North London Waste Authority

Procurement information in regard to the Waste Services and Fuel Use contracts

1 July 2010

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North London Waste Authority

Outline Business Case

29 January 2010

Notice

The Authority has all along been keen to put as much of the OBC into the public domain as possible, and this document has now been written so that it can be placed in the public domain with confidential information separated out into appendices.

The appendices which contain information which is commercially sensitive, and therefore confidential, are:

- Appendix E: Ramboll AEA Technical Report
- Appendix F: Ramboll AEA Technical Assumption
- Appendix G: Market Sounding Report
- Appendix L: Planning Health Check List
- Appendix N: Detailed VfM Analysis
- Appendix R: Shadow Tariff Model
- Appendix S: Shadow Tariff Model Assumption Book
- Appendix V: Fuel Sites Planning Review
- Appendix DD: Planning Site Appraisal
- Appendix FF: Site Contracts
- Appendix II: Site Plans
- Appendix LL: WIDP Scrutiny Clarifications

Abbreviations

AD	Anaerobic Digestion
ABPR	Animal By-product Regulations 2002
APC	Air Pollution Control
ATT	Advance Thermal Treatment
AUC	Annual Unitary Charge
BMT	Biological Mechanical Treatment
BMW	Biodegradable Municipal Waste
BPEO	Best Practicable Environmental Option
BWRF	Bulky Waste Recycling Facility
BVPI	Best Value Performance Indicator
CapEx	Capital Expenditure
CA site	Civic Amenity site – equivalent to HWRC
CCHP	Combined Cooling Heat and Power
CFT	Call for Final Tender
CHP	Combined Heat and Power
CIL	Community Infrastructure Levy
CIWM	Chartered Institution of Waste Management
CLO	Compost Like Output
CO_2	Carbon Dioxide
COMAH	Control of Major Accident Hazards
Constituent Boroughs	Means Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest
CV	Calorific Value
DBFO	Design, Build, Finance and Operate
DCFs	Designated Collection Facilities
DCLG	Department of Communities and Local Government
DBERR	Department of Business and Enterprise and Regulatory Reform
DEFRA	Department for Environment, Food and Rural Affairs
DPD	Development Plan Document
DSO	Direct Service Organisation
EACH	Estate Agent Clearing House
EC	European Commission
EfW	Energy from Waste
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EoI	Expression of Interest
EPC	Engineer, Procure and Construct
EU	European Union
FBC	Final Business Case
FEC	Full Economic Cost
FPP	Fuel Preparation Plant
Ga	Gasification
GHG	Greenhouse Gas
GLA	Greater London Authority
GLC	Greater London Council
GMWDA	Greater Manchester Waste Disposal Authority
GPZ	Groundwater Protection Zone
GQA	General Quality Assessment
HHW	Household Waste
HWRC	Household Waste Recycling Centre
IAA	Inter-Authority Agreement
IFRS	International Financial Reporting Standards
IRR	Internal Rate of Return
ISDS	Invitation to Submit Detailed Solutions
ISOS	Invitation to Submit Outline Solutions
IVC	In Vessel Composting
JWDA	Joint Waste Disposal Authority
JWA	Joint Working Agreement
JWS	Joint Waste Strategy

LATS	Landfill Allowance Trading Scheme
LAWDC	Local Authority Waste Disposal Company
LBC	London Borough Council
LBTH	London Borough of Tower Hamlets
LCRN	London Community Recycling Network
LDA	London Development Agency
LDF	Local Development Frameworks
LWaRB	London Waste and Recycling Board
LWL	LondonWaste Limited
MBT	Mechanical Biological Treatment
MoU	Memorandum of Understanding
MRF	Materials Recycling Facility
MSW	Municipal Solid Waste
MW	Megawatts
MWDF	Minerals and Waste Development Framework
MWMS	Municipal Waste Management Strategy
NCV	Net calorific value
NGO	Non Government Organisations
NI	National Indicator
NIHHS	Notification of Installations Handling Hazardous Substances
NLWA	North London Waste Authority
NLJWS	North London Joint Waste Strategy
NLRF	North London Recycling Forum
NLWP	North London Waste Partnership
NOx	Nitrogen Oxides
NPC	Net Present Cost
NPV	Net Present Value
NWS	National Waste Strategy
OBC	Outline Business Case
OJEU	Official Journal of the European Union
OpEx	Operating Expenditure
PAS	Publicly Available Specification
PFI	Private Finance Initiative
PPC	Pollution Prevention Control
PPG	Planning Policy Guidance
PPP	Public Private Partnership
PPS	Planning Policy Statement
PQQ	Pre Qualification Questionnaire
PRG	Project Review Group – an HM Treasury chaired cross-departmental group
PSC	Public Sector Comparator
PUK	Partnerships UK
QA	Quality Assurance
ROCs	Renewable Obligations Certificates
RPG	Regional Planning Guidance
RPI	Retail Price Index
RSG	Revenue Support Grant
RSS	Regional Spatial Strategy
SA	Sustainability Appraisal
SDS	Submit Detailed Solutions
SEA	Strategic Environmental Assessment
SIB	Strategy Implementation Board
SMEs	Small and Medium Enterprises
SOC	Standard Occupation Classification
SOx	Sulphur Oxides
SPD	Supplementary Planning Document
SPV	Special Purpose Vehicle
SoPC4	Standardisation of PFI contracts guidance and drafting (version 4 dated March 2007)
SRF	Solid Recovered Fuel
SSSI	Site of Special Scientific Interest
STMS	Shadow Tariff Models

TIFU	HMT Infrastructure Finance Unit
TUPE	Transfer of Undertakings legislation
UC	Transfer of Undertakings legislation
UDP	Unitary Development Plan
VfM	Value for Money
WCA	Waste Collection Authority
WDA	Waste Disposal Authority
WDPD	Waste Development Plan Document
WEEE	Waste Electrical and Electronic Equipment
WEN	Women's Environmental Network
WET Act	Waste and Emissions Trading Act 2003
WID	Waste Incineration Directive
WIDP	Waste Infrastructure Delivery Programme
WLP	Waste Local Plan
WLWA	West London Waste Authority
WML	Waste Management Licence
WMPP	Waste Management Procurement Pack
WPP	Waste Procurement Project
WRAP	Waste and Resources Action Programme
WRATE	Waste and Resources Assessment Tool for the Environment.
WRG	Waste Recycling Group
WS2007	Waste Strategy for England 2007
WTS	Waste Transfer Station
4ps	Public Private Partnership Programme

Contents

1. Executive summary

1.1 Background and strategic waste management objectives

The North London Waste Authority (NLWA) (the Authority) is the UK's second largest Waste Disposal Authority (WDA) handling around 3% of the national municipal waste - 1.3 million tonnes per annum (tpa) by 2045.

For the past 15 years the Authority has managed its waste arisings predominantly through its waste treatment and disposal contract with LondonWaste Limited (LWL) and the use of an ageing EfW plant at Edmonton.

The eight North London Authorities (the Authority and the seven 'Constituent Boroughs' of Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest) have adopted an ambitious North London Joint Waste Strategy (NLJWS) that is consistent both with National and Mayor for London waste strategies. The Strategy seeks:

- A recycling-led solution with the aim doubling recycling and composting rates to 50% by 2020.

- A reduction of biodegradable material going to landfill, consistent with our Landfill Allowances and so that the current proportion of material that currently goes to landfill is reduced from 36% to 15%

These ambitions are very challenging. North London is a densely populated area, with significant levels of deprivation and a very mobile population - traditionally a difficult combination of circumstances to deliver high recycling rates. However, with appropriate support from Government they are realistic.

The procurement proposed by this OBC will significantly assist in delivering the Authority's ambitions and make it an exemplar for modern sustainable waste management within an urban environment.

1.2 Procurement strategy and Reference Project

The Authority has chosen to pursue an innovative approach to its procurement in order to maximise the environmental, social and financial performance of its waste management solution. As well as delivering the Authority's ambitions in diverting waste from landfill, this approach seeks to maximise the value of materials by recognising the resource value entrained in the waste stream, through the separate procurement of waste services to treat household waste for fuel production, and the utilisation of the resulting fuel to meet heat and energy demands. In pursuing a separated procurement, the Authority aims to attract as wide a market as possible for the fuel, ranging from large scale industrial users to smaller decentralised energy / district heating scheme, which would otherwise be excluded from a procurement of this nature.

On the residual waste solution, a detailed technical options appraisal has been undertaken in order to define a reference project. The Authority's conclusion is that Mechanical Biological Treatment (MBT) with Anaerobic Digestion providing the biological treatment and with the process producing a Solid Recovered Fuel (SRF) is the most deliverable and appropriate solution. As part of the Waste Services Contract procurement, the Authority will make the Edmonton site available to the successful bidder, which will include the management of the EfW facility for the remainder of its operational life. This will enable the waste services contractor to better co-ordinate site operations and development, along with its overall responsibility for managing the residual waste stream.

On fuel use the Authority is endeavouring to attract an efficient energy and carbon solution which includes Combined Heat and Power (CHP). It considers that this is best achieved by moving fuel and generating energy close to the point of demand rather than seeking to attract heat demand to the site of a waste management facility. The Authority is therefore seeking to

procure a Fuel Use Contract with a suitably qualified bidder from the industrial, commercial and/or domestic energy sectors. In doing so, the Authority would hope bidders are able to take advantage of Renewable Obligations Certificates, Enhanced Capital Allowances, and other financial instruments to promote the commercial viability of their proposed solution.

By deliberately allowing the market to site a fuel use facility away from the waste processing services, the need for one or more sustainable transport solution(s) may be created. This is likely to include the provision of rail transport facilities and also potentially the use of water transport, both of which are expected to maximise the competition for fuel use and hugely improve the prospects of delivering new facilities as well as helping improve the environmental performance of the overall solution.

The Authority recognises that by conducting a separated procurement, there will be interface risks between the two contracts which will be managed through the Output Specifications, Payment Mechanisms and Performance Frameworks, all of which will be underpinned by the Project Agreements.

The Authority is confident that the Reference Project provides a sound but innovative approach to securing an optimal solution to its waste service and fuel use requirements. Preliminary market sounding conducted to date suggests that there is strong market interest and support for its procurement strategy amongst prospective bidders. As such we are confident that this project will deliver responsible and sustainable waste management to the North London area, greater London and the UK as a whole.

1.3 Risk management, risk allocation and contractual structures

We have appropriate risk management processes in place. More importantly, the Authority recognises its vital role in helping to proactively manage some of the key delivery risks where it is sensible to share these. Delivery risk has been a key issue in framing the Reference Project and it will feature strongly in our work going forward.

Other key risk issues for us relate to ensuring a level playing field for competing bids and in delivering the procurement process fairly, effectively and in a timely manner. We have key actions in place and processes to ensure such future management.

By proposing a whole waste services solution our procurement strategy reduces some challenges to delivering the procurement and managing contractual interfaces. In seeking a separate contract for fuel use we can identify key risks around the interface, and these have been addressed through our approach to the output specifications for waste services and fuel use. The interface risks associated with the separate procurements are challenging but manageable as set out in section 5.3.7.

1.4 Project team and governance

Key decision makers in the eight North London authorities have recognised both the challenge that this major procurement provides to existing governance arrangements in the eight organisations and the opportunities that effective partnership working on the public sector side can deliver in terms of the outcome. Major changes have been made to Authority membership including Boroughs nominating Council Leaders and other cabinet level members.

The Authority has put in place project sponsorship and project team arrangements that are fit for purpose. There has been a particular emphasis on bringing waste and energy procurement and commercial expertise into the project team. Scrutiny and challenge is provided through the Procurement Board.

The Authority has developed a programme management approach that ensures individual procurements are effectively managed as well as ensuring risks across the boundaries of projects are managed.

1.5 Sites, planning and design

Site identification, acquisition and obtaining planning permission for new facilities are the key to delivering the aspirations set out in the Authority's JWS. The Authority proposes a site strategy comprising the following elements:

Waste Services Contract

The Authority has secured the Edmonton site which will provide 345ktpa MBT(AD) and 112ktpa AD: a contract for acquisition of the Pinkham Way site has been exchanged with London Borough of Barnet. The reference project makes provision for a 240ktpa MBT on the site. The Authority has a long lease on the existing Hendon site and will continue to utilise the facility (300ktpa Rail Transfer Station (RTS) and 50ktpa bulking) supported by existing merchant Material Recycling Facility (MRF) capacity. A new site has also be identified in Hendon for the relocation of the existing RTS facility and the establishment of a new 100ktpa MRF should the Brent Cross Cricklewood proposals be implemented.

Fuel Use Contract

A separate procurement will be undertaken for fuel use. The sites for fuel use will be provided by the bidders given the need to locate close to the demand for energy. The Authority has not therefore sought to provide a site to support this procurement. The Authority has however considered a shortlist of locations that may be put forward by bidders in the future and assessed planning and other consents risks.

HWRCs

The Authority proposes the closure and replacement of three existing facilities (Barrowell Green, Hornsey High Street and Park View Road), provision of three new facilities and refurbishment of the South Access Road and Kings Road sites. The Authority will identify new sites for the contractor, who will be required to design, build, finance and operate all new, replacement and refurbished facilities.

The Authority has demonstrated that it has identified suitable sites to deliver a robust reference project.

The Authority has also endeavoured through addressing design in an innovative and expansive way to demonstrate it is not just intending to build boxes but rather to align waste management as an integral part of communities both inside and outside its administrative borders.

1.5.1 Planning framework

The Authority's proposals are consistent with PPS10, the Government's Waste Strategy, the adopted and emerging London Plan, the Joint Waste Strategy and the NLWP Preferred Options. The policy and guidance contained in these documents together with policy set out in adopted UDPs and emerging local development framework development plan documents have provided the planning framework against which the site strategy has been developed.

In addition, in view of the decision to pursue two procurements, a Waste Services contract and a Fuel Use contract, the Authority finds itself in a fairly unique position as it is likely to need to consider the planning context outside of its administrative area and the regional administrative area in relation to the establishment of new fuel use facilities. As such the Authority has undertaken a reality check of planning and other consents risks associated potential sites (or facilities) identified through its market capacity study of potential users of SRF.

1.5.2 Planning strategy

The Authority's planning strategy is for the preferred bidder to prepare and submit planning applications for the development of the sites. Detailed applications will be submitted three months following the announcement of the preferred bidder. To assist the development of

planning applications the Authority will undertake site related studies to provide baseline information to bidders.

1.5.3 Design

The Authority believes good quality design of waste facilities is essential to assist in obtaining planning permission. The Authority has developed its output specifications on this basis and will issue design guidance for bidders on a location specific basis where appropriate. Even where a site is proposed outside of its administrative boundaries it would be expected to comply with a design brief to not only aid deliverability but also add value to the locality and community in which it is built.

1.6 Costs, budget and finance

1.6.1 Value for Money (VfM) assessment

A Value for Money (VfM) analysis has been undertaken to assess whether a solution procured using Private Finance Initiative (PFI) would be able to deliver value for money for both contracts in comparison with traditional public sector procurement. This analysis has been performed in accordance with the updated *HM Treasury Value for Money Assessment Guidance* (the Guidance) as issued in November 2006, the *Supplementary VfM Guidance for Waste PFI* prepared by Partnerships UK for Department for Environment, Food and Rural Affairs (DEFRA) in November 2006, the *Quantitative Assessment User Guide*, March 2007 and *Department of Communities and Local Government (DCLG) PFI Project Support Guide (2009-10), 1st Revision (September 2009).*

The results of the quantitative analysis are as set out in table 1.1 below.

Table 1.1: indicative Value for Money (Waste Services and Fuel Use contract)

£000	PSC NPC	PFI NPC
Waste Services contract		
Base case scenario (15[1]% pre-tax IRR)	1,167	1,092
Indicative PFI VfM %		6.40%
Fuel Use contract		
Base case scenario (15% pre-tax IRR)	699	638
Indicative PFI VfM %		8.73%

1.6.2 Costs of the Reference Project

The costs of the whole waste management system of both the Authority and the Constituent Boroughs, taking into account the predicted costs of collection, for both the Reference Project and the 'Do Minimum' scenario are set out in table 1.2 below. These costs are shown without taking into account any effect from a potential Revenue Support Grant (RSG) arising as a result of PFI credits.

[1] The Treasury VfM analysis allows for IRR's of 13% and 18% to be used. Using an IRR of 13%, the analysis would yield an indicative value for money result of 7.8% and 11.5% respectively for the Waste Services and Fuel Use contracts, and using an IRR of 18%, these value for money percentages decrease to 4.0% and 4.2%, respectively.

Table 1.2: comparison of the overall waste system costs for the Reference Project to Do Minimum (Based on closure of the existing Edmonton EfW on 31st March 2020)

Nominal costs (£000)	Do Minimum	Reference Project	Difference
Reference Project	0	3,535,154	**(3,535,154)**
Additional system costs	1,662,152	824,126	**838,026**
Landfill costs	2,839,625	494,387	**2,345,238**
Landfill allowance [2]	327,416	0	**327,416**
Non-household recharge	(638,463)	(863,958)	**225,495**
Net cost of disposal	**4,190,730**	**3,989,709**	**201,021**
Collection costs	3,708,391	3,708,391	**0**
Total project costs	**7,899,121**	**7,698,100**	**201,021**

This analysis shows that without taking into account the revenue from the PFI credit, the Do Minimum option is £201 million more expensive than the Reference Project. It should also be noted that were the potential Landfill Allowance Trading Scheme (LATS) income to be taken into account (following a symmetrical LATS profile as LATS allowance costs), this would lower the cost of the Reference Project option by a further £294m, making the Do Minimum £495m more expensive than the Reference Project.

In addition, it should be noted that the analysis as set out in table 1.2 above does not take into account any financial impact of the differential risk impact on the Authority under the Do Minimum option. Under this option, the Authority would be dependent on securing landfill capacity for the disposal of its residual waste tonnages and would be exposed to the potential increases in landfill gate fees, landfill tax and LATS prices above the level currently assumed within this OBC. As such, the cost of the Do Minimum option could be significantly higher than the level modelled within this analysis.

1.6.3 Affordability

The Affordability Gap for the Reference Project has been calculated in order to assess the additional level of funding required by the Constituent Boroughs and the Authority. The results of this analysis for the first five years of the project and for the total concession period are set out below in table 1.3.

Taking into account the effect of project revenue support of £589.5 million stemming from the receipt of PFI credits, the affordability gap over the life of the project is £2,272 million.

Table 1.3: affordability gap, including PFI credits

Whole life, nominal £000	2011/12	2012/13	2013/14	2014/15	2015/16	31 Year total
PFI Reference project costs	-	1,390	6,621	7,052	7,341	**3,535,154**
Additional system costs	52,797	61,219	66,100	69,782	69,404	**824,126**
Landfill costs (gate fees and tax)	18,561	18,632	18,654	20,345	20,558	**494,387**
Landfill allowance	-	-	-	-	-	**-**
Non-household recharge	(11,645)	(14,357)	(16,575)	(16,736)	(17,670)	**(863,958)**
Net treatment and disposal cost	**59,713**	**66,884**	**74,799**	**80,442**	**79,632**	**3,989,709**
Collection	65,503	66,935	69,589	71,846	75,244	3,708,391
Total system costs	**125,216**	**133,819**	**144,388**	**152,288**	**154,876**	**7,698,100**
Projected budgets	**(105,993)**	**(107,742)**	**(110,436)**	**(113,197)**	**(116,026)**	**(4,836,163)**
PFI support	-	-	-	-	-	**(589,495)**
Affordability gap	**19,223**	**26,077**	**33,952**	**39,091**	**38,850**	**2,272,442**

[2] Taking into account the PFI Revenue Support and the valuation of potential LATS surpluses, the net cost to the North London taxpayer is £1,084.5 million lower than the 'Do minimum' Option.

Whole life, nominal £000	2011/12	2012/13	2013/14	2014/15	2015/16	31 Year total
% of projected Authority budget	**18%**	**24%**	**31%**	**35%**	**33%**	**47%**

1.6.4 Allocation between Constituent Boroughs

The total cost of the Reference Project has been allocated between the Constituent Boroughs. Each of the Constituent Boroughs has its own budget for collections services and a levy allocated by the Authority for waste disposal services. Each Constituent Borough will fund its affordability gap on an individual basis. Collection costs for each Constituent Borough reflect the future service requirements specific to each Constituent Borough. For the purposes of the OBC, costs for waste treatment and disposal have been calculated for the Authority area and allocated to the Constituent Boroughs on the basis of their proportional level of MSW tonnage arisings per annum, based on the Ramboll AEA waste flow model. It is intended that the allocation of costs for the PFI contracts will be regulated by a Financial Allocation Mechanism, which will allocate costs to each Constituent Borough on the basis of usage of each facility.

Table 1.4 sets out the total nominal cost of the Reference Project on the basis of this apportionment methodology, in comparison to the available budgets for each of the Constituent Boroughs.

Table 1.4: affordability gap for Constituent Boroughs

Whole life, nominal £000	Barnet	Camden	Enfield	Hackney	Haringey	Islington	Waltham Forest	Total
Reference project costs	680,508	485,736	556,719	455,215	479,628	402,607	474,741	3,535,154
Additional system costs	158,001	114,035	129,359	106,671	111,693	94,131	110,236	824,126
Landfill costs	94,994	68,130	77,745	63,816	67,049	56,374	66,279	494,387
Non-household recharge	(98,436)	(262,302)	(74,656)	(153,890)	(81,762)	(138,717)	(54,195)	(863,958)
PFI support	(113,456)	(81,054)	(92,806)	(75,921)	(79,967)	(67,153)	(79,138)	(589,495)
(Disposal budgets)	(373,846)	(245,369)	(300,278)	(260,442)	(263,484)	(265,156)	(235,425)	(1,944,000)
Treatment and disposal affordability gap	347,765	79,176	296,083	135,449	233,157	82,086	282,498	1,456,214
Collection costs	654,995	541,059	432,764	610,014	506,504	586,335	376,720	3,708,391
(Collection budgets)	(463,120)	(388,972)	(325,208)	(466,662)	(459,777)	(438,467)	(349,957)	(2,892,163)
Collection affordability gap	191,875	152,087	107,556	143,352	46,727	147,868	26,763	816,228
Affordability gap	539,640	231,263	403,639	278,801	279,884	229,954	309,261	2,272,442

Detailed discussions have taken place between the Authority and the Constituent Boroughs' Directors of Finance in respect of the potential Council Tax impact and possible approaches to smoothing the impact of the Reference Project on Constituent Borough budgets, including the use of sinking funds. It has been agreed that each Constituent Borough will manage and be responsible for its own exposure to the affordability obligations of the Reference Project, using sinking funds as deemed appropriate. Given the different spending pressures faced by each of the Constituent Boroughs, it is expected that each one will profile its contributions to any sinking fund according to its own unique constraints.

1.6.5 Sensitivity analysis

The Authority is of the view that it has adopted prudent assumptions in determining the costs of the Reference Project, resulting in a robust and conservative affordability projection. However, in order to assess further the robustness of the affordability analysis performed in section 1.6.3 above, the Authority has conducted a compound sensitivity analysis on two of the key assumptions underpinning the Reference Project to provide a "worst case" scenario sensitivity as agreed with WIDP. The sensitivity makes the following assumptions:

1. A two year delay in the commencement of construction for both Waste Services and Fuel Use contracts; and

2. An increase in the underlying capital costs of both contracts by 10%.

This sensitivity informs the upper band of the affordability analysis for both the Authority and the Constituent Boroughs, the detail of which is set out in table 1.5 below.

Table 1.5: upper boundary of the Reference Project affordability envelope

Whole life, nominal £000	Barnet	Camden	Enfield	Hackney	Haringey	Islington	Waltham Forest	Total
Reference project costs	730,729	521,060	597,853	488,581	514,983	432,091	509,844	3,795,141
Additional system costs	181,082	130,775	148,201	122,228	127,983	107,901	126,300	944,470
Landfill costs	98,373	70,582	80,506	66,094	69,433	58,392	68,632	512,012
Non-household Recharge	(106,277)	(283,744)	(74,734)	(172,408)	(87,235)	(167,823)	(60,051)	(952,272)
PFI support	(107,333)	(80,114)	(87,299)	(73,184)	(76,314)	(65,812)	(75,389)	(565,445)
(Disposal budgets)	(373,846)	(245,369)	(300,278)	(260,442)	(263,484)	(265,156)	(235,425)	(1,944,000)
Treatment and disposal affordability gap	422,728	113,190	364,249	170,869	285,366	99,593	333,911	1,789,906
Collection costs	654,995	541,059	432,764	610,014	506,504	586,335	376,720	3,708,391
(Collection budgets)	(463,120)	(388,972)	(325,208)	(466,662)	(459,777)	(438,467)	(349,957)	(2,892,163)
Collection affordability gap	191,875	152,087	107,556	143,352	46,727	147,868	26,763	816,228
Affordability gap	614,603	265,277	471,805	314,221	332,093	247,461	360,674	2,606,134

This sensitivity results in an increase of £334 million in nominal costs, thereby increasing the affordability gap to £2,606 million which is the Upper Boundary of the affordability envelope.

As such, the affordability envelope for the Authority and the Constituent Boroughs yields a total nominal whole life cost of between £7,698 million and £8,008[3] million excluding revenue support from PFI credits, which would be reduced to a range of between £7,109 million and £7,443 million net of the revenue receipt stemming from PFI credits of £589.5 million and £565 million, respectively. This would give an affordability gap of between £2,272 million to £2,606[4]million.

[3] As compared against £7,825 million and £8,227 million in the October 2008 submission.
[4] As compared against £2,487 million and £2,889 million in the October 2008 submission.

1.6.6 Mitigation strategies

There are a number of ways in which the Authority and the Constituent Boroughs can work to improve the affordability position of the modelled Reference Project. These will be further explored further in the course of the procurement process. Specifically:

- The Authority's view is that substantial upside benefits may be achieved by allowing the PFI contractor to offer shorter term recyclate and electricity revenue guarantees and for the Authority to share in the upside of this approach whilst managing its downside exposure with a suitable floor price.

- Funding costs of the project may be managed or reduced through involvement of the European Investment Bank, a rigorous funding competition and negotiation of a funding package on a 'club' basis, and the potential for the Authority to make a capital contribution or provide a tranche of senior debt to offset an element of the funding costs of the project.

- Further efforts will be made to secure markets for heat output from the Fuel Use contract, which in turn may yield additional revenue streams.

- There are likely to be opportunities to crystallise revenue from the sale of surplus LATS generated by the Reference Project.

- Consideration will be given as to the nature of any additional waste minimisation and education work that can be undertaken to reduce further residual waste arising and the consequential costs of that residual waste treatment system.

The Authority and Constituent Boroughs will continue to investigate potential efficiency improvements in collection systems underpinning the project.

1.6.7 Approval of affordability

The Authority and its Constituent Boroughs are committed to funding the affordability envelope in order to ensure the deliverability of the project. This is demonstrated by the approval of this OBC at a meeting of Authority members on 9 December 2009 following detailed presentations and reports on the financial implications of the project. Copies of the report and minutes of the meeting are set out at appendix GG. Affordability letters from each of the Constituent Boroughs are set out at appendix U, which together with the affordability letter signed by the NLWA confirms the commitment of the Authority and Constituent Boroughs to the affordability range set out in October 2009.

The Base Case affordability gap of £2,272 million and that of the compound sensitivity of £2,606 million fall with the envelope determined in the October 2008 OBC submission, which recorded values of £2,487 million and £2,889 million for the Base Case and upper boundary of the affordability envelope, respectively.

The affordability letters signed by the Constituent Boroughs in October 2008 confirm their commitment to this wider envelope, and consequently cover the affordability implications of this OBC.

In addition, the affordability envelope for the compound sensitivity has been calculated on the basis of achieving PFI credit support of the same level as calculated in it May 2009 OBC submission of £258.4 million rather than achieving the increased level calculated within this December OBC submission. This would increase the affordability gap by between £2,381 million and £2,710 million. However, under this sensitivity, each of the Boroughs would still be within its respective upper boundary for affordability as set out within the October 2008 submission.

1.7 Stakeholder communications

The Authority recognises the important role stakeholder communication will play throughout the procurement process and has developed a communications strategy which was approved by Authority members in December 2008. The communications strategy included in the appendices runs from 2009 – 2014. The strategy takes the Authority through the procurement period and into the operational dates for the project.

The communications strategy acts as a flexible document which is continually reviewed and updated as the procurement progresses. It supports the strategic aims and objectives of the Authority, the JWS and the procurement process. All of this work is carried out in consultation with the Constituent Boroughs.

To date we have undertaken, where appropriate, a comprehensive programme of communications and engagement activity with our different stakeholders. This has included a proactive and substantive market dialogue, marketing of the procurements (waste, fuel and interim) as well as conducting soundings in respect of key procurement issues.

We have actively engaged with the seven Constituent Boroughs throughout the pre procurement process to date through regular meetings, briefings, the establishment of working parties and presentations.

All Constituent Boroughs have approved the Memorandum of Understanding (MoU), the JWS, a Statement of Principles for the Inter-Authority Agreement (IAA) and an Affordability Letter.

Against this background the NLWA will have a solid basis on which to take forward joint working with its seven stakeholder Constituent Boroughs.

All of the Constituent Boroughs have comprehensive programmes of public engagement activity relating to waste and recycling to include consultation exercises, public meetings, events, school visits, public workshops and information literature.

The Authority itself has lead and participated in projects which promote recycling in different communities; waste prevention and reuse, promote understanding of waste facilities, and raise awareness of the different materials and items which can be recycled.

1.8 Timetable

The Authority recognises the challenging nature of the proposed procurement and the additional pressure posed as a consequence of the disaggregated approach. The Authority has therefore put in place a robust and realistic timetable for the delivery of the project based on prudent and realistic delivery assumptions. The Authority has also identified contingency plans to manage the risks associated with the successful delivery of the project within the proposed timetable.

The timetable builds on the experience of other procurements and the Authority and the Authority has been cognisant of the views of the Defra scrutiny team whilst preparing it. The Authority is of the firm belief that the timetable presented is very prudent and will seek to overachieve against it.

In establishing the timetable the Authority has been mindful of the interrelationship between the two procurements. The Authority has not sought to stagger the phases of the two procurements, except in relation to the closing of the call for final tender's stage the rational for which is detailed in Chapter 10 of this OBC. However, the Authority is cognisant of the need for the two procurements to inform each other without the two processes influencing the outcome of the other which will be a product of the respective evaluation mechanisms.

The Authority is also very aware of the need to have an effective pre-procurement phase and has undertaken a significant amount of work in this regard to enable it to proceed with its procurement approach quickly following approval of its OBC.

2. Background

2.1 Introduction

The Authority has made considerable strides in recent years in reducing the growth in waste arisings, increasing recycling and composting rates and developing partnership working between and with its Constituent Boroughs. It has achieved high levels of diversion from landfill through recycling, composting and EfW. Nevertheless it faces a challenging starting point in terms of its procurement process for a number of reasons, which include:

- A densely developed urban environment with significant market competition for land suitable for the development of major waste facilities. The high costs of land are, to a certain extent, offset by the economies of scale of the facilities proposed.
- Significant barriers to the achievement of high levels of recycling/composting, particularly from the inner London Boroughs' housing stock. This includes a small proportion of properties with sizeable gardens and a large and growing proportion of flatted properties. These considerably increase the relative costs and deliverability of high levels of recycling performance.
- Relatively high per capita waste arisings attributable in some respects to large proportions of single and two-person households.
- A transient population.
- Considerable differences in collection systems between the Constituent Boroughs.
- Strong Mayoral planning powers with waste technology policy presumptions.

This Outline Business Case (OBC) addresses each of the key challenges and constructs positive responses to each of them.

2.2 Details of key characteristics of area profile

2.2.1 Structure and governance

2.2.1.1 The NLWA and its Constituent Boroughs

The NLWA was established in 1986 as a statutory Joint Waste Disposal Authority (JWDA) after the abolition of the Greater London Council (GLC). Its prime statutory responsibility is for the disposal of waste collected by the following London Boroughs, collectively known as the Constituent Boroughs:

- Barnet
- Camden
- Enfield
- Hackney
- Haringey
- Islington
- Waltham Forest

2.2.1.2 Constitutional arrangements

The Authority has a membership of fourteen elected Councillors, two from each of the Constituent Boroughs. The Authority meets five times a year, with a provision for special meetings as required. Members' obligation is to work in the interests of the NLWA, not in the interests of their individual authorities.

2.2.1.3 Funding arrangements

The Authority's income base is a levy on the Constituent Boroughs. From 2008/2009 onwards the Authority has charged the levy predominantly on a tonnage basis, with the exception of the costs associated with the removal of waste from the HWRCs, which is based on council tax levels. However, the Authority is seeking through the new contractual arrangements to change the current system to one which reflects the collection methods and tonnages of various waste streams of each of the Constituent Boroughs.

2.2.1.4 Functions and duties

The Authority's statutory duties are:

- Disposal of waste collected by each of the Constituent Boroughs
- Transport and disposal of household waste from HWRCs
- Storage and disposal of abandoned vehicles (this is currently delegated to Constituent Boroughs)
- Preparing a Joint Waste Strategy
- Delivering performance that is consistent with statutory recycling and composting targets and diversion performance targets

The Authority is unusual in that it does not currently operate any HWRCs itself. All of the HWRCs in north London are operated by the Constituent Boroughs. The Constituent Boroughs have agreed, in principle, to transfer a property interest and operation of the HWRCs to the Authority by financial close and as such the management of these facilities will form part of the new contractual arrangements. This is discussed in more detail in section 2.4.4 under details of existing infrastructure and in section 4.2 in relation to the scope of the project.

2.2.1.5 Officers

The London Boroughs of Camden, Haringey and Waltham Forest provide officers to the Authority, for governance, management, staffing and support services. The Authority also has an established Procurement Team led by the Director of Procurement, Tim Judson, for the delivery of the procurement as detailed in section 6.3.

2.2.1.6 Management of the collection/disposal interface

The Authority has a Strategy Implementation Board (SIB) which meets as required, providing guidance and feedback on strategy implementation. The SIB comprises the Executive Member of Environment from each of the Constituent Boroughs and each Borough's chosen combination of other supporting Members and officers, along with appropriate Member representation and officer support from the Authority. The Chair of the Board is elected each year at the Authority's Annual General Meeting.

Whilst the JWS, which has been the primary focus of the SIB to date, is now approved, it is envisaged that there will still be a requirement for SIB meetings to be held between now and 2014. Meetings may be required to discuss the following issues:

- To review the 2008-2010 waste prevention plan in order to assess how the implementation of waste prevention actions in the JWS is proceeding and to develop a new implementation plan going forward.

- To discuss and review any new municipal waste management strategy for London, its possible implications for North London and/or to gather the views of the Partner Authorities (the Constituent Boroughs and the Authority) for providing a response to a consultation on the same basis.

- To review and specifically discuss the issue of climate change and the implications and actions that might result.

- To discuss and review proposals by packaging compliance schemes for packaging materials and linkages and implications for waste collection, recycling and disposal by local authorities.

Additionally, there is a Technical Officer Group (TOG), which is comprised of one senior waste manager from each Constituent Borough. This Group, which is chaired by the Authority's Technical Adviser, provides further officer coordination and professional advice.

2.2.1.7 Regional governance

The regional governance arrangements in London are complex and include significant and far-reaching statutory powers for the Greater London Authority (the GLA), the London Mayor and the London Assembly. Notably, Waste Authorities in London are required to be in general conformity with the Mayor of London's Municipal Waste Management Strategy. The Mayor has powers of signoff and scrutiny in relation to contracts and waste strategies by which he can ensure this conformity.

Furthermore the Mayor has the power to call in all major waste planning applications and to direct refusal or permission upon the relevant planning authority. All spatial plans are required to be set within the context of the spatial plan for London (the London Plan), which takes a specific view with regards to the favouring of new and emerging waste treatment technologies over the more traditional EfW technologies (see section 4.5).

2.2.2 Geography

North London is an area of approximately 30,000 hectares, bounded by the M25 Motorway and Hertfordshire County Council to the north, the Edgware Road and West London Waste Authority area to the west, the M11 Motorway and the East London Waste Authority area to the east and by Westminster, the City of London and Tower Hamlets to the south. The area of each of the Constituent Boroughs is set out below in table 2.1.

Table 2.1: the areas of Constituent Boroughs in North London

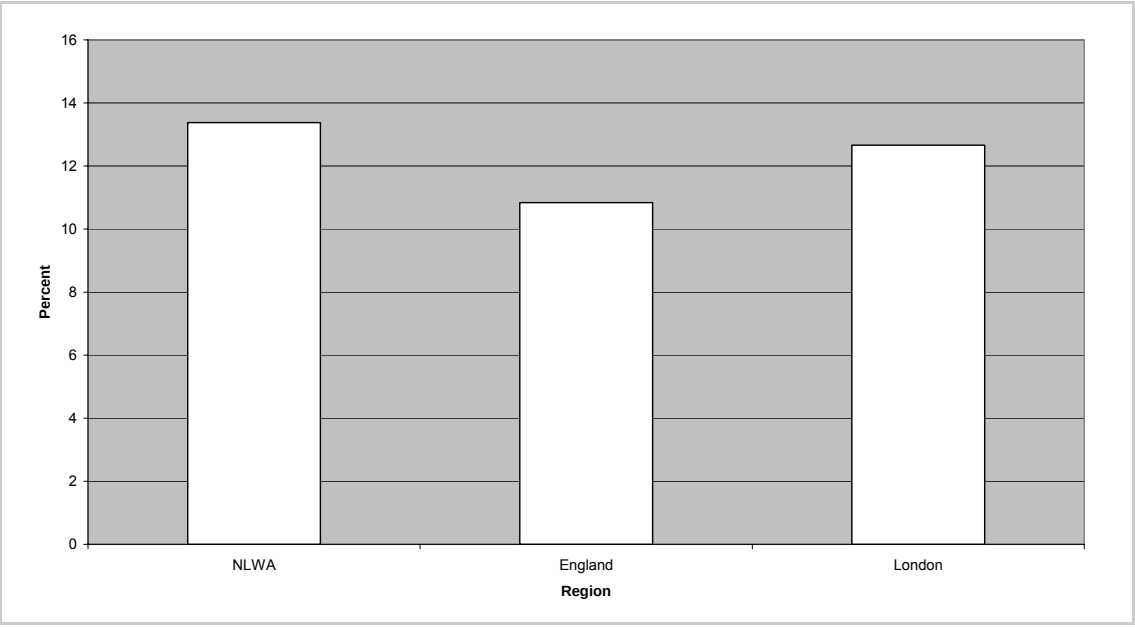
Borough	Area (ha)
Barnet	8,677
Camden	2,178
Enfield	8,014
Hackney	1,904
Haringey	2,961
Islington	1,486
Waltham Forest	3,881
Total	**29,101**

2.2.3 Land use

The majority of land use within the area consists of residential housing, but the area retains significant open spaces in the north where much is protected as part of London's green belt.

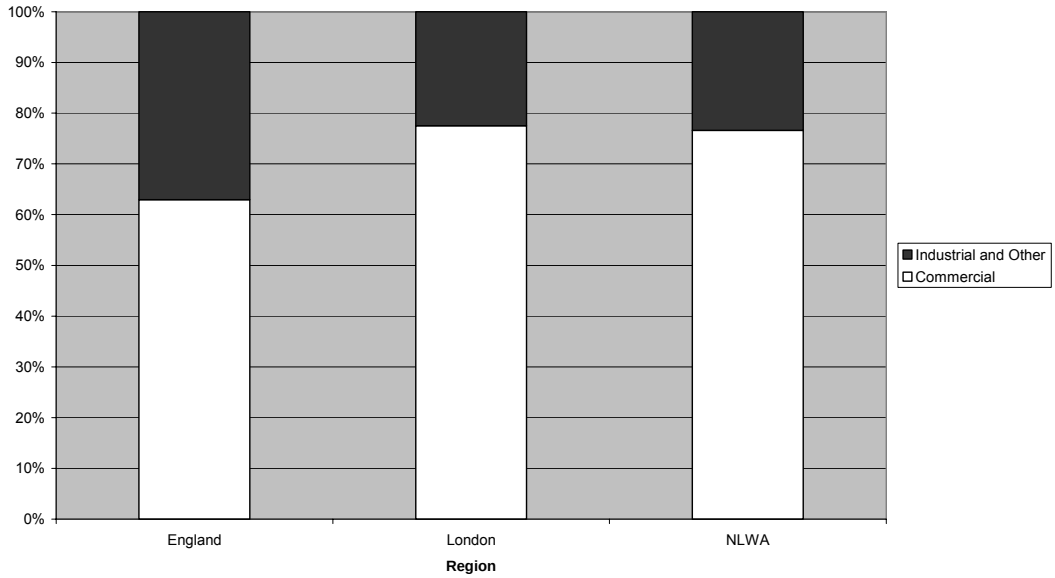
The National Land Use Database indicates that the NLWA area has a higher than average proportion of built up land (excluding unclassified and transport land) in non-domestic use as shown by figure 2.1.

