearest appropriate installation**
Minimisation	++	/	++	+	++	/
Composting	+	?	/	++	?	++
Recycling	++	?	+	++	++	/
Delivery	++	?	/	++	++	++
Edmonton	+	/	/	0	0	+
Renewables	++	/	/	+	+	/
Landfill	+	?	/	+	+	+
Fly tipping	/	/	/	+	+	?
Other household wastes	/	?	/	++	+	?
Commercial	/	+	+	+	+	/
Construction and demolition	+	/	/	++	++	?
Partnerships	/	/	+	++	+	/
Special events	+	/	/	+	+	/
Transportation	+	?	/	/	+	?
Preferred Strategy for residual treatment	++	?	+	++	++	+?
Cumulative effects/Recommendations	+	?	+	++	+	+?

	SEA Objective					
Implementation Actions	**Climate Change mitigation**	**Climate Change adaptation**	**Waste production**	**Reuse, recycling, recovery**	**Resource consumption**	**Nearest appropriate installation**
	The actions combine to have positive effects on this objective, which are likely to work with other measures implemented such as reducing greenhouse gas emissions from transport and other industry. Recommendations – The climate change benefits of the actions could be more explicitly referenced	Where effects have been identified the relationship is uncertain, as the NLJWS does not indicate how. Services and facilities might address climate change adaptation. Recommendations – Issue regarding adaptation could be referred in the NLJWS	Overall positive effects do not only to specific minimisation measures but the indirect effects of better partnership working and encouraging recycling and composting.	Overall positive effects do e to range of actions and initiatives proposed	Overall positive effects do e to range of actions and initiatives proposed, which would combine with other measures adopted such as more sustainable construction.	Overall effects are positive as there is an emphasis on NLWA dealing with its own waste although the exact location of future facilities is not known.

NB Water Resources objective excluded from this table as there was not considered to be any significant relationships with the actions.

	SEA Objective				
Implementation Actions	**Built environment**	**Sustainable construction**	**Land use**	**Regeneration**	**Economy**
Minimisation	/	+	/	/	+
Composting	+	/	/	/	+
Recycling	+	?	/	/	+
Delivery	?	?	?	+	+
Edmonton	+	/	+	/	?
Renewables	/	/	/	/	++
Landfill	?	+	+	/	+
Fly tipping	+	/	/	+	+
Other household wastes	0	/	++	/	+
Commercial	/	+	/	/	?
Construction and demolition	+	+	+	/	+
Partnerships	/	?	/	+	+
Special events	/	+	/	/	/
Transportation	0	/	/	/	/
Preferred Strategy for residual treatment	+	?	+	/	+
Cumulative effects/Recommendations	+	?	+?	+	+

	SEA Objective				
Implementation Actions	**Built environment**	**Sustainable construction**	**Land use**	**Regeneration**	**Economy**
	The actions should combine to have positive effects on this objective, by reducing landfill and encouraging the planning of new services and facilities, however there is some uncertainty as the detail of how this is going to be implemented is not known Recommendations – A commitment to providing services/facilities which meet high quality design standards should be made.	Overall uncertainty although there are a number of potential direct and indirect effects from promoting more sustainable waste management. Much will depend on implementation. Recommendations – Include commitment to providing facilities which meet high standards of sustainable design e.g. using BREEAM	The actions should combine to have positive effects on this objective, by reducing landfill. The location of new facilities is not known. Recommendations – The strategy could make a more positive commitment to efficient use of land and co-locating facilities where appropriate.	Overall positive effects on regeneration which will combine with other initiatives in other plans and programmes.	Overall effects are positive

	SEA Objective		
Implementation Actions	**Business resilience**	**Access**	**Civic participation**
Minimisation	+	/	+
Composting	+	++ ?	++
Recycling	/	++ ?	+
Delivery	/	/	/
Edmonton	/	/	/
Renewables	++	/	/
Landfill	+	/	/
Fly tipping	/	+ ?	+
Other household wastes	+	++ ?	++
Commercial	+	/	+
Construction and demolition	+	/	/
Partnerships	+	?	++
Special events	+	+	/
Transportation	+	/	/
Preferred strategy for residual treatment	?	?	?
Cumulative effects/Recommendations	+	++ ?	++
	The actions should combine to have positive effects on this objective.	The range of actions set out should cumulatively have a positive effect on this objective overall. However, there are uncertainties as to how the actions would address different sections of the community and hard to reach groups	The range of actions set out should cumulatively have a positive effect on this objective

Appendix G Assessment of Proposed Changes to Implementation Actions in NLJWS

Entec

Table 1 Appraisal of proposed changes to Implementation Actions in NLJWS

Amended Implementation Action	Comment
Contents	
1.C: requirements	Amended wording not considered significant enough to alter assessment results.
2A: demographic information	Amended wording not considered significant enough to alter assessment results.
2.B: planning for new waste facilities	Amended wording not considered significant enough to alter assessment results.
2.C: waste composition analysis	Amended wording not considered significant enough to alter assessment results.
3.A: relevant policies and proposals	Amended wording not considered significant enough to alter assessment results.
3.C: best value reviews	Amended wording not considered significant enough to alter assessment results.
3.D. waste information	Amended wording not considered significant enough to alter assessment results.
3.E. joint WDPD	Amended wording not considered significant enough to alter assessment results.
4.C2: rewarding effective re-use services	Amended wording not considered significant enough to alter assessment results.
4.G1: improve re-use and recycling centres	The amendment does have positive benefits for the SEA objectives particularly Objective 19 , by increasing accessibility to re-use and recycling centres. However this would not change the scoring in the Appraisal Matrix which is already positive
4.H2: organic door to door collections	Amended wording not considered significant enough to alter assessment results.
4.K2: minimise need to purchase landfill allowances	This addition of recycling to this action would mean that it should now also be included in the “Recycling” group of implementation actions as well as the “Composting” group. This change has been reflected in Appendix E to the SEA report however the change is not considered significant enough to alter the assessment.
4.L1:meeting or exceeding government standards	Amended wording not considered significant enough to alter assessment results.
4.N:Landfill and energy from landfill gas	Amended wording not considered significant enough to alter assessment results.
5.A3: authorised treatment facilities	Amended wording not considered significant enough to alter assessment results.
5.D2: recycling bulky waste	The amendment is likely to have positive effects on SEA objectives, notably Objective 10 and 20 however this would not change the scoring in the Appraisal Matrix which is already positive.

Table 1 (continued) Appraisal of proposed changes to Implementation Actions in NLJWS

Amended Implementation Action	Comment
Contents	
5.F1: appropriating waste charges for non-household waste	Amended wording not considered significant enough to alter assessment results.
5.G1: construction and reprocessing facilities	Amended wording not considered significant enough to alter assessment results.
5.J3: hazardous waste at re-use and recycle centres	Amended wording not considered significant enough to alter assessment results.
5.K: ozone depleting substances	Amended wording not considered significant enough to alter assessment results.
5.O: waste electrical and electronic equipment directive	Amended wording not considered significant enough to alter assessment results.
6.B: Preferred strategy	Revised implementation action has been assessed as set out in Appendix F (Implementation Action 15). This previous wording was considered to be similar to the Preferred scenario already assessed through the options appraisal and therefore did not need to be assessed again. The revised wording differs from the Procurement Scenario in that the option for residual treatment 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). As a result this action has now been included in the assessment matrix.
8.C1: sustainable services	Amended wording not considered significant enough to alter assessment results.
8.C2: waste management sites	Amended wording not considered significant enough to alter assessment results.