Figure 2.1: percentage of built up areas in non-domestic use



This appears to indicate a proportionally greater prevalence of industrial land in North London than London and England as a whole. However, whilst detailed land-use data is not available, data on the proportion of commercial against industrial properties in the same areas indicates that a significantly greater proportion of this land is in commercial use and one could reasonably assume that North London has a lesser proportion of land in industrial use than the England average. This commercial/industrial split is shown in figure 2.2.

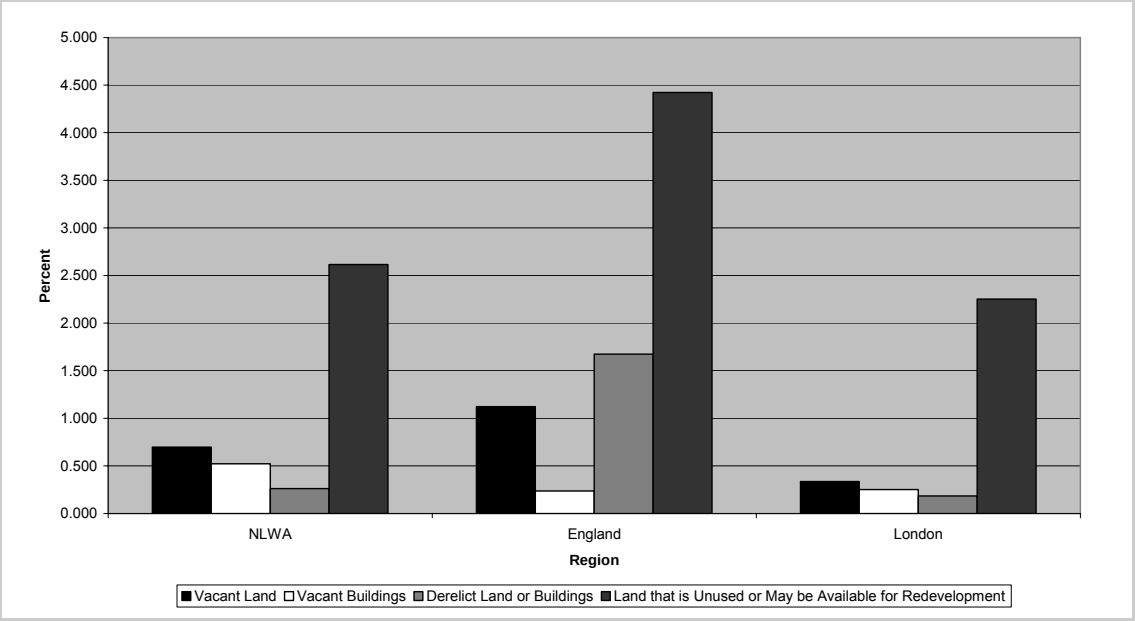
Figure 2.2: split of commercial and industrial and other properties



This relative scarcity of industrial land is reflected in the recorded rateable values which indicate that a square metre of factory space is 45% more expensive in London than the national average, whilst warehouse space is 25% more expensive.

Planning and Policy Statement (PPS) 10 and other waste planning policy prioritises the use of brownfield and other previously developed land for waste facilities. Not surprisingly, due to the pressures upon land use, the proportion of land that may be considered brownfield or unused is significantly lower in North London than the England average, as shown in figure 2.3. The relative proportion of such land available for industrial and similar uses may be lower still in North London due to the greater relative pressures on such land for commercial use.

Figure 2.3: land not suitable for housing



Furthermore, the industrial land available within the NLWA area is largely concentrated in the River Lee Valley corridor which runs north/south towards the east of the area creating further challenges in providing an adequate spread of reception points for waste.

2.2.4 Population

The total population of the North London area is 1.7 million people who live in approximately 696,000 households. This population has increased from approximately 1.5 million in 1991 and, according to GLA population estimates, is likely to rise by a further 150,000 by 2016 as part of a London-wide trend.

The mid-year estimates of population by Constituent Borough up to 2008 are shown in table 2.2 below:

Table 2.2: population estimates by Borough

	2001	2002	2003	2004	2005	2006	2007	2008
Barnet	319,500	320,100	320,800	323,000	326,100	328,600	329,700	331,500
Camden	202,600	206,000	210,000	215,600	222,800	227,500	231,900	235,700
Enfield	277,300	280,600	281,400	282,200	283,400	285,300	285,100	287,600
Hackney	207,200	208,400	207,600	206,200	207,100	208,400	209,700	212,200
Haringey	221,300	223,600	223,100	222,800	224,100	225,700	224,700	226,200
Islington	179,400	180,600	181,400	181,400	184,200	185,500	187,800	190,900
Waltham Forest	222,000	221,800	220,400	220,100	220,300	221,700	222,300	223,200
Total	**1,629,300**	**1,641,100**	**1,644,700**	**1,651,300**	**1,668,000**	**1,682,700**	**1,691,200**	**1,707,300**

The area has substantial areas of transient population. It is typical of London as a whole in that it has a relatively young population. The London Boroughs of Camden and Islington, in particular, contain relatively large proportions of people in their 20s who are generally considered to be more transient than other age groups. High transience creates a

considerable challenge in terms of ensuring that interaction between the Authority and the householder through education and, where necessary, enforcement, is consistent and effective.

Population density varies across the Authority area but is generally above the average for London, (five of the Constituent Boroughs have above London average population density). Overall, the Authority area had 74 people per hectare in 2001, compared to the London average of 46 and the UK average of 4.

The level of cultural and ethnic diversity in the NLWA is broadly reflective of the average of inner and outer London Boroughs with Hackney, Camden and Haringey having particularly high levels.

2.2.5 Socio-economic status

The socio-economic make up of the Constituent Boroughs tends to reflect those of other inner or outer London Boroughs in that there is considerable disparity within individual authorities, especially within inner London Boroughs (Camden, Hackney, Haringey and Islington), which tend to be more deprived overall. According to the Office of National Statistics, the NLWA area contains two of the ten most deprived Authorities in the UK. Deprivation has been identified by successive studies as a significant barrier to high levels of recycling and composting performance.

Table 2.3 (below) shows the scores and ranks of the Constituent Boroughs from the 2004 Index of Multiple Deprivation.

Table 2.3: scores and ranks of the Constituent Boroughs (2004 index of multiple deprivations)

	Hackney	Camden	Haringey	Islington	Enfield	Barnet	Waltham Forest
Score	45.06	34.71	37.7	42.65	23.05	16.09	30.24
Rank	5	19	13	6	104	193	47

2.2.6 Car ownership

The Inner London Boroughs within the NLWA have some of the lowest rates of car ownership in the UK. The London Boroughs of Hackney, Camden and Islington, in particular, have very low rates of car ownership. The outer London Boroughs broadly reflect the English average.

The greatest impact of the car ownership patterns in North London on waste management is the relative ability of residents to access HWRCs. It may also serve as a barrier to some types of reuse and the use of some bring-based systems.

2.2.7 Housing

The housing mix in North London differs considerably from that of the rest of the country but, again, is broadly representative of London as a whole as shown in Figure 2.4 below. All of the Constituent Boroughs have considerably higher proportions of flatted properties than the national average of 19% with Camden, Islington and Hackney particularly high with 86%, 80% and 76%, respectively. The figures for purpose built flats in these Boroughs are 47%, 49% and 51%, respectively against a national average of 14%.

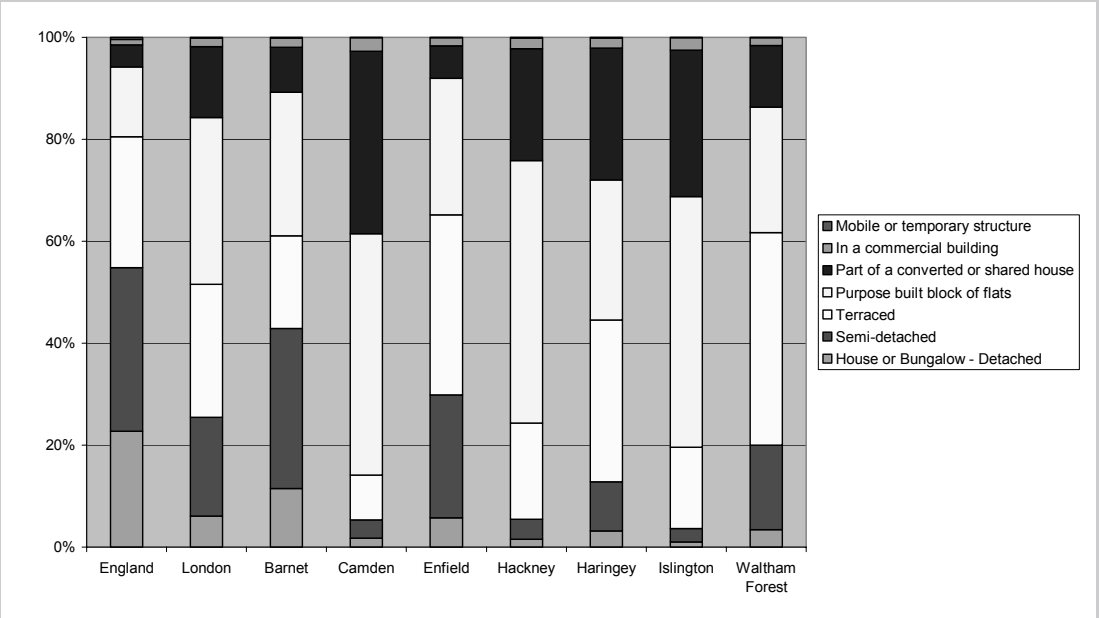
It should be noted that, as these figures have been derived from 2001 census data, the current figures are likely to be further slanted towards flatted properties as developers and space planners increasingly rely upon high-density infill and conversion of existing properties to meet both market demand and the challenging London Plan housing targets designed to meet rising demand within an already densely developed landscape.

The proportion of flatted properties not only represents considerable barriers to the collection of waste for reuse, recycling and composting but is also a significant barrier to effective

incentive and compulsion measures. These barriers increase significantly with regard to purpose built flats.

Figure 2.4: housing mix in Constituent Boroughs

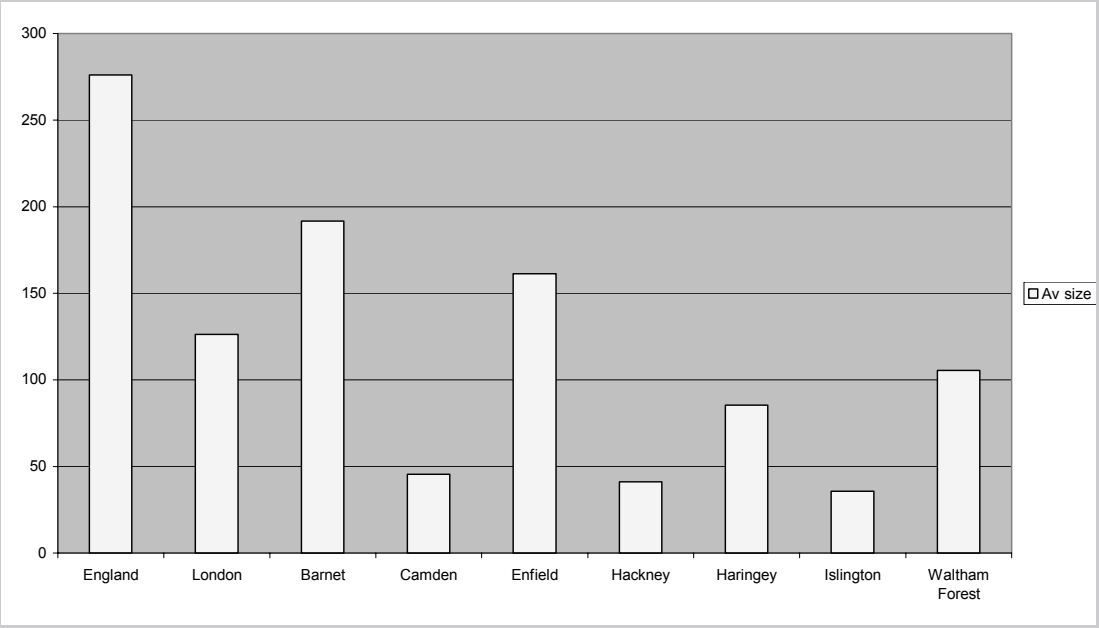
Source: 2001 Census



Another key aspect of the housing mix in North London is the lack of gardens and, consequently, garden waste. Most of the highest performing authorities in terms of recycling and composting in the UK rely heavily on this component of the waste stream and it is generally considered to be a 'quick win' in increasing their recycling rates. The average private garden size per property in the Constituent Boroughs in comparison to the national average is shown below in figure 2.5.

Figure 2.5: average private garden size by residential property

Source: National Land-use Survey



The coverage of private garden space by household in some of the inner Constituent Boroughs is dramatically lower than that of the United Kingdom and even the London average, taking into account the relative housing mix.

It is commonly observed that amounts of green waste in the overall waste stream increase significantly above that previously in the waste stream with the introduction of free green waste collection systems. The data above indicates that, even if these collections and their performance were enhanced in many Constituent Boroughs, the amount of additional green waste separately collected would be less than that found in similar schemes nationally.

The amount of green waste available may be relatively lower still due to the tendency of householders in urban environments to pave over gardens for various reasons, especially for off road parking. A GLA commissioned report '*Crazy Paving: The Environmental Importance of London's Front Gardens (2005)'* found that around two thirds of London's gardens have been wholly or partially replaced with hard surfaces.

2.3 Analysis of waste arisings

Of the total waste arisings generated in the Constituent Boroughs a proportion is not currently managed by the NLWA. This is mainly material collected on a source separated basis for recycling by Constituent Boroughs, and consigned straight to market through their contractors. In 2008/2009 813,851 tonnes of waste was handled by the Authority, which was 90% of the total waste arisings. This percentage has varied up and down year-on-year as more materials are collected for recycling or composting and not consigned through the Authority; as Constituent Boroughs have changed their collection systems; and as they have made a decision to consign their materials through the Authority. The amount of residual waste has reduced from 746,453 in 2007/2008 to 708,864 (or a reduction of 5.0%) in 2008/2009.

Table 2.4: analysis of waste arisings

	WCA household collected waste	WCA collected trade waste	HWRC collected household waste	Other MSW	Total MSW arising	Percentage change
Year	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	%
2003/2004	700,637	163,208	79,082	6,252	949,179	+1.51
2004/2005	698,917	160,814	77,819	14,353	951,903	+0.29
2005/2006	722,021	157,531	70,435	12,452	962,439	+1.11
2006/2007	675,953	169,580	73,550	15,297	958,600	-0.40
2007/2008	674,480	160,000	72,181	13,211	944,383	-1.48
2008/2009	616,002	197,071	52,443	38,925	904,440	-4.23

Table 2.5 shows the projected overall household waste arisings for the project, which, accounting for projected population growth, are in line with the National Waste Strategy residual waste targets:

Table 2.5: projected household waste arising growth rates in North London

Waste growth assumptions	To 2015	2016 onwards
Household waste	1%	0.5%
Trade waste (2009/2010 onwards)	0%	0%
Non-household waste (2009/2010 onwards)	0.04%	0.02%
Municipal waste (2009/2010 onwards)[5]	0.8%	0.4%

The waste arisings growth rates have been forecast on the basis of a balance between the central case assumption of 0.75% annual municipal waste growth within Waste Strategy 2007 (WS2007) and the growth in recent years of just over 1%. A slightly higher rate has been adopted pre-2015, which reflects a continuation of the significant year-on-year rise in the

[5] Subject to some variation over time as the household/non-household ratio changes and household/non-household reconciliation in 2008/2009.

number of households, which is a key driver behind the currently relatively high year-on-year increases in waste arisings.

A lower rate of growth has been set after 2015 to reflect the substantial increase in cost drivers around that period for the Constituent Boroughs to reduce residual waste, the impact of considerable expenditure budgeted for waste education and enforcement projected to peak in 2020; and a hypothesised tailing-off of housing growth.

The Constituent Boroughs collect a relatively large amount of trade waste, as one would expect in a dense urban area where the existing economies of collection can be applied effectively and where clearing waste quickly is seen as a key local environmental priority.

The services vary in scope and economic viability from Borough to Borough and in some cases may represent a considerable asset for sale if Constituent Boroughs make a decision to sell to offset increasing collection costs. It is proposed to carry out a review of trade waste under the auspices of an improvement programme. The review, conducted in partnership with the Constituent Boroughs, have the remit to seek to establish a collective position on trade waste. A fuller discussion of the factors that might influence this element of the waste stream is contained in section 4.2.3. The Authority has issued each Constituent Borough with a simple model to produce a range of scenarios in relation to key variables such as LATS and Landfill Tax to test modelled NLWA trade waste disposal costs against assumed private sector costs. However, in the absence of a fuller and more specific picture of future Constituent Borough intentions and the full impact of the various drivers at this point, the reference project assumes that levels of trade waste remain static.

Trade waste is largely co-collected with household waste and a number of major throughways are subject to a clear-all policy. The non-household waste element of the municipal waste stream is therefore calculated using an agreed methodology which has recently been updated, with the new methodology having come into effect from 1 April 2008.

With the exception of a re-correction due to the application of a new apportionment methodology between 2007/2008 and 2008/2009 collected municipal trade waste is assumed to be relatively static. Where changes may occur there are considerable difficulties in accurately projecting them due to the complex interactions of the private sector market with incentives and disincentives associated with municipal collections. The projected overall growth in waste arisings is largely due to additional households and background growth in other smaller waste streams such as litter/street sweepings and non-household streams such as parks waste and fly tipped waste, etc.

2.4 Details of current arrangements for collection and disposal

2.4.1 Details of collection systems and contractual arrangements

The Constituent Boroughs have varied collection arrangements and systems. There is a broad spilt between Constituent Boroughs tending to collect co-mingled materials and those collecting source-separated materials. Some Constituent Boroughs are also now opting for hybrid systems under which paper is collected separately and other materials commingled. Further distinctions exist between the systems for collecting biowaste and compulsion measures. These differences and the implications are covered in more detail in section 3.5. appendix Y provides full details of the waste collection systems currently in place, current contracts and future intentions, where known.

All current collection contracts are either operated by Direct Service Organisations (DSOs) or scheduled to end before the Authority’s main waste disposal contract ends, although a number of Constituent Boroughs are either conducting service reviews which may have some influence on waste collection procurements over the short or medium term, or are expecting to procure new services soon.

The relationship between collection systems and disposal is the subject of review both collectively and within Constituent Boroughs. The agreement by the Constituent Boroughs on the principles of the Inter-Authority Agreement (IAA) that we need to seek to promote more like arrangements which are conducive to higher levels of recycling. The Authority has commissioned ENTEC UK to undertake a full review of future waste collection systems in partnership with Waste and Resources Action Programme (WRAP) and in parallel with any reviews that Constituent Boroughs may be conducting. This is covered in more detail in section 2.5.1.3.

2.4.2 Household Waste Recycling Centres

North London is unusual in that the provision and operation of HWRCs has historically been the responsibility of the Waste Collection Authorities (WCAs) rather than the WDA. This has meant that some of the sites have a local service focus and target the more easily recyclable materials rather than the smart disposal of residual waste (e.g., the use of waste wood that cannot be recycled as a biomass fuel source) and/or the recycling of materials where volume is an issue (e.g., plasterboard).

Experience gained in other authorities has indicated that upgrading of HWRCs is one of the easiest and quickest ways of lifting recycling and composting rates. Constituent Borough investment in new facilities may also have been constrained by recent uncertainty over the previous Mayor of London's proposed approach to a single waste authority for London and delays in the establishment of the London Waste and Recycling Board. Overall, the density of site coverage in some parts of the NLWA area means residents have to travel further than desirable to encourage frequent use of sites. This situation is causing congestion on key sites, leading to poor recycling performance and residents deciding to use alternative disposal routes.

An assessment of the current HWRC network performance has identified that the volume of material received is lower than expected, and that there is considerable scope for improving recycling rates. Our preliminary view, based on advice from our technical consultants, is that with investment in new sites and the upgrading of existing sites the following improvements could be secured from HWRCs by 2016:

- An increase in the overall recycling rate from 50% in 2006/2007 to 63% with the existing variations in performance from site to site brought into line.

- An increase in the total waste arisings presented to HWRCs in the Authority to approximately 29,000 tonnes per annum.

2.4.3 Main waste disposal contract

The majority of waste that the Authority handles has for the last 15 years been managed through its main waste disposal contract with LondonWaste Ltd (LWL). The main contract for the disposal of North London's waste is currently based on an incineration and landfill basis, with a small amount of in-vessel composting.

LWL was originally established as a Joint Venture company with 50% of its shares owned by the Authority and the other 50% by SITA (UK) Ltd (SITA). The company was established due to the requirements of the Environmental Protection Act 1990 and in 1992 the Authority entered into a process leading to the formation of a Local Authority Waste Disposal Company (LAWDC) and subsequently formed the Joint Venture after selecting SITA as the preferred partner.

The Authority subsequently tendered for services to meet its waste disposal needs, with LWL successfully bidding on behalf of the Joint Venture partners. The arrangements for the Joint Venture were finalised and received approval of the Secretary of State for the Environment in December 1994.

The divestment of the Authority's operational arm to LWL took place in December 1994. At the same time, a twenty year contract for the transfer and disposal of the Authority's waste was awarded to LWL. There was no provision for extension within the contract, which is due to expire in December 2014.

A number of variations to the main waste disposal contract have been agreed since it was initially signed. All of these, with one exception, were set up to co-terminate with the main waste disposal contract and cover the following services:

- The consignment of separated organic waste from the collection authorities to the Edmonton In-Vessel Composting (IVC) Facility.
- Transfer of asbestos waste from the Authority's Hornsey Street Transfer Facility to a third party contractor and a hazardous waste landfill site in Essex.
- Transfer of residual waste from the Constituent Boroughs' HWRCs to other facilities operated by LWL or Waste Recycling Group (WRG) on its behalf. The Authority entered into the contract in September 2003 and it has recently been agreed that it will be extended to 2010.
- An arrangement to bulk co-mingled materials for recycling which are currently consigned to a MRF operated by Veolia in Greenwich.

The Authority has acquired SITA's 50% shareholding in LWL and is now the 100% shareholder.

2.4.4 Principal assets/infrastructure

2.4.4.1 Current assets

The NLWA currently owns two non-operational assets, a 999-year lease on Hornsey Street waste transfer station yard in Islington and a residual freehold interest in Picketts Lock Lane Edmonton. These assets have been shown in the balance sheet of the Authority as at 31 March 2009 valued at £14.774m, as shown below in table 2.6:

Table 2.6: current assets

	2009 (£000)	2008 (£000)
Fixed assets		
Tangible fixed assets — general	1	1
Tangible fixed assets – long-term leases	14,773	12,440
Total	**14,774**	**12,441**

The Authority's assets are revalued every five years on the basis of the open market value in accordance with the Statements of Asset Valuation Practice and Guidance Notes issued by the Royal Institution of Chartered Surveyors. The valuations have been provided by the London Borough of Haringey under the guidance of its Head of Property Services, Dinesh Kotecha, in the case of Hornsey Street (12 June 2009) and Wilks Head & Eve in the case of Picketts Lock Lane (31 March 2005).

In terms of meeting its waste disposal obligations, the NLWA also accesses the following:

- A rail transport transfer facility at Hendon involving the transport of residual waste to landfill
- An EfW plant and associated infrastructure at Edmonton Ecopark
- An IVC facility at Edmonton Ecopark

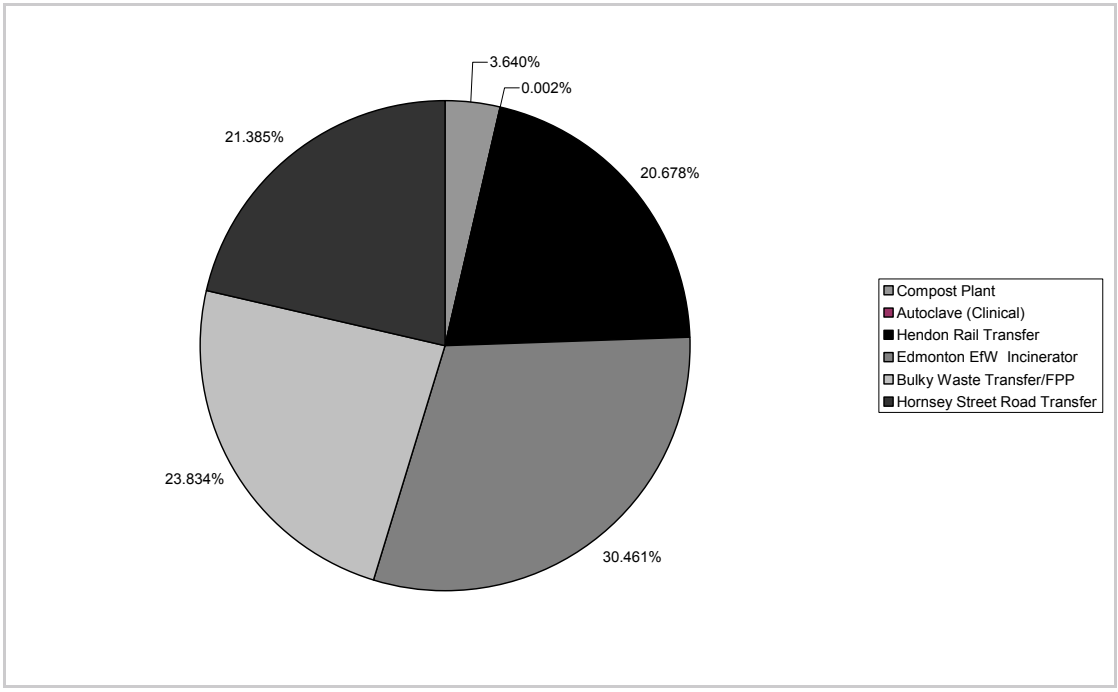
Following a due diligence exercise and formal decisions by both the Authority and SITA on 9 December 2009, the acquisition of LWL was completed on 22nd December 2009. LWL is now a wholly owned local authority company. Use of the site at Edmonton is set out in chapter 7.The LWL subsidiary, Polkacrest, is a company managing clinical waste disposal, and thus not wholly aligned with the Authority's core business. At completion SITA acquired all shares in Polkacrest.

The implications of the acquisition of LWL are set out in chapter 4.

The Authority has a fifteen year lease at the existing Hendon site (with the option to extend for three further periods of 15 years) from 25 March 2009, which allows for the ongoing use of the site as a RTS and for the bulking by road of pre-sorted recyclable and compostable wastes.

Figure 2.6 below shows the relative tonnage consigned to each of the Authority's facilities in 2008/2009.

Figure 2.6: proportion of waste delivered to each of the Authority's contracted facilities (2008/2009)



2.4.4.2 Hendon rail transfer to landfill

As noted in the previous section, the Authority utilises a rail waste transfer station in Hendon, near the Brent Cross Shopping Centre. This site receives nearly all of Barnet's waste, a significant proportion of Camden's waste, and a small amount of Haringey's waste. WRG owns the railhead and the landfill site in Buckinghamshire to which the waste is consigned, and operates the site under a sub contract with LWL. LWL operates the gatehouse and weighbridge at the facility. The Authority leases the site ultimately from Network Rail and sub-leases it to WRG.

Approximately 200,000 tpa of the Authority's municipal waste is delivered directly to the transfer station. The facility is capable of handling additional tonnage and is a potential waste management solution in the event of a difficulty in some other aspect of the Authority's waste disposal solution. Additionally, approximately 30,000 tonnes of waste from the West London Waste Authority (WLWA) is transferred to landfill from the site which is close to the boundary between the Authority and WLWA.

Given the need to deliver greater diversion of waste from landfill, the existing Hendon operation will be retained and may be supported by the procurement of short term merchant capacity. In the event that the redevelopment proposals for the regeneration of Brent Cross Cricklewood come forward, a new rail transfer station and MRF would be provided on a new site identified in the planning application for that scheme.

2.4.4.3 Hornsey Street transfer station

LWL directly operates a road waste transfer station at Hornsey Street in the London Borough of Islington under the main waste disposal contract. The facility currently handles over 200,000 tpa of material collected in Hackney, Camden and Islington.

The facility, which was opened in July 2004, accommodates the Authority's waste transfer station, the London Borough of Islington's depot and a reuse and recycling centre operated by the Borough. The Authority has a 999-year leasehold interest in the main building, and a separate 999-year leasehold interest in the transport yard.

The waste transfer operation includes recycling bays for paper, scrap metal, glass, steel and aluminium cans, co-mingled materials, refrigeration equipment and construction waste. It also receives mixed organic waste residual waste. Additionally, there is potential for waste to be transferred by rail from the site via the adjoining railway line.

The Authority envisages that this transfer station will be made available to the future contractor for the duration of the contract. The current transfer station has the potential for further development allowing the future contractor to improve the logistics solution (bulking up of materials, etc.) for the Authority. It will be for bidders to consider what approach to take in the light of information that will be provided about the site and its planning approval.

2.4.4.4 Edmonton EcoPark

The London Ecopark in Edmonton is owned by LWL. It is a waste management complex of approximately 15 hectares (ha) at the Junction of the A406 North Circular and the A1055 Meridian Way within the London Borough of Enfield close to its borders with the London Boroughs of Haringey and Waltham Forest. A total of 600,000 tpa of the municipal waste arising in the NLWA area was consigned to this site in 2008/2009.

30,000 tpa of the waste consigned to the site by the Authority is treated in an IVC facility. It produces a compost product which has been Publicly Available Specification (PAS) 100 certified. The compost is available free of charge to the Constituent Boroughs by whom it is increasingly being used, following trials in 2006/2007. However, most is used for agricultural purposes and spread on land.

Despite its strategic role in raising the recycling composting rate of the NLWA's Constituent Boroughs over recent years, in terms of tonnage contribution, the IVC plays a relatively small role in the management of the Authority's waste which is dominated by the Edmonton EfW plant. This facility has a capacity of circa 550,000 tpa, and was constructed by the GLC and opened in 1974. It receives all residual waste from the London Boroughs of Enfield, Haringey and Waltham Forest. A significant proportion of Hackney's residual waste is also accommodated together with small amounts from the other three Constituent Boroughs.

The facility generates 55 megawatts (MW) of electricity, 85% of which is exported from the site. Ferrous metals extracted from the resultant ash are sent for recycling and the remaining ash is consigned to an onsite Ash Recycling Facility. The EfW supplies a relatively small amount of the excess heat generated to the Ecopark's autoclave facility.

Whilst a considerable amount of the Authority's residual waste delivered to the site is consigned directly to the incinerator (circa 250,000 tonnes in 2008/2009), a considerable proportion (circa 150,000 tonnes) is derived from waste first treated onsite in either the Fuel Preparation Plant (FPP) or the Bulky Waste Recycling Facility (BWRF). Waste received by both of these other facilities is sorted to extract materials suitable for recycling. The Authority

does not currently use the full capacity available at the EfW plant. The remaining capacity is mainly filled by municipal waste from other sources, a significant proportion of which is consigned by Hertfordshire County Council.

2.4.5 Other disposal/treatment contracts and arrangements

Other contracts exist with parties other than LWL. These are:

MRF

Greenstar and Bywaters are responsible for a total of 40,000 tonnes of commingled material – an amount which is set to rise to 70,000 tonnes by 2014. The contracts will run until 2014 with extension options to ensure a smooth transition of service for when the new waste infrastructure is in place.

Tyres

During 2007/2008, the Constituent Boroughs were directed to McGraths in Hackney for the disposal of their tyres. Those tyres that are not suitable for reuse are sent for use as fuel in cement manufacturing.

Waste electrical and electronic equipment (WEEE)

The Authority entered into a contract with DHL as the compliance scheme selected for the clearance of HWRCs and transfer stations registered as Designated Collection Facilities (DCFs) of WEEE.

2.5 Performance of existing services

2.5.1 Recycling and composting performance

2.5.1.1 Recycling and composting performance trends

As shown in table 2.7, recycling and composting performance in the NLWA increased between 2004/2005 and 2007/2008 and with composting performance increasing fastest. From 2008/2009, Best Value Performance Indicators (BVPI) have been replaced with National Indicators.

Table 2.7: recycling performance

Year	Recycling tonnage	Recycling (BVPI) % of HHW	Composting tonnage	Composting (BVPI) % of HHW	Total HH waste sent for recycling, composting or reuse	Proportion of waste collected for recycling from HH sources %
2004/2005	108,906	14.02	33,077	4.26	141,983	18.28
2005/2006	121,012	15.27	44,572	5.62	165,584	20.89
2006/2007	122,378	15.81	54,815	7.14	177,193	22.95
2007/2008	128,502	16.88	57,043	7.49	185,545	24.37
2008/2009	Replaced by NI from 2008/2009				182,109	26.76

2.5.1.2 Factors affecting recycling/composting performance

The improved performance in recycling/composting is largely attributable to a combination of the following:

- Introduction and roll-out of food waste and mixed food and green waste collections enabled by the development of the IVC facility at the Edmonton site.
- The increased intensity of estates based recycling service provision.

- ► The addition of new materials to kerbside collections and some bring sites, notably plastic bottles and cardboard.

- ► Measures to increase service participation and capture of targeted materials through education, information and, in some Constituent Boroughs, compulsion.

Table 2.8: Provides a summary of current borough arrangement for food waste.

Table 2.8: Food waste Collection Services currently in place

Borough	Description
Barnet	65,280 households have opted in to receiving mixed green and food wheelies. This is 56.7% of the lowrise houses in the borough (inc houses split into flats).
Camden	Existing sack-based green waste collections on request. Piloted food waste collections since 2008 (currently covering 10,000 properties in total) and have cabinet approval to introduce a borough-wide caddy based kitchen waste service over a 14 week period from June 2010.
Enfield	Low-rise properties have historically been served with a box for mixed green waste and uncooked fruit and vegetable waste. The borough has rolled out a pilot providing wheelie bins for organics (including all food waste) to 14,000 households and have cabinet approval to extend this to the circa 80,000 households in the borough with suitable frontage for the bins. The provision of caddies for food waste has also been approved for those households that opt to receive them in the pilot areas. The food waste will continue be collected mixed from the wheelie bins until such time as suitable food waste only processing infrastructure is in place.
Hackney	Provide food waste collections (using caddies) for all street level properties. Circa 5,000 flats are served by food waste bring banks. Food waste is currently collected separately by stillage vehicle but mixed with green waste to meet Edmonton IVC's acceptance criteria.
Haringey	Food and green waste collections are provided for all street level properties from caddies and reusable sacks respectively. The material is mixed on the collection vehicle.
Islington	Food and green waste collections are provided for all street level properties from caddies and reusable sacks respectively. The material is mixed on the collection vehicle. The Borough is piloting food waste banks for a small number of flatted properties
Waltham forest	Wheelie bins for mixed green and food waste currently serve 50,000 street level properties (about 70% of the total).

Despite the fact that services have been extensively rolled out across North London in recent years, and in many cases have been in place for some time, the recycling/composting performance broadly reflects performance across London as a whole (29.2% in 2008/2009) which is lower than the English average (37.6% in the same year). This may be attributed to the following factors:

- ► Challenges associated with the development of strategic waste management infrastructure in a dense urban environment which has been compounded by delays in forming the London Waste and Recycling Board.

- ► A high housing density with a high proportion of flatted properties and, notably, purpose built flats that cannot easily be served by door-step collection schemes.

- ► A relatively low number of private gardens which tend to be of relatively small size, leading to a lower than average level of green waste which is usually considered to be a 'quick win' in terms of improving the performance of authorities that have access to sizable amounts of green waste in their waste stream.

2.5.1.3 Planned initiatives to improve recycling/composting performance

As illustrated in appendix Y there is diversity in the collection systems employed by the Constituent Boroughs. However, subject to optimising the interface with the emerging waste disposal infrastructure, they are content to look sympathetically at more commonality in the

waste collection platform across the Authority area. To this end all Constituent Boroughs have agreed within the agreed IAA statement of principles to review their collection systems against the models being produced.

The Authority and Constituent Boroughs have recognised the particular need to provide certainty to bidders with regards to collection systems and tonnages delivered to ensure that facilities are sized appropriately. Bringing the Constituent Borough models together, supplemented by further waste composition analysis work, will provide a powerful tool for the Authority to use during the procurement process. This will be critical to ensuring that proposed facilities are appropriate to their input stream and of an appropriate size.

The information will also allow us to make more sophisticated judgments about the waste collection and waste disposal interface which will ensure the most efficient delivery of our waste disposal ambitions. This extends far beyond determining the optimal level of commingling for dry recyclates to cover the entire waste collection system. There is a particular emphasis on organic waste – reflecting the need for high levels of food waste capture in the absence of large amounts of green waste to contribute in the attainment of high recycling/composting rates.

The Authority has commissioned a programme of collection modelling work that is engaging the Constituent Boroughs directly in building the underlying assumptions and data. Five full collection scenarios have being modelled in each Constituent Borough to test and compare different approaches to collection. The objectives of this work are to:

- Identify the optimal shared collection systems going forward, balancing a range of considerations including performance, cost, practicality, public acceptability and environmental impact. It is intended that this will not only simplify the collection and disposal interface and provide certainty to the Authority going forward but will also underpin any future shared procurement of collection systems.

- Provide a clear plan for each Constituent Borough to meet the challenging recycling and diversion targets, notably the 50% recycling/composting target in 2020. It will also enable the Constituent Boroughs to understand the associated cost and other implications of target attainment, identify where cost savings and service efficiencies might be made in collection services and deliver the targets in the most cost-efficient way.

- Bring together the various reviews of waste collection services being conducted within the Constituent Boroughs under a common modelling system and set of assumptions.

- Underpin negotiations towards an agreed IAA, particularly with regard to the relative achievability of specific performance levels from Borough to Borough and the pooling of targets.

The Authority has commissioned ENTEC UK to undertake the modelling work and has engaged WRAP's ROTATE programme as a partner to fulfil the following roles:

- Ensuring fit with the various support initiatives it is providing directly to the Constituent Boroughs.

- Commenting on and developing appropriate performance assumptions within the scenarios modelled.

- Ensuring fit with this and other areas of liaison between the Authority and WRAP, notably in relation to innovation in collection, treatment/sorting technologies and materials markets.

- Providing an external and objective view of the process.

The eight Authorities have periodically refined the data within the models and the underlying assumptions. Constituent Borough representatives, upon advice from WRAP ROTATE, have

provided assumptions that reflect what they currently believe to be achievable in their Authority areas. These assumptions are currently being refined and finalised based on discussions and engagement at senior level within each Constituent Borough which will feed into the final IAA.

2.5.2 Residual waste treatment

Information relating to the level of residual waste treatment and diversion performance for the Authority for the years 2004 to 2008 is set out in table 2.9 below. The landfill diversion rate has gone up in 2008/2009 to 71%. Data for 2008/2009 on the amount of BMW landfilled is yet to be produced by the Environment Agency.

Table 2.9: recovery and diversion performance

Year	Thermal treatment (Tonnage)	MSW landfilled (Tonnage)	Diversion rate (%)	BMW landfilled (Tonnage)	Landfill allowances (Tonnage)
2004/2005	380,972	429,213	54.91	n/a[6]	310,408
2005/2006	339,306	438,301	54.46	298,373	312,933
2006/2007	416,179	345,985	64.54	295,724	320,610
2007/2008	445,446	260,992	69.03	198,362	330,847

Over the two years preceding 2006/2007 the Authority's landfill diversion rate was reduced. This was primarily due to a reduction in capacity at the Edmonton EfW plant in those years due to works needed to comply with a derogation from the Waste Incineration Directive (WID). The diversion rate increased in 2006/2007 due to an increase in incineration and recycling/composting and is expected to increase further over coming years due to increased levels of recycling and composting.

The levels of incineration of residual waste could, theoretically, increase yet further if the practicalities and costs associated with transferring waste from the western side of the Authority area were resolved.

Table 2.10 provides composition detail of the diverted residual waste by fraction

Table 2.10: Composition of Residual Waste Diverted From Landfill

Fraction	%
Paper & card	24.80%
Plastic film	3.10%
Dense plastic	4.75%
Textiles	2.30%
Other combustibles	12.45%
Glass	6.24%
Other non-combustibles	5.52%
Organics	33.19%
Fe metal	3.88%
Non-fe metal	0.83%
Fines	2.94%
Total	100%

[6] No data available as LATS did not start until 2005/2006.

2.5.2.1 Residual waste comparison

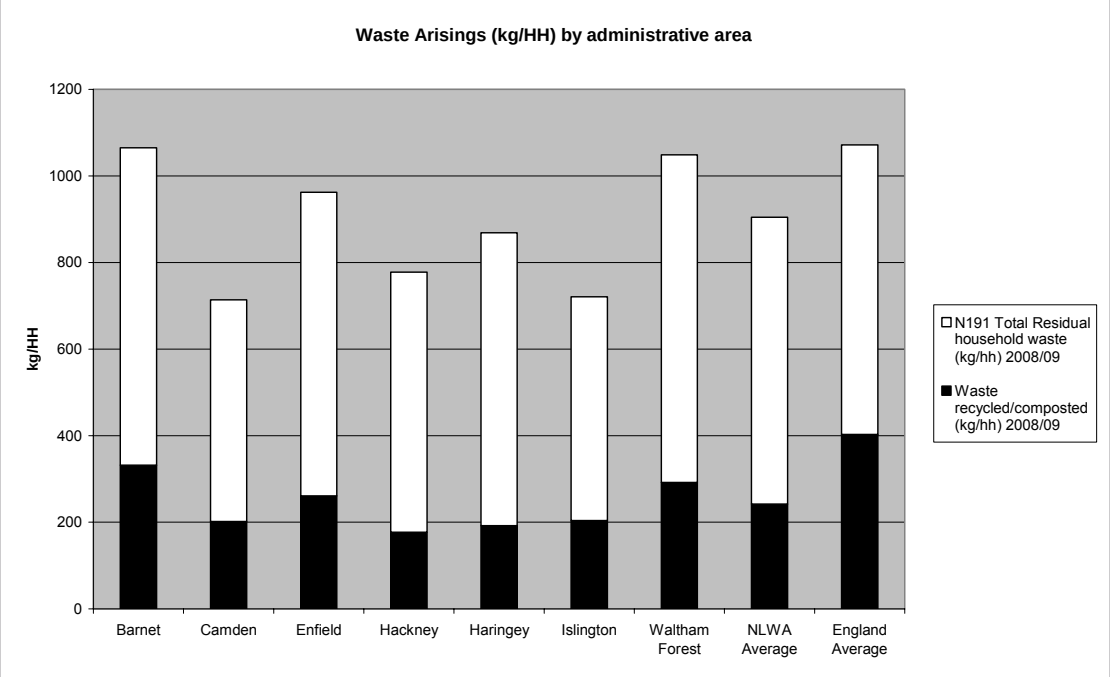
Whilst the National Waste Strategy (NWS) measures residual waste by kg per person, the performance of individual Authorities is measured by National Indicator (NI) 191 – Residual Waste per Household. Table 2.11 (below) compares the residual waste (kg per household) for 2008/2009 by NLWA Borough against the national average.

Table 2.11: recovery and diversion performance

Region	Waste recycled/composted (kg/hh) 2008/2009	N191 Total Residual household waste (kg/hh) 2008/2009	Waste arisings (kg/hh) 2008/2009
Barnet	332	733	1,065
Camden	202	512	713
Enfield	261	701	963
Hackney	177	601	777
Haringey	192	677	869
Islington	204	517	721
Waltham Forest	292	757	1,048
NLWA average[7]	**242**	**663**	**906**
England average[8]	403	669	1,072

This is represented in graphical form in figure 2.7 (below).

Figure 2.7: waste arisings (kg per household) by administrative area



As can be seen from the table and graph above, all of the Constituent Boroughs have lower per person waste arisings than the national average. This is almost certainly attributable at least in part to the relatively low number of relatively small gardens, particularly in the inner London Boroughs. It should also be noted that some of the Constituent Boroughs contest the accuracy of central population statistics, believing them to be a considerable underestimate. If this is the case future improvements in the accuracy of such statistics may further reduce arisings per person.

Assuming that higher levels of recycling and composting can be delivered, the NWS target of 225 kg of residual waste per person is collectively achievable.

[7] Source – Waste Data flow
[8] Source – DEFRA Municipal Waste Management Statistics for England 2008/2009

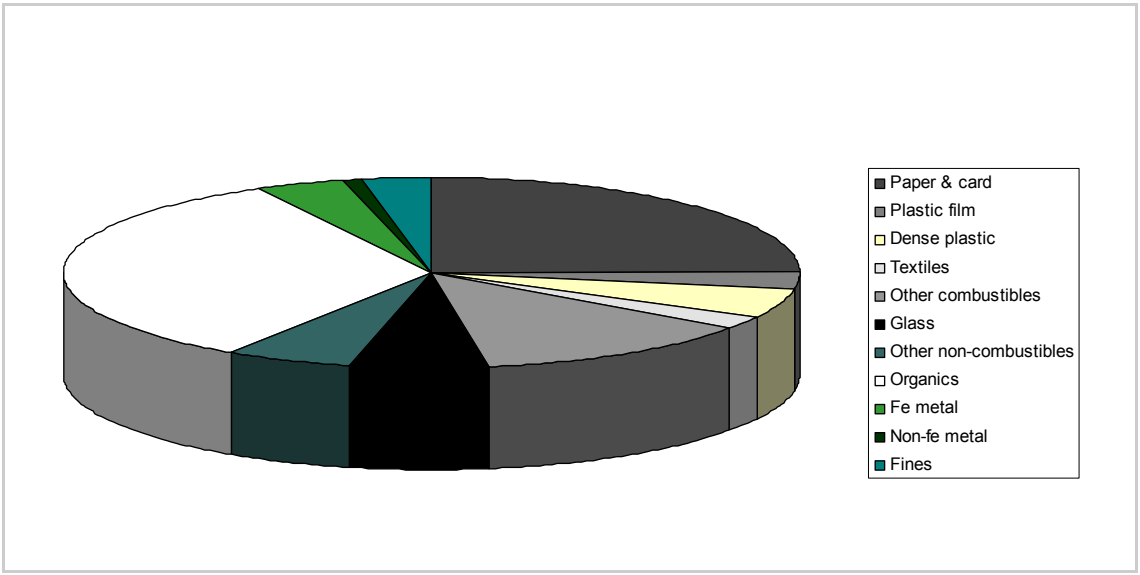
2.6 Waste composition

NLWA commissioned a waste compositional survey of the residual waste arisings in a sample housing type in each London Borough over four seasons between 2003 and 2004. Samples were taken from properties reflecting key housing and socio-economic groups across the Authority area. These were then combined with the housing and socio-economic profile of each Constituent Borough to provide a reflection of the residual waste composition across that Borough and the Authority as a whole.

As the analysis was confined to kerbside collected residual waste, in order to obtain a fuller picture to feed into the modelling underpinning this business case, further modelling was undertaken by the Authority's Technical consultants ENTEC UK. Most notably the composition was further adjusted to reflect the actual kerbside and collected recyclables and organics in each Borough. ENTEC also undertook a desk-based exercise to model compositions for trade waste, street sweepings and fly-tipped waste based upon professional judgement and available data. Separate waste compositions have been used that are based upon other composition studies for HWRCs[9] and bulky waste[10].

The overall headline waste composition for the base year (2006/2007) underpinning this OBC shown below in figure 2.8 below.

Figure 2.8: waste composition for 2006/7



The overall composition of waste is currently assumed to remain static from the start to the end of the PFI project. The Authority anticipates, however, that factors such as changes to products and packaging and changes to waste generation behaviour will change waste composition over time, but this is difficult to predict.

In order to provide the detailed, all encompassing, compositional data required by bidders, the Authority has commissioned a two-season waste composition analysis through ENTEC UK. The first seasonal sort was conducted in early September 2009 and the second will be undertaken in February/March 2010. The information from this survey will be used to inform bidders during the procurement process.

[9] National Assessment of Civic Amenity Sites Final report 2004
[10] The Composition of Municipal Solid Waste in Wales. A report produced for the Welsh Assembly Government. AEA, 2003.

3. Strategic waste management objectives

3.1 Introduction

This section sets out the national, regional and local waste management strategy context for the procurement, together with action which is in hand to deliver the Authority's local strategic objectives.

3.1.1 National

The national policy context is provided by the WS2007, the Government's Energy White Paper 2007 and the UK's Renewable Energy Strategy, three documents that were published around the time the local waste strategy was being prepared. WS2007 introduced targets for:

- The amount of household waste not re-used, recycled or composted to be 225 kg in 2020, a fall of 50% per person from 2000
- Higher national targets for recycling and composting of household waste, at least 40% by 2010, 45% by 2015 and 50% by 2020
- Higher targets for recovery of municipal waste; 53% by 2010, 67% by 2015 and 75% by 2020

WS2007 also identified the following financial and technical points that are relevant to this business case:

- Increasing the landfill tax escalator so that the standard rate of tax will increase by £8 per year from 2008. As a result of this escalator, landfill tax will rise to £72/tonne by 2013.
- Introducing Enhanced Capital Allowances (ECAs) for investment involving the use of SRF for CHP facilities.
- Support for AD through the new technologies programme, the Renewable Obligations system, PFI and a digestate standard that will establish the use of this technology in this country.
- Using PFI, and, where appropriate, ECAs, and/or Renewable Obligation Certificates (ROCs) to encourage a variety of energy recovery technologies (including AD) so that unavoidable residual waste is treated in the way which provides the greatest benefits to energy policy.
- Developing the energy market for wood waste (the bulk of which is landfilled) and which, if a third of this were used, could generate 2600 GWh electricity and save 1.15 million tonnes of carbon dioxide equivalent emissions.

The Renewable Energy Strategy includes reference to:

- Increasing the proportion of the UK's energy coming from renewables seven-fold from 2008 levels, in scarcely more than a decade
- Suggesting waste and biomass will contribute to the renewable electricity and heat generation
- Introducing a new financial incentive mechanism to encourage a very large increase in renewable heat
- The need for the maximum diversion of biomass from landfill and need to encourage separate collection of biowaste. Source separation of food waste is favoured

- Support given to AD and SRF.

3.1.2 Regional

The relevant regional strategies are the Mayor for London's waste, energy, climate change and spatial strategies. The Mayor's waste strategy was written in 2003, prior to Government decisions on issues such as a single London WDA and prior to the new national strategy that was issued in 2007. The mayor is in the process of updating the strategies. A draft replacement London Plan was published in October 2009 for public consultation and draft waste and climate change and renewable energy strategies were published for consultation with the London Assembly and functional bodies in November 2009. The Authority has had substantial discussions with GLA officers in drafting this procurement strategy and the Authority is working positively with the Mayor to ensure a good fit between our procurement and his ambitions.

3.1.3 Local

That said there are very significant synergies between the Authority's proposed approach and the published Mayoral strategies:

- The Authority's waste strategy has been agreed with the GLA.
- We are aiming for reducing the waste growth profile and recycling improvements that are consistent with the Mayor's ambitions for London as a whole and we are aiming for early delivery.
- We anticipate creating substantial AD capacity.
- We are proposing a CHP fuel use solution.
- The creation of SRF and the separated procurement approach provides every opportunity for the development of Advance Thermal Treatment (ATT) solutions where performance risk can be banked, and some of London's energy needs from local renewable sources can be met.

In line with the London Plan, the Authority has identified energy demand and opportunities to create and connect to a decentralised energy network local to the Edmonton site.

The site is situated in the Upper Lea Valley ("ULV") The ULV is identified in the London Plan as an opportunity area. As such the LDA are developing an energy strategy for the area which seeks to develop decentralised energy networks. At over 3,000 hectares it represents by far the largest long term opportunity area in London.

Three of the seven Constituent Boroughs are situated within the ULV area, i.e. Enfield, Haringey and Waltham Forest. The Authority has established contact with the boroughs to identify regeneration proposals where decentralised energy networks exist or where they can be created to provide a viable district heating scheme.

Figure 3.1 below shows the shows the readily identifiable energy demand in the ULV area.

Figure 3.1: Energy demand in ULV area

Borough	Regeneration Proposals	Proposal Size	Estimated Energy Demand (Mega Watts)	Timetable
Enfield (New)	Ponders End area	1,100 homes, new academy, community facilities	2.6 MW (homes only)	TBC
	Southern Brimsdown	400 homes	0.9 MW	TBC
	Former Middlesex University Site	680 homes	1.6 MW	TBC
	Meridian Water	5,000 homes, primary and secondary schools, retail facilities	11.7 MW (homes only)	TBC
Enfield (Existing)	Alma Road	Unknown	Unknown	TBC
Total – Total energy demand based on housing only is currently estimated as approximately 17 MW				
Waltham Forest	Blackhorse Lane	Unknown	Unknown	
	Argylle Way / North Olympic Fringe	Regeneration size estimated as having an energy demand of 25,000 MWh	Approximately 3 MW	TBC
Total – Total projected growth in Waltham Forest is currently estimated at 3,000 homes. This is equivalent to an energy demand of 7 MW				
Haringey (New)	Hale Village	1,210 homes	2.8 MW	2011
	Ashley Road	1,438 homes	3.4 MW	TBC
	Hale Wharf	500 homes, retail, leisure and workspace	1.2 MW (homes only)	TBC
	Urban Centre	591 homes	1.4 MW	2010
	Station Square	Unknown	Unknown	TBC
	Tottenham Hale Retail Park	Wide mix of use	Unknown	TBC
	Ward's Corner	Private affordable housing	Unknown	2010
Haringey (Existing)	Northumberland Park	Unknown	Unknown	TBC
	Broadwater Farm Estates	Unknown	Unknown	TBC
Total – Total projected growth in Haringey (ULV) based on the information available is approximately 9 MW				
North Middlesex Hospital			Unknown energy demand	TBC
Coca Cola Production Plant			Unknown energy demand	TBC
Lea Valley Park			Unknown energy demand	TBC
Deephams Sewage Plant Johnson Matthey Refinery			Unknown energy demand Unknown energy demand	TBC TBC

The total demand, excluding unknown quantities is approximately 33 MW.

The Authority has also met with the London Development Agency (LDA) to understand the plans for the London Thames Gateway Heat Network and how the Authority through its procurement can contribute to the development of the network.

The London Thames Gateway Heat Network is a regional hot water decentralised energy network that will run from Barking through to the ULV and should act as a catalyst for the development of smaller, local networks in so far as it will meet initial infrastructure costs. It is being developed by the Decentralised Energy Delivery programme at the LDA.

It is intended to connect numerous developments to this network to provide heat. The first source of heat is to be from Barking Power Station, with Tate and Lyle also providing heat into the network. The idea of creating the network is to provide opportunities for facilities with a heat source (power stations, EfW plants, etc) to connect into the network and provide energy to those with a heat demand (both domestic and commercial), thus providing a significant reduction of CO_2 emissions arising from individual, conventional boiler systems. New and existing developments in the area will be encouraged to connect to the network, therefore making it a viable scheme.

The LDA have confirmed that the Thames Gateway heat network is not a fixed boundary and that they are looking to expand the boundary further through the ULV. The LDA are therefore supportive of schemes that will further extend the network into the ULV.

As there is a possibility for the network to be extended into the ULV, there is medium to long term potential for a decentralised energy network fuelled by SRF to meet the heat demands of developments connected to the network.

3.2 Joint Waste Strategy

3.2.1 Background

The Authority leads the development of the JWS which provides the framework and the appropriate management systems and resources to achieve all statutory performance standards and relevant new European Directive, national and regional targets and obligations to which the Authority and Constituent Boroughs are subject.

Work on the strategy began after the Government published guidance in March 2001 indicating that it expected a Joint Waste Strategy to be developed between WDAs and their constituent WCAs. In December 2001, the Constituent Boroughs and the Authority formally adopted Aims and Objectives and approved a series of further recommendations to progress development of the Strategy.

During 2004/2005 previous joint work with the Constituent Boroughs was brought together through a series of Cabinet Member Seminars at which elected Members and senior officers of the Constituent Boroughs and the Authority came together to discuss options and provisionally agree a common way forward.

In September 2004, a ‘Mayor’s Draft’ JWS was submitted by the Authority to the London Mayor for consideration and approval. There were, however, certain issues upon which one Partner was subsequently unable finally to agree. Therefore the London Mayor declined to review formally the JWS until a common position had been agreed by all eight Partners Authorities.

The concerns of that Partner have since been overcome, and the London Mayor’s comments have been received. However, it was subsequently necessary to subject the JWS to a Strategic Environmental Assessment (SEA). On successful completion of this process, the JWS was submitted to the 25th June 2008 NLWA meeting and approved as the final document for adoption. All partners have also now approved and adopted the final June 2008 JWS

During the above consideration and approval process, one of the Partners suggested that an Equalities Impact Assessment should also be carried out on the strategy. Legal advice confirmed that an Equalities Impact Assessment was necessary although no timetable was specified. This assessment has now been undertaken and will result in some further minor amendments to the JWS. Under delegated authority these minor amendments will now need to be considered and put forward for approval by all Partners and the revised JWS incorporating the amendments from the Equalities Impact Assessment will be published following this approval. The amendments proposed as a result of the Equalities Impact Assessment are minor and would not alter any of the aims, objectives or implementation actions contained within the document.

3.2.2 Aims and objectives

The key aims and objectives of the strategy, updated through the review process of the SEA draft, are set out below.

3.2.2.1 Aims

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

3.2.2.2 Objectives

- To minimise the amount of municipal wastes arising.
- To maximise recycling and composting rates.
- To reduce greenhouse gases by disposing of less organic waste in landfill sites.
- To coordinate 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 waste 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 regeneration.
- To ensure an equitable distribution of costs, so that those who produce or manage the waste are responsible for paying for it.

3.2.2.3 Key drivers

The key drivers behind the strategy are as follows and are expanded upon in more detail in the strategy itself:

- Environmental protection and resource efficiency as manifested through the waste hierarchy which is a principle that suggests that reduction will normally be the best

environmental option for waste management and so therefore should be considered before re-use, recycling and composting, energy recovery and finally disposal to landfill.

- The EU Landfill Directive which sets successive limits to restrict the amount of biodegradable waste landfilled which the UK Government has applied to WDAs such as the NLWA in the form of tradable allowances under the LATS regime.

- Climate change and the carbon agenda both in terms of increasing financial drivers for renewable energy generation through mechanisms such as LATS and ROCs, but also strong policies requiring waste solutions to be carbon efficient in both the Mayor's Municipal Waste Strategy and the NWS.

- WS2007 and its accompanying statutory targets for recycling, composting and landfill diversion in particular.

- The Mayor of London's municipal waste management strategy with particular reference to favouring of new and emerging technologies over traditional EfW technologies.

- The rising cost of waste management, particularly landfill tax increases, but also any requirement to purchase any LATS permits and the renewable energy agenda as described above.

- Self-sufficiency and, in particular, targets within the London Plan in terms of siting facilities (see section 7).

- Material specific legislation such as that setting management standards for specific wastes, and legislation such as that underpinning the producer responsibility regime on WEEE which requires producers of these products to take responsibility for their sustainable management at the end of their life.

- Value for money/a 'best value' solution.

3.3 Public consultation

The first round of consultation on the JWS was carried out in 2004 for the development of the Mayor's Draft. MORI was employed to assist with the consultation process. A final report was produced by MORI with recommendations which were incorporated into the strategy. The detail of the consultation is shown in section 9.2.6.

3.4 JWS and National Waste Strategy 2007

The Authority's JWS accords with WS2007. As the most challenging of the three WS2007 targets in North London, the focus is on the recycling/composting targets.

Implementation action 4.L1 within the JWS commits the partner Authorities to *"undertake to achieve individually the statutory recycling and composting standards set by Government and to exceed these standards wherever practical"*.

However, during the consultation process it became clear that both stakeholders and the Authority itself were of the opinion that the 40% combined recycling and composting target for 2010 in the WS2007 was not appropriate for North London and was revised to 35% in implementation action 4.L2, the full text of which is:

"The Partners will work to achieve 35% recycling and composting standards by 2010 and 45% by 2015 in line with the preferred options within the Prime Minister's Strategy Unit Waste Not, Want Not Report and the Mayor's Municipal Waste Management Strategy."

The principal reason for this amendment is that the relative starting position of the Authority and most of its Constituent Boroughs is currently too low to make a 40% target realistically

achievable by 2010. In line with the thinking of central government as reflected through comments on the JWS and conversations with the Authority's DEFRA Waste Infrastructure Delivery Programme (WIDP) Transactor, the Authority is of the view that a greater priority should be given to the corresponding 2020 target of 50%.

Furthermore, it was felt that the lack of investment in strategic infrastructure, attributable in some part to the delays in the establishment of the London Waste and Recycling Board, has held back recycling performance in North London. The forthcoming resolution of this in combination with the significant investment in infrastructure such as MRF, IVC/AD, HWRCs and residual waste treatment infrastructure through the PFI contract and other procurements mean that the Authority and Constituent Boroughs will be much better placed to achieve the necessary higher levels of recycling/composting when this is in place, even accounting for the ambitiousness of achieving a 10% increase in five years.

As the recent revisions to the JWS were intended to reflect an update, rather than a review process, the process did not allow for the wholesale changes that might have included the reflection of each of the three NWS targets individually within the updated strategy. However, the existing draft policy relating to recycling/composting targets was updated to reflect the 50% target for 2020. As discussed with the Authority's WIDP Transactor the Authority did undertake a sensitivity analysis on waste growth rates to reflect the implications of lower household waste growth rates in pursuit of the 2020 225 kg per hh residual waste target.

3.5 Waste minimisation

3.5.1 Introduction

As already illustrated in section 2.5.2.1 the Authority has a significantly lower level of waste arisings per household than the national average. Additionally recent years have seen low growth in overall waste arisings. Nevertheless, waste arisings per capita are much higher in relative terms, which may to a certain extent be because of the nature of waste generation patterns in smaller households. Furthermore, the population and housing makeup of North London present considerable barriers to the application of compulsion, incentive and education measures that might reduce waste arisings.

The JWS reflects a significantly higher growth in waste arisings than are reflected in this OBC (which are reflected in table 2.4). The JWS follows the waste arisings growth rates set out in the Strategy Unit report (3% municipal waste growth until 2010/2011 and 2.5% thereafter). The more ambitious levels of waste reduction set out in the OBC reflect more closely the lower growth rates within the London Plan, more recent trends in waste arisings in North London, a greater degree of specificity in terms of facility sizing and forward projections and a greater focus on the WS2007's residual waste targets.

The JWS sets out a series of objectives and 'implementation actions'. In relation to waste prevention, the objective in the Joint Waste Strategy is 'to minimise the amount of municipal wastes arising' and an additional objective is 'to reduce greenhouse gases by disposing of less organic waste in landfill sites'. The associated implementation actions and policies are set out below:

Waste minimisation

- The Partner Authorities are concerned about the year-on-year growth in waste and would urge greater action from Government to minimise waste, and will lobby Government to achieve this.

- The Partner Authorities will actively support Business Networks encouraging demonstrably effective waste prevention and minimisation amongst local businesses.

- The Partner Authorities will seek external funding or regional support to develop a packaging waste prevention campaign with local manufacturing companies.

Waste reduction

- The Partner Authorities will seek external funding to run waste reduction public awareness campaigns across North London throughout the period of this Strategy.

- The Partner Authorities will share good practice on waste reducing activities and will have regard to the effects on waste arising when introducing new waste services.

- The Partner Authorities will consider the opportunities presented by offering incentives and rebates to residents for reducing waste and will review the need for direct and differential charging for waste during the implementation of this Strategy.

Waste reuse

- The Partner Authorities will continue to actively support the development of best practice in waste reuse and will encourage the development of community sector and other partnerships to deliver effective reuse services.

- The Partner Authorities will continue to support bids for external funding of reuse services and will seek to develop a means of rewarding effective reuse services directly, possibly through a reuse 'credit', to reflect the avoided or deferred cost of disposal.

Home composting

- The Partner Authorities will provide a concerted and on-going promotional campaign to encourage home composting throughout the period of this Strategy, offering residents purpose-built bins at subsidised rates and providing support to residents wishing to compost at home.

- The Partner Authorities will aim to ensure that 25% of all residents with gardens compost at home by 2014 to divert approximately 40,000 tonnes from the waste stream.

Community composting

- The Partner Authorities will actively support appropriate community compost projects in North London, particularly where these contribute to statutory compost targets, through patronage of bids for external funding and direct support.

Non-household waste

- The Partner Authorities will take rigorous enforcement action to minimise the amount of unpaid-for commercial and industrial waste entering the municipal waste stream.

Bulky waste

- The Partner Authorities undertake to maximise the potential for reusing and recycling materials from the bulky waste stream with the aim of providing a more sustainable service in partnership with the community sector or commercial organisations.

3.5.2 Implementing the actions

In order to implement the actions, a JWS Waste Prevention Implementation Plan, was prepared for financial year 2007/2008. The plan detailed how the actions contained within the joint strategy will be delivered by the Constituent Boroughs and the Authority. Some actions were shared, whilst others were for either the Constituent Boroughs or the Authority to deliver.

The 2007/2008 Plan was replaced from 1 April 2008, with a new North London Waste Prevention Plan 2008-2010 (the Prevention Plan 2008-2010). This Plan summarises the progress on each of the 2007/2008 actions as well as setting a series of new actions for 2008-2010 to deliver on the Joint Waste Strategy objectives. This was developed and reviewed by both Members and Officers. The new plan was approved by the Authority at its meeting on 6 February 2008.

In order to assist in the implementation of the plan a Waste Prevention Officer was appointed to the Authority in October 2006 and budget approved for the financial year 2007/2008. An increased budget of approximately £70,000 was approved for 2008/2009.

The Prevention Plan 2008-2010 includes some anticipated impacts for a range of actions, which together could lead to a 70,000 to 80,000 tonne reduction in waste arisings in North London. The waste arisings projections within the JWS are slightly higher than those used in the modelling underpinning the procurement Technical Options Appraisal and Reference Project because the latter includes specific compliance with the WS2007 residual waste per capita target. It should be noted, however, that the JWS SEA includes a sensitivity analysis on waste growth that, at the margins, reflects the modelling underpinning the OBC and the WS2007 target. This reflects the difficulty in forecasting precise waste arisings against a background of contradictory short and medium term trends and uncertainty in future waste generation patterns.

The impact of the actions in the current waste prevention plan and the continuation of those actions is reflected in the waste arisings projections in the JWS and it is acknowledged that further impacts, a significant background change in waste production behaviour and/or further, perhaps more compulsion-oriented actions will be required to meet the more challenging targets within this OBC. To reflect this, together with the challenging nature of the recycling composting targets, a budget of up to £3.50 per household per annum has been incorporated into the financial projections underpinning the Reference Project for promotion and enforcement.

3.6 Recycling and composting

3.6.1 Constituent Borough performance

As can be seen in table 3.1(below) the Constituent Boroughs have different recycling and composting rates.

Table 3.1: recycling and composting rates by the Constituent Boroughs

	2007/2008	2008/2009
Barnet	30.7%	31.2%
Camden	27.1%	28.3%
Enfield	28.2%	27.2%
Hackney	22.4%	22.7%
Haringey	24.6%	22.1%
Islington	26.3%	28.3%
Waltham Forest	29.7%	27.8%
NLWA	24.4%	26.8%

The Constituent Boroughs have different levels of performance for the following reasons:

- The extent to which each Constituent Borough is subject to key barriers to high levels of recycling and composting performance (as set out in section 2.5.2)
- Waste compositions
- The number of properties served by different schemes in different Boroughs
- The historical rollout of services
- HWRC provision, coverage and access
- Measures to encourage higher levels of capture and participation

3.6.2 JWS recycling and composting policies and actions

The policies and actions within the JWS are:

Bring systems

- The Partner Authorities will provide a bring collection system throughout the period of this Strategy.

- The Partner Authorities will aim to provide, as a minimum service level, one collection site per 500 households for multiple occupancy premises not served by doorstep collection of recyclables.

Re-use and recycling centres

- The Partner Authorities will provide continuously improving Re-use and Recycling Centres in excess of the minimum statutory provision throughout the period of this strategy.

- The Partner Authorities will aim to achieve 60% recycling and composting diversion rates at all North London Re-use and Recycling Centres by 2015.

- The Partner Authorities will seek to ensure that all new Re-use and Recycling Centres have a recycling and composting diversion rate in excess of 50%.

- The Partner Authorities will aim to provide door-step recycling services to 95% of relevant households and achieve 65% capture rates of targeted recycling materials during the period of this Strategy.

- The Partner Authorities will offer door-step organic collections for all relevant households where home or community composting services are not provided in the period of this Strategy.

Properties of multiple occupancy

- The Partner Authorities will work to provide all residents in multi-occupancy housing with either door-step collection services or a minimum of one near entry recycling site per 500 households.

- The Partner Authorities will work to achieve 65% capture rates of targeted recycling materials for recycling services serving multi-occupancy housing during the period of this strategy.

Recycling and composting facilities

- The Partner Authorities will work together to plan, develop and deliver the recycling and compost facilities required for North London throughout the period of this Strategy and will seek the development of these facilities within the North London area in accordance with the proximity principle.

- The Partner Authorities agree that the Authority should use its power of direction where necessary as a contractual mechanism when working in partnership and with the agreement of relevant Partner authorities or to achieve its own statutory targets.

Recycling and composting summary

- The Partner Authorities undertake to achieve individually the statutory recycling and composting standards set by Government and to exceed these standards wherever practical.

- The Partner Authorities will work to achieve 35% recycling and composting standards by 2010 and 45% by 2015 in line with the preferred options within the Prime Minister's

Strategy Unit Waste Not, Want Not Report and the Mayor's Municipal Waste Management Strategy.

Batteries and accumulators

- The Partner Authorities will work to increase the level of recycling of household batteries in North London wherever practicable.

Packaging wastes

- The Partner Authorities will seek to work with companies obligated under the Producer Responsibility (Packaging) Regulations to maximise their investment in the municipal recycling infrastructure that is required to enable the companies and the Partner Authorities achieve their respective targets.

Construction and demolition

- The Partner Authorities undertake to separate and reuse or recycle as much municipal construction and demolition waste from the municipal waste stream as is practicable.

3.6.3 Planned short-term improvements in collection performance

The following initiatives and service changes are planned at Borough level in order to assist in the achievement of recycling/composting targets over the short-term (two to three years):

London Borough of Barnet

- Plastic bottles and cardboard have been added to kerbside collection rounds and the flats recycling service.

- A pilot scheme to increase the capture of food waste from participating properties by providing food waste caddies to properties already 'opted-into' its mixed food and green waste service.

London Borough of Camden

- Launched a pilot food and kitchen waste collection to 5,000 households in the north of the Borough. Increasingly, more properties are being added to the pilot, including some estate based bring sites.

- Is in preparation for a borough-wide roll out of the service in April 2010.

- The Borough's Executive has approved a seven-year extension to Camden's current Veolia waste management contract. The contract will run 2010 to 2017 and include a borough-wide food waste collection and the splitting of the co-mingled recycling mix (paper and card/other co-mingled materials).

London Borough of Enfield

- Conducted a full review of the refuse, recycling and street cleansing services considering over 30 options for refuse and recycling.

- A programme of enhanced services has been agreed by cabinet, committing to over £8m to support this.

- The enhanced services include the expansion of estates recycling to 16,000 households and the introduction of a three stream-wheeled bin service for 80,000 properties by the end of 2010 starting with a trial of 14,000 properties in September 2009.

London Borough of Hackney

- Plans to add 8,000 estates households to existing food waste bring collection system, subject to WRAP agreement and funding.

- Has undertaken far-reaching waste composition analysis study to inform future activities.
- Has recently rolled out of a two stream (i.e., paper separate from other co-mingled dry recyclables where practicable) across Hackney's estates.

London Borough of Haringey

- Expansion of the existing door-step and near entry collection service from 5,000 to 15,000 estates properties.
- Expansion of the existing network of on street banks to receive cardboard and plastics.
- A waste education programme with an emphasis on waste minimisation underpinned by a communication's strategy and enabled by a new 'Participation Team'.

London Borough of Islington

- Undertaken a far-reaching waste education programme to increase the performance of existing schemes and promote waste minimisation.
- Has worked with property managers to improve recycling services provision.

London Borough of Waltham Forest

- Undertaken participation surveys to inform a programme of 'door-knocking', with the potential for resort to compulsory recycling measures where necessary.
- Roll out of improved estates recycling services giving every resident access to recycling services.

In order to meet the additional capacity needs for co-mingled waste and separately collected organic waste the Authority intends to secure additional capacity as discussed in section 4.8.1. The Authority is supporting the Constituent Boroughs in identifying their medium and long term plans for their collection services in the pursuit of targets as discussed in section 2.5.1.3.

3.7 Landfill objectives

The following policies and statements relate to the diversion and land filling of residual waste within the JWS:

- The Partner Authorities undertake to develop sufficient residual waste treatment facilities as are necessary to ensure that the purchase of additional Landfill Allowances is avoided wherever possible, having regard to the proposed North London Joint Development Plan Document (DPD) and the best option identified within this Strategy.
- The Partner Authorities are committed to the continued use of the Edmonton EfW facility for the period of the current waste disposal contract.
- The Partner Authorities will seek to minimise disposal to landfill throughout the period of this Strategy and undertake to seek the recovery of energy from landfill gas wherever practicable.

The level of the Authority's LATS allowances for the target years is set out below in table 3.2.

Table 3.2: LATS allowances in key target years

Year	LATS allowance (tonnes)
2009/2010	358,996
2012/2013	239,117
2019/2020	167,318

As outlined below, the adopted JWS is technology neutral and, as such, does not set out any specific profile of Biodegradable Municipal Waste (BMW) to landfill or any quantitative targets in that regard. The profile that the Authority intends to adhere to has been established through the Technical Options Appraisal process in section 4.

3.8 Waste strategy appraisal of technology options for residual waste treatment

3.8.1 'Mayor's draft' of the JWS

When the 2004 draft of the JWS was first produced, the Government then required local authorities to identify the 'Best Practicable Environmental Option (BPEO)' when making decisions on the appropriate waste management infrastructure for their local area, and had issued guidance (Office of the Deputy Prime Minister 2003) indicating the way that it expected this process to be carried out.

Such an assessment was conducted by AEA Technology to underpin the 'Mayor's draft' of the Strategy. Four scenarios were considered and assessed using a combination of the EA's WIZARD modelling tool and performance scores applied through professional judgement. The identified BPEO was found to be the 'Partnership Scenario' which reflected a centralised approach to waste management infrastructure, a variant of which is described below.

3.8.2 'SEA draft' of the JWS

As the JWS was not formally adopted by 22 July 2006, the requirements of the SEA Directive and the accompanying Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations), became applicable. SEA has now replaced BPEO as the principal decision-making tool supporting waste management strategy preparation. This means that it has been necessary to carry out a retrospective SEA of the JWS in addition to the original BPEO assessment.

The SEA was conducted in line with the SEA regulations. However, it was decided to broaden the assessment to cover social and economic effects in order to make the SEA process being carried out for the JWS more consistent with the Sustainability Appraisal (SA) process used by the Mayor of London and the process used in the North London Waste Plan (NLWP).

3.8.3 Limitations and key assumptions

The assessment contained a number of key assumptions and potential limitations:

- The scenarios do not specify where the various treatment facilities will be located in the North London area, although broad assumptions have been made mainly locating them with the existing facilities that the Authority uses for assessing impacts relating to distances, etc. Therefore site-specific and spatial distribution issues have not been addressed. Where additional facility locations were required, e.g., for scenario 2 (the Borough led approach) then the mid-point of each Constituent Borough was used as a theoretical location.

- 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.

- The scenarios are not directly comparable. The original scenarios that were subject to the BPEO assessment were only constructed to comply with the Authority's landfill allowance profile until 2020 (the life of the strategy) but the Procurement Strategy scenario (scenario 5) incorporates the consideration of compliance post 2020.

- Waste growth is assumed to be the same for both household and non-household waste.

- Reject rates are applied for combined tonnages of material, i.e., reject rates are pooled so that rejects are taken at particular facilities, rather than by Constituent Borough.

- WRATE (the EA's updated lifecycle assessment software tool) specifies the facilities and technologies to be applied. Notably data from Chineham Incinerator and the Energos gasifier were used to represent these two technologies.

- Participation and capture rates vary in the Constituent Boroughs between 80 and 90% for recyclates and organics.

- All scenarios (except scenario 4 – Mayor's Aspirational) have been modelled to achieve 50% source segregated BVPI recycling rates by 2020. Recycling contributed through residual waste treatment is in addition to that. Scenario 4 achieves 55% source segregated Best Value Performance Indicator (BVPI) recycling by 2020. Recycling and composting through the MBT performance increases the BVPI recycling level to 60%. However, this means that 40% of the compost like output (CLO) material from the MBT must be beneficially used in order to count as recycling (60% is landfilled as stabilised material), which is considered unlikely.

- Recycling of commercial waste will be introduced by five Constituent Boroughs achieving 10% by 2020. Camden and Hackney already provide some recycling collection for commercial waste; hence they have been modelled to achieve 15% recycling by 2020.

- Current recycling and collection arrangements (i.e., co-mingled or kerbside sorting) remain unchanged in future.

- Modeling is based on the waste compositions used in the NLWA Procurement Strategy of 2007 – household waste, HWRC waste, commercial waste and street sweeping. A bulky waste composition was also added. Additional waste composition analysis was carried out in September 2009.

3.8.4 Performance of technologies modelled

The SEA in the Appendices contains details of all the technologies modelled. No one scenario scored considerably greater than the other scenarios although the 'procurement' scenario generally scored best overall. However, in line with WIDP guidance regarding the selection of a Reference Project the Strategy explicitly states that it is technology neutral and does not seek to shape the mix of technologies selected within the OBC Reference Project. The discussion of the relative performance of the different scenarios in chapter 6 of the Strategy notes that:

"The Partner Authorities…..recognise that [the choice of residual waste treatment technologies] may change before any final procurement decisions are taken, and at this stage no technology choices have been fixed. Consideration will also need to be given to the Mayor of London's preference for new and emerging waste technologies when making final technology choices in relation to residual waste treatment.

The modelling includes MBT, AD and gasification facilities across the scenarios, demonstrating their potential contribution. It is the Authority's preferred strategy to proceed with a technology neutral procurement process, and as new and emerging technologies develop in terms of deliverability and affordability the Partner Authorities will be pleased if the contribution of these technologies in delivering the Strategy can commence."

The scope that the NLWA does place upon the procurement and reference project is set out in implementation action 6.B. This reflects the Authority's desire not to prejudice the selection of a Reference Project within the Strategy. This is balanced against the need to ensure that the technology choice is in line with the London Mayor's Waste Strategy to the Mayor's satisfaction. Implementation action 6.B states that:

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

Section 4 of this document describes the further, more extensive Technical Options Appraisal undertaken to identify the Reference Project and underpin the procurement process using broadly the same modelling approach as the SEA but with a greater degree of specificity in line with the relevant WIDP guidance.

3.9 Environmental impact

3.9.1 Environmental implementation actions within the JWS

Specific policies and actions with relevance to environmental protection are as follows:

- Where recovery treatment is selected under the North London Joint Waste DPD or within any new waste disposal contract, the Partner Authorities undertake to favour processes that qualify for the ROCs where these provide the BPEO.

- The Partner Authorities undertake to adopt integrated and concerted measures to tackle fly-tipping and littering, ensuring that each aspect of waste enforcement is co-ordinated to avoid displacement of waste problems.

- The Partner Authorities undertake to support appropriate projects promoting the reuse of fridges, and will ensure that the remaining fridges are reprocessed and ozone depleting substances and metals recovered throughout the period of this Strategy.

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

- The Partner Authorities will support transfer of waste by rail wherever this can be shown to offer Best Value and is in accordance with this Strategy.

- The Partner Authorities will support transfer of waste by water wherever this can be shown to offer Best Value and is in accordance with this Strategy.

To date the Partner Authorities have undertaken the following activities to deliver against the relevant objectives, actions and policies in this context to date:

- The London Borough of Camden has commissioned a review of the relative carbon impacts of its current recycling collection system against its previous system. It is hoped that this can be built upon to inform future selection of collection systems across the Authority.

- The Authority has engaged with the Clinton Foundation which is seeking to develop new and emerging waste treatment technologies in London with a view to facilitating AD capacity.

- The Authority has participated in a pilot scheme to transport waste by water from the London Borough of Hackney to the Edmonton facility.

- The Authority is currently engaged in an investigation of how waste can be converted into biofuels to displace fossil fuels from powering Borough waste collection vehicles.

- An extensive appraisal of technical options and assessment of sites underpinning the Reference Project (covered in sections 4 and 7).

Transport is covered in more detail in section 4.11.

3.10 Conclusion

The adoption of a JMWS in North London has provided the opportunity for considerable analysis of the options, incorporation of stakeholder views and reflection of the changing national and regional policy framework. As adopted it provides a clear opportunity for the strong partnership working between the Constituent Boroughs, the Authority and other stakeholders to continue and develop.

The Authority believes that the analyses conducted in support of the strategy are extremely robust and in clear support of the implementation actions agreed. Whilst some of these actions are very specific the Strategy also maintains an appropriate level of neutrality where appropriate. For example it leaves the Constituent Boroughs to determine the best means to deliver the strategy's targets and other obligations whilst enabling the more detailed Technical Options Appraisal process described in section 4 to identify a Reference Project for this OBC and enable bidders to bring forward a range of potential solutions within the procurement process.

4. Procurement strategy and Reference Project

4.1 Introduction

This section identifies the Authority's analysis of the procurement options and the procurement strategy it has identified as the approach that is most likely to provide a best value outcome for North London.

The section reflects 2008 work on the optimum procurement strategy and reference project. One of the key issues identified in 2008 was the potential role – if any - of LondonWaste Limited (LWL) in future service provision and related assets, sites and competition issues. The section has been refined and updated in the light of the Authority's decision in October 2009 to acquire SITA's 50% shareholding in LWL and thereby create a 100% owned company. The updating includes a refresh of decisions relating to the reference project and additional procurement strategy material in respect to the Authority's approach on LWL and its assets

The procurement strategy analysis and the solutions we have identified are set out in the following sections:

- Section 4.2 discusses the proposed scope of the procurement and PFI project against which the Authority is applying for PFI credits;
- Section 4.3 summarises the results of an initial Technical Options Appraisal undertaken by the Authority;
- Section 4.4 reviews the implications of the LWL acquisition for the Technical Options Appraisal;
- Section 4.5 sets out the Authority's conclusions on the technical solution underpinning the Reference Project;
- Section 4.6 sets out the Authority's procurement strategy in respect of securing the optimal waste services and fuel use solutions;
- Section 4.7 sets out the Authority's procurement strategy in respect to LWL;
- Section 4.8 identifies the necessary transition and short term/ interim arrangements;
- Section 4.9 provides details of the Output Specifications for the waste services and fuel use contracts;
- Section 4.10 documents the basis for Reference Project collection systems, future collection systems and meeting the 50% recycling/composting ambition
- Section 4.11 summarises the transport options within the Reference Project;
- Section 4.12 details the performance of the reference project against national and regional targets; and
- Section 4.13 summarises the case for the Reference Project.

Subsequent sections including section 5 on risk management, risk allocation and contractual structures identify the steps we have taken and are taking to make this strategy a reality.

4.2 Project scope

This section includes the Authority's initial consideration on the extent to which the project scope might extend beyond the service that is required for waste that cannot be recycled or composted. The section considers the following issues:

- An integrated waste collection and disposal solution
- Dividing the waste disposal solution
- Including HWRC services
- The approach to trade waste
- Provision of recyclate processing capacity
- Provision of biowaste processing capacity
- Inclusion of transfer and transport services
- Inclusion of residual landfill capacity

In considering these issues the Authority was especially mindful of the need to:

- Secure a competitive and effective market response
- Provide the maximum opportunity for bidders to bring forward an efficient solution, especially in the logistics and use of available sites;
- Maximise the prospects of achieving its 50% recycling ambition
- Keep the procurement process as simple as possible
- Minimise the complexity of the client-contractor relationship in the long term

4.2.1 Waste collection

The Authority has considered the case for an integrated collection and disposal contract, whether covering all or some Constituent Boroughs. We have concluded that we should maintain a separate approach to procurement for collection services for reasons concerning competition and decision making:

4.2.1.1 Competition

On competition there are three issues:

- Our pre-qualification of potential bidders will require a test relating to financial turnover, linked to the potential value of our contract. The combined value of a collection and disposal contract could potentially exclude a number of bidders on grounds of inadequate turnover and leave the Authority with a smaller field of companies who are active in the UK waste management market.
- The skills and experience we are looking for from our potential contractor would change significantly if we were to include collection.
- Potential bidders for collection would have to demonstrate their waste disposal skills. No in-house bid waste collection team would pre-qualify and some of the other

collection/recycling contractors that currently provide services in North London would potentially struggle.

4.2.1.2 Decision making

The decision-making process for an integrated contract would be complex at best. The Authority would not be in a position to ask one or more of the Constituent Boroughs to make any decisions on its behalf on waste disposal matters. It seems reasonable to assume that no Constituent Borough would want the Authority to make a decision on the award of a collection contract. There is no natural 'two-tiered' decision making process in place, especially one that can address concerns that individual Boroughs may have with regard to the accountability of waste collections services to local constituencies.

4.2.2 Dividing the disposal solution

The Authority has considered whether to split up the waste services procurement in order to seek to attract more competition from smaller players that could not bid for the whole contract. Whilst there may be some competition merit in this approach, the Authority considers that it does not outweigh the advantages of maintaining a whole disposal solution. In particular maintaining a whole solution means that:

- The procurement should be a highly attractive opportunity for all major potential bidders;
- Bidders can fully explore the most efficient transport and site solution;
- Bidders can size facilities to secure economies of scale;
- Bid costs are minimised as a proportion of contract value;
- There are opportunities for market development related to material use;
- The development of sustainable transport solutions can be justified.

4.2.3 Including HWRC services

The Authority has considered whether the development of the existing HWRC site provision (the provision of new sites and refurbishment of some existing sites - see section 2.4.2) should be within the project scope and also whether the future operation of sites should be included.

On operation of sites the Authority considers that there are significant advantages to a single management approach and there are numerous efficiencies that may be available from integrating the operation of sites into the broader waste services solution. The approach will mean fewer contract interface issues to manage and more scope for a single contractor to accept risk transfer on recycling performance. There are also substantial opportunities for market development on material use if all recyclates and compostable materials are brought together in one contract.

In terms of investment in HWRCs, there is a good case for making these works an integral part of the construction programme within the waste services procurement and a good value for money case for adopting a private finance approach to works. Subject to a good quality bidder response on the management of HWRCs, the Authority therefore proposes to include the enhancement of the HWRC network and the operation of all the HWRC sites within the scope of the waste services project.

Reflecting this approach the Authority has included the cost of capital works within its affordability calculations for the waste services contract and included the cost of acquiring land for new sites within the Authority's affordability calculations as prudential borrowing.

Following guidance from DEFRA/ WIDP it has not however included the cost of either the capital works to the sites or the land acquisition costs within its PFI credit calculation.

These works are profiled to take place between 2013 and 2016, reflecting the procurement timetable (see section 10). However, ideally some site development would take place ahead of 2013. The Authority has submitted an Expression of Interest for London Waste and Recycling Board (LWaRB) funding to enhance the HWRC network and awaits feedback. Should the Authority be successful in its application for LWaRB funding it will seek to progress work at some HWRC sites.

4.2.4 Trade waste services

As stated in section 2.3, the Constituent Boroughs currently collect a substantial volume of trade waste. Following a review with Constituent Boroughs the Authority considers that the current level of activity is likely to continue and the waste flow analysis underpinning this OBC assumes a static position throughout the procurement period.

This trade waste is part of the municipal waste which the Authority is responsible for managing and there is no case for not including this waste in the project scope.

DEFRA are encouraging local authorities to look at how they can help facilitate the development of a more sustainable waste management solution for commercial and industrial waste. The Authority will look sympathetically at any bidder proposals for providing such capacity. However, this cannot be at the expense of the best possible municipal waste management solution and risks associated with the supply of material and the related price will need to be held by the private sector.

4.2.5 Recyclate processing capacity

The Constituent Boroughs currently retain the responsibility for the marketing of recyclates not consigned to the Authority as co-mingled materials from their individual collection arrangements. For the future, the intention is that the Authority will assume responsibility for the processing of all dry recyclables collected by the Constituent Boroughs.

The pooling of the sales of recyclate materials will improve the expected long-term revenue by reducing the costs of managing and negotiating the contracts, and through better pricing arising from the aggregation of materials.

Constituent Boroughs and the Authority are reviewing the best interface between collection and disposal for the longer term (see section 2.5.1.3). Given the huge challenge of delivering 50% recycling in a densely populated area there will need to be MRF capacity as part of the overall waste management solution.

For the time being the Authority has put in place contracts for merchant MRF capacity. However, the Authority considers that there is a strong case for developing additional MRF capacity within the north London area:

- There is a considerable shortfall in high-quality MRF capacity in London going forward against London Plan Targets which may be exacerbated by current economic circumstances. On this basis the Authority needs to ensure that sufficient capacity is available to it.

- The existing MRFs in London are relatively geographically remote from the Authority area. If the Authority were to rely upon these it would incur very substantial transport costs alongside a considerable carbon impact.

- Reliance upon merchant capacity would not necessarily allow the Authority the flexibility it requires to, for example, add or remove materials from its co-mingled stream.

- By 2014 most of the existing MRFs in London will be 10 or more years old and some much older. The Authority understands that seeking to upgrade in line with new technologies to improve the outputs and reduce contamination becomes less and less viable as MRFs become older.

- If the Authority were to rely upon merchant capacity in London this is likely to be fragmented, leading to potential logistical and consistency issues.

- As potentially one customer among many at third party MRFs in London the Authority would potentially not be able to insist upon bespoke data reporting and, in particular, would be subject to the contamination levels of other waste delivered to the facility or facilities.

The Authority has examined the case for separately procuring MRF capacity or including it within the Authority's Main Waste Services contract. Subject to the quality of bidder responses, it considers the latter approach is better because:

- Land in north London that is suitable for development is very constrained and expensive. Bidders will need to optimise the use of available sites and this is most easily achieved by a single contractor.

- There is a significant volume of construction activity and a single main contractor will help optimise the cost, phasing and delivery of the construction programme;

- One responsible contractor will assist in the coherent transfer of risk in relation to recycling targets.

- It would reduce the Authority's interface risks and client requirements.

- It would reduce the complexity of the procurement and would reduce the resource demands on the Authority in relation to its procurement programme.

In conclusion, the Authority believes that it will be best served by securing long term bulking and sorting capacity through new build infrastructure and has included MRF capacity within the project scope. The Authority understands that the provision of PFI credits for recycling infrastructure is not currently a DEFRA/ WIDP priority and has not therefore included the capital costs of its proposed MRF in the PFI credit calculation within this OBC. The Authority has incorporated MRF infrastructure into its Reference Project and its affordability calculations on the assumption that it will be financed through senior debt with the hope that PFI credits may be made available in the future.

4.2.6 Biowaste processing capacity

The Authority considers that AD provides a good quality environmental solution for source-separated kitchen waste and that, in the absence of suitable capacity in the north London area, this needs to be developed alongside the existing IVC capacity that will be delivered through LWL. The Authority proposes to include the provision of AD capacity within the project scope.

Many of the reasons for this are the same as those that apply to the provision of MRF capacity. However, there is an additional benefit in that AD capacity is also anticipated for the biological treatment of residual waste. Whilst there will be separate process lines, we would expect bidders to be able to fully explore savings arising from the co-location of AD designed for source-separated kitchen waste and for treating the organic-rich fraction of residual waste.

DEFRA/ WIDP have identified that the development of AD capacity is a high priority and the PFI calculation includes provision for this AD capacity.

4.2.7 Transfer stations and transport

As discussed in section 2, the Authority will make available the Hornsey Street transfer station to the incoming PFI contractor, and anticipates that transfer capacity will both be available at the existing Hendon site and will be created at the new Hendon site once established. The intention is to include the operation of these transfer facilities within the scope of the PFI project:

- The transfer facility at the Hendon site is anticipated to be an integral part of the re-provided site design, and therefore the integrated site management issues discussed above within the context of MRF capacity apply equally there.

- Having a single contractor with responsibility for the operation of both transfer stations and the associated treatment facilities places the responsibility for the timely scheduling of loads into the facilities onto one entity. It will be in the PFI contractor's interest to optimise the scheduling of loads, and to avoid vehicle queuing times at project facilities. Maintenance periods at the treatment plants will require careful scheduling of waste deliveries. The integration of transfer and processing facilities allows the PFI contractor to internalise this risk.

Transfer stations are likely to form an initial point of pre-screening for all collected waste entering the treatment system, providing a clear point of interface and transfer of responsibility between the WCAs and the PFI contractor, and an opportunity to remove unsuitable waste to prevent damage to the PFI infrastructure. The sustainability of the transport solutions able to be facilitated by the Authority and brought forward by bidders is key to its agenda in improving carbon efficiency and ensuring transport deliverability.

4.2.8 Landfill capacity

A number of local authorities have made a case for the separate procurement of landfill capacity to support its main PFI procurement. The principal driver behind this decision was the need to ensure that the control over, or access to landfill capacity did not give some bidders an undue advantage over others and prevent the best value solutions coming forward.

NLWA's position is rather different given the availability of the existing EfW facility at Edmonton, the very limited local market for landfill and the availability of a rail transport solution. The Authority's approach is therefore to leave the required provision of landfill to its future contractor apart from limited capacity in the very early years of the new contract provided under existing contracts.

4.3 Previous appraisal of technical options to identify Reference Project

4.3.1 Introduction and overview

This section summarises the findings and outcomes of the original technical options appraisal, developed prior to the acquisition of LWL.

As already stated, the Authority has adopted a strategy that, whilst maintaining a level of fit with the London Mayor's Municipal Waste Strategy, is broadly and technology neutral. To identify a suitable Reference Project, the Authority undertook a far-reaching Technical Options Appraisal in line with the relevant WIDP guidance. This options appraisal, took a rigorous, inclusive and comprehensive approach, going beyond the requirements of relevant, and the included the generation of a long list of technology options as the basis for establishing a shortlist and ultimately selecting a Reference Project.

4.3.1.1 Project. Long list of technology options

Table 4.1, below, shows the results of the preliminary evaluation of potential technology options undertaken by Ramboll AEA and the long list of technologies identified as being potentially capable of delivering a waste management solution for North London. The technologies are assessed at a high level against three criteria:

- Strategy Compliance: The extent to which the technology meets the strategy objectives and targets of relevance to the Authority.
- Technology Status: The extent to which the technology is deliverable in the context of North London. Consideration has been given to factors such as the operational track record and degree of demonstration on a similar scale to the Authority's requirements.
- Market Risk: The risks surrounding the markets for the process outputs generated by the waste management technology.

Table 4.1: long list of technologies

Treatment/disposal technology	Strategy	Status	Markets
Landfill	Fail	Fail	Pass
Thermal treatment technologies			
EfW	Pass with qualification	Pass	Pass
Gasification/Pyrolysis	Pass	Pass with qualification	Pass
Other residual treatment technologies			
Basic MBT with stabilised material to landfill	Fail	Pass	Pass
MBT with AD (no SRF generated)	Pass with qualification	Pass with qualification	Fail
MBT with IVC (no SRF generated)	Pass with qualification	Pass with qualification	Fail
MBT biodrying with SRF	Pass	Pass	Pass with qualification
MBT mixed with AD and SRF	Pass with qualification	Pass with qualification	Pass with qualification
MBT mixed with IVC and SRF	Pass with qualification	Pass with qualification	Pass with qualification
MHT/Autoclave with SRF	Pass	Fail	Pass
Gas plasma	Pass	Fail	Pass

In developing the original shortlist of technology options, the three stages of the Authority's approach were:

- The creation of a highly inclusive long list of technology options ('Scenarios') that were assessed by technical advisers to rule out approaches that are unsuitable in terms of operating on the required scale, being bankable and meeting the objectives of relevant strategies/policies.
- Completion of an in-depth analysis of the long list of scenarios by the technical and financial advisers, including 'do minimum', approaches that encompassed traditional EfW, a wide variety of MBT processes producing a variety of outputs, a mixed approach involving partial EfW and partial MBT, and approaches that assessed the impact of maximising recycling, and minimising waste growth. This led to short-listing of six key scenarios.
- The short-listed scenarios reflected three main technologies with the six scenarios capturing different configurations involving, for example, partial or whole CHP. A further round of analysis (encompassing a full Technical Options Appraisal conducted in accordance with WIDP guidance) by technical advisers was then carried out on the six refined options.

4.3.1.2 Original Shortlisted scenarios

Based on the outcome of this exercise the following technical configuration options (the Scenarios) were considered in the full Technical Options Appraisal, and are summarised

below. In all scenarios it was assumed that separately collected biowaste is treated in an AD plant of up to150ktpa capacity and that HWRC arrangements are upgraded.

- Scenario A(1) Baseline: This Scenario assumes that the Authority continues to access Edmonton EfW until December 2014 and residual waste is land filled thereafter.

- Scenario B(1) EfW partial CHP: This Scenario assumes that the Authority continues to access Edmonton EfW until 2017, but at a market rate more consistent with that being charged by EfW merchant capacity in the South East between the end of the existing contract and 2017. In addition it is assumed that:

    - A modern 300 ktpa EfW facility becomes operational in the east of the Authority area generating power only from 2017

    - At the west of the Authority area a new 300 ktpa EfW facility supplies heat to the neighbouring development and power from 2017

- Scenario B(2) EfW full CHP: As Scenario B1, above except that the new EfW in the east of the Authority area also supplies heat from 2017.

- Scenario D(1) Mixed Technologies: This Scenario assumes that the Authority continues to access Edmonton EfW until 2017, but at a market rate between the end of the existing contract and 2017. In addition it is assumed that:

    - A modern 350 ktpa EfW facility becomes operational in the east of the Authority area generating heat and power from 2017

    - At the west of the Authority area a new 250 ktpa MBT/AD facility supplying SRF to a neighbouring development and third party users becomes operational from 2015

- Scenario D(2) Mixed Technologies (alternative arrangements): This Scenario assumes that the Authority continues to access Edmonton EfW until 2017, but at a market rate between the end of the existing contract and 2017. In addition it is assumed that:

    - A modern 300 ktpa MBT/AD facility becomes operational in the east of the Authority area supplying SRF to third party users from 2015

    - At the west of the Authority area a new 300 ktpa EfW facility generating heat and power becomes operational from 2017

- Scenario H(1) MBT/AD on-site SRF burner: This Scenario assumes that the Authority continues to access Edmonton EfW until 2014, and that:

    - A new 350 ktpa MBT/AD facility becomes operational in the east of the Authority area supplying SRF on a 330ktpa on-site combustion facility from 2015, which in turn supplies heat and power

    - At the west of the Authority area a 250ktpa MBT/AD facility is developed supplying SRF to the combustion facility at the east of the Authority area from 2015

- H(2) MBT/AD third party SRF markets: As Scenario H1 with the exception that the MBT/AD facilities supply SRF to third party users, including a neighbouring development in the west of the Authority area.

4.3.1.3 Shortlisted options appraisal methodology

The table below summarises the overall objectives against which each of the Scenarios has been tested, the detailed assessment criteria underpinning these, the basis on which performance of each of the Scenarios was measured and the weightings attached to each criterion. Detailed explanations of the assessment criteria may be found at Appendix E.

The weightings take into account the relative importance of the assessment criteria. Each Constituent Borough (with lead officer and member involvement to ensure that the weightings reflected the aspirations and demands of stakeholders) and the Authority has undertaken a weighting of the criteria. These individual weightings were averaged and the result of this is reflected in Table 4.2.

Table 4.2: options appraisal methodology

Objectives		Assessment criteria	Measurement basis	Weighting
Sustainability	1	Minimise human health impact	WRATE	4.5%
	2	Minimise impact on climate change	WRATE	6.8%
	3	Minimise air quality impact (includes treatment facilities & transport)	WRATE	3.0%
	4	Minimise resource depletion	WRATE	3.6%
Nuisance	5	Minimise local transport impact	Number of local vehicle movements	3.3%
		Minimise risk of noise and odour	Professional judgement	3.2%
Cost	6	Minimise cost of total waste management	Total cost of waste management	22.8%
Proximity Principle	7	Minimise need for waste treatment outside NLWA	Total quantity of waste exported out of NLWA	4.8%
Deliverability/ risk	8	Deliverability with respect to planning and land-take by residual waste treatment facilities	Professional judgement	7.4%
		Risk of future markets for outputs	Professional judgement	3.6%
		Bankability	Professional judgement	4.8%
Proven technology	9	Status of technology (how proven is the solution)	Professional judgement	6.6%
		Reliability of technology; flexibility and adaptability to changes in composition and volume	Professional judgement	6.7%
Performance	10	BMW landfill diversion	(%) provided in Waste Flow	5.4%
	11	Level of recycling and composting	(%) provided in Waste Flow	5.2%
	12	Landfill diversion of total waste	Total tonnage provided in Waste Flow	3.9%
	13	Reduction of household residual waste	Kg per head of household waste not re-used, recycled or composted	4.4%

The methodology and approach to the Technical Options Appraisal recognised that both quantitative and qualitative factors are relevant to the Technical Options Appraisal process. Assessment criteria that can be valued quantitatively, and hence objectively, need to be considered alongside those criteria that are less able to be objectively measured and in turn rely on professional judgement.

To allow integration of these scores into a common format the scores are normalised to a consistent scale of 0 to 100%. Whilst there are a number of methods by which a normalised score can be derived, this analysis uses two approaches to minimise the risk of distortion arising from the normalisation process:

- Range Basis: Normalised between the minimum and maximum score of the Scenarios for each criteria, such that the best performing score achieves 100% and the worst, 0%.

- Absolute Basis: Normalised between zero and maximum score of the Scenarios for each criteria, whereby the best performing score achieves 100% and the intervening values are proportionally scored.

4.3.2 Technical options appraisal results

The scores of the assessment excluding the cost aspects of each of the scenarios are given in Table 4.3. These were weighted and normalised by the range and absolute methodologies. These are detailed further in Appendix E, along with the full assessment results.

Table 4.3: technical score and financial cost comparison

	Total weighting %	A(1)	B(1)	B(2)	D(1)	D(2)	H(1)	H(2)
Cost of project	22.85	£909	£837	£839	£911	£967	£1,309	£1,069
Technical score (absolute)	77.15	43.98	61.57	63.19	61.88	59.79	57.10	60.87
Technical score (ranged)	77.15	**23.74**	**50.17**	**52.42**	**52.52**	**49.31**	**48.95**	**54.48**

Overall this Technical Options Appraisal as performed by Ramboll AEA showed that:

- Under both normalisation methodologies the baseline Scenario performed the worst for the technical scoring
- Using the absolute methodology, B(2) EfW full CHP scored the best although the scoring is closer with the mixed D(1), B(1) EfW and the MBT SRF to third party markets being more closely grouped (within approximately 2 to 4%)
- Under the ranged normalisation methodology Scenario H(2) MBT facilities supplying to third party market had the highest technical score with a score approximately 4% higher than the second placed scenario, Mixed technologies with MBT at Hendon D(1).

The full technical options report is attached at Appendix E.

4.4 Site solution developments

The Authority has negotiated with SITA, the Authority's Joint Venture partner in LWL, with regard to potential options relating to the future of LWL, the Authority's shareholding and the future of the Edmonton incinerator.

The result of these discussions has been agreement with SITA for the Authority to acquire its 50% shareholding in LWL, thus becoming the 100% shareholder in the company. This benefits the Authority's procurement in that the Authority will have the benefit of being able to offer the site at Edmonton to bidders (although they will still have the freedom to offer their own site solutions should they wish). The proposals, as set out in Chapter 7, are to grant a lease of the site to the contractor for the duration of the contract.

In relation to the previously shortlisted options, references to new facilities in the Upper Lee Valley have now been situated at Edmonton EcoPark, and updated as follows to reflect the latest waste arisings and hence facility capacities:

- Scenario A(1) continues to assume that no further residual treatment infrastructure is procured. However under this scenario (as with all others), the operational life of the Edmonton energy facility is be optimised to extend its life to 2020. After the expiry of the existing arrangement in December 2014, waste continues to be accepted at Edmonton at a commercial gate fee of £100/t to provide a net dividend return on a debt free company by 2020 when it is decommissioned. Thereafter, the waste is consigned to landfill.
- Scenario B(1)a assumes a new 112ktpa AD plant at Edmonton and a 100ktpa MRF at Pinkham Way, both becoming operational in 2016. The existing 30ktpa IVC at Edmonton

continues to operate as normal. Two new EfW facilities are also established with a 300ktpa EfW facility generating electricity only at Edmonton along with a new 300ktpa CHP at Hendon. The new Edmonton EfW is built along side the existing EfW, becoming operational in 2017. Thereafter, the old EfW accepts waste on a commercial basis at £100/t until it reaches the conclusion of its operational life in 2020.

- Scenario B(1)b sees the Edmonton EfW rebuilt within the structural shell of the existing EfW building over a period of up to three years, becoming operational in mid 2018. During the three year rebuild period, all waste is consigned to landfill. The rebuilt facility has a capacity of 300ktpa to complement a new 300ktpa CHP at Hendon which is operational by 2017. As above, a 112ktpa AD plant is established at Edmonton along with a 100ktpa MRF at Pinkham Way, both becoming operational in 2016.

- Scenario B(1)c is identical to Scenario B(1)b but sees the rebuilding of Edmonton EfW but with a new roofline to accommodate process equipment which is now housed indoors according to contemporary facility design.

- Scenario B(1)d is effectively identical to Scenario B(1)a except that Pinkham Way hosts the 300ktpa CHP facility, becoming operational in 2017, while a new 100ktpa MRF is established at Hendon, becoming operational in 2016.

- Scenario B(2)a is effectively identical to Scenario B(1)a except that the new 300ktpa EfW facility at Edmonton is CHP enabled, delivering heat to surrounding heat users. Upon this facility becoming operational in 2017, the existing EfW continues to accept commercial waste at £100/t until its operational life concludes in 2020.

- Scenario B(2)b is effectively identical to Scenario B(1)b except that the rebuilt 300ktpa EfW facility at Edmonton is CHP enabled, utilising the shell of the existing EfW facility and becoming operational in 2018. During the three year rebuild period, all waste is consigned to landfill.

- Scenario B(2)c is identical to Scenario B(2)b but sees the rebuilding of Edmonton EfW but with a new roofline to accommodate process equipment which is now housed indoors according to contemporary facility design.

- Scenario B(2)d is effectively identical to Scenario B(2)a except that Pinkham Way hosts the 300ktpa CHP facility, becoming operational in 2017, while a new 100ktpa MRF is established at Hendon, becoming operational in 2016.

- Scenario B(3)a assumes that a new 600ktpa EfW replaces the existing facility at Edmonton which is decommissioned upon the new facility becoming operational in 2017. The Edmonton site also hosts a new 112ktpa IVC while a new 100ktpa MRF is established at Hendon, both becoming operational in 2016.

- Scenario B(3)b sees the establishment of a new 112ktpa IVC at Edmonton and a 100ktpa MRF at Hendon, becoming operational in 2016. A replacement of the existing EfW at Edmonton is carried out by rebuilding a new EfW, supplying electricity only from 2017 onwards, within structural shell of the existing facility. Due to space constraints, the facility has a maximum throughput capacity of 510ktpa. During the three year rebuild period, all waste is consigned to landfill and following the commissioning of the new EfW, any excess waste which cannot be treated using the Edmonton and Hendon facilities is consigned to landfill.

- Scenario B(3)c is identical to Scenario B(3)b but sees the rebuilding of Edmonton EfW but with a new roofline to accommodate process equipment which is now housed indoors according to contemporary facility design.

- Scenario B(4)a assumes that a new 600ktpa CHP facility is established at Edmonton, becoming operational in 2017. This coincides with the decommissioning of the existing

EfW facility. As above, a new 112ktpa IVC is established at Edmonton along with a 100ktpa MRF at Hendon, both becoming operational in 2016.

- Scenario B(4)b is effectively identical to Scenario B(3)b except that the new 510ktpa EfW facility is a CHP facility, supplying heat and electricity to surrounding energy users from 2017 onwards.

- Scenario B(1)c is identical to Scenario B(4)b but sees the rebuilding of Edmonton EfW but with a new roofline to accommodate process equipment which is now housed indoors according to contemporary facility design.

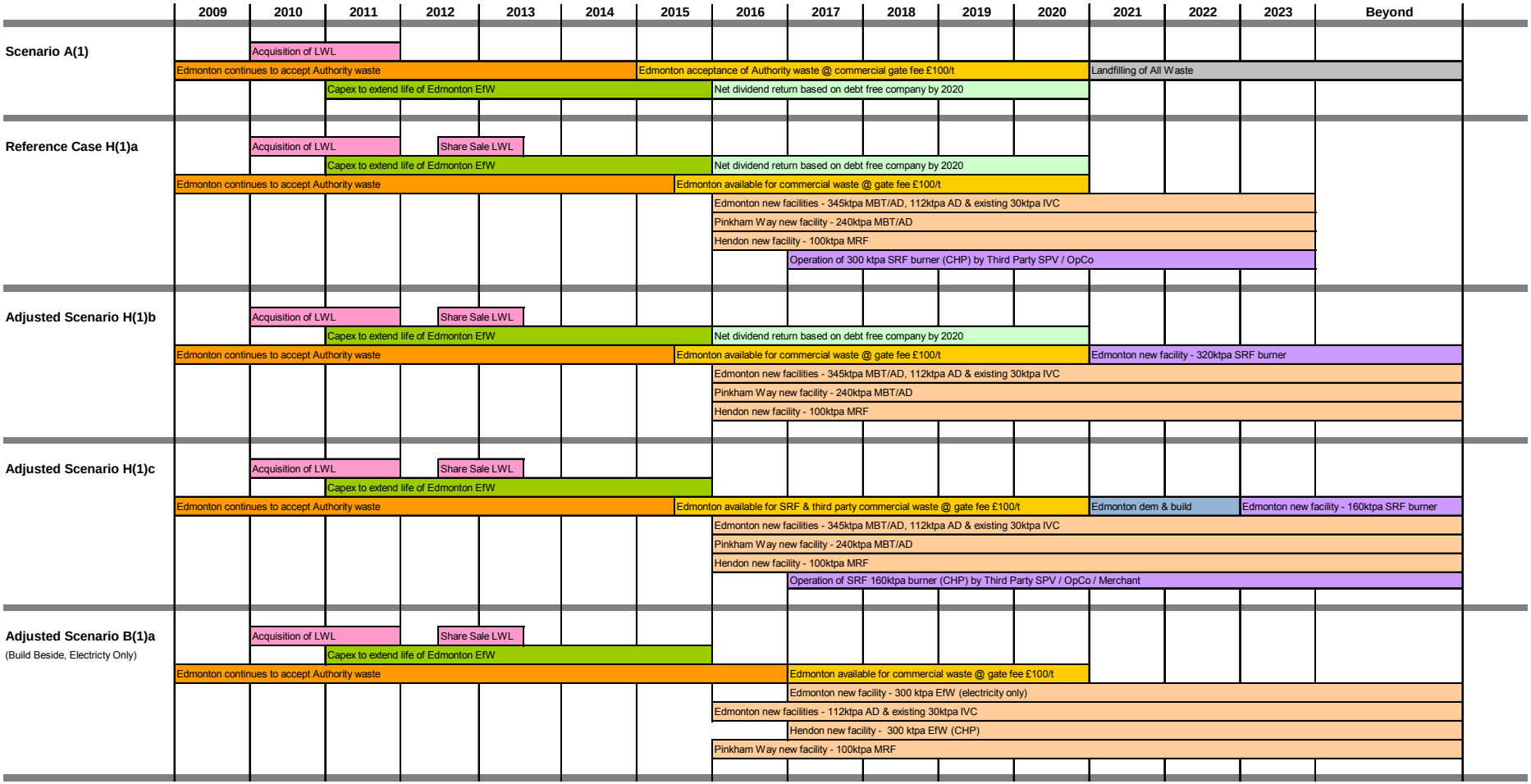
- Scenario D(1)a continues to be mixed technology solution whereby a new 112ktpa AD facility is established at Edmonton, a 240ktpa MBT/AD at Pinkham Way, and a 100ktpa MRF at Hendon, all becoming operational from 2016. A 350ktpa CHP EfW, becoming operational in 2017, is also established along side the existing EfW at Edmonton. Upon commissioning of the new CHP, the capacity of the existing EfW is sold at a commercial rate of £100/t. To treat the SRF produced by the Pinkham Way MBT/AD, a CHP SRF facility is established by a third party coming on line in 2017, supplying heat and electricity to a local user. During the intervening period, SRF is either stored or disposed to landfill.

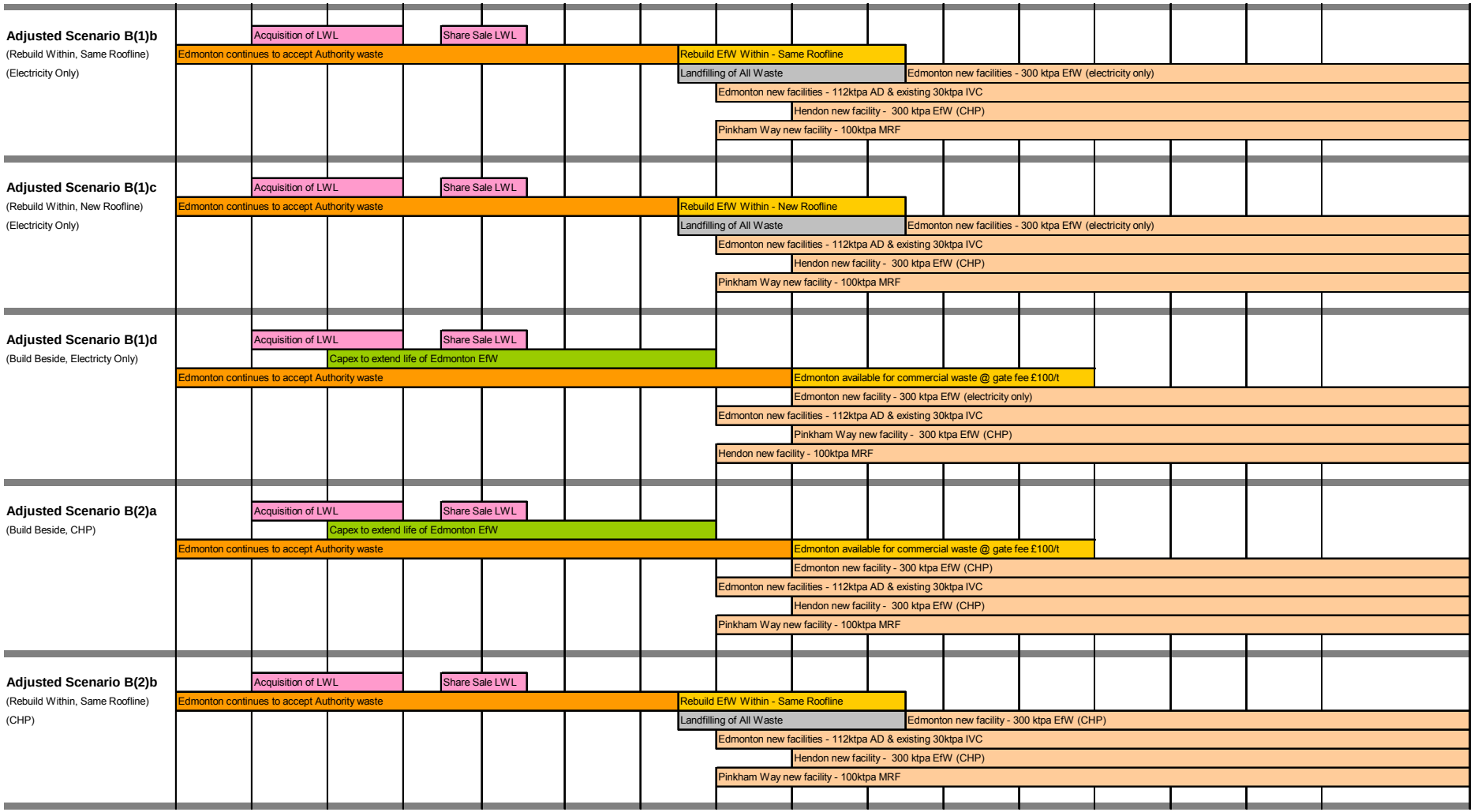
- Scenario H(1)a assumes the operational life of the Edmonton energy facility is be optimised to extend its life to 2020. After the expiry of the existing arrangement in December 2014, waste continues to be accepted at Edmonton at a commercial gate fee of £100/t with a net dividend return on a debt free company by 2020 when it is decommissioned. New facilities established are a 345ktpa MBT/AD and 123ktpa AD at Edmonton, a 240ktpa MBT at Pinkham Way, and a 100ktpa MRF at Hendon, all becoming operational from 2016. To treat the SRF produced by the MBT/AD facilities, a CHP SRF facility is established and operated by a third party, becoming operational in 2017, supplying heat and electricity to a local user. During the intervening period, SRF is either stored or disposed to landfill.

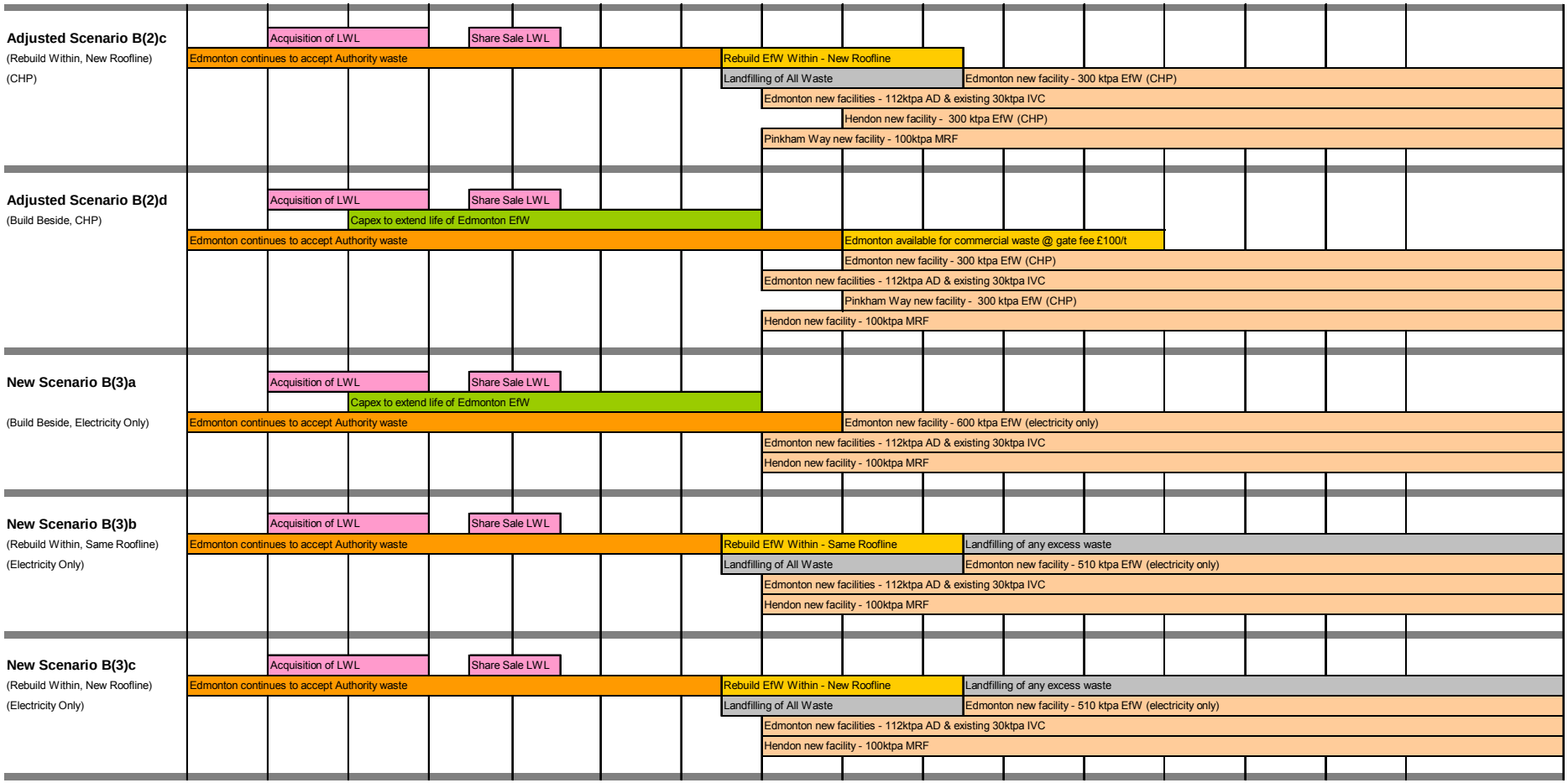
- Scenario H(1)b is similar to Scenario H(1)a in that it see the establishment of a 345ktpa MBT/AD and 123ktpa AD at Edmonton, a 240ktpa MBT at Pinkham Way, and a 100ktpa MRF at Hendon, all becoming operational from 2016. The operational life of the Edmonton energy facility is optimised to extend its life to 2020 after which it is decommissioned. In the lead up to the decommissioning of the existing EfW facility, a new 320ktpa CHP facility utilising SRF to generate heat and electricity is constructed, becoming operational in 2020.

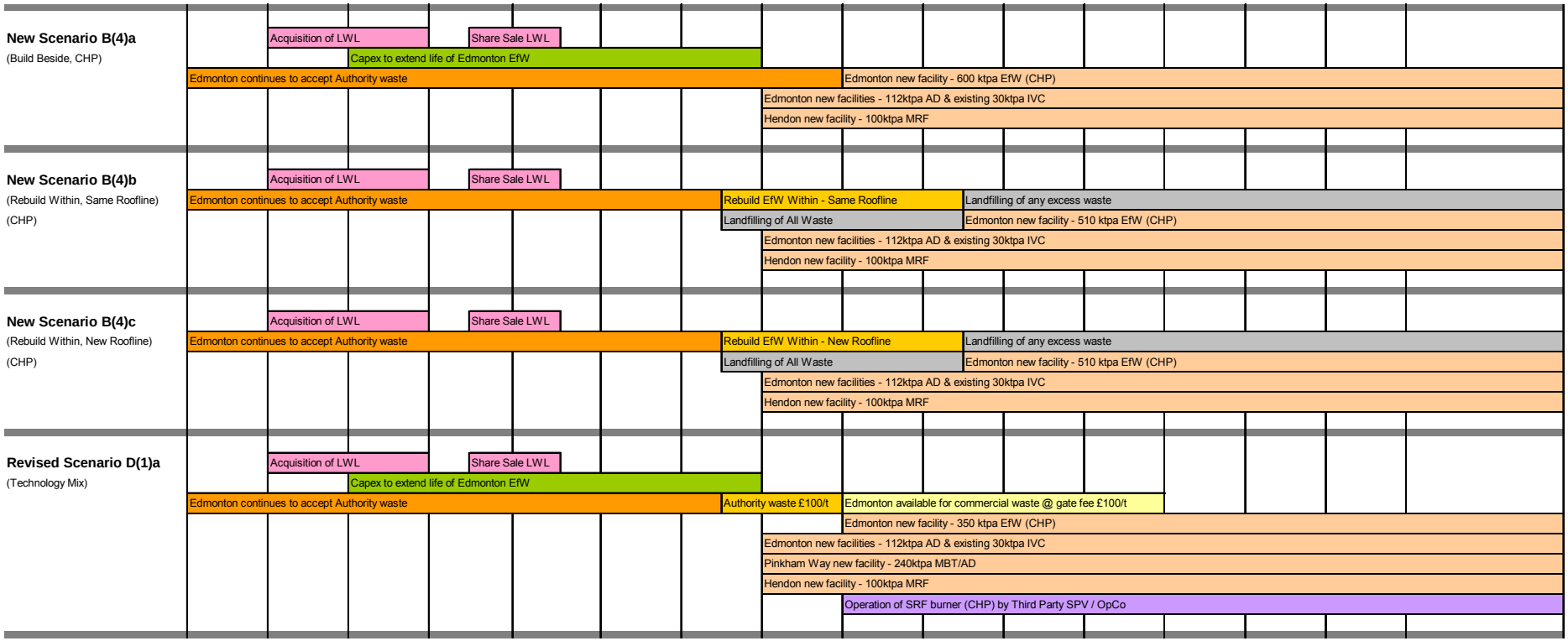
- Scenario H(1)c is a hybrid of Scenarios H(1)a & b in that all facilities are unchanged with the exception of the configuration of the SRF solution. This scenario sees consignment of 160ktpa of SRF to Edmonton from until 2020. The remaining 160ktpa is landfilled from 2016 until the establishment of a 160ktpa third party SRF facility in 2017. The Edmonton EfW is then decommissioned in 2020 and a new 160ktpa CHP facility constructed, with operational commencement in 2023. During the intervening period between decommissioning of the existing Edmonton EfW and new CHP, the SRF is landfilled.

A flowchart of the revised options is given below.


2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Beyond
Scenario A(1)
Acquisition of LWL
Edmonton continues to accept Authority waste
Edmonton acceptance of Authority waste @ commercial gate fee £100/t
Landfilling of All Waste
Capex to extend life of Edmonton EfW
Net dividend return based on debt free company by 2020
Reference Case H(1)a
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Net dividend return based on debt free company by 2020
Edmonton continues to accept Authority waste
Edmonton available for commercial waste @ gate fee £100/t
Edmonton new facilities - 345ktpa MBT/AD, 112ktpa AD & existing 30ktpa IVC
Pinkham Way new facility - 240ktpa MBT/AD
Hendon new facility - 100ktpa MRF
Operation of 300 ktpa SRF burner (CHP) by Third Party SPV / OpCo
Adjusted Scenario H(1)b
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Net dividend return based on debt free company by 2020
Edmonton continues to accept Authority waste
Edmonton available for commercial waste @ gate fee £100/t
Edmonton new facility - 320ktpa SRF burner
Edmonton new facilities - 345ktpa MBT/AD, 112ktpa AD & existing 30ktpa IVC
Pinkham Way new facility - 240ktpa MBT/AD
Hendon new facility - 100ktpa MRF
Adjusted Scenario H(1)c
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Edmonton continues to accept Authority waste
Edmonton available for SRF & third party commercial waste @ gate fee £100/t
Edmonton dem & build
Edmonton new facility - 160ktpa SRF burner
Edmonton new facilities - 345ktpa MBT/AD, 112ktpa AD & existing 30ktpa IVC
Pinkham Way new facility - 240ktpa MBT/AD
Hendon new facility - 100ktpa MRF
Operation of SRF 160ktpa burner (CHP) by Third Party SPV / OpCo / Merchant
Adjusted Scenario B(1)a
(Build Beside, Electricty Only)
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Edmonton continues to accept Authority waste
Edmonton available for commercial waste @ gate fee £100/t
Edmonton new facility - 300 ktpa EfW (electricity only)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 300 ktpa EfW (CHP)
Pinkham Way new facility - 100ktpa MRF


Adjusted Scenario B(1)b
(Rebuild Within, Same Roofline)
(Electricity Only)
Acquisition of LWL
Share Sale LWL
Edmonton continues to accept Authority waste
Rebuild EfW Within - Same Roofline
Landfilling of All Waste
Edmonton new facilities - 300 ktpa EfW (electricity only)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 300 ktpa EfW (CHP)
Pinkham Way new facility - 100ktpa MRF
Adjusted Scenario B(1)c
(Rebuild Within, New Roofline)
(Electricity Only)
Acquisition of LWL
Share Sale LWL
Edmonton continues to accept Authority waste
Rebuild EfW Within - New Roofline
Landfilling of All Waste
Edmonton new facilities - 300 ktpa EfW (electricity only)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 300 ktpa EfW (CHP)
Pinkham Way new facility - 100ktpa MRF
Adjusted Scenario B(1)d
(Build Beside, Electricty Only)
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Edmonton continues to accept Authority waste
Edmonton available for commercial waste @ gate fee £100/t
Edmonton new facility - 300 ktpa EfW (electricity only)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Pinkham Way new facility - 300 ktpa EfW (CHP)
Hendon new facility - 100ktpa MRF
Adjusted Scenario B(2)a
(Build Beside, CHP)
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Edmonton continues to accept Authority waste
Edmonton available for commercial waste @ gate fee £100/t
Edmonton new facility - 300 ktpa EfW (CHP)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 300 ktpa EfW (CHP)
Pinkham Way new facility - 100ktpa MRF
Adjusted Scenario B(2)b
(Rebuild Within, Same Roofline)
(CHP)
Acquisition of LWL
Share Sale LWL
Edmonton continues to accept Authority waste
Rebuild EfW Within - Same Roofline
Landfilling of All Waste
Edmonton new facility - 300 ktpa EfW (CHP)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 300 ktpa EfW (CHP)
Pinkham Way new facility - 100ktpa MRF


Adjusted Scenario B(2)c
(Rebuild Within, New Roofline)
(CHP)
Acquisition of LWL
Share Sale LWL
Edmonton continues to accept Authority waste
Rebuild EfW Within - New Roofline
Landfilling of All Waste
Edmonton new facility - 300 ktpa EfW (CHP)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 300 ktpa EfW (CHP)
Pinkham Way new facility - 100ktpa MRF
Adjusted Scenario B(2)d
(Build Beside, CHP)
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Edmonton continues to accept Authority waste
Edmonton available for commercial waste @ gate fee £100/t
Edmonton new facility - 300 ktpa EfW (CHP)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Pinkham Way new facility - 300 ktpa EfW (CHP)
Hendon new facility - 100ktpa MRF
New Scenario B(3)a
(Build Beside, Electricity Only)
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Edmonton continues to accept Authority waste
Edmonton new facility - 600 ktpa EfW (electricity only)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 100ktpa MRF
New Scenario B(3)b
(Rebuild Within, Same Roofline)
(Electricity Only)
Acquisition of LWL
Share Sale LWL
Edmonton continues to accept Authority waste
Rebuild EfW Within - Same Roofline
Landfilling of any excess waste
Landfilling of All Waste
Edmonton new facility - 510 ktpa EfW (electricity only)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 100ktpa MRF
New Scenario B(3)c
(Rebuild Within, New Roofline)
(Electricity Only)
Acquisition of LWL
Share Sale LWL
Edmonton continues to accept Authority waste
Rebuild EfW Within - New Roofline
Landfilling of any excess waste
Landfilling of All Waste
Edmonton new facility - 510 ktpa EfW (electricity only)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 100ktpa MRF


New Scenario B(4)a
(Build Beside, CHP)
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Edmonton continues to accept Authority waste
Edmonton new facility - 600 ktpa EfW (CHP)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 100ktpa MRF
New Scenario B(4)b
(Rebuild Within, Same Roofline)
(CHP)
Acquisition of LWL
Share Sale LWL
Edmonton continues to accept Authority waste
Rebuild EfW Within - Same Roofline
Landfilling of any excess waste
Landfilling of All Waste
Edmonton new facility - 510 ktpa EfW (CHP)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 100ktpa MRF
New Scenario B(4)c
(Rebuild Within, New Roofline)
(CHP)
Acquisition of LWL
Share Sale LWL
Edmonton continues to accept Authority waste
Rebuild EfW Within - New Roofline
Landfilling of any excess waste
Landfilling of All Waste
Edmonton new facility - 510 ktpa EfW (CHP)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Hendon new facility - 100ktpa MRF
Revised Scenario D(1)a
(Technology Mix)
Acquisition of LWL
Share Sale LWL
Capex to extend life of Edmonton EfW
Edmonton continues to accept Authority waste
Authority waste £100/t
Edmonton available for commercial waste @ gate fee £100/t
Edmonton new facility - 350 ktpa EfW (CHP)
Edmonton new facilities - 112ktpa AD & existing 30ktpa IVC
Pinkham Way new facility - 240ktpa MBT/AD
Hendon new facility - 100ktpa MRF
Operation of SRF burner (CHP) by Third Party SPV / OpCo

4.4.1 Appraisal methodology for refined scenarios

All of the refined scenarios have been appraised using a structured methodology incorporating planning risk, technical merits, and commercial / financial considerations. The methodology for each of these areas is given below.

4.4.1.1 Planning appraisal

The sites and planning assessment methodology comprised four distinct phases of assessment:

- Development of generic planning strategic issues, such as timescales for decisions, likely contents of planning applications and key policy issues;
- Appraisal of individual sites identified by the Authority as potential acquisition and development sites;
- Decision making by the Authority on which sites to acquire;
- Assessment of planning risk of different waste treatment options for the selected sites.

The first phase involved reviewing the north London waste planning policy context at the national regional and local level. Alongside the policy review was an exercise to scope the practical content and timing of preparing applications and securing permission. This drew upon published national guidance and performance standards, the planning advisor's own experience of other similar planning applications, and a research exercise to compare a range of recent waste planning appeal cases. This exercise was used to develop a time range for the duration from the start of preparation of an application to a final decision in the event of an appeal or call-in.

In the second phase the Authority used a range of data sources to assemble a long list of sites with potential for use as waste sites. The data sources included the London Plan, the emerging North London Waste Plan, the Authority's own knowledge and enquiries by the Authority's land agent. This long list was sieved by size and location and the sieved list of sites was provided to Arup to assess. The planning advisor's assessment method was a desktop-based qualitative appraisal against factors including proposals map designation; road and non-road access potential; flood risk; ecological and landscape designations; and proximity to residential and other sensitive receptors. This basket of information was consolidated into a single appraisal score from 1 (least suitable) to 5 (most suitable). A score of 4 or 5 was an indication that the site appeared on balance to be suitable for waste development.

In the third phase, the Authority proceeded with more detailed studies (such as more detailed flood risk and traffic/access assessments, and space planning exercises) and negotiations with landowners to determine which of the preferred sites was practicably available for acquisition.

Once the sites were selected, the range of waste treatment options identified by the technical consultants were presented to the planning advisors and the planning risks associated with each option were assessed. This assessment drew upon a detailed review of planning policy (including a reflection on changes to policy since the start of the process) and further research on other applications and appeals. These information sources enabled the planning advisor to make a qualitative assessment of planning risk on a four point scale. The planning risk was a composite term incorporating both the likelihood of refusal and the likelihood of delay. The highest risk options were identified as undeliverable.

4.4.1.2 Technical appraisal

The assessment of technical feasibility included consideration of engineering constraints, ability to achieve desired sustainability outcomes, and compliance with the JWMS. Here

engineering constraints included consideration of ground conditions, site / structural preparation requirements and associated utilities. In addition, a carbon assessment of EfW replacement options against Reference Project and landfill was carried out. Whilst the carbon assessment did not examine the establishment of an SRF at Edmonton, the findings are equally applicable on the grounds of localised heat demand.

Those scenarios which were considered to support the JWMS and were feasible from an engineering perspective underwent technical modelling to determine such aspects as their contribution to recycling levels and landfill diversion performance. In addition, this modelling served to determine key inputs such as transport and infrastructure costs to the commercial and financial modelling.

4.4.1.3 Commercial / Financial appraisal

Only those scenarios assessed as presenting a low planning risk and as being technically feasible were subject to commercial / financial assessment. Here, a high level commercial and financial assessment was carried out in conjunction with full cash flow concession period modelling of scenarios with acceptable planning deliverability risk. Some of the parameters considered within the commercial / financial assessment included transport costs, capex / opex levels and timing, and potential revenues from heat, electricity and gate fees. Further details commercial / financial appraisal is provided in section 8.

As such the commercial / financial assessment is entirely consistent with the methodology use to assess the previously shortlisted scenarios.

4.4.2 Refreshed technical options appraisal results

The primary test which has been applied to the revised scenarios is been the planning assessment. That is only those scenarios with and associated low to medium planning risk were further assessed from a technical and commercial financial perspective as high / very high risk scenarios are not considered by the Authority to be deliverable from a timeframe or cost perspective. Further, such scenarios could be expected to be subject to lengthy legal challenge and attract intense stakeholder opposition.

4.4.2.1 Planning deliverability

Additional EfW facilities

A development which results in a significant change (namely increase) in a site's waste processing capacity will trigger the requirement for the submission of a planning application. Those scenarios which see the construction of a new EfW or CHP facility adjacent to the existing incinerator with concurrent operations would be viewed as significantly increasing the Edmonton site's waste processing capacity. Scenarios with this arrangement i.e., B(1)a, B(1)d, B(2)a, B(2)d, and D(1)a have been assessed as carrying a very high risk. This means that planning permission would almost certainly be refused by the local planning authority and be granted on appeal only in extraordinary circumstances where very significant compensatory benefits was provided to overcome the objections to the scheme, and where alternatives to the proposed scheme were demonstrated not to be available.

Notwithstanding the limited remaining operational life of the Edmonton EfW, under these scenarios the thermal processing capacity of the site would be viewed as increasing significantly for an indefinite period of time and the planning application would be likely to attract major objections from the community and other stakeholders. As such, the Authority is not confident that these scenarios could be delivered within an acceptable timeframe and would result in a very costly process.

The assessment set out above would apply equally to the establishment of an EfW at Pinkham Way and/or Hendon i.e. Scenarios B(1)a, B(1)b, B(1)c, B(1)d, B(2)a, B(2)b B(2)c, B(2)d. Furthermore, it is considered that the neither the Pinkham Way nor Hendon environs offer any realistic prospect of connecting a CHP facility to a district heating network.

Therefore, with the planning risk associated with establishment of an CHP EfW facility at Pinkham Way and/or Hendon being assessed as high, this would tend to reinforce the Authority's view that these scenarios are undeliverable due to lengthy and costly planning processes.

Replacement EfW facilities

Based upon the north London planning policy context, EfW schemes employing conventional technologies such as moving grate to disposal of untreated residual waste would not normally be granted planning permission. Any conventional EfW proposal would need to assemble a strong set of compensating measures to balance waste treatment objections. To be successful, these measures would need to have the effect of achieving other positive policy aims e.g. place-shaping and regeneration, rather than only complying with policies designed to avoid adverse impacts. This planning situation would be faced by those scenarios which see the replacement of the existing EfW facility at Edmonton with an adjacent facility i.e. Scenarios B(3)a, B(4)a. As such, these scenarios have been assessed as having a high to very high planning risk which means that planning permission would be likely to be refused by the local planning authority, but might be successful on appeal if significant benefits and exceptional circumstances were able to be demonstrated. Any planning application would be likely to attract major objections from the community and other stakeholders. On the basis of planning risk associated with replacement EfW facilities, the Authority is not confident that scenarios involving the replacement of the EfW at Edmonton with a adjacent facility could be delivered with an acceptable timeframe or cost.

Refurbishment of existing EfW with slight external modifications

Along with the assessment of establishing a new EfW facility Edmonton, consideration has been given to the refurbishment of the existing facility but rebuilding from within i.e. utilising the structural envelope of the existing facility to house new EfW equipment to meet the needs of the Authority. As part of this consideration, attention has been given to contemporary design for any facility to house major items of processing equipment. As such Scenarios B(1)c, B(2)c, B(3)c and B(4)c consider the refurbishment of the existing EfW but with an extended roofline to house major items of equipment. This new roofline would not be higher than the existing EfW roofline.

Class A of Part 8 of the Town and Country Planning (General Permitted Development) Order 1995 (GPDO) permits extension or alteration of industrial buildings and warehouses, where *inter alia* the cubic content of the original building is not increased by more than 25% and floorspace would not be increased by more than 1,000m^2. The building extension must also not extend above the height of the existing building. In the case of the existing EfW facility at Edmonton, the facility is considerably more than 4,000m³ and hence, the key limit under Class A would be the creation of 1,000m² of additional building floorspace.

Class B of Part 8 allows the installation or replacement of plant or machinery where the external appearance of the premises is not affected. The replacement plant or machinery must also *inter alia* not exceed a height of 15 metres above ground level or the height of the plant or machinery being replaced, whichever is the greater. With the external plant at the EfW facility being greater than 15m in height, any new plant could not be higher than the existing equipment to benefit from PD rights. If the works constitute EIA development then permitted development rights will not apply and it would be necessary to apply for planning permission

Therefore any refurbishment of the existing facility would need to have less than 1,000 m² of additional floorspace, be within the existing building and external plant, and be limited to minor alterations in order to avoid triggering the need for a planning permission. Accordingly, the planning risk associated with Scenarios B(1)c, B(2)c, B(3)c and B(4)c has been assessed as being medium to high, dependent upon the final design of the refurbished EfW facility.

With the Mayor's commitment to achieving a target of 25% of heat and power being used in London to be generated through the use of localised decentralised energy (DE) systems by 2025, the Authority would clearly need to engage very seriously with DE options in order to

secure permission for additional energy recovery from waste in London. As such, the Authority would not be confident of delivering Scenarios B(1)c or B(3)c as these are only geared towards the production of electricity and would not be seen as supporting the Mayor's energy aspirations. Furthermore, in the short term, the actual practical potential for a heat network to use heat generated at Edmonton is not fully demonstrated. In the longer term leading up to 2025 however, the forthcoming Upper Lee Valley Opportunity Area Planning Framework (OAPF) could these the Edmonton site identified as a potential source of heat to supply a new heat network.

Therefore, because of the timing of Scenarios B(2)c and B(4)c, along with their associated planning risk being assessed as medium to high, the Authority regards these two scenarios as being unlikely to be achievable.

Refurbishment of existing EfW with no external modifications

Since planning is generally limited in its interest to the use of land and the design or external appearance of buildings, interior modifications to buildings normally do not require planning permission. Because of this, the replacement of plant and equipment within the structural envelope of the Edmonton EfW facility may not constitute a development and thus would not need planning permission to be carried out. This would likely be the case where:

- The plant was similar or identical in form and operation to the existing plant;
- The replacement is within the building;
- The operational parameters of the facility are not significantly altered; and
- No planning conditions attached to the permission would be breached by the plant replacement works.

As such, for the reasons outlined above Scenarios B(1)b, B(2)b, B(3)b and B(4)b have been assessed as low risk and potentially not requiring planning permission. Notwithstanding this, the EfW facilities located at Hendon under Scenarios B(1)b and B(2)b carry a very high planning risk as detailed above and have been discounted on this basis. Therefore of the remaining refurbishment scenarios, B(3)b and B(4)b are regarded as being deliverable from a planning perspective.

SRF CHP Facility

The SRF solution at Edmonton represented by Scenarios H(1)b and H(1)c see a substantial reduction in the incineration capacity of the site, while also being able to demonstrate that all waste to be burned was non-recyclable. However, the SRF facility would not comply with the preference for advance conversion technologies. It would also be likely to be viewed by the community as a new incinerator and this could potentially attract significant objections. However on balance such an arrangement is considered to be a compliant proposal which with a robust submission and pre-application engagement process ought to secure planning permission. On this basis the planning risk associated with Scenarios H(1)b and H(1)c have been assessed as being medium to high risk, potentially presenting challenges to the Authority in terms of planning deliverability.

Here it should be noted that the planning risk associated with the establishment of a CHP facility at Hendon utilising SRF would probably be similar to the above.

Non-thermal waste processing

The planning elements associated with the non-thermal waste processing including the MBT/AD facility for residual waste, MRF for recyclate and AD facility for organic materials remains unchanged by the use of the Edmonton site and is therefore viewed by the Authority as being highly deliverable. On this basis H(1)a has been assessed by the Authority as being deliverable within an acceptable timeframe and cost.

Planning summary

Based upon the above planning assessment Scenario H(1)a has the lowest associated planning risk and are therefore regarded by the Authority as being the most deliverable from a timeframe and cost perspective. To some extent, this can be attributed to the lack of support for incineration as evidenced by Policies 4A.21 and 5.17 within the London Plan which supports advanced conversion technologies for waste in preference over conventional incineration. Here it should be noted that while the London Plan objectives and policies do not support incineration Scenarios B(3)b, B(4)b have a lower associated planning risk as they would see the refurbishment of the Edmonton EfW with no external modifications to the facility.

The North London Waste Plan preferred options report does not materially amplify the London Plan policy position in relation to the types of waste treatment which will be acceptable. It does, however, take a strong line in relation to the application of combined heat and power / decentralised heating to waste developments which generate energy or produce a fuel as a product of the treatment process. For this reason, Scenarios H(1)b and H(1)c are regarded by the Authority as being potentially deliverable within an acceptable timeframe and cost. A summary of planning deliverability appraisal results is provided below.

Table 4.4: Planning deliverability appraisal summary table

	Additional EfW facilities	Replacement EfW facilities	Refurbishment of existing EfW with slight external modifications	Refurbishment of existing EfW with no external modifications	SRF CHP Facility	Overall Planning Score
B(1)a	Fail – v.high risk (Edmonton & Hendon)	-	-	-	-	Fail
B(1)b	Fail – v.high risk (Hendon)	-	-	Pass – low risk (Edmonton)	-	Fail
B(1)c	Fail – v.high risk (Hendon)	-	Borderline – med to high risk (Edmonton)	-	-	Fail
B(1)d	Fail – v.high risk (Edmonton & Pinkham Way)	-	-	-	-	Fail
B(2)a	Fail – v.high risk (Edmonton & Hendon)	-	-	-	-	Fail
B(2)b	Fail – v.high risk (Hendon)	-	-	Pass – low risk (Edmonton)	-	Fail
B(2)c	Fail – v.high risk (Hendon)	-	Borderline – med to high risk (Edmonton)	-	-	Fail
B(2)d	Fail – v.high risk (Edmonton & Pinkham Way)	-	-	-	-	Fail
B(3)a	-	Fail – high to v.high risk (Edmonton)	-	-	-	Fail
B(3)b	-	-	-	Pass – low risk (Edmonton)	-	Pass
B(3)c	-	-	Borderline – med to high risk (Edmonton)	-	-	Borderline
B(4)a	-	Fail – high to v.high risk (Edmonton)	-	-	-	Fail
B(4)b	-	-	-	Pass – low risk (Edmonton)	-	Pass
B(4)c	-	-	Borderline – med to high risk (Edmonton)	-	-	Borderline
D(1)a	Fail – v.high risk (Edmonton)	-	-	-	-	Fail
H(1)a	-	-	-	-	-	Pass
H(1)b	-	-	-	-	Borderline – med to high risk (Edmonton)	Borderline
H(1)c	-	-	-	-	Borderline – med to high risk (Edmonton)	Borderline

4.4.2.2 Technical feasibility

Engineering complexity - refurbishment of existing EfW with no external modifications

Scenarios B(3)b and B(4)b would see the full refurbishment of the Edmonton EfW within the existing structural envelope, with no external change to appearance. While it has not been possible to conduct a complete and rigorous engineering design feasibility study, a high level assessment has nonetheless been conducted to assess the validity of these scenarios.

Based upon the approximate footprint of the facility it appears that the EfW building is capable of housing either 3 x 170ktpa or 2 x 255ktpa lines to give a total capacity of 510ktpa which is equal to the present capacity. Generally, modern facilities utilise larger lines so it is more likely that a refurbished EfW facility would utilise two larger units. This would reduce cost of the M&E project and the production losses could possibly be contained within a two year refurbishment period. Financially, this would be a more attractive solution as two lines would be significantly cheaper than three.

During the refurbishment construction period (in the order of 2 years) significant quantities of waste would require landfilling as phased replacement of the lines was carried out. Once refurbishment was completed, up to 100ktpa of residual waste would still require landfilling, based on the projected residual waste generation rates of 600ktpa.

To successfully achieve the refurbishment of the facility, some excavation would be necessary to accommodate the height of new boilers with sufficiently tall radiation passes to conform with the Waste Incineration Directive (WID) retention time requirement of 850ºC for 2 seconds to minimise dioxin formation. The second key requirement would be additional piling due to increased static loads from larger plant and/or different layouts, potentially increasing capital costs and the overall refurbishment timeframe.

In all scenarios, the existing EfW at Edmonton offers contingency reassurance in the event of facility delays. However, one of the key operating parameters of the existing Edmonton EfW is that feedstock material must have a net calorific value of less than 10.3MJ/kg. This means that any changes to feedstock such as switching to commercial / industrial waste or SRF must be carefully managed to ensure that the facility is kept within its operational parameters. In addition, any changes to feedstock would require discussion with the Environment Agency and could potentially require a variation to the existing operating permit, particularly in the case of commercial / industrial waste acceptance. In the case of Scenario H(1)c, the use of the EfW to treat SRF with a net calorific value of 11-15MJ/kg would significantly reduce the throughput capacity of the facility due to the need to manage the overall thermal loading.

Based upon previous ground investigations there are a number of risks associated with the site existing EfW facility which are likely to require further investigation if Scenarios B(3)b or B(4)b were pursued. These include potential soil and groundwater conditions but more importantly, geotechnical conditions. Here the 2009 ground investigation report by Lister Geotechnical Consultants Ltd highlighted a further need to assess larger depths of made ground across the site, along with the presence of soft clays and highly compressible pockets of peat in the Alluvium. This is reinforced by the recording of subsidence in the vicinity of the bulky waste and settlement of a nearby roadway. As such, the Authority views the option of refurbishing the existing EfW facility with no external modifications as feasible but technically challenging.

Engineering complexity - refurbishment of existing EfW with minor external modifications

Scenarios B(3)c and B(4)c would see the full refurbishment of the Edmonton EfW with minor modifications to the external structural envelope. In all other respects, these scenarios would face the same technical challenges to those scenarios involving the refurbishment of the EfW with no external modifications.

Contribution to recycling levels

One of the key goals and challenges of the Authority's approach is the achievement of 50% recycling. Here, the key contributors to achieving this result will be the effective operation of kerbside recycling services and household waste recycling centres (HWRCs) which are projected to help the Authority achieve levels in the vicinity of 45-47%.

The level of material potentially recycled from MBT's varies greatly according to the feedstock and the technology type. Recycling levels in the region of 4-12% (by weight) of input waste have been seen in the market but guaranteed performance will always be at the lower end, with higher recycling levels being dependant on more unreliable market outlets. As a result MBT (potentially incorporating AD) will therefore be required to boost the recycling rate to 50% by making a contribution of 6% of input which will equate to around 3% total recycling increase for North London based on National Indicator calculations.

In general EfW facilities do not incorporate front end sorting processes for combustible recyclables, capturing only ferrous and non-ferrous metals from bottom ash. The metal gleaned from the bottom ash, along with the recycled ash itself whilst contributing to landfill diversion, do not count towards the achievement of recycling targets, Furthermore, at the heart of may objections to EfW, - "conventional incineration", in the parlance of the existing adopted London Plan, is that it works as a disincentive to recycling and recovery. Pre-treatment to extract all recoverable and recyclable materials before energy recovery takes place is therefore a key policy principle of the London Plan.

On this basis, Scenarios H(1)a, H(1)b, and H(1)c are preferable to Scenarios B(3)b and B(4)b as they incorporate MBT/AD into their technology mix to glean recoverable materials and recyclables from the residual waste stream.

Localised heat demand

The London Plan – "Consultation Draft Replacement Plan" actively promotes a reduction in carbon dioxide emissions through the implementation of decentralised energy networks and opportunities to generated energy from waste. Because of this, the Authority has actively researched potential energy demand within the vicinity of the Edmonton site which is situated in the Upper Lea Valley and opportunities to create and connect to a DE network. This work detailed in section 3.1 shows that short term heat demand in the ULV is presently very limited and there is some uncertainty as to when the projected medium to long term demand would be realised. Notwithstanding this, the Authority remains open to possibility of implementing suitable CHP schemes in the vicinity of the Edmonton site.

This is supported by research conducted by the Authority's planning adviser which has shown that in the short term, the actual practical potential for a heat network to use heat generated by the Edmonton EfW is not fully demonstrated. With Scenarios B(3)b and B(4)b seeing the combustion of 510ktpa of waste and H(1)b seeing the combustion of 320ktpa of SRF at Edmonton, the heat output would be far in excess of the identified local demand. For this reason, Scenario H(1)a which would see the total quantity of fuel transported to the site of a major energy user such as a paper or chemical manufacturer, is regarded by the Authority as a preferable outcome due to a much greater level of thermal efficiency able to be achieved.

Alternatively, Scenarios H(1)c which would see SRF consigned to two smaller CHP facilities, generating heat and electricity to meet localised demand in the longer term is considered by the Authority as being achievable if technically more challenging, particularly in light of significant new housing stock planned for the Upper Lee Valley and LDA plans for a heat distribution network extending from Barking to the Upper Lee Valley (in the vicinity of Edmonton), and the Green Enterprise District. Even with these schemes coming to fruition, an ongoing challenge will be the installation of the actual heat distribution network and its physical connection to the CHP facility.

Carbon Assessment of EfW Replacement Options Against Reference Case and Landfill

Supplementary to the planning and technical assessment of the scenarios within chapter 4 of the OBC, a carbon assessment of EfW replacement options against reference case and

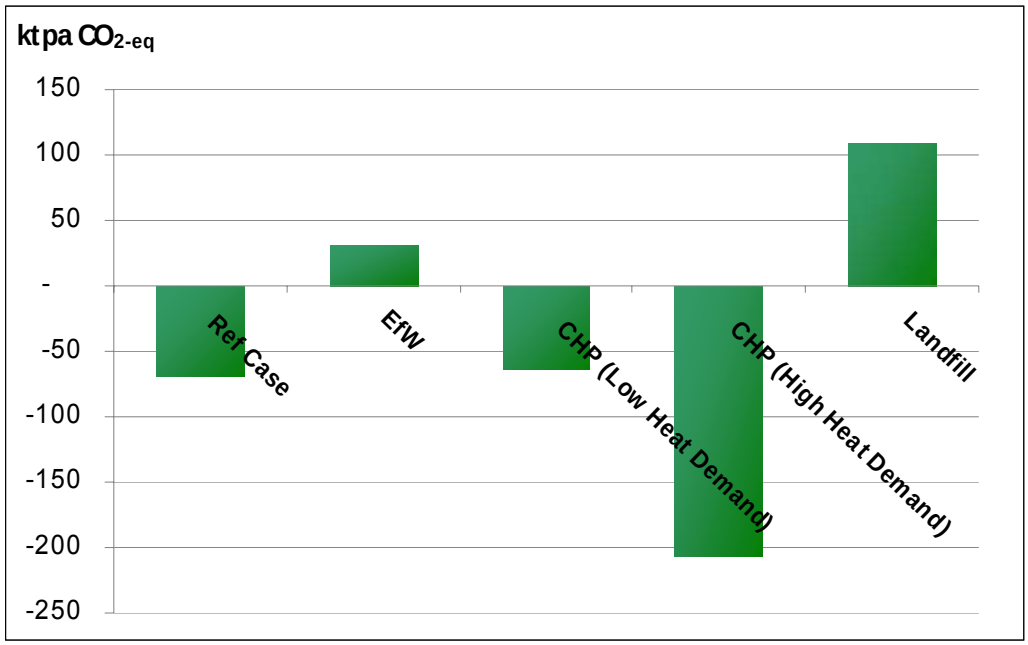
landfill was carried out. Whilst the carbon assessment did not examine the establishment of an SRF at Edmonton, the findings are equally applicable on the grounds of localised heat demand.

In order to assess the notional cost / benefit of replacing the current EfW facility at Edmonton with a new facility, a life cycle assessment was carried out using WRATE. Of particular concern was the greenhouse gas performance of the replacement options compared to the Reference Case and landfilling all waste.

Notwithstanding the high planning risk associated with the development of a replacement EfW on the Edmonton site, replacing the present facility with a CHP scheme with high heat demand would yield the greatest greenhouse benefit in the order of -207,090t $CO_{2\text{-eq}}$. However, investigation by the Authority has shown that heat demand in the vicinity of the Edmonton site circa 2020 is likely to be in the order of 5MWth which is far below the high heat demand scenario. Therefore, a high heat demand scenario is regarded by the Authority unrealistic, particularly in the short term, based upon consultation with the surrounding boroughs and the LDA detailed in section 3.1.3. of the OBC.

Accordingly, a low heat demand scenario was assessed, returning an associated benefit of -63,250t $CO_{2\text{-eq}}$. This benefit is slightly lower than the Reference Case which would see the resultant SRF being consigned to a dedicated high efficiency facility with a projected benefit of -68,577t $CO_{2\text{-eq}}$. By comparison, both the EfW producing electricity only and the landfill options yielded greenhouse disbenefits of 31,369 t $CO_{2\text{-eq}}$ and 107,789t $CO_{2\text{-eq}}$ respectively. The results of the WRATE assessment are provided in Figure 1 below.

Figure 4.1 – WRATE assessment results for EfW replacement options



In order to determine the high level cost benefit of each of the options, the 2020 shadow price of carbon (SPC) of £32.90/t $CO_{2\text{-eq}}$ was applied to the greenhouse results associated with each of the EfW replacement options, along with the reference case and landfill[11]. The results of applying the SPC are given in Table 4.5.

[11] Defra, 2007, The Social Cost Of Carbon And The Shadow Price Of Carbon: What They Are, And How To Use Them In Economic Appraisal In The UK.

Table 4.5 – Carbon Assessment Results and Application of Shadow Price of Carbon

Edmonton Site Options	2020 Greenhouse Performance (t $CO_{2\text{-eq}}$)	Application of SPC to Scenarios	Marginal Difference to Ref Case
Reference Case	-68,577	-£2,256,183	£0
EfW (Electricity Only)	31,369	£1,032,051	£3,288,234
CHP (Low Heat Demand)	-63,250	-£2,080,912	£175,271
CHP (High Heat Demand)	-207,090	-£6,813,253	-£4,557,070
Landfill	107,789	£3,546,265	£5,802,449

From a carbon cost perspective, it is clear that there is little benefit in replacing the EfW facility unless there is a high heat demand. Were a high heat demand able to be realised, the potential carbon cost savings would be in excess of £100M. However, this is a notional cost and should not be confused with the market price of carbon (i.e. the value of traded carbon emissions rights) or the marginal abatement cost (i.e. the cost of reducing emissions).

In July 2009, the Department of Energy and Climate Change published a revised approach to valuing carbon12. The new values within the revised approach are now being applied in Government appraisals and have been used to appraise policies and proposals set out in the UK Low Carbon Transition Plan. The proposal concludes that the SPC approach, based on estimates of the Social Cost of Carbon (SCC), should be replaced with a target-consistent approach, based on estimates of the abatement costs that will need to be incurred to meet specific emissions reduction targets.

The proposed values are a short term non-traded price of carbon of £60/t $CO_{2\text{-eq}}$ in 2020 (with a range of +/- 50%) and a long term traded price of carbon with a value of £70/t $CO_{2\text{-eq}}$ in 2030 and £200/tonne $CO_{2\text{-eq}}$ in 2050 (both with a range of +/- 50%). In order to determine the high level cost benefit of each of the options, the 2020 short term non-traded price of carbon of £60/t $CO_{2\text{-eq}}$ was applied to the greenhouse results associated with each of the EfW replacement options, along with the reference case and landfill. The results of applying the short term non-traded price are given in Table 4.6.

Table 4.6 – Carbon Assessment Results and Application of Short Term Non-Traded Price

Edmonton Site Options	2020 Greenhouse Performance (t $CO_{2\text{-eq}}$)	Application of the short term, non-traded price of carbon to Scenarios	Marginal Difference to Ref Case
Reference Case	-68,577	-£4,114,620	£0
EfW (Electricity Only)	31,369	£1,882,140	£5,996,760
CHP (Low Heat Demand)	-63,250	-£3,795,000	£319,620
CHP (High Heat Demand)	-207,090	-£12,425,400	-£8,310,780
Landfill	107,789	£6,467,340	£10,581,960

In spite of the updated carbon values used, the overall results remain consistent with the previous findings using the SPC in that the results further reinforce the Authority's view that

[12] Department of Energy and Climate Change, July 2000, Carbon Valuation in UK Policy Appraisal: A Revised Approach

there is little benefit in replacing the EfW facility unless there is a high heat demand which can be realised. Of note however is that longer term benefits tend to increase longer term as a result of an increase in the value of carbon (from £70/ t $CO_{2\text{-eq}}$ in 2030 to £200/ t $CO_{2\text{-eq}}$ in 2050). As a result, should the Authority only procure a partial fuel use solution in the short term, it is conceivable that a strong future benefit could arise from a lower heat demand solution but this situation remains far from certain.

A WRATE assessment report of the EfW replacement options is given as Appendix E.

Technical summary

Although feasible, Scenarios B(3)b and B(4)b are regarded by the Authority as being technically challenging and would require detailed logistical planning to minimise down time of the Edmonton EfW during its refurbishment. Due to insufficient local heat demand in the short to medium term and the ongoing requirement to landfill a portion of residual waste not catered for, these scenarios are not favoured by the Authority. Similarly, because of insufficient heat demand Scenario H(1)b is not favoured by the Authority.

As with the above scenarios, H(1)c is felt to be feasible but technically challenging. This is because initially only half of the fuel would be consigned to a dedicated CHP facility with the balance being "used" in the Edmonton EfW. Because of the rolling grate technology at Edmonton and the limitation on net calorific value at 10.3MJ/kg, the SRF would require careful blending to balance the overall calorific value of the feedstock. The knock-on effect of this would be a significant reduction in the Edmonton EfW's throughput capacity.

Therefore Scenario H(1)a is seen as the strongest of the technically feasible options as it sees an entire fuel use solution delivered by the market place whereby the fuel would be consigned to a CHP facility with a sufficiently large heat and energy demand.

A summary of the technical feasibility appraisal results is given below.

Table 4.7: Technical feasibility appraisal summary table

	Additional EfW facilities	Contribution to recycling levels	Localised heat demand	Overall Technical Score
B(3)b	Technically challenging (Edmonton)	Nil - EfW	Insufficient demand (Edmonton)	Fail
B(3)c	Technically challenging (Edmonton)	Nil - EfW	Insufficient demand (Edmonton)	Fail
B(4)b	Technically challenging (Edmonton)	Nil - EfW	Insufficient demand (Edmonton)	Fail
B(4)c	Technically challenging (Edmonton)	Nil - EfW	Insufficient demand (Edmonton)	Fail
H(1)a	-	Moderate - MBT/AD	Sufficient demand (Purpose Built)	Pass
H(1)b	-	Moderate - MBT/AD	Insufficient demand (Edmonton)	Fail
H(1)c	-	Moderate - MBT/AD	Potential long term demand (Edmonton)	Borderline

4.4.2.3 Commercial and financial performance

Landfill requirement

One of the key issues associated with the updated scenarios, particularly those centred around refurbishment, is the potential closure of the Edmonton EfW during which time, an

alternative means of treatment and/or disposal would need to be found. This particularly affects Scenarios B(1)b, B(1)c, B(2)b, B(2)c, B(3)b, B(3)c, B(4)b and B(4)c which see the rebuilding of Edmonton utilising the existing structural envelope. As such these scenarios would see a period of between 1 – 3 years during which time between 300 – 600 ktpa of waste would require landfilling. The cost impost of this would be in the order of £10 - £20 million per year based on lost revenue and the flow on effect on the value of LWL. Furthermore, these scenarios would pose a serious limitation to the realisable value of LWL, in particular it core EfW asset.

Due to the technical operating limits of the Edmonton EfW, until the new SRF facility is constructed, a proportion of the SRF could require landfilling under Scenario H(1)c. Whilst the facility is potentially capable of dealing with fuel with a lower net calorific value (~11MJ/kg), higher NCV material would significantly lower the throughput capacity due to "thermal loading" limitations, thereby creating a requirement to source third party combustion capacity or landfill capacity. Furthermore, during the intervening period between demolition of the existing EfW and construction of the new SRF facility, half of the SRF produced by the MBT/AD facilities would need to be consigned to either third party capacity or landfill.

In contrast, the landfill requirement for Scenario H(1)a is expected to be minimal as all SRF will be consigned to a purpose build facility with intermediate processing contingency being provided by the existing EfW facility at Edmonton.

EfW gate fee income

Those scenarios which see a reduction in the quantity of waste being accepted at the Edmonton EfW have the potential to significantly reduce the realisable value of LWL, depending on the level of gate fee applied. For those scenarios relating to the refurbishment of the EfW (listed above), this would almost certainly be the case as the "down-time" for the facility would be in the order of 1-3 years.

For those scenarios which see a change in waste input to the EfW i.e., a switch to commercial / industrial waste or SRF, the gate fee would need to be balanced in line with the calorific value of the feedstock material to maintain the value of LWL. For this reason, Scenarios B(1)a, B(1)d, B(2)a, B(2)d, D(1)a and H(1)a are seen as the strongest options in terms of gate fee income for the Edmonton EfW. However, with the exception of Scenario H(1)a, all of these options have been discounted on the basis of planning risk.

It should be noted that the blend of municipal solid waste and commercial / industrial waste would require careful monitoring blending so as not to exceed the operational limitations of the Edmonton EfW.

Commercial / financial summary

Of the suite of scenarios, those that minimise the requirement for landfill and maximise gate fees for the existing Edmonton EfW during its remaining life (circa 2020) are regarded as the strongest from a commercial / financial perspective. From this perspective Scenarios B(1)a, B(1)d, B(2)a, B(2)d, D(1)a and H(1)a are seen as the strongest options for maintaining facility gate fees and minimising the requirement for landfill. However, as Scenarios B(1)a, B(1)d, B(2)a, B(2)d and D(1)a have been assessed by the Authority as being undeliverable within an acceptable timeframe and cost, Scenario H(1)a is regarded as the strongest option.

A summary of the high level commercial / financial assessment is provided below. This is supported by the financial assessment detailed in chapter 8.

Table 4.8:Commercial / financial assessment summary table

	Landfill requirement	Gate fee income	Overall Financial
H(1)a	Minimal requirement	Minimal reduction	Pass
H(1)c	Potentially requirement	Potentially significant reduction	Fail

4.4.2.4 Refreshed technical options appraisal overall conclusions

Taking into consideration planning deliverability, technical feasibility and commercial / financial performance, H(1)a has been assessed by the Authority to be the strongest option. On this basis, it Scenario H(1)a is put forward as the Authority's reference project, which is consistent with the findings of the original previous options appraisal.

Table 4.9:Overall refreshed technical options appraisal summary table

	Planning deliverability risk	Technical feasibility	Commercial / financial considerations	Overall Assessment
B(1)a	Fail	-	-	Fail
B(1)b	Fail	-	-	Fail
B(1)c	Fail	-	-	Fail
B(1)d	Fail	-	-	Fail
B(2)a	Fail	-	-	Fail
B(2)b	Fail	-	-	Fail
B(2)c	Fail	-	-	Fail
B(2)d	Fail	-	-	Fail
B(3)a	Fail	-	-	Fail
B(3)b	Pass	Fail	-	Fail
B(3)c	Borderline	Fail	-	Fail
B(4)a	Fail	-	-	Fail
B(4)b	Pass	Fail	-	Fail
B(4)c	Borderline	Fail	-	Fail
D(1)a	Fail	-	-	Fail
H(1)a	Pass	Pass	Pass	Pass
H(1)b	Borderline	Fail	-	Fail
H(1)c	Borderline	Borderline	Fail	Fail

4.5 Conclusion on Reference Project: Technology

The Authority's view on a Reference Project residual waste solution comes down to a choice between a traditional EfW solution, an MBT/AD solution creating a blended SRF, or a mixed solution, and the relative benefits associated with different levels of waste pre-treatment.

The Authority considers that the MBT/AD solution provides a better Reference Project and foundation for the procurement going forward. In reaching this conclusion it is primarily influenced by four considerations:

- Planning: When the theoretical site approach that underpinned much of the technical options work is translated into site specific views, the Authority is not satisfied that the relevant EfW plants which are not capable of delivering heat in addition to electricity can be delivered through the planning system in a time period that is consistent with its needs and to the timescale that is required to make EfW a cheaper option than the

alternatives. In contrast, EfW may be more acceptable to planning Authorities outside North London.

- Place Shaping: The Authority's vision for North London and the place-shaping agenda of particular Constituent Boroughs for an enhanced visual environment, a sustainable waste management solution and convenient services fits more easily with an MBT/AD solution than an EfW solution. Here locations outside London may offer a combination of planning and CHP potential, which could warrant the transportation of fuel to these locations.

- Improvement Potential: There is considerable scope for the Authority and bidders to improve upon the cost and performance that has been modelled for MBT/AD approaches, but there is relatively little scope to improve upon the modelled results relating to EfW unless the facilities can be delivered more quickly. This is because the Authority has taken a prudent view on the recycling and diversion performance of the MBT/AD proposals and is expected that bidders will be able to bring forward suitable solutions that overachieve against the assumptions made. The Authority has assumed that most of the bottom ash resulting from an EfW solution is recycled and as such it is not anticipated that this performance level and cost can be improved upon.

- Recycling Contribution: There is a potential for MBT/AD to make a significant contribution to the 50% recycling target for North London which would not be provided by EfW.

4.5.1 Planning

Planning delivery of EfW facilities in North London is undermined by four main factors that do not present quite such a challenge to MBT/AD:

- The existing Edmonton incinerator is likely to be operational for some time after 2015. Whilst this facility and any new NLWA facilities will be taking material from different sources, proximity is an issue that could undermine the local planning case. That is there could well be increased opposition to the siting of two thermal treatment facilities in the North London area. The relevant sites (see section 7) include the existing Edmonton site with a legacy of local community concern over the impact of the existing facility. Campaigns against any new facility may be predicated on a view that particular Constituent Boroughs are the dumping ground for waste and/ or that there is a cumulative impact of facilities that is inequitable. Local planning approval looks hugely challenging in those circumstances.

- A CHP solution where the heat product is used as well as any electricity that is generated is not only desirable from an environmental, energy policy and carbon point of view, but helpful in delivering planning approval. We have undertaken a wide-ranging study of the potential CHP applications in North London and the practical potential for a heat network to use heat generated at Edmonton is not fully demonstrated.. There is currently no one heat user in North London that could be combined with an EfW plant to deliver a good quality scheme and there is only one theoretical combination approach for the Upper Lee Valley, which includes a challenging combination of build programmes and several commercial decisions to source energy from this supply. However, the forthcoming Upper Lee Valley Opportunity Area Planning Framework will provide further guidance. We are making every effort to attract a solution from this source, but it is more likely that this CHP application will not be delivered. EfW is relatively inflexible in delivering CHP to energy users and if this one theoretical application were to fail to materialise, the alternative is a lengthy transmission of heat (inefficient and costly) or the decoupling of the heat generation programme and heat use programme due to these schemes following different timescales. Against a backdrop of many EfW plants in the UK promising and not delivering CHP, and in the context of carbon reduction and decentralised energy targets an EfW proposal which is not a CHP facility and which does not include material support for district heating would be unlikely to secure planning permission. Although it would take little to demonstrate that the EfW/ CHP solution is not

a commercially realistic proposition and which would accordingly undermine the planning application, given the policy framework requirements.

- It seems likely that any EfW planning application would be rejected at a local level and that there is little local appetite to support delivery. The planning application could, of course, go to appeal. However, a decision without a public inquiry seems highly unlikely and we can reasonably anticipate a challenging inquiry process. Even if we assume that the Secretary of State is subsequently convinced of the case (and given the previous rejection of Edmonton 'B' by Government, it cannot be assumed that this case will be made), a period of more than five years to secure planning may be seen to be optimistic. Thereafter it is reasonable to assume that local protest may give rise to further delay in construction. Overall, the modelled assumption of delivering an operational new facility by 2017 as reflected in the Technical Options Appraisal may be seen to be high risk.

- The consequences of delay are important and serious. The financial appraisal of shortlisted technical options suggested that a planning determination of an eight year period (compared to five years assumed in the base case analysis) added between £300 million and £350 million in whole life nominal terms to the cost of the EfW project. Of course, this is not a risk that the Authority can wish away or transfer to a contractor as, under a standard contract, a contractor must undertake all reasonable endeavours to deliver planning permission, but it is ultimately the Authority that lives with the risk of delay or failure on planning.

4.5.2 Place-shaping

The relevant spatial planning and waste strategy context are the local ones and the Mayor for London's regional policies. Current Mayoral policies point firmly away from new traditional incineration capacity as the right solution for municipal waste. In addition, there are exciting regeneration plans for both the Cricklewood and Central Leeside areas including substantial new residential developments that adjoin possible sites. Regardless of design proposals that are brought forward for an EfW plant, it would appear highly unlikely that local planning authorities and relevant local communities will see EfW plants as consistent with the regeneration ambitions. This is especially so since local communities are bound to be influenced by the example of the existing Edmonton plant.

4.5.3 Improvement potential

The cost and performance of EfW plants is well established as EfW is a mature and narrowly defined technology. In contrast, MBT is a generic term covering a wide range of technologies, some of which have only now being delivered for the first time – at least in the UK, and the cost data set is smaller. In undertaking technical options work, the Authority's advisors (Ramboll AEA) used an approach that produced generic assessment of the cost and performance of the available technical options. It was recognised that for the options that contained elements of MBT technology, such an approach would contain greater potential variation (from bidders) than those options that were based solely on EfW. The analysis used in assessing the Reference Case modelled the "mid-point" of each approach and did not explore the upper and lower bounds, as it was felt this could lead the Authority into an approach that placed too much emphasis upon a particular configuration and/or group of vendors.

There are further grounds for thinking that an MBT/AD approach producing a stabilised fuel product that is designed to a specification that is, in many respects, being commonly adopted may overachieve against the baseline Reference Project and related affordability analysis. The six further grounds for favouring the improvement potential of MBT/AD are:

- Bidders will be able to consider combining fuel produced in North London with that produced in other local authority areas to achieve technological solutions that require major volumes of fuel and/ or where there may be economies of scale. Elsewhere in this business case we identify that there is every prospect of other local authorities adopting a similar waste management solution, with Essex being the most obvious example.

- The stable nature of the fuel when compared with the untreated input to an EfW plant means that it can be used when there is an energy demand, rather than when waste must be disposed of. This may be especially appealing to those energy users who are more concerned with energy use than waste disposal and there are likely to be benefits if we are accessing the economics of energy use rather than those for waste disposal.

- The EA has accepted that SRF can be stored for 12 months as part of effective waste management in contrast to untreated waste that must be sent to landfill or some other treatment process quickly in the event that maintenance or technology failure means that the treatment process is unavailable. That reduces the risk associated with achieving the diversion performance we require of our contractor and is beneficial especially in the context of a project finance solution.

- Creating a stabilised fuel allows for competition for use across a wider area than could be done with untreated waste. Competition will drive out benefits in terms of the environmental and financial solution, much less encumbered than untreated waste by the need for geographical proximity.

- Related to this competition point, MBT/AD treatment significantly reduces the volume of material and can produce material in a form that, if required, facilitates transport – using sustainable transport solutions such as rail or water where these are available. The backdrop here is that the quality of the environmental solution, and hence potentially the cost of disposal in carbon terms, is much more related to the use of material than to its transport.

- MBT/AD creating fuel is working with the grain of policy and what would be anticipated to be relevant fiscal measures that support policy implementation. For example, the Government's consultation on renewable energy identified the need for a huge rise in the use of waste as a renewable energy source and speculates about a fiscal measure to make this happen. In addition the ROCs approach (related CHP and the biomass content of fuel) now supports fuel use solutions of this sort and a system of ECAs for relevant plant is being developed. ECAs are linked to a fuel specification that is focused on the respiration index, a test that our proposed fuel specification will pass but which untreated MSW would fail.

4.5.4 Recycling contribution

The delivery of the local waste management strategy ambition for 50% recycling and composting is not only in line with relevant local, regional, national and international policy frameworks but is likely to be hugely important in demonstrating the need for residual waste management capacity. All too often, the opponents of any local waste facility argue that all that is required is more recycling & composting. That said, the Authority recognises the huge challenge it is setting itself and its future contractor in delivering its ambition in North London. It is a common theme through this OBC that the Authority will need to squeeze every element of the waste management solution to secure recyclate and to make this as affordable as possible and that there are difficult decisions on waste collection services if we do not in terms of local services and affordability.

Against that backdrop the Authority is keen to secure whatever contribution can be made by its residual waste solution. EfW does very little to increase recycling rates, especially in terms of the indicators that Government has adopted. In contrast, MBT/AD delivers an additional amount. The Ramboll AEA analysis suggests this will be an additional 3-6%. As with cost data this is a mid-range performance among a number of different technologies and there may be scope for improving upon this contribution. Related to this, the Ramboll AEA assumption of a potential 3-6% contribution is based on the assumption that the vast bulk of recyclate has already been taken out of the waste stream by kerbside collection. If, because of limitations on the service that can be provided (e.g., in high-rise housing) or because of prohibitive collection costs more recyclate remains in the waste stream, the contribution that MBT/AD may make to the achievement of 50% recycling may be much greater.

This issue may be both a financial as well as an environmental matter relating to the achievement of recycling ambitions and there will be a positive financial value in further material being extracted further down the recycling route at this stage. There may also be some saved cost in terms of collection costs that would otherwise have to be incurred. It would be to imply a spurious degree of accuracy at this stage to do any more than identify the potential impact of MBT/AD as an over-achievement of the 50% recycling ambition. The Authority has, however, set detailed work in hand to look at waste composition in detail (see section 2.6) and has, with Constituent Borough help, constructed sufficiently detailed models to allow for some prediction of how waste composition may change over time and with the roll out of new kerbside systems.

It is clear from the waste composition data (provided at table 2.9) that in order to achieve the recycling rates required at the kerbside to underpin the reference project there is a need to collect food waste. It should be noted that the modelled 50% recycling rate achievement by 2020 is made up of 40% recycling from the kerbside, 7% from HWRC's and 3% from the MBT/AD process.

As stated under 2.5.1.3 boroughs are to review their collection systems. This is made in the context of a recognition by boroughs that as the future waste disposal infrastructure emerges they will need to adapt and amend their services to meet their commitment to achieve recycling rates of 45% by 2015 and 50% by 2020, particularly in relation to food waste as detailed in section 2.5.2.1. This recognition for the need to change is also reiterated in the MOU and IAA Statement of Principles provided at Appendix AA of the OBC.

To date 3 boroughs, one of which has support from WRAP, have commenced food waste collection trials and although it is too early to assess the exact impact, all 3 boroughs are considering extending these trials in the next financial year. The emerging results of these trials will be considered by the Authority's '50% club'. The 50% club is a body attended by all Partners as well as WRAP and is chaired by the Director of Environment for Islington. It has been established with the specific aim of driving forward recycling in the North London sub region to achieve the desired outcome of 50% recycling by 2020.

It should be noted that there is little processing infrastructure in place currently to handle source segregated food waste and until such time as this exists the separate collection of food waste is difficult to justify financially as the material has to be blended back with green waste and processed through IVC rather than being processed through more suitable AD facilities. If all the waste collection authorities commenced a full collection service at this time for separately collection food waste there would be insufficient capacity for this material to be processed through appropriate infrastructure. The Authority's reference project seeks to address this lack of infrastructure through the provision of AD capacity which will give its waste collection authority's the confidence that a long term sustainable outlet for separately collected food waste exists to allow them to develop such schemes and achieve the recycling rate at the kerbside required to achieve an overall 50% recycling rate.

4.5.5 Conclusion

The Authority considers that the appropriate Reference Project is two MBT/AD plants with SRF production and combustion, equivalent to Scenario H(1)a in the Technical Options Appraisal. It has set out in section 4.5 the reasons for this conclusion based on the four main factors of planning, place shaping, improvement potential and recycling contribution. In section 4.6 we set out the potential market for the SRF fuel use solution.

The Authority's reference case is set out at 4.13.1 In summary it is;

Waste Services

- Two MBT plants for residual waste with AD providing the Biological Treatment element. One 240ktpa facility at a site in the West of the Authority, one 345ktpa at Edmonton.

- One 112ktpa new build AD facility for source segregated food waste supported by and existing 30ktpa IVC. Both facilities located at Edmonton

- Two transfer stations. An existing road based transfer facility at Hornsey Street and a 300ktpa Rail Transfer Facility at Hendon. The RTS based at the existing site initially and relocated to the new Hendon site when required by the BXC development

- A 100ktpa MRF for mixed dry recyclables located at the new Hendon site. Should the new Hendon site not be realised, the Authority would look to secure MRF capacity on a merchant basis.

- Enhancement of the HWRC network outlined below;
  - 3 new sites in the west of the Authority area:
    - one 10ktpa site from 2013
    - one 3.5ktpa site from 2015
    - one 3.5ktpa site from 2016
  - 3 replacement sites
    - Replacement of the 22ktpa Barrowwell Green site in the East of the Authority area with a 30ktpa facility being provided in close proximity to the existing site in 2013.
    - Replacement of the 3.5ktpa Hornsey High Street site with an equivalent capacity facility in close proximity to the existing site in 2013
    - Replacement of the 6ktpa Park View Road site with a 10ktpa capacity site at Marsh Lane from 2013.
  - 2 refurbished sites – both in the Waltham Forest borough

Fuel Use

- A 320ktpa EFW plant for the combustion of SRF.

4.6 Fuel use solution

4.6.1 Key objectives

As detailed in section 4.5 the Authority's Reference Project includes the production of SRF. As a result the Authority needs to consider the most appropriate strategy for securing a fuel use solution(s) that delivers the best environmental, financial and commercial terms and does so in a way that maximises the prospect of timely (early) delivery.

- The environmental considerations can be seen as the desire for committed diversion capacity and improved carbon impact of using fuel and any transport associated with the solution. Consequently we are especially concerned with the securing of good quality CHP solutions where substantial heat use is a pre-requisite.

- In financial terms we are primarily concerned with the cost of building the plant and the effect on the net gate fee payable by the Authority to the energy user, including the price attached to energy use and potential benefits such as ROCs, RHIs, ECAs and other carbon benefits such as the potential for carbon trading.

- In terms of the commercial deal we are concerned with issues such as: risks associated with design, build, finance and operating the facility/facilities; certainty on an outlet for material, securing the public sector's interest in the facility's residual value; and what happens in the event of a failure.

- Deliverability should be viewed widely to take account not only of the likelihood of establishing a solution and the timescales involved but also of the contribution that the solution makes to the wider community in terms of place shaping and regeneration, employment opportunities and synergy to sub regional or regional sustainable development that provide context for potential planning considerations.

Underpinning this is the Authority's belief that there is a need for a robust competition process to bring forward proposals best capable of meeting these overall objectives.

4.6.2 Approaches to securing the solution

We have identified three different local authority approaches to procuring an end use market for SRF as a starting point for considering the most appropriate strategy for securing a fuel use solution that meets the aspirations of the Authority set out above, namely:

- Securing an integrated solution whereby the waste services provider is responsible for finding a market for the fuel, with the contractor living with the risk of not doing so

- Securing a solution including fuel production with the Authority planning to secure a market solution at some future date and living with the consequences (landfill) in the meantime

- Parallel ('twin track') work by the Authority to secure fuel production and fuel use, potentially with different parties

In considering these three approaches we have also looked carefully at recent best practice from closed transactions and in particular the approach which was adopted by GMWDA as it is comparable in size to the Authority and therefore faced similar challenges. Their approach was effectively a twin-tracked procurement approach that also allowed waste services providers to offer a fuel use solution as an integral part of their waste services solution.

The outcome of that procurement was an integrated solution in so far as it involved the waste services provider being a part of the equity provider in the fuel use solution. However, this was done only after the particular fuel use opportunity had been stimulated by a separated procurement approach allowing the bidders at that stage to consider a different fuel use solution than the one that they had brought forward in the initial stages of the procurement.

The outcome of the GMWDA procurement as far as fuel use is concerned is a proposed 50 MW plant at Ineos Chlor in Runcorn which has since received planning approval.

The lessons from Greater Manchester's experience are:

- There is a potential to stimulate bids through a separate fuel use procurement as a fuel user that had significant interest in energy use may have no appetite to become a waste management contractor.

- There is the potential for good deliverability, in terms of planning, community engagement and timetable terms, of a solution that involves CHP, sympathetically located close to the relevant industrial process that needs the energy, supporting local jobs along the way.

- There is the potential to deliver a fuel use solution that is consistent with the PFI approach and could secure PFI credit support from Government with limited derogations from the Standard Contract to provide increased capacity in the market place.

- There are challenges related to contracting with two private sector concerns and managing the interface between two contracts. This is due to competing equity interests and risk allocation between the two Special Purpose Vehicles (SPVs) involved in the solution. Such an approach is expected to allow the Authority to manage interface risks

in a way which best serves the objective of securing value for money, by allowing the Authority to test the price of transferring certain risks between contractors.

- There are significant challenges to deliver a plant that secures all the economies of scale that are available and supporting the efficient delivery of a whole solution where one local authority is only able to supply part of the fuel that is required (the Ineos Chlor scheme was designed in two phases as a result of this).

- There are challenges to the local authority's resources in managing two procurement processes in parallel to one another with the optimal outcome being two contracts signed at the same time.

Drawing on these lessons and the potential opportunities for a different innovative approach the Authority considers a further option exists in terms of securing a fuel use solution(s) that meets its aspirations, namely separate parallel procurements for waste services and fuel use from the outset.

The Authority has considered these four solutions against the stated objectives of the Authority set out at section 4.6.1.

4.6.2.1 Option 1

Option 1 involves securing an integrated solution whereby the waste services provider is responsible for finding a market for the fuel, with the contractor living with the risk of not doing so, e.g. ELWA and Southwark.

This solution can be delivered in two different ways both of which mean that the risk of securing an appropriate outlet for SRF rests with the contractor. This can be achieved by the contractor through the design, build, finance and operation of a facility or through accessing merchant capacity for the life of the project.

Whilst this approach has some advantages in terms of providing certainty for the Authority over the life of the contract with little retention of what is a key risk, it also has potential disadvantages, primarily because there is a limit to the ability of the contractor to hold uncertain market risk and because many of the waste management contractors who can deliver fuel production see it as in their business interests to deliver an end use which is founded on waste disposal and the economics of waste. This leads to more incineration of untreated (or less treated) waste and attendant challenges in delivering traditional incineration infrastructure.

In terms of environmental considerations the Authority is concerned with securing diversion capacity and the reducing the carbon impact of the overall solution including the transport impacts. The Authority would encourage bidders to bring forward solutions that are framed on the use of CHP and would ensure that carbon impact receives a high weighting in our evaluation framework. However, it is the view of the Authority that this approach may not appeal to some the waste management services suppliers and as such restrict competition for our procurement.

This view has been established following our discussions with potential bidders where several of the waste management companies would prefer that fuel use is separated from production. It is somewhat speculative as to the reasons for this view; however, it may be that there are project specific reasons for this in North London's case: the scale of our procurement may mean that bidders welcome the simplification that a non integrated approach produces, with the Authority carrying some of the burden in market review on fuel use; the increased assurance it would provide in terms of a level playing field for potential bidders against the incumbent contractor.

In terms of financial considerations, clearly the most important aspect is the gate fee the Authority has to pay for the SRF. The uncertain market risk transfer to a private sector partner will come at a cost to the Authority. Whilst the potential benefits such as ROCs, ECAs and

other carbon benefits such as the potential for carbon trading may be realised it is uncertain whether the full value or even part would be passed to the Authority as a result of this approach.

The commercial aspects of this option are straight forward. Risk would rest with the contractor on the market for SRF. However, as with all risks in the event of failure resulting from SRF market failure the Authority would have some exposure and associated financial consequences.

In terms of deliverability whilst the use of a merchant facility would clearly eliminate the risks associated with establishing a solution and any potential delay it is highly unlikely that this would contribute to any of the wider deliverability agenda the Authority is looking to achieve. With regard to an integrated approach bringing forward a new build solution, clearly there is the potential for waste services providers to being forward a suitable solution that meets the aspirations of the Authority. We are however concerned those solutions would be overpowered through the evaluation process by solutions founded on the basis of waste disposal and the economics of waste (i.e., tax, LATs, gate fees, etc) rather than resource management through the use of CHP. Whilst the Authority recognises it has the ability to shape the evaluation process to reflect its objectives it is of the view that weighting the evaluation criteria in this way could leave it open to being in a position where only half of a solution is optimal and the other half does not deliver its requirements.

Finally, in terms of a robust competition process, it would be for the market to create this robustness. Whilst the Authority can and would stipulate its requirements, waste management service providers would ultimately be the bodies that stimulate fuel use solutions. This one step removed approach does not provide the Authority with confidence that this approach would provide the most competitive process in a market that requires, in our view, stimulation to bring forward solutions that would meet our overall objectives.

Having regard to the issues discussed above the Authority does not feel that pursuing this option meets our clear objectives and as such has discounted it as strategy for securing and appropriate fuel use solution.

4.6.2.2 Option 2

Option 2 involves securing a solution including fuel production solution with the Authority planning to secure a market solution at some future date and living with the consequences (landfill) in the meantime e.g., Essex and Cambridge.

This approach we believe has had limited use by local authorities. It is clearly a risky strategy that provides little or no comfort that our stated objectives could be met.

Whilst it is difficult to undertake a detailed analysis of the option against our objectives due to its uncertainty it does provide a known quantifiable risk in the short term i.e., the use of landfill for SRF.

Notwithstanding this the broader environmental, financial and commercial considerations of the option as well the uncertainty it provides for a future procurement process means that the Authority is not minded to take the option any further given the scale of the procurement and the considerable risks that this would bring as a result of this fact.

4.6.2.3 Options 3 and 4

Options 3 and 4 involve the procuring separate fuel production and fuel use contracts, potentially with different parties from the outset. This would involve parallel (‘twin track’) work by the Authority to procure the two contracts.

Having discounted two of the four options the Authority has been keen to understand the difference in the two remaining options. Whilst there are clear differences it is our belief that the principles underpinning them are broadly similar. Both approaches would require a

separate fuel use procurement to be undertaken initially. Clearly the twin track approach allows for an integrated solution to be put forward by the waste services provider which may negate the need to conclude the fuel use procurement.

Both approaches have the ability to meet our key objectives as they would provide a structure for the authority both to stimulate market responses, to a degree in the case of a twin track approach, and to allow solutions to be brought forward that deliver good quality CHP solutions and the associated carbon and financial benefits. In addition both approaches could facilitate a robust competition process ensuring bidders brought forward proposals to provide the desired financial benefits and risk sharing mechanisms.

As a result at first glance the twin track approach looks attractive to a public sector authority: a safety first option in seemingly providing the maximum amount of information for the Authority to consider. But it is unattractive for resource and procurement delivery reasons on the Authority side: it doubles the number of bids that need to be evaluated by the Authority and produces a complex evaluation matrix involving different bidders and different approaches. Aside from the cost (financial and time) to the Authority, the complexity of the evaluation may mean the decision is more vulnerable to challenge. For example:

- To compare integrated and separated solutions, the Authority needs to add back in an environmental impact and cost of fuel use to the separated bid. The level of such an 'add back' might sensibly reflect an emerging outcome from a fuel use procurement. However, the add back may still be work in progress under a different procurement that is not yet finalised and where the Authority cannot or does not want to reveal relevant information.

- Bidder A may have produced the best integrated solution and Bidder B may have produced the best separated solution. If the Authority opts to pursue a separated solution as a result of the add back being lower than the equivalent amount in the integrated approach, Bidder A may challenge the award and have good grounds for doing so.

Twin tracking may also compromise the competition because:

- Bidders for the waste services solution will have to provide two mandatory bids that are constructed very differently, incur much higher costs as a result and opt out of the procurement on those grounds.

- Similarly, the bidder may dilute the work involved on bids in order to keep cost under control. If one bid is of a poorer quality as a result and there are other bids that are good quality that may not matter. However, if all bidders take the same view, the Authority will be required to make selection decisions on less than ideal information.

- Potential bidders for fuel use may be over-whelmed by the complexity of the process that they simply choose to not start.

- The twin track approach is bound to involve market research by waste services bidders. These discussions may compromise a separate fuel use solution (waste services provider organising exclusivity arrangements, seeking to demonstrate the complexity of fuel use etc).

In addition our market sounding work identified that potential fuel users were very clear in the benefit of separating the two procurements and in ensuring that they need not be too drawn into the waste reception and processing issues. In some cases it provided necessary confidence to potential bidders that the Authority was serious about securing a CHP solution related to energy use. In some cases there was also a greater confidence that a successful deal could be done with the Authority than a private sector waste company.

Perhaps more surprisingly, as stated previously our discussions with potential bidders established that several of the waste management companies would prefer that fuel use is

separated from production. It is somewhat speculative but it may be that there are project specific reasons for this in North London's case; the scale of our procurement may mean that bidders welcome the simplification that a non integrated approach produces with the Authority carrying some of the burden in market review on fuel use; the increased assurance it would provide in terms of a level playing field for potential bidders against the incumbent contractor.

In terms of deliverability both the twin track approach and the separate procurement approach have the ability to deliver against the Authority's aspirations. The Authority is however concerned that whilst bidders understand our ambitions the most optimal solutions in terms of our deliverability aspirations do not emerge during the competitive process if there is not certainty that a fuel use contract will in fact be let.

The Authority also recognises the key role CHP has to play in meeting our deliverability objectives. It is therefore essential that we endeavour as far as is practicable to facilitate the delivery of a CHP solution. It is the Authority's view that a separated procurement strategy provides a better platform for CHP solutions as it allows non waste management service providers to enter a market with a clear understanding of the interfaces between fuel supplier and user and the role they take within the chain or resource management. The Authority is also mindful that stimulating a market place that is limited to bring forward optimally balanced solutions can only be achieved through innovative forward thinking that is not confused by options based on traditional waste services contracting that a twin track approach brings.

For the reasons set out above, the Authority is therefore minded to pursue a separated procurement approach on waste services and fuel use. The Authority however, recognises that the two key issues that should confirm or otherwise the benefit of this strategy are; (i) the potential for an effective and competitive market response; and (ii) certainty on the Authority's understanding of interface issues such that it could define an approach that worked for both potential bidders on waste services and for potential bidders on fuel use.

The Authority has put considerable effort into understanding the potential for fuel use, in stimulating market interest, and in ensuring that potential bidders consider issues that will be of concern to the Authority in the context of a competitive procurement. Our concern has primarily been to identify industrial energy users who may be able to derive value from SRF in displacing fossil fuel use for the creation of electricity and heat needs associated with their industrial process and in identifying local urban regeneration projects that may use the fuel to meet the required level of renewable energy content to satisfy London planning guidance on renewable energy content whilst delivering CHP solutions. That is not to say that a traditional waste management company with energy production skills will not be the appropriate contractor – whether as a bidder or as part of a consortium that bids – it is simply to recognise that market development beyond the boundaries of the traditional waste management industry is likely to be helpful to securing the optimum solution.

Whilst the Authority has undertaken much of the market work, we have had useful and helpful discussions with other organisations that have an interest in successful economic activity at a local, regional and broader level. Those organisations include Constituent Borough officers, the GLA and associated organisations (in particular the London Development Agency (LDA), London Thames Gateway Development Corporation and DEFRA. As the Authority will need to focus on running a procurement and a competitive dialogue procurement over the coming months, we hope those organisations will continue to work with bidders over the coming months to help stimulate good quality proposals.

4.6.3 SRF market analysis

The Authority's 2020 LATS allowance is set at 167,318t and modelling of the Reference Project is has shown it to be approximately 145ktpa below the Authority's allowance. Assuming SRF is less than 45% biodegradable, the Authority could landfill all of its SRF (320ktpa) and still meet its 2020 LATS target. Therefore, at a biomass content of greater than 45%, the procurement of just one lot of fuel (160ktpa) would enable the Authority result in the Reference project being LATS compliant in 2020.

In order to inform the Authority's understanding of the Fuel Use market it has commissioned two separate sets of analysis to determine the robustness of the market for fuel. The market research work is set out in detail in Appendix G.

The Authority has been concerned to address the following issues and questions in its market sounding work:

- What the market capacity for SRF is.
- Who are likely to be the types of companies that may bid to receive SRF, either directly or as a third party outlet?
- What is their level of interest in bidding a fuel offtake contract?
- Do they wish to pursue a PFI route if the Authority were to procure fuel use separately?
- What do bidders perceive as the challenges?
- What issues does the Authority need to address to attract bidders?
- Whether a separated or combined contract strategy remains the best route to market?
- What is their likely solution in order to gauge deliverability and inform our Reference Project?

To facilitate prospective bidders making actual bids we are continuing our market intelligence work to identify both potential sites for fuel use in North London as well as potential heat hosts, and to maintain dialogue with the those companies that responded positively to our detailed questionnaire of February 2009.

The principal aggregate findings relevant to the identification of a fuel use procurement strategy are set out in detail in Appendix G and summarised below:

- Capacity of 575 000 tpa which is able to use SRF now or will be on-line before the production of fuel in North London.
- Further projects are under development that brings the potential demand for SRF to over 2 million tpa by 2020. Factoring in the probability of the Authority being able to access this capacity has the effect of reducing this prospective demand to approximately 1.2 million tpa.
- There is more than sufficient potential demand to satisfy the Authority's anticipated production of circa 300,000 tpa of SRF.
- It is probable that further capacity that the Authority is not currently aware of will come forwards as the procurement progresses to commencement, as potential bidders become confident of the Authority's intent.
- There is the prospect, within the group of potential bidders, that there are projects that will commence operation in similar timescales to the fuel production plant, avoiding the need for the Authority to find temporary alternative routes for SRF end use.

There are potential schemes in both the target markets that we had identified, with subtly different needs that the Authority needs to take into consideration when determining a procurement route with the best prospect of securing the optimum outcome:

- Generators or specialist renewable energy companies with, or else seeking, energy plant sites within Greater London, mostly intending to export electricity but also having, or else seeking, heat hosts. The latter may typically be district heating schemes. Such schemes may not have need for all the SRF that the Authority may produce. To help

facilitate such schemes, our intention is to procure the Fuel Use contract either as: (a) one lot of 130 - 170 ktpa (reserving the right to let more than one contract) or (b) one lot of 280 – 340 ktpa.

- industrial energy users, pinpointed by both the desk top study prepared by RPS for Defra and our own researches, who generally have a high and consistent energy demand that would potentially use the vast bulk of fuel that the Authority may produce and, in some cases, would potentially benefit from a pooling of fuel from NLWA and other local authority areas. These potential bidders are generally located outside the administrative area of London. We have sought to work with the potential bidders in respect of property development use in North London and indeed Greater London to structure their approach to maximise their chances of success. So, for example, we have encouraged them to think about an association with a commercial energy supplier who may have the business means to manage the partial fuel demand that may arise in any one development and to be able to guarantee the benefits of energy income over the long-term in constructing their financial models. This group of bidders potentially have an inherent advantage over others in terms of their ability to use heat at a lower temperature than an industrial user may require. They are also generally located closer to the production of fuel user in North London with fewer requirements for transport.

The potential ‘industrials’ group have potential advantages in terms of optimising the income associated with renewable power. They may also have business needs related to the cost of alternative energy supply and the stability of prices that make their potential offering very competitive. At the same time, the Authority remains open to decentralised energy and district heating schemes and with this in mind will enable ‘smaller’ market players to bid by offering SRF in multiple lots.

The Authority cannot know at this stage which potential approach will be more successful in a competitive environment should it wish to procure a fuel use solution separately, and is strongly incentivised to allow for effective competition for supply. This would require the Authority to take associated action to ensure as level a bidding playing-field as possible if a separate fuel use procurement strategy was adopted.

There are two issues we can immediately identify and continue to progress:

- The export of fuel outside the Greater London area within the context of regional self sufficiency targets. The Authority would wish to be able to evaluate competing proposals on the basis of a carbon impact using WRATE methodology which can weigh up the carbon impacts of both transport and fuel use together. We seek to get the new Mayor for London to allow for that approach in his refresh of the Waste Strategy and London Plan. To this end, discussions continue to be held with the Design Development & Environment Delivery Team of the London Development Agency to discuss their plans for a major heat distribution network extending from Barking to the Lower Lee Valley.

- In the event that fuel is being transported, the Authority would wish to see as sustainable a transport solution as is possible and, to the extent that it can facilitate sustainable transport solutions for others, we will want to provide for this. The current Hendon transfer operation (see section 2.4.4.2) provides waste transport by rail and we shall want to ensure a continuing rail option consistent with the sites solution for fuel production at Hendon (see section 7). Also, we believe the work that has been undertaken on the lower part of the river Lee associated with the Olympics Games Site development provides a good potential for any fuel transport by water from an Upper Lee Valley site. We have not, at this stage, quantified the potential cost of such transport options, but are keen to discuss further with DEFRA whether such a transport solution could form an integral part of the waste services solution that is supported by PFI credits.

- The Authority has undertaken a detailed analysis of the interface risks associated with the separation of the Waste Services and Fuel Use contracts. This analysis takes into account factors such as the increased complexity of the procurement processes and

contract management responsibilities for the Authority. Furthermore the Authority has examined key contractual interface risks taking into account factors such as:

- Planning and construction risk
- Volume risks
- SRF quality risk
- Payment and performance obligations

- The Authority has evaluated the interface risks associated with a separated procurement (attached at Appendix H) and considers that it is able to effectively manage them within a separated procurement structure to derive the benefits this strategy clearly brings.

- A remaining key consideration for the Authority's site identification and planning considerations. Common to all approaches is the need to establish a facility for fuel use (with the exception of an integrated approach utilising a merchant facility). However, the current market for fuel use is limited in the UK and the Authority recognises as discussed previously that there is a need to provide stimulus to the market going forward to deliver its key objectives. As such and for the reasons given above it is not considered that an integrated waste service contract and a separate fuel use contract is the most appropriate route for the Authority to take.

- Discounting the high risk option of securing a market for the entire quantity of fuel in the future and taking the consequences associated and the twin track approach for the reasons detailed above the Authority has considered the issues of deliverability in detail for its preferred option.

As a starting point it should be noted that all the potential bidders we have identified for the fuel use solution identified it as essential that the energy solution needed to be located close to the energy use and the Authority's consideration has been framed on this basis.

Currently Government's PFI credit criteria identify that an Authority should secure ownership of a site to underpin a procurement of this nature. The Authority's preliminary view was that for it to invest in a relevant site for fuel use makes little sense when its preferred approach is designed to stimulate competition among potential fuel users, to locate the facility close to the heat demand as a means of giving a CHP solution the best possible chance, and to drive out the best solution in commercial and environmental (carbon) terms. Indeed a decision to spend public money on securing a site – with its implied commitment to providing energy to a housing or industrial concern nearby – may be seen to prejudice a fair procurement.

It is therefore the view of the Authority that it makes sense for the fuel user to provide the relevant site, rather than for the Authority to seek to do so. This is a view which has been echoed by potential bidders for the fuel use solution identified as part of the market sounding exercise. We are pleased to note from our discussions with DEFRA that there appears to be agreement on this issue and that DEFRA think there may be a case for derogation from the criteria in respect of the Authority's approach.

In terms of planning prospects it is difficult to generalise for a field of potential bids since each potential solution will have specific local planning considerations which need to be addressed in detail as a part of the bidding and evaluation process. However, there are some very positive pointers:

- In maximising the potential for CHP, the planning prospects of potential bids are improved compared with other possible approaches where CHP is little more than an aspiration.

- The linkage of fuel use to domestic or industrial processes provides an evident benefit to the local community of siting a facility – whether this is in terms of local employment or in other ways.

- The direct renewable power link that this approach makes between fuel use and energy demands that are, or would otherwise need to be – met by other means such as fossil fuel is a positive that may impact on local attitudes.

- The opportunity to tie in to planned heat distribution infrastructure, which would help to realise the Mayor of London's vision in relation to self sufficiency and climate change.

- The potential to deliver material by sustainable transport means should minimise the perceived and actual transport impact of location.

- The visual impact of facilities located as an integral part of an industrial process may be less than in a greenfield site somewhere else.

- On the visual impact, there is clearly still a challenge in schemes that are located with a mind to delivering district heating. In our discussions, some bidders were specifically attracted to advanced thermal processes in part because they felt that this may help to overcome local community attitudes which are grounded in a view of traditional incineration. As identified in section 4.3, we have concerns about the bankability and deliverability of some of these approaches. However, with the appropriate commercial backing on performance, there is no reason to exclude the possibility of such solutions coming forward with a positive outcome.

The Authority has therefore satisfied itself that a strategy for fuel use procurement based on a separate procurement process offers the most appropriate strategy for securing a fuel use solution(s) that delivers the best environmental, financial and commercial terms. In addition, it is clear from our investigations with potential bidders that the Authority not providing a site for the fuel use procurement is seen as a positive step in attracting bids from both industrial and regeneration users not as a constraining factor within a procurement process.

In section 7, we have set out the expected programme for site acquisition, and subsequent securing of consents, by bidders for the Fuel Use contract and how this fits with the proposed overall Fuel Use and Waste Services procurement programmes, together with the attendant risks and how these will be managed by the Authority.

4.6.3.1 Regional strategy implications

The Authority's proposed procurement strategy on fuel use recognises the potential benefits of London energy use in carbon terms, but also the very limited prospects for bids in relation to London schemes, the need for a competitive procurement to drive out the best solution(s), and the legal requirement for the Authority to award a contract on the basis of the most economically advantageous solution.

GLA officers have said that they would be keen to see the economic, social and environmental benefit of SRF realised within London. They have also said that they are keen to support London applications. The Authority welcomes that GLA officer offer as a useful contribution to market development. This is further supported by the Authority's discussions with the London Development Agency with particular reference to their aspirations for rolling out district heating through the establishment distribution network.

In terms of consistency with the existing London Plan, SRF, whilst a highly refined and stabilised product, is legally still waste, and that there is a tension between an open procurement and the London Plan policy statement that encourages greater London self-sufficiency. Equally, the Authority's approach – including the possibility that a fuel use solution will underpin a sustainable transport solution (further detail in section 4.11) is very consistent with London plan statements including:

- "…where waste cannot be dealt with locally, promote waste facilities that have good access to rail transport or the Blue Ribbon Network …"

- **"**The Mayor will and boroughs should support new development and facilities that increase the use of the Blue Ribbon Network to transport freight and general goods, especially in areas of deficiency. New development close to navigable waterways should seek to maximise water transport for bulk materials, particularly during demolition and construction phases"

- "… safeguard waste sites, including wharves (in accordance with Policy 4C.9), with an existing or future potential for waste management and ensure that adjacent development is designed accordingly to minimise the potential for conflicts of use and disturbance".

4.7 Procurement Strategy in respect to LondonWaste Limited (LWL)

LWL provides the existing waste disposal service in north London and holds a number of key assets that may have a role in delivering a sustainable waste management solution going forward. Among these are the existing Energy from Waste facility at Edmonton, an In Vessel Composting plant, and staff who are experienced in delivering services using these assets. The Authority has considered how best to make these assets available to a future contractor and/ or to realise value from these assets as a means to help afford the cost of future services.

The Authority has considered 7 main alternative procurement strategies in respect of LWL and the relevant assets:

- Retained Authority ownership as a vehicle for a public sector financing;

- A sub-contractor role for LWL whilst remaining in Authority ownership;

- An open market share sale of the Company;

- An asset sale;

- A future joint venture with a private sector partner with a mixed public and private shareholding;

- A share sale of the Company to the successful bidder/ future fuel use contractor; and

- A share sale of the Company to the successful bidder/ future waste services contractor.

LWL could provide a vehicle for a public sector financing solution. However, as identified in section 8 there is a value for money case for a private finance solution when compared to a public sector alternative. In addition, the Authority's limited statutory powers would mean that the Company's activity would be restricted to providing services to north London and there would be little opportunity for the Company to undertake business that is complementary to the management of north London's municipal waste. Finally, the Authority would not be able to realise any sale value from the Company, thereby increasing the cost of future services.

The Authority would not be in a position to nominate LWL as a sub-contractor on a future contract unless the Authority was prepared to underwrite the Company's operational performance and any risks that the main waste services contractor would seek to pass to sub-contractors. This would not be an acceptable public-private sector risk transfer for PFI purposes and is an unattractive option as the Authority has little means for managing the risk it would hold. This approach would mean that no immediate value could be realised as would be the case under the sale options.

LWL competing for sub-contractor work with the Authority not providing the equivalent of a parent company guarantee may work, but aside from the loss of value from sale and risk transfer, the Authority should probably need to incur substantive costs in ensuring that LWL and its balance sheet, was capable of bidding effectively. There would also be unhelpful uncertainty for the Company, its employees and the shareholder throughout the procurement process.

An open market share sale would potentially lead to a different owner and contractor providing waste disposal services. That scenario is likely to depress the share sale value as there would be no guarantee of future business relating to North London's municipal waste. It may lead to more short-term business planning and a more uncertain future for the Company and its employees.

An asset sale would potentially realise good value but there would be a considerable period of uncertainty for the Company and its employees during the procurement process, potentially involving different bidders selecting different assets from within the whole. There is every prospect that the approach would leave LWL with a fragmented business and with managing the closure of some elements of the current business with no means for re-deploying redundant assets or staff. The Authority would potentially be left with historic liabilities and debts with no means of seeing those managed from future business.

A future joint venture with a private sector partner with a mixed public and private shareholding could replicate the previous 50/50 shareholding arrangement that has worked well in terms of service delivery or could involve some other shareholding split with either the public or private sector party holding a majority shareholding. In all instances, there needs to be a clear case for the public sector to retain a shareholding and it is difficult to make the case for such a shareholding, providing a more substantive sale to the private sector can realise the full Company value. In addition, it is likely that the best outcome for the Company, its employees and the shareholder will be realised if the future shareholder is not limited in investing in growing the business. That is unlikely to be the case when there is a continuing public sector shareholding.

In contrast to the alternatives, the share sale approach offers the prospect of a financially efficient solution and good prospects for ongoing work for the Company and its employees. The Authority therefore proposes to pursue a procurement strategy in respect of LWL involving the 100% share sale of its interest in the Company to a successful bidder.

There is some case for making this sale part of the letting of a contract to a fuel user. However, there is a much stronger case for making the sale part of the letting of a contract to the waste services provider: it is much more likely that a waste service provider will be able to successfully integrate LWL business into its other business activity, to maximise the development potential in the Company, and to dovetail the use of existing assets with its plan for the development of new facilities. This is particularly the case when considering the technical constraints associated with the limited ability to use of SRF as a feedstock for the Edmonton facility. For these reasons, the Authority proposes to pursue a 100% share sale of the Company to the successful waste services contractor and to allow bidders on that contract to take account of existing LWL assets in providing a future waste services solution.

The Authority will be seeking the reversion at the end of the future contract of key assets including land and facilities at the end of the contract period. The Authority has therefore modelled a potential share sale value that assumes the reversion of these assets and is primarily derived from a discounted cash flow analysis relating to operating existing assets, whether in delivering services to the Authority under the future contract or operating assets as merchant facilities. It will be for bidders to determine the price they are prepared to pay for LWL as part of their bid to provide future waste services.

There may be little merit in value terms if the acquiring party and future contractor is simply raising finance to fund the LWL share acquisition and recouping the costs of that acquisition through the contract costs – the interest element that is payable is likely to outweigh the value to the Authority of repaying debt from this source. Under that scenario the Authority may be

better served by selling the share for a nominal sum and recouping the benefit through the lower future costs provided under the contract. It is unclear at this stage whether this is the funding approach that all bidders will adopt – given the potential for corporate funding solutions, commercial operation and differences in the potential release date of the EfW facility for non NLWA uses, we may see different bidder approaches to valuation and funding. The Authority will therefore be seeking initial bids that separately propose a cash or value approach. The Authority will evaluate the most economically advantageous approach throughout the procurement and pursue one approach to the exclusion of the other if a clear case for one or other approach emerges from initial bids.

4.8 Transition and interim arrangements

The Authority has an existing waste disposal contract in place with LWL that runs until December 2014. With the expectation that the procurement will reach financial close in October 2012 (see section 10) and the proposed share sale as set out in section 4.7 above, the Authority considers that there is a good case for the successful waste services bidder becoming responsible for future waste services at financial close, using existing LWL facilities and contractual arrangements whilst the new facilities are constructed and new services are rolled out. The Authority will make such changes to the existing contract as are necessary as to facilitate this approach. The details of the necessary transition arrangements will be considered with bidders during the competitive dialogue in order to ensure the best solution. The Authority acknowledges that PFI credit payments will only start when the facilities reach full operation.

The Authority is keen to ensure that bidders are free to bring forward the optimum solution for the longer term whilst also having available to them sufficient solutions to ensure service continuity in the early stages of the future contract. LWL's existing Energy from Waste, In Vessel Composting and logistics assets will be vital for the early years. In addition, there are three key short term or interim service provisions that the Authority proposes to make available to its future waste services provider: in respect of contracts for landfill capacity, Materials Recovery Facility capacity and further bio-waste capacity.

The Authority is procuring short term and interim procurements that will ensure appropriate waste disposal arrangements as a backstop for a maximum of seven years from the end of the current contract by.

- Procuring merchant MRF capacity for co-mingled material produced by the Constituent Boroughs until December 2014 with extension provision for five additional years if required.

- Procuring in 2010 mixed kitchen/garden IVC/AD (organic waste) capacity over and above 30k tonnes per annum secured with LWL until 2014 with extension provision for additional years if required.

4.8.1 Contract for MRF capacity

As the Constituent Boroughs have increased kerbside recycling and composting services, the overall demand for reprocessing capacity has increased and the business case for more local capacity has increased. This requirement is expected to expand substantially over the short term as the Constituent Boroughs pursue targets for 2010 and 2015.

Whilst the Authority's procurement approach is to secure MRF capacity under the long-term procurement, either through a merchant route or through a design and build route should the new Hendon site replace the existing site at Hendon. This procurement will be designed to take co-mingled collection in the appropriate form and in a way that optimises both the environmental solution and the value of recycled materials. However, the Authority cannot stand still between now and then. The intention is therefore has been to let a short-term/interim contract for MRF capacity that will provide a service through to the time when the long-term contractor has built new facilities.

With this in mind the Authority is letting a contract for additional MRF capacity relating to co-mingled recyclates including paper and card which is co-terminus with the Authority's existing main waste disposal contract, with the possibility of five one-year extensions. Whilst this contract will be outside the terms of the existing contract with LWL, the extensions will be transferable to the Authority's new contractor after the expiry of the main waste disposal contract should they be required.

4.8.2 Interim biowaste capacity

Whilst the Authority's has access to 30,000 tpa of IVC capacity at Edmonton there is a short-term need for further diversion capacity for separated biodegradable waste. Through LWL, the Authority currently utilises third party merchant capacity outside of London.

The Authority is proposing to directly procure short term biowaste processing capacity for that capacity which exceeds the IVC capacity at Edmonton. This procurement may be outside of the main waste disposal contract with LWL. It is currently proposed that this capacity will be procured in lots including separate lots for food waste. The Authority also proposes that the contract termination and extension arrangements will be similar to those of the short term MRF capacity procurement described above.

4.9 Output Specification

For the reasons set out in sections 4.3 to 4.7, the Authority proposes to procure two contracts – a waste services contract including the production of a SRF and a fuel use contract. The primary requirements of these contracts taken together are to ensure that the Authority replaces its ageing waste facilities, meets its landfill diversion obligations and delivers a solution that is consistent with the requirements of the following:

- Waste Strategy for England 2007;
- The Government's Energy and Renewable Energy Strategies;
- Mayor of London's waste, energy, climate change and spatial strategies; and
- North London Joint Waste Management Strategy.

Consistent with a PFI approach and best practice, both contracts will be output based, leaving bidders free to consider the best technology options to deliver the outputs that are required. There is clearly an interface between the two contracts that needs to be managed to best effect and there are some elements of the Authority's specifications that may be seen as outputs on one specification and inputs on the other.

In setting the two output specifications, the Authority has clearly needed to ensure that they are consistent with each other. As the fuel specification lies at the interface of the two contracts, setting it is potentially a source of tension between the two separated contracts and also between the ranges of potential technologies on either side of the specification.

As set out in Appendix G - Market Sounding Report, a number of potential bidders to the Fuel Use contract have specifically expressed a preference for a high biomass content to maximise ROCs income. However the fuel produced within our Reference Project is modelled to contain between 50% - 35% biomass. Further modelling undertaken by the Authority's technical consultants indicates that this would be difficult to improve upon as there is little room for manoeuvre through selective targeting of materials for recycling and composting in the pursuit of the 50% recycling target.

Appendix G also illustrates a range of preferences by prospective bidders with regards the CV of the fuel. However, a number of these have expressed a preference for a higher CV. There is a clear tension here with the specification of the Waste Services contract which is subject to drivers such as LATS liabilities, rising landfill costs and minimising exposure to any

future restrictions on landfill. The decision to re-blend a significant fraction of the lower CV materials from the MBT/AD process back into the fuel fraction is primarily driven by these considerations. However, the results of the Technical Options Appraisal process in section 4.3 indicates that ‘re-blending’ scenarios clearly perform better than ‘non-re-blending’ scenarios when measured against more than just the drivers listed above.

Further key considerations in setting the fuel specification are the chlorine content and the respiration index of the fuel to be treated. The former is potentially a serious operational issue for those facilities that are proposing to co-fire the fuel as their facilities may not be able to withstand the corrosive effects of a relatively high level of chlorine compounds such as PVC in their fuel. As already stated in section 4.6.3 the dynamic respiration index (as defined by the Renewables Obligation 2009) is key in terms of the ability for an SRF plant to qualify for Enhanced Capital Allowances but also represents an issue for plant operations as well as storage and transport.

It may be possible for the Waste Services contractor to produce a highly refined fuel that meets the requirements of fuel use bidders by employing different residual waste treatments or further refining the fuel. However, further refinement would often not be without additional processing and plant costs and issues in finding outlets for materials isolated through refinement.

To inform those considering bidding the Authority has already prepared an outline fuel specification which is contained within the draft Waste Services and Fuel Use Output Specifications (Appendices W and X respectively) and includes ranges of values for the technical parameters of the fuel.

The parameters set out in the specification are, at this stage are intended serve as a guide and the cited calorific value is deliberately cited as a minimum, rather than specific, value. It reflects a draft specification that has been adopted on other local authority procurements and has been discussed in market sounding work with both potential producers of fuel and users of fuel.

The Authority considers the fuel specification as it stands to be a starting point but does not at this stage wish to restrict potential solutions by setting firm restrictions on the parameters set out at this stage. It is also mindful of the impact of changing waste composition and other key variables over time. The Authority intends, however, as the procurement process progresses, that the output specifications, and the fuel specification in particular, will be further refined through dialogue with bidders. However, bidders’ proposals will need to be within the proposed ranges throughout.

DEFRA has been considering whether a fuel specification might be adopted in the context of providing for ECAs for fuel use facilities. The Authority’s draft specification may be adjusted to take account of any DEFRA guidance. The Waste Services Output Specification is summarised below in Table 4.10.

Table 4.10: key assumptions for output specification (waste services)

Contract assumptions		Performance parameters
1. General		
1. 1	Contract structures	Contract(s) will be of a PPP/PFI-type procured on the basis of an output specification of the requirement and risk transfer on the technology provided and the design, build and operation of the facility. Partial payment on the basis of a monthly 'unitary' (i.e., all encompassing) charge or gate fee.
1.2	Contract scope	Contract(s) to provide for the treatment of up to 634 ktpa of residual municipal waste. Key service outputs: ► Stakeholder Consultation and Community involvement ► Waste Reception, Transfer and Treatment ► Mobilisation, Contingency and Expiry Arrangements ► Service Management ► Human Resources ► Health, Safety and Welfare
1.3	Contract duration	Up to 30 years
1.4	Asset transfer	The Authority intends to retain ownership of those waste management assets required by the Contractor to deliver the service during the lifespan of the contract but will make facilities available to prospective bidders under leasehold arrangements.
1.5	Provide self-monitoring and routine performance management reports	Contractor provides monthly and annual reports as required to meet the terms of the contract including the requirements of the regulatory agencies and government.
2. Treatment facilities		
2.1	Addresses medium and long-term LATS targets, minimising potential LATS liability (fines)	Facilities to treat progressively greater levels of diversion of BMW away from landfill in order to meet the LATS targets for the Authority for the duration of the contract. This will be delivered through the provision of one of two lots ► Lot 1 the preparation of a SRF which meets a defined fuel specification and ► Lot 2 the conversion of SRF into energy and where possible, heat. The contractor will work to contractual BMW diversion targets as appropriate and the payment mechanism will penalise or reward over or under performance.
2.2	Addresses long-term statutory and local, recycling, composting and recovery targets	Process should help to achieve the WS2007 targets of: ► The amount of household waste not re-used, recycled or composted to be 225 kg in 2020 ► National targets for recycling and composting of household waste – at least 40% by 2010, 45% by 2015 and 50% by 2020; and ► Targets for recovery of municipal waste – 53% by 2010, 67% by 2015 and 75% by 2020. The contractor will work to contractual recycling diversion targets and the payment mechanism will penalise or reward under or over performance.
2.3	Markets secured for the recycled, composted and/or recovered process outputs	Risk is transferred to the facility provider for the sale or disposal of process products (with the exception of); so that the Authority has no detrimental cost impact from price/cost variation or market failure.
2.4	Flexibility to adapt to changes in waste volumes, composition, collection arrangements, regulation and legislation	Contractor is responsible for cost-effective utilisation of spare capacity through third party contracts. The process is tolerant of anticipated longer-term changes in waste composition.
2.5	Achieves sustainability in relation to social, economic and environmental factors	Move the management of wastes up the waste hierarchy. Development of local markets for output materials. Reduce climate change impacts relative to the operation.
2.6	Risk allocation	Risk allocation will be as set out within the contract documentation, the current risk allocation table is set out in Appendix J.

The principal aspects of the fuel use specification are listed in Table 4.11 and the draft fuel specification is set out below

Table 4.11: key assumptions for output specification (fuel use)

Contract Assumptions		Performance Parameters
1. General		
1. 1	Contract structures	Contract(s) will be of a PPP/PFI-type procured on the basis of an output specification of the requirement and risk transfer on the technology provided and the design, build and operation of the facility. Partial payment on the basis of a monthly 'unitary' (i.e., all encompassing) charge or gate fee.
1.2	Contract scope	Contract(s) to provide for the use of around 300 ktpa of Solid Recovered Fuel (SRF) produced from the residual municipal waste. Key service outputs: ► Stakeholder Consultation and Community involvement ► Fuel Use ► Mobilisation, Contingency and Expiry Arrangements ► Service Management ► Human Resources ► Health, Safety and Welfare
1.3	Contract duration	10- 30 years
1.4	Asset transfer	None.
1.5	Provide self-monitoring and routine performance management reports	Contractor provides monthly and annual reports as required to meet the terms of the contract including the requirements of the regulatory agencies and government.
2. Fuel use facilities		
2.1	Provides fuel use solution consistent with the Authority's medium and long-term LATS targets, minimising potential LATS liability (fines)	The conversion of SRF into energy and where possible, heat. The payment mechanism will penalise or reward under or over performance.
2.2	Addresses long-term recovery targets	Process should help to achieve the MWMS2007 targets of: ► The amount of household waste not re-used, recycled or composted to be 225 kg in 2020 ► Targets for recovery of municipal waste – 53% by 2010, 67% by 2015 and 75% by 2020. The payment mechanism will penalise or reward under or over performance.
2.3	Flexibility to accept out of specification material	Contractor is responsible for accepting up to X% of out of specification material within parameters to be defined with payment adjustment within to recognise this.
2.4	Achieves sustainability in relation to social, economic and environmental factors	Reduce climate change impacts relative to the operation.
2.5	Risk allocation	Risk allocation will be as set out within the contract documentation, the current risk allocation tables are set out in Appendix K.

Table 4.12: SRF fuel specification

SRF class and origin

Class code[a]: NCV 3, Cl 2, Hg 3

Origin[b]:20 03 01

Physical parameters

Particle form[c]: Fluff, semi-dense pellet, dense pellet

Particle size[d]: tbc **Test method**: prCEN/TS 15415

	Unit	Value[e]		Test method
		Typical Value	Limit	
Ash content	% d	15	20	prCEN/TS 15403
Moisture content	% ar	15	20	prCEN/TS 15414
Net calorific value (NCV)	MJ/kg ar	>11	<15	prCEN/TS 15400
Real Dynamic Respiration Index	mg O_2 /kgTS/h	<1,000	<1,500	prCEN/TS XXXX (tbc)
Biomass fraction	% of NCV	60	n/a	prCEN/TS 15440

Chemical parameters

	Unit	Value		Test method
		Typical	Limit	
Chlorine (Cl)	% d		<1.0	prCEN/TS 15408
Antimony (Sb)	mg/kg d	25	100	prCEN/TS 15411
Arsenic (As)	mg/kg d	5	13	prCEN/TS 15411
Cadmium (Cd)	mg/kg d	7.5	13	prCEN/TS 15411
Chromium (Cr)	mg/kg d	125	250	prCEN/TS 15411
Cobalt (Co)	mg/kg d	10	12	prCEN/TS 15411
Copper (Cu)	mg/kg d	350	tbc	prCEN/TS 15411
Lead (Pb)	mg/kg d	190	250[g]	prCEN/TS 15411
Manganese (Mn)	mg/kg d	250	500	prCEN/TS 15411
Mercury (Hg)	mg/kg d	4	8	prCEN/TS 15411
Nickel (Ni)	mg/kg d	80	160	prCEN/TS 15411
Thallium (Tl)	mg/kg d	1	2	prCEN/TS 15411
Vanadium (V)	mg/kg d	10	25	prCEN/TS 15411
Σ Heavy metals[f]	mg/kg d		tbc	

a. According to the class system as specified in Clause 7. of prCEN/TS 15359

b. Preferable to European Waste List (EWC), 4 or 6 digit code. For mixtures and blends a combination of codes can be used.

c. Examples of forms are pellets, bales, briquettes, flakes, chips, powder, fluff.

d. By sieving or equiv. technique, expressed as dx, where *d* is the particle size on the distribution curve where *x* percent passes.

e. The typical value is the mean value (or the median value if appropriate with respect to the distribution of data) for a parameter of the SRF over an agreed or specified period of time. The limit value (maximum, minimum or 80th percentile if appropriate with respect to the distribution of the data) will be agreed upon and defined by the user and producer, and refers to a consignment.

f. The Group III metals in the sum are those listed above (Sb-V) and equals those in the Waste Incineration Directive (WID).

g. 80th percentile value

h. The fuel should not contain PCP/PCB, radioactive, pharmaceutical or explosive materials. Other parameters can be agreed between producer and user according to their needs e.g. sulphur and aluminum, ash characteristics. This specification is indicative only and will be developed further by the Authority at and prior to the ITT and contract negotiation stages.

Other parameters which are likely to be agreed between producer and user during the dialogue phase according to their needs may include e.g., sulphur and aluminium contents and ash characteristics.

4.10 Basis for Reference Project

The current mix of collection systems employed by the Constituent Boroughs is retained within the Reference Project into the future, especially with regards their current preference for either the source separated or commingled collection of dry recyclates. Reasonable improvements in the performance and coverage of these systems were included as necessary to reflect achievement of the targets over time, including planned short-term initiatives summarised in section 3.6.3.

Typical adjustments to individual Constituent Borough collection systems over time include steadily increasing collection yields and service coverage of kerbside and estate recycling and composting schemes, introducing new schemes such as food waste collection from flats where necessary. Challenging reuse, recycling and composting rates were also assumed for other streams such as bulky waste, street sweepings/litter, HWRCs and trade waste. Costs reflected in the affordability signoff have been modelled to reflect these changes using base year costs as a basis.

WRAP has recently advised the Authority that the Authority's Reference Project modelling "would require the general application of compulsory recycling" recognising "there is not agreement in all boroughs to adopt that approach". They have however further stated that they "do not regard compulsory recycling as essential but if it is not the favoured route, greater commitment to spend on communications to gather public support is needed".

Given WRAP's view and the longstanding recognition of the degree of behavioural change necessary to deliver the Authority's recycling/composting/waste minimisation ambitions it has (as set out in section 3.5.2) included a substantial education and enforcement budget that is additional to existing expenditure levels. This rises from £2.50 per household to peak at £3.50 per household in 2020, after which it falls back to £2.50. Clearly the actual nature of any expenditure of this type, with the exception of the type Authority-wide education campaigns that the Authority already conducts, is entirely a matter for the Constituent Boroughs themselves. Nevertheless, the inclusion of the budget itself is a strong recognition that considerable sums of money will need to be spent in this area.

The Reference Project assumes a very challenging 5% MRF contamination/reject rate. It believes that through good public education, collection system design and MRF design this aspiration is both achievable and, given the challenge that 50% recycling present, necessary. Whilst Constituent Boroughs are constantly striving to reduce contamination through collection the need for the most modern, efficient MRFs to achieve this lies in contrast to the conclusions of the Authority's MRF Capacity Clarification Report (section 4.2.4) with regards the existing capacity in London.

The ongoing programme of modelling work set out in section 2.5.1.3 will help to inform decision makers in the Constituent Boroughs about the likely impact of interventions in this area. In conjunction with the emerging IAA it will also inform decision makers as to the benefits of commonality around optimised collection systems. Furthermore it will inform any pooling of targets to better reflect the mix of challenges that each Constituent Borough faces (as set out in section 3.6.1) in achieving the 50% rate overall and collectively optimise costs. As such it is extremely likely that there will be at least some change in the collection systems employed and the individual recycling rates of individual Constituent Boroughs from those reflected in the Reference Project going forward.

This approach in building on existing momentum to refine the precise approach to delivering the targets over time is supported by WRAP who believe that there is more than 10 years before that target needs to be achieved and one would not at this time expect to see all of the measures necessary to meet the targets straight away. WRAP also support the progression towards refined contributions from individual Constituent Boroughs within a pooling structure on the basis that it is unrealistic to expect all Boroughs to make the same contribution.

The Authority and Constituent Boroughs are committed through the joint Memorandum of Understanding (Appendix AA) to an IAA that strongly incentivises Constituent Boroughs to

achieve high recycling and composting rates. Although the precise details have yet to be developed differential pricing and other incentives are expected to sufficiently strong to encourage those Boroughs that can to over-achieve against the NLJWS targets in the collective pursuit of 50%. There is also the potential for these drivers to incentivise a collective over-achievement against the 50% target.

4.11 Transport within the Reference Project

The transport solution set out in the Authority's Reference Project represents a reasonable transport solution based upon information currently available in terms of main waste service sites and the spread of fuel users surveyed. Clearly the procured transport solution will be driven to a large extent by the location of the fuel user(s) and landfill capacity brought forward with associated modal transfer opportunities.

The network of reference sites offers considerable bulking opportunities alongside the prospect of modal transfer to rail or water. The opportunities that waste by water presents have been omitted from the Reference Project but remain an extremely attractive means of minimising costs and carbon impacts whilst improving planning deliverability.

4.11.1 Rail options

The Authority's existing site at Hendon and the proposed site at Hendon are likely to be key to any transport solution in the short and long term. Within the Reference Project the Hendon RTS, at both sites, is constrained to 300,000 tonne per annum maximum capacity. However, site configuration enhancements, particularly within the context of the new Hendon site are anticipated to increase this capacity.

By way of benchmarking the benefits of maximising the use of the rail the Authority's has conducted a comparison of the costs, carbon impacts and local environmental impacts of:

- Moving all of the Authority's Reference Project waste and process outputs by road.
- Consigning all fuel and MBT/AD rejects to landfill by rail from Hendon (averaging 422,000 tonnes per annum) after hauling the materials arising from the eastern MBT/AD by road to Hendon.

The analysis concludes that the lifecycle financial benefits of maximising the transfer of MBT/AD outputs through a Rail Transfer Station at Hendon (albeit with a 50% higher capacity than is reflected in the Reference Project) against hauling all waste by road amount to £109million in nominal terms. Whilst this figure may transpire to be less when some more detailed factors are taking into account such as lifecycle replacement of rail containers it still represents a very significant saving in the same region as that set out above.

The Authority has also undertaken to model the potential climate change and wider environmental impact implications of rail versus road. Assuming that the destination of the fuel and MBT/AD rejects was 100 miles by both road or rail from both sites (with 10.8 miles transfer by road from the eastern facility to Hendon) transporting these wastes by rail from Hendon, rather than road direct from both sites, would generate $C0_2$ savings of approximately 8,850 tonnes per annum by the end of the project.

Whilst, on the basis of cost and carbon savings, maximising the tonnages of waste transferred onto rail at Hendon is clearly beneficial if hauling materials over long distances and if sufficient capacity can be created, this is tempered by the prospect of increased local environmental impacts such as local air pollution and noise if waste is required to be hauled by road from the east to the west of the Authority area.

4.11.2 Water transport options

The River Lee offers considerable potential to transport waste by water from the eastern side of the Authority area. The acquisition of LWL means the Authority has access to an existing wharf at the Edmonton site going forward. The cost and environmental benefits of transporting materials by water, rather than road are well characterised and firmly supported by both regional and local government in London. However, because it would have been impractical to shape a generic solution based upon waste-by-water it has not been included in the Reference Project but remains an opportunity to generate efficiencies and improve planning deliverability.

Whilst it would be challenging to envisage transfer of waste by water from the east of the Authority area to Hendon at this time the Authority is currently in discussion with the operators of other rail waste transfer facilities in adjoining areas to determine if capacity can be secured in principle and offered to bidders to help them optimise their transport solutions.

The Authority has held discussions with British Waterways and Transport for London with a view to developing water transport solutions to offer to bidders. It has confirmed that waste-by-water is currently an extremely viable prospect on a large stretch of the river Lee, much of which has benefited from improvements associated with the transport of construction materials by waste for the Olympics site, and simple charging mechanisms could be installed. Further stretches could be opened up if it were to be commercially viable.

British Waterways (BW) and Transport for London (TfL) have highlighted to the Authority that over the past 3 years over £30m has been spent on infrastructure improvements to support the re-introduction of freight on the River Lee. Improvements include the construction of a new lock to support the Olympic and Legacy Park development and £4m on dredging, fendering and ancillary works extending from the River Thames to Tottenham in North London.

In the event that water transport proves to be a useful part of the transport solution that bidders propose, the Authority will seek to encourage BW and TfL to undertake enabling infrastructure to support freight operations, which could include lock automations, communications linked to the PLA system on the Thames, cargo handling equipment, wharf access improvements, moorings, signage etc.

BW and TfL have employed a sustainable transport manager to work with businesses which recognise the commercial advantage of using water freight in preference to road, bringing with it significant PR, community and environmental benefits. BW and TfL will advise businesses wanting to explore this opportunity and actively encourage and participate in partnerships which would bring about sustainable transport modal shift from road to water to support the movement of waste, recyclates and solid recovered fuel.

4.12 Reference Project performance against targets

4.12.1 Performance against NWS targets

The Authority's Reference Project assumes that each Constituent Borough and the Authority achieves the NWS target relating to 'household waste reused, recycled and composted' for 2015 (45%) and 2020 (50%), whilst achieving 35% in 2010 in line with the North London Joint Waste Management Strategy (NLJWMS). This is achieved without a relatively modest recycling contribution assumed from the MBT/AD facilities in the Reference Project which, when included, produces a small overachievement against the targets (3%).

The Reference Project also reflects the Authority and Constituent Boroughs collectively achieving the NWS target relating to 'Residual household waste per capita', with each Borough making a different relative contribution, and 'Municipal waste landfilled' with a substantial contribution from the residual waste treatment infrastructure.

4.12.2 Selection of the Reference Project recycling/composting ambition

In the context of the barriers to high recycling set out in section 2.2 the Authority believes that the recycling/composting ambitions it has set out in its Reference Project are extremely challenging but achievable, a view that WRAP concurs with. Both the Authority and WRAP agree that 40% recycling is achievable given the more widespread application of some best practice approaches. The Authority expects the gap between 40% and 50% to be bridged by a combination of a contribution of the residual waste treatment infrastructure, 3% enhanced HWRCs contributing 7% and extremely high capture rates of key materials such as food waste.

Nevertheless, all potential round 4 applicants for waste PFI credits have received a letter from WIDP stating a belief that a 60% recycling and composting rate is an appropriate boundary for higher ambition for such applicants. The letter states the need for applicants to each have assessed their potential to approach this level of performance.

The Authority believes that it has strong grounds for maintaining the view that 50% is the maximum possible level of achievement in North London without a significantly higher contribution from residual waste treatment technologies than currently modelled and that it has rigorously assessed the potential for any significant over-achievement of this. Specifically;

- The Authority has already rigorously assessed a 'higher recycling' scenario within its Technical Options Appraisal (see section 4.3), this contained enhanced recycling rates of 55% for household waste and 50% for trade waste. The appraisal found that, whilst there would undoubtedly be environmental benefits, and potentially marginal lifecycle cost benefits in terms of basic expenditure, associated with such an enhancement, the relatively low deliverability prospects of this scenario led to this principle not carried through to Stage 3 of the appraisal.

- WRAP's ROTATE programme has provided comments to the Authority in relation to the achievability of high levels of recycling/composting, initially in relation to the achievement of the later JWMS targets within the waste modelling exercise outlined in section 2.5.3 and latterly specifically in relation to the 60% aspiration. The programme's assessment was that the levels of participation required to approach 50% were extremely challenging to attain. The programme felt that some of the assumed participation levels might be theoretically attainable if the Constituent Boroughs were to apply 'restrictions on residual waste' but acknowledged that fortnightly refuse collections "may not be an option". The programme has specifically commented that the performance levels required for flatted properties were particularly challenging. Whilst one may *in extremis* assume that restrictions on residual waste are practically, if not politically, possible to implement in low-rise housing stock in the NLWA area, these measures are not applicable to the huge proportion of flatted properties in North London. Therefore the means by which the Constituent Boroughs might increase participation from these properties are limited. Given that WRAP feels that 50% is this challenging and has provided a detailed analysis to support that it is reasonable to assume that 60% is a less reasonable prospect.

- High levels of recycling are more difficult to achieve in extremely dense urban environments such as London than elsewhere. This is by virtue of the relatively small number of gardens, the high housing density and number of flatted properties and the relative poverty of many of its occupants, all of which are reflected in section 2.2. This is in line with a recent Audit Commission report[13] which states that "Any comparison [of recycling rates between areas] needs to pay careful attention to the geographical make up of the areas being compared, due to the particular difficulties of recycling and composting in densely populated and deprived urban areas."

[13] http://www.audit-commission.gov.uk/Products/NATIONAL-REPORT/C0CDCBFE-24E0-494d-824D-F053A576661E/WellDisposed25Sep08REP.pdf

- The Authority has conducted its own analysis using ENTEC's modelling approach (set out in section 2.5.1.3) and input from WRAP that indicates just how challenging it will be to meet the 50% target. It shows that, based upon existing waste compositions, the Authority would be unlikely to meet 55% recycling even if Alternate Weekly Collection and very high levels of capture from flats were applied.

Nevertheless, the Authority intends to aim to at least achieve these targets where possible and is committing to provide the infrastructure and work with the Constituent Boroughs to ensure necessary upgrade of collection systems to meet, if not, exceed these targets.

4.13 The Reference Project

Table 4.13 summarises the relevant infrastructure. Waste will be supplied to the treatment plants directly and via transfer stations. Fifty percent of wastes from the residual fraction of HWRC and the bulky waste collections shall be processed through the MBT plants after a pre-shredding phase.

The kerbside recycling will be delivered through enhanced kerbside collection of dry recyclables, green waste collection and food waste collections that will be processed in two MRFs, windrow composting and AD plant respectively. Additional recycling will be provided by processing the bulky wastes and street sweepings to provide small but valuable recycling contributions. These operations will be contracted out to existing contractors who provide these services currently to the Authority.

Table 4.13: summary of technical solution

Proposed facility	Number of proposed facilities	Nominal capital expenditure[14]	Capacity of facility
HWRCs	5 New facilities (additional refurbishment of a number of old sites)	£16.1 million for 5 new sites and refurbishment of old sites	5 sites totalling additional 37,500 tonnes of capacity
IVC	1 facility	£5.4 million	30,000 tonnes total
Rail Transfer Station	1 facility	£0 million	n/a
MRF	1 facility	£15.1 million	100,000 tonne plants
Anaerobic Digestion	1 facility	£15.3 million	112,000 tonne capacity
MBT-AD	2 facilities	£236.2 million (including £6m development costs)	345,000 tonne and 240,000 tonne facilities
SRF	1 facility	£284.5 million (including £6m development costs)	320,000 tonne capacity

The performance of the Reference Case in term of material land filled, BMW landfilled and recycling is shown graphically in Figures 4.4 and 4.5.

[14] Land costs of £56 million (nominal) are assumed for all facility requirements

Figure 4.2: Reference Project tonnage performance

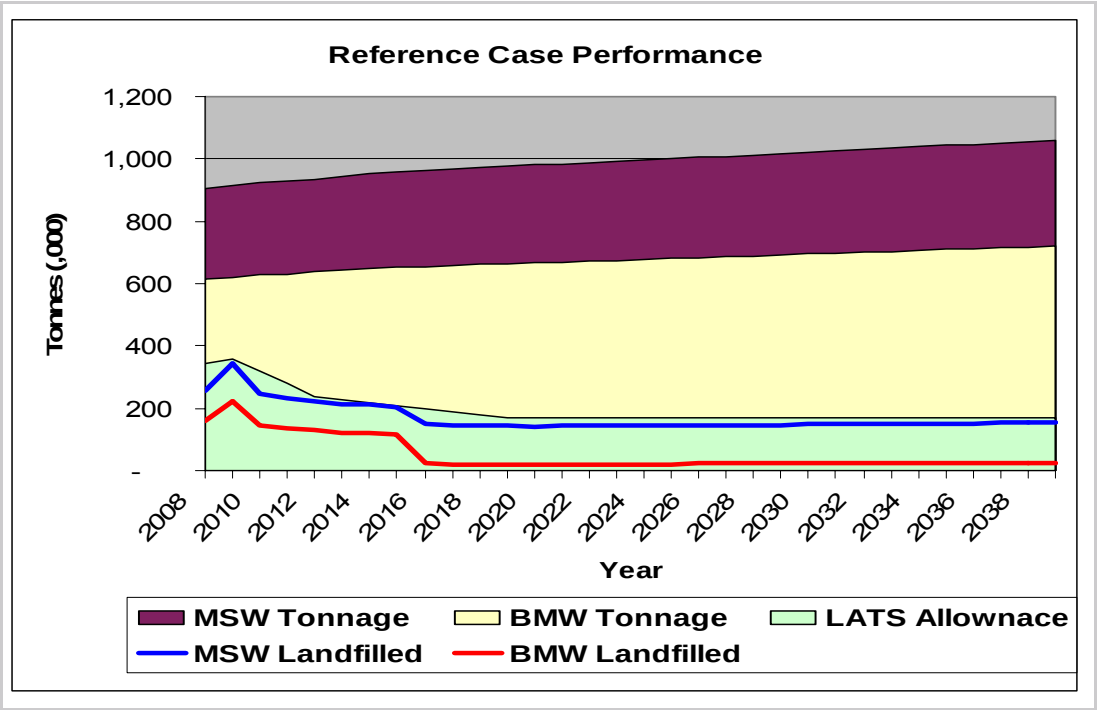
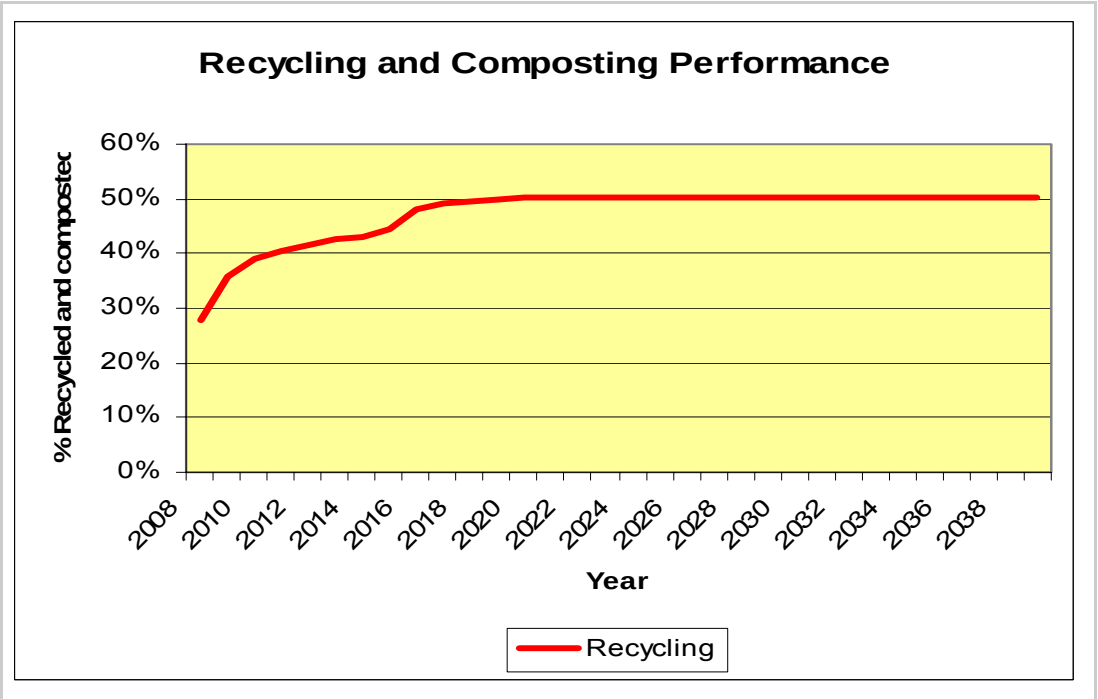


Figure 4.3: recycling performance of Reference Project



4.13.1 Summary of PFI projects

In summary the Authority is seeking to secure investment in the following new infrastructure for the Waste Services Procurement:

- One MRF to separately process 'pulpable' (paper and card) materials and 'dry' recyclates (subject to the Authority moving from existing Hendon site to proposed new Hendon site).
- Two MBT plants with AD providing the Biological treatment.

- One AD plant to treat separately collected kitchen waste.

- A significant enhancement of two existing HWRCs, and improvements made to the remaining six sites and the creation of five new ones to improve recycling rates, but especially to improve the residual waste disposal solution.

- Two transfer stations. An existing road based transfer facility at Hornsey Street and a 300ktpa Rail Transfer Facility at Hendon. The RTS would initially be based at the existing site and relocated to the new Hendon site when required by the Brent Cross Cricklewood development.

And that the latter Fuel Use procurement will include:

- A 320,000 tpa EfW plant for the combustion of SRF or equivalent capacity in an existing energy production facility

- Associated infrastructure to allow heat use as well as electricity generation.

The Authority envisages that both procurements will be delivered under the PFI for the reasons that are explained more fully in section 8. The relevant capital expenditure (in real terms) on the Waste Services infrastructure is £230.4 million, and on the Fuel Use infrastructure is £226.0 million. Consistent with the DEFRA Criteria we anticipate that capital expenditure on the MBT, AD and EfW plants will attract PFI credit support.

There are three elements of capital expenditure that do not currently attract PFI credit support, but where we think DEFRA/PRG should do so in this instance:

- Capital expenditure on HWRCs is envisaged because the current infrastructure provides a poor residual waste solution for North London as well as less recycling that might be achieved from this source. Their development will allow for the much greater capture of waste wood that we expect to see marketed as a bio-fuel where recycling is not possible. This plays strongly to approaches that DEFRA have encouraged.

- As far as MRF expenditure is concerned, North London has the potential to generate some 350,000 tonnes of recyclable material, 100,000 tonnes of this is expected to be processed through the new MRF (subject to the Authority moving from existing Hendon site to proposed new Hendon site), creating approximately 65,000 tonnes of paper/card and 35,000 tonnes of dry recyclables when 50% recycling is achieved – that is around 3% of the relevant national totals and a big prize in terms of achieving Government's national strategy ambitions. But in common with some other parts of London, capturing these recyclates is a hugely challenging exercise (e.g. Hackney has recently had to halt kerbside services in high-rise blocks because of London Fire Brigade concerns about the fire hazard). It is also hugely expensive and beyond the means of local budgets.

- The Authority's waste solution requires the development of a new rail transfer facility at Hendon. We are seeking a substantial contribution to the relevant costs from a local developer as part of an agreement. However, the Authority is still faced with supporting capital costs. This rail transfer facility will provide significant benefits in terms of the carbon footprint of waste management in London and it is anticipated provide an element of intermodal capacity that will serve other users in the area.

Even with PFI credit support of 50% covering these additional items, the Authority is faced with a very significant investment and cost challenges that it must pay for locally. This includes:

- The provision of sites which we intend to fund using Prudential Borrowing by the Authority.

- Investment in waste minimisation initiatives to complement contractor proposals and deliver the reductions in waste/household in line with targets.

- Investment in new kerbside recycling services to boost recycling rates from the current 24% in total, initially to 35% from kerbside and then to 40%.

- Investment in other collection infrastructure that is designed to optimise the energy output from waste, especially the separate collection of kitchen waste.

- The operating costs of a rail-based transport solution.

Higher landfill taxes on waste that has to be land filled as a result of treatment processes or for other reasons and where this additional tax is not returned to the relevant local authorities.

5. Risk management, risk allocation and contract structure

5.1 Introduction

This section describes the process that the Authority has adopted in relation to risk management to enable successful delivery of the Reference Project. The Authority has undertaken a robust and rigorous approach to the assessment and management of risk aimed at both the successful conduct of the procurement and the ultimate delivery of services as part of the contract itself. This section sets out:

- The Authority's risk management methodology and approach.
- The Authority's approach to managing key risks associated with the procurement process.
- The risk allocation matrix, identifying and allocating foreseeable risks that will be embodied in the project agreement.
- The principles underpinning the payment mechanism that the Authority intends to use.
- The approach to be adopted in respect of securing markets for the process outputs identified in section 4.

5.2 Risk management approach

The Authority has engaged a Project Manager to support the Procurement Director in the role of Risk Process Manager. They are responsible for the effective management of the risk process and for ensuring risk owners are held to account, via the Procurement Board, for the management of risks assigned to them. In line with current best practice the project team has also undertaken an assessment to understand the risk management performance within the team and identify improvements. This assessment will be updated on a regular basis to provide evidence of process improvement. Regular reviews of the risks will ensure effective mitigation action and keep risk management at the forefront of the team's agenda through to project close. The Authority's approach to risk management follows five key stages, each discussed in greater detail below:

- Initiate
- Identify
- Assess
- Plan responses
- Implement responses

5.2.1 Initiate

The project has defined success criteria as follows:

- Target dates – sign off IAA; submission of OBC; Official Journal of the European Union (OJEU); issue tender documents; complete competitive dialogue process and announce preferred bidder.
- Major functions – operational facilities by dates as specified in timetable.

- Performance levels.
- Avoidance of LATS fines.
- Cost effective compliance with national waste strategy targets on recycling, recovery and diversion.
- Appointment of contractor in accordance with evaluation criteria.
- Contract that complies with SoPC4, and the consultation version of the WIDP residual waste treatment contract.
- Development cost and running costs – delivery of project in accordance with set Value for Money (VfM) criteria.
- Affordability gap is acceptable to Constituent Boroughs.

The impact of risk is assessed against these during the analysis phase. The risk management process is fully defined through a risk management plan detailing the overarching process, roles and responsibilities, qualitative and quantitative techniques, reviews and outputs.

5.2.2 Identify

The Authority has prepared three risk registers; one to address risks associated with the procurement process (as covered in greater detail in section 5.3 below); and one for each of the PFI contracts (see section 5.3.7 below). The risks have been identified through a combination of:

- A risk workshop, attended by members of the project team, internal and external advisers, the WIDP Transactor and the Head of Strategy and Contracts;
- A series of telephone conferences for the relevant individuals for each area of risk; and
- Review within the project team.

Copies of the registers are attached at appendices I to K. The Authority has a number of links with other similar projects and is ensuring any learning from experience is transferred into relevant processes, including risk. Planned work includes the formal assessment of opportunities and integration of identification processes into the project team.

5.2.3 Assess

Each risk has been assessed to identify its pre-mitigation probability and impact. Contract risks have also been assessed to determine the Authority's proposed risk allocation, which is detailed within each of the contract risk registers. Risks have been categorised into subject areas based upon experience within the team from previous projects. The next stage involves quantification of each risk against the project success criteria.

5.2.4 Plan responses

Each risk has an allocated owner within the project team who is responsible for controlling the risk detail and actively managing the relevant mitigation actions. These actions will be regularly reviewed and coordinated by the Project Manager. The development of responses has, to date, concentrated upon the development of overall mitigation strategies, to assist the development of detailed actions in the near future. Once finalised the mitigation strategies will be developed into a number of responses and implemented on the basis of a cost/benefit appraisal.

5.2.5 Implement responses

Implementation of responses will be dependent on the results of a cost/benefit analysis for each mitigation action and the timing of the action to achieve the greatest mitigation effect. The Authority will ensure ongoing management of the responses to ensure completion and that they are having their intended effect.

5.3 Risks associated with the procurement process

As a result of the identification process that was undertaken in February 2008, the Authority has compiled and periodically updated a risk register for the identified key risks to the procurement process, splitting the risks into the categories of financial, political, deliverability, legal and communications risks. The risk register then splits the risks down further by assigning levels of significance of the risks in terms of probability and potential impact on the procurement on a scale of 1 to 25 for each of probability and impact. Owners for the risk and mitigation actions have been identified for each of these risks.

Set out below are the risks which are considered to have both a high probability of occurring and a significant impact on the procurement process:

5.3.1 Political change

The Authority has identified high risks in the area of change of political leadership in the Constituent Boroughs, in the Authority, and also in the GLA and central Government. The impact of such a change could be disruption to the project as a result of different political strategic imperatives.

The mitigation for this risk is for the Authority to ensure that the decision making processes are robust, and that they take account of known variables in political views of the political bodies identified so far as possible. An understanding of the reasoning behind the political considerations will enable the Authority decision making to take account of or address these issues, thus reducing the likelihood of a withdrawal of approval at a later stage. As detailed in section 6.1, the member level representation on the NLWA has been upgraded to Leader, Deputy Leader and Cabinet Member status which is seen as beneficial to continuity.

5.3.2 Timetable

Specific risks have been identified in relation to the timetabling of the two proposed procurements. One possible impact of any timetable mismatch could be an inability to ensure that the contractual obligations of the two contracts mirror each other, thus leaving the Authority with increased interface risks.

The mitigation actions are considered elsewhere in this section (in relation to interface risks between the two contracts) and in section 10 (in relation to the timetable generally). The Authority is addressing the specific risks associated with timetabling of two procurements through (a) resourcing the project team in two teams to enable the negotiations and evaluation to be carried out simultaneously, discussed in greater detail in Chapter 6; (b) a disciplined approach to the management of the competitive dialogue process (see section 5.4), including an intensive pre-procurement document preparation phase; and (c) by ensuring through communication with the market in advance of the procurement process that all potential bidders understand the possible basis of negotiation, and are therefore prepared to engage with it as soon as Pre Qualification Questionnaire (PQQ) stage has passed.

5.3.3 Planning

The Authority's approach to planning is to require operators to secure planning permission for the proposed facilities, with submission of detailed planning applications three months after the preferred bidder is announced. However, to assist in this process and mitigate the risk of delay in securing planning permission or failure to obtain satisfactory planning permission,

the Authority will undertake pre-application discussions with the relevant local planning authorities, undertake baseline surveys and assessments, and initial site design work, the findings of which would be provided to the bidders in order to shape the final tenders.

To enable the preferred bidder to progress planning permissions in advance of financial close, the Authority will underwrite the preferred bidders reasonable planning costs from announcement of preferred bidder should the Authority not close the contract. If the Authority completes the procurement process these costs will be wrapped up within the Unitary Charge as is usually the case.

A further risk mitigation is that the sites are designated in the options report for the NLWP.

5.3.4 Market competition

The Authority recognises that effective competition for both the Waste Services and Fuel Use contracts is essential to achieving value for money. One of the principal competition risks has been that the Authority's joint venture arrangement with SITA and relationship with LWL (described in detail in section 2) might deter contractors in bidding for the PFI project.

The Authority has negotiated with SITA, the Authority's Joint Venture partner in LWL, with regard to potential options relating to the future of LWL, the Authority's shareholding and the future of the Edmonton incinerator. While the Authority was of the view that any continued shareholding by it in LWL should not in itself constitute a barrier to a successful competition for the PFI Project, and that actions could be taken to mitigate the possible risk of bidders not being attracted to this procurement as a result, the Authority has continued to discuss possible options with SITA.

The result of these discussions has been agreement with SITA for the Authority to acquire its 50% shareholding in LWL, thus becoming the 100% shareholder in the company. This benefits the Authority's procurement in the following ways:

- The Authority proposes to make the company and its assets available for the Waste Services contractor by offering them for sale as part of the specification for that contract. This means that the Waste Services contractor will, if it considers this the most advantageous way of meeting its obligations under the contract, be able to make use of the Edmonton plant to mitigate any delay in the start of new facilities after the contract commencement date.

- The Authority will have the benefit of the site security at Edmonton to enable its contractor to construct new facilities as required under the contract. The proposals, as set out in Chapter 7, are to grant a lease of the site to the contractor for the duration of the contract.

- There is no longer any reason for a possible adverse market response to the Authority's OJEU notice arising from a perception in the market place that there is any advantage for the incumbent contractor or the Authority's joint venture partner.

5.3.5 Site issues

The identified risk is that the NLWA and/or potential bidders are unable to access adequate sites on which bids can be based with the dual consequence that (a) there is a reduced number of bidders, making it more difficult for the Authority to achieve value for money; and (b) that there is no access to a site for the construction of facilities, undermining deliverability.

The steps taken by the Authority to mitigate this risk are set out in full in section 7, from which it will be seen that the Authority will have control of sites required as identified for the Reference Project. The Authority has also considered the need for sites to support the Fuel Use contract, and has come to the view supported by DEFRA that it would be inappropriate to seek to acquire such sites in advance of seeing the solutions brought by the market.

5.3.6 Interface risks: collection

The collection interface is of paramount importance to the performance of the Waste Services contract, and the risk is that there is insufficient clarity about the collection contracts with the result that the contractor does not have the ability to determine the waste composition, and in particular is unable to assist as effectively as is desirable in the improvement to the recycling figures.

The Authority's mitigation actions for this relate to the work with the Constituent Boroughs as the collection authorities. That work will continue from the point already reached in the Memorandum of Understanding through further discussions leading to an IAA. Through this, the intention is that the contractor will have a high degree of security in respect of the nature of the waste being collected, and the systems in place. The Authority recognises that this work is against the background of the Constituent Boroughs' need to let new collection contracts on timetables which do not necessarily fit with this procurement, and therefore will work with the Constituent Boroughs to manage these interface risks as far as practicable.

5.3.7 Interface risks: Waste Services and Fuel Use contracts

The Authority recognises the importance of creating a contractual environment that supports the bankability of the project as a whole, whilst managing its own risk exposure in a robust manner. The Authority's strategy in respect of the interface risks between the Waste Services and Fuel Use contracts is therefore to seek to:

- Recover losses arising in the Fuel Use contract from the Waste Services contractor that are attributable to the poor performance of the Waste Services contract
- Recover losses arising in the Waste Services contract from the Fuel Use contractor that are attributable to the poor performance of the Fuel Use contract
- Retain the financial consequences of those risks that cannot be fully transferred either on the grounds of bankability, value for money, or where the financial consequence crystallises as a result of risks that are borne by the Authority regardless of interface issues.

The Authority has identified three principal categories of interface risk between the Waste Services and Fuel Use contracts. Set out below is a brief discussion of these risk categories and the Authority's approach to managing each. The Authority proposes to allow for bids for the Fuel Use contract by reference to lots, and the risks associated with that approach fall into the same categories, but raise some further issues.

5.3.7.1 SRF volume

Whilst the parties will require a degree of flexibility in respect of tonnage arising in any given period, the Fuel Use contract is likely to require a guaranteed minimum tonnage of SRF that meets the required specification. Where as a consequence of poor performance on the part of the Waste Services contractor the tonnage of SRF falls below the minimum tonnage threshold in the Fuel Use contract, the Fuel Use contractor will require compensation. The Authority will seek to recover any financial exposure (arising from the likely take or pay arrangement and potential loss of electricity/heat production) arising in the Fuel Use contract from the Waste Services contractor. Where the volume or composition of MSW input to the Waste Services contract is insufficient to generate the required SRF output, the Authority will retain the financial consequences of this risk. In the case of lots, the Authority will seek the same protections, and retain the same risks, in respect of each contract. There is no cross-connection between the contracts.

5.3.7.2 SRF quality

The quality of the SRF to be produced will be defined in an SRF specification within both the Waste Services and Fuel Use contracts. This specification will include the definition of the

physical, chemical and energy content parameters that the fuel is to comply with. As in the case of the risks around SRF volume, it is anticipated that the Authority will remain responsible for those SRF quality risks arising from the quality of MSW input to the Waste Services contract (which in itself is subject to an input specification consistent with the fuel use specification). In the event that the Fuel Use contract is let in lots, the risk allocation will be the same, but the Authority will need controlled contract management to ensure that SRF is allocated to the most appropriate fuel use contract where the agreed specification varies slightly within the range specified in the output specification. Where the SRF falls outside the specification as a function of the performance of the Waste Services contractor it will be responsible for compensating the Authority for any financial losses (arising from changes in throughput and or thermal output) under the Fuel Use contract that are in the first instance recoverable from the Authority.

5.3.7.3 Risk of delay in facility completion

The interface risks surrounding the late delivery of infrastructure within each contract are highly complex and will require careful examination, particularly in the context of the risk share arrangements associated with the planning provisions of the two contracts. Ultimately, the key risks are that:

- The Fuel Use facility is not complete on time (potentially ultimately failing to achieve the construction longstop date), resulting in SRF being sent to landfill at a cost to the Authority.

- Waste Services contract infrastructure is not complete on time (potentially ultimately failing to achieve the construction longstop date), resulting in a fuel shortfall in the Fuel Use contract and associated losses.

Whilst the Authority may be able to recover an element of these exposures from the relevant contractor, this will be necessarily limited by bankability concerns in the context of the losses arising within each contract, the extent to which contractors are able to insure for these at an SPV level and/or the extent to which liquidated damages can be accepted within the relevant EPC contracts. This will be an issue for detailed negotiation as part of the competitive dialogue phase of the procurement, but the Authority acknowledges that once any liability limits are reached, it is likely to accept the balance of these risks. The focus in this environment will be that of mitigating the financial exposures falling to the Authority. The Authority will be looking to mitigate any delay in the planning process through its approach to planning; namely:

- for Waste Services, preliminary work will be carried out by the Authority to enable the preferred bidder to make an application.

- for Fuel Use, the evaluation methodology will give weight to deliverability including site ownership and planning.

5.3.8 HWRCs

The Authority and the Constituent Boroughs have agreed that the HWRC sites and management will transfer to the Authority on financial close, with the possibility of a phased transfer of some of the sites prior to that date. The principle has also been recognised that an additional three sites would be of benefit to the Authority (as set out in section 3) as well as the replacement of three existing sites and the refurbishment of two existing sites. The Waste Services contractor will be required to undertake new build or refurbishment of sites as appropriate.

5.3.9 Training and employment

Through the procurement an opportunity exists to leverage a significant amount of training and local employment opportunities, during both the construction stage and the operational life of the facilities to benefit the local community in economic and employment terms. A

model used successfully at the Olympics and experience by several of the constituent Boroughs who are also Olympic host boroughs.

Recognising this upside, there has been engagement with the National Skills Academy Construction who through recent initiatives is focusing on local Authority procurement and have produced guidance that provides an effective framework for capturing the opportunities. Specifically the framework requires bidders to demonstrate their experience in providing local employment and training opportunities and provide proposals related to the procurement.

To realise these potential benefits, the Authority will include related text within the OJEU notice and the relevant procurement documentation. Bidders would then be evaluated through the procurement on the basis of their proposals.

Additionally the Authority has approached a number of organisations to access grant aid related to employment and skills including the Learning and Skills Council and the Future Jobs Fund.

5.3.10 Company governance

Following the acquisition of the Company, the arrangements for management of the Company will alter to reflect the 100% ownership by the Authority. The Authority will have power to appoint the directors of the Company, and will use that power in the first instance to appoint directors with skills complementary to the directors remaining after the resignation of the directors appointed by the former joint venture partner. The Company and the Authority will enter into a collaboration agreement which will include provisions requiring the Company to obtain the Authority's approval before incurring expenditure at specified level, disposing of significant assets, including land.

As is clear from the procurement strategy in section 4, the shares in the Company will be sold to the waste services contractor. This will have the effect that no separate bid from the Company for waste services is possible, and it is proposed that this be made express by a direction to the Company to this effect prior to the publication of the OJEU notice. Given the constraints on the site and its proposed use, there is no practical way in which the Company could bid for the fuel use procurement, and the Authority's view is that such a bid would not be in the long term interests of the Company or the shareholder.

The Authority will leave the current management in place pending more detailed consideration of the medium term position of the Company. The Company management will retain responsibility for the day to day business and staffing issues. The Authority considers that the proposed procurement route secures the position of the Company's operation, and with it the staff position, and will work with management to ensure that this message is communicated and morale maintained.

5.3.11 Funding solution

The value for money analysis conducted in section 8 of this OBC indicates that the use of private finance, through PFI has the capability to deliver value for money for the Authority in the context of current funding market conditions. Project finance debt market conditions provide challenges in securing a deliverable funding solution within the Competitive Dialogue process. There are a number of Waste PFI projects currently in the ISDS and CFT stages procurement, and together these provide a guide to current market conditions, which in turn are characterised by:

- A general reduction in the number of banks prepared to lend to Waste PFI infrastructure projects. However, recent experience of other Waste PFI projects in procurement indicates that there remains market appetite amongst funders for projects of this nature.

- The absence of a syndication market, resulting in multi-bank club deals becoming the norm in Waste PFI.

- A reduction in the senior debt amounts individual banks are willing to commit to projects compared to the period prior to the onset of current market conditions. Experience of projects currently in procurement suggest that banks' hold levels have increased from those seen in the initial stages of the 'credit crunch' and (based on the experience of the Authority's financial advisor) hold levels of between £30 million and £50 million are increasingly common, with a number of banks prepared to offer amounts in excess of this.

- Senior debt margins higher than those seen prior to the onset of current market conditions. Whilst there is also greater variation in margins between banks, there has been a move in recent months towards an increased level of conformity in the terms banks are offering Waste PFI projects.

- The reduced ability of banks to commit to terms and conditions until the latter stages of the procurement process.

Whilst the Authority is over two years from financial close, and such current market conditions may have eased by this point, the Authority is developing a prudent 'defensive strategy' to managing the risks associated with raising private sector capital for the Waste Services and Fuel Use contracts. This strategy has two principal strands, considered in greater detail below:

- Adopt a senior debt funding strategy that reflects current market conditions and achieves an appropriate trade off between competition and deliverability.

- Seeks to preserve the option to introduce alternative sources of finance in addition to traditional senior debt to enhance liquidity and funding deliverability.

5.3.11.1 Approach to senior debt funding strategy

The senior debt requirements for the Waste Services and Fuel Use contracts predicted in the PFI Reference Project are £347 million and £367 million, respectively. Given the current hold values of the banks active in the market, each project is likely to require between six and eight banks to allow a full subscription. Assuming that current market conditions continue to prevail, the implications of this are that:

- Rather than adopting a Mandated Lead Arranger and syndication approach to senior debt, it is likely that these projects will be funded using a 'club' of banks, all ranking on an equal basis.

- The majority of the banks currently active in the waste market will be involved in this project, potentially taking stakes in both contracts.

- To the extent that bidders require exclusivity from their funders at ISDS stage and Call for Final Tender (CFT) stages it is unlikely that there will be a sufficient number of banks to allow each shortlisted bidder to propose a fully subscribed funding solution without sharing lenders.

- At the CFT stage, it is unclear whether bidders will be able to secure committed funding terms, which are capable of being held until financial close.

- Whilst the issue of the consultation version of the WIDP Residual Waste Treatment Contract has assisted in moving the market to a more conformed position on key project risk issues, in the absence of a final draft and a track record of projects closed on this basis, it is unlikely that agreement on all significant commercial issues to the extent dictated by the Competitive Dialogue process can be achieved prior to appointment of preferred bidder in the absence of funder involvement. Furthermore, the specific complexities, technology risks and financial commitments required of the ultimate preferred bidders to the NLWA project suggest that early funder involvement will be advantageous.

Preferred Bidder Debt Funding competitions have been, or are in the process of being undertaken in other PFI sectors, but to date this approach has not been followed in the context of Waste PFI. The Treasury Guidance 'Preferred Bidder Debt Funding Competitions – draft outline guidance for feedback' (August 2006) recognises that whilst such a process is desirable, the success of such an approach depends on a number of key issues. At present, the Authority is of the view that it would not be prudent to rely solely to a preferred bidder debt funding competition to secure a bankable project. However, given the issues noted above the Authority is concerned that constraints in the funding market do not prejudice bidder competition for the project.

Taking account of these issues and the guidance contained in HM Treasury Application Note *'PPP Projects in Current Market Conditions, August 2009'*, the Authority does not intend to conduct its procurement on the basis of a return towards 'normality' in the funding markets, but rather intends to:

- Seek indicative financing proposals as part of the Invitation to Submit Outline Solutions (ISOS) stage, entering into dialogue with bidders to understand market constraints at that time.

- As part of the ISDS process encourage bidders to undertake, as far as practicable, a robust and demonstrable competition of funders.

- At ISDS the Authority will strongly encourage each bidder to secure one funder on an exclusive basis to act as a lead point for funder negotiation and due diligence as part of the dialogue process. The Authority intends to prohibit bidders from forming more than one exclusive relationship at ISDS (so as to prevent bidders from using this as an anti-competitive measure), and to allow funders to support more than one bidder on a non exclusive basis, subject to satisfaction by the Authority that confidentiality can be maintained between bidders.

- Depending on the outcome of the ISDS process, the Authority will reserve the right, as part of the Competitive Dialogue process between ISDS and CFT to detach the funding competition from the procurement of contractors, effectively running a senior debt funding competition at this stage of the process, to create a senior funder club, whose terms and conditions will be tailored to each shortlisted contractors CFT response solution.

- Constrain any movements in senior debt terms and conditions at Preferred Bidder to fall as far as possible to 'fine tuning' amendments in order to comply with the Competitive Dialogue process

- Reserve the right in all instances to require a Preferred Bidder Debt Funding Competition, in the event that market conditions improve sufficiently to make this a realistic possibility.

In respect of the second strand of the Authority's strategy to introduce liquidity and enhance funding deliverability, three principal areas have been considered:

5.3.11.2 Approach to securing alternative sources of liquidity

In the spring of 2009 a working group was established by the Authority to look into alternative funding options potentially available to NLWA in the context of the current debt market conditions as enhancements to the traditional PFI procurement route currently being pursued by the Authority. Its membership comprised WIDP, Partnerships UK (PUK), Financial and Legal External Advisors, Constituent Borough Director of Finance representation and officers from the Authority.

The group was tasked with looking at alternative funding options and advising the Authority to what extent its strategy in respect to securing finance may be refined, enhanced or altered as

a consequence of market developments subsequent to commencement of the procurement process and providing the Authority with informed views on the merits of these.

The group advised that the options being considered as refinements or enhancements to the traditional PFI approach should be kept open for as long as possible during the procurement process whilst retaining the underpinning SoPC4 compliant private finance structure. By retaining flexibility for as long as possible during the procurement process, the Authority will achieve maximum opportunity to achieve the required funding for its project on acceptable terms. This conclusion is consistent with the guidance included in the HM Treasury Application Note.

Summarised below are areas that the alternative funding group has examined as ways of enhancing the PFI funding route:

Encourage the use of corporate finance

Whilst it is anticipated that the majority of bidders' proposals will incorporate a project finance solution, some contractors may be able to fund all or part of the capital requirements of the project 'on balance sheet' using corporate facilities, and there is a precedent for this in the Waste PFI market. This is likely to be equally possible in the context of the Fuel Use contract, where potential industrial users of heat and energy derived from the Authority's SRF have sufficiently strong corporate balance sheets to be able to lend directly to the project. Corporate finance therefore may therefore have a role to play in providing a proportion of the senior debt requirement. Whilst the use of corporate finance may enhance the deliverability of a bidder's solution, the Authority and its advisers are cognisant of the need to robustly assess the credit quality of entities proposing funding on this basis and to negotiate a robust guarantee package to support such a structure.

Encourage European Investment Bank (EIB) participation

Several projects in the Waste PFI market have utilised EIB funding as part of the funding requirement for their projects, notably in Cornwall and Greater Manchester. The EIB is able to offer margins below the current level of the commercial funding market as well as liquidity and lending capacity and may form a valuable component of the ultimate funding package for the project.

Given the scale of the Authority's project, and the consequent risks around securing a full debt subscription, this project is likely to offer a strong justification for EIB involvement.

HMT Infrastructure Finance Unit (TIFU)

TIFU is a temporary, but important, source of liquidity for those PFI projects currently unable to attract a complete funding solution. It only expects to become involved in transactions once a preferred bidder has become appointed and it remains to be seen whether it will still be in place when the Authority has reached this stage for its scheme. Nevertheless, through WIDP, the Authority has registered interest in funding from this source.

Retain the option to inject prudential funds

SoPC4 makes provision for Authorities making capital contributions within the context of a PFI project, and the Authority will seek to retain the flexibility to do this to the extent necessary, to reduce the cost of private sector debt or to make up a shortfall in capital raising ability on the part of the private sector. The guidance contained in the HM Treasury Application Note is duly noted.

5.4 Approach to the competitive dialogue process

The Authority has considered how to run a competitive dialogue process to ensure that the process meets the concerns of potential bidders, ensures compliance with all legal requirements, and produces a timely conclusion to ensure continued service provision.

The Authority will comply with the OGC/HM Treasury joint guidance on using 'Competitive Dialogue in 2008'.

In particular, the Authority proposes to run a competitive dialogue process for both procurements with robust pre qualification and outline proposal stages with the intention of reducing bidder numbers to a small number (ideally three on each procurement) prior to the ISDS. Commentary on the documentation is in Appendix JJ.

The PQQ will deal solely with financial standing, technical capacity and experience, as required by the Public Contracts Regulations 2006. For the Fuel Use procurement, the Authority intends to provide for the use of a procedure under Regulation 18(12) of the Public Contract Regulations. This allows the Authority to apply criteria which are objective and non-discriminatory for the purpose of reducing the number of bidders who progress to the ISOS stage. In accordance with the regulation, the Authority would take through a minimum of three bidders per lot, and proposes to take through between five and eight bidders per lot. This approach will only be implemented if the outcome of the PQQ evaluation produces more bidders than the Authority wishes to take through to the ISOS stage. The approach will ensure that by providing a manageable amount of additional information, bidders can be selected on a specified and transparent basis, thus ensuring a more streamlined process going into the competitive dialogue phase. The purpose of this approach is to manage the time and costs required from both the Authority and bidders. Further information about the criteria for this stage can be found in appendix JJ.

The ISOS stage will require bidders to outline the full shape of the proposed solution. The process will, however, be simplified as far as possible by the Authority providing a common set of bid assumptions and common data – for example in respect of waste volumes and composition. The Authority expects to issue a draft standard contract and payment mechanism at this stage and to invite commentary to inform the development of the ISDS documentation.

At the ISDS stage bidders will be required to work up their detailed solutions and to discuss these with the Authority through the dialogue sessions. When the Authority has a high level of confidence that all the issues that need to be addressed are concluded, it will close the dialogue and call for final tenders.

The demands that the Authority is placing on bidders at the ISDS stage are significant and the Authority will be doing all it can to minimise abortive work and costs as a part of that process. That will include commissioning work such as ground conditions work.

The Authority also believes that the separate Waste Services and Fuel Use procurements will help manage costs for both sets of bidders. Bidders for the Waste Services contract will have less work to do than if they were being required to provide an integrated solution. Equally, potential fuel users do not have to undertake the early work to get confident about delivering a partnership with a waste services provider.

Moreover, the Authority intends to define the key interfaces between the Waste Services and Fuel Use contracts at the outset. The Authority is confident that, working with WIDP, it will be able to allocate these risks in a bankable and value for money manner.

The final tender will require bidders to confirm acceptance of the contract or to mark up any issues. It will be made clear to bidders that because there is no room to continue negotiations at this point, only minimal, immaterial amendments will be expected.

The Authority is cognisant of the challenges of running competitive dialogues for two lots within a procurement, which will be run as two procurements that ultimately must provide two compatible solutions. In particular, it is mindful of its obligations to maintain equal treatment and confidentiality for all bidders, whilst developing a solution that when the Waste Services and Fuel Use are taken together allows the Authority to fulfil its objectives. Whilst the two procurements will be kept separate, to assist this process the Authority intends to ensure that in the first instance, bidders in both procurements submit flexible solutions that maximise

compatibility. As the dialogues proceed, the Authority will manage the process so that the bidders in both procurements submit final tenders that will necessarily be compatible. Once preferred bidders have been selected in both procurements, they will then be permitted to communicate with one another. This must not, however, result in any issues being opened up that would jeopardise the competitive dialogue process.

The Authority is conscious that this process will require deft management. There is, however, precedent for this approach in other sectors. For example, in a number of Building Schools for the Future projects, local education authorities must similarly manage the interface between the design and build contractor and ICT provider.

The procurement processes for the two procurements will be run in parallel with a similar timing so that the outcomes on one of the procurements are available at the same time as on the other. This will require close management by the Authority as any delay to one process will mean a necessary delay to the other.

As part of the pre procurement preparation exercise, the Authority in conjunction with its legal advisers will develop a detailed dialogue strategy and protocol to address more fully the conduct of the competitive dialogue process.

5.5 Risk allocation matrix

The Authority proposes to adopt the general risk allocation principle of PFI and allocate risk to the party best able to manage it. The Authority considers that a private sector contractor is likely to be better able to manage risk associated with the design, construction, financing, operation, technology and performance of new facilities than the Authority is. We would therefore expect to see a contractual relationship which reflects that risk transfer.

In accordance with the standard contract proposed, as set out below, we would expect to see shared risk on planning, demand and on regulatory change, with a private sector contractor managing those risks that they are reasonably able to manage. We would, for example, expect to see the contractor obliged to pursue best endeavours to secure planning permissions and to manage foreseeable changes in law.

We would expect the Waste Services contract to involve substantial risk transfer to the private sector on the achievement of recycling and diversion performance in line with the Authority's long-term ambitions, supported by the IAA, which will address public sector actions that may be relevant to these risks. We should seek to secure an appropriate risk and reward balance for the contractor and the Authority on issues such as over-achievement of performance targets, recyclate income and energy prices.

The Authority's proposals for risk allocation are set out in the contract registers for Waste Services and Fuel Use (appendices J and K), and interface risk issues are addressed above and in appendix H.

5.6 Project agreement and other contractual documents

The project agreement for the waste services contract will be based on SoPC4 and will comply with the consultation draft of the WIDP residual waste treatment contract, WIDP Waste Management Procurement Pack, and all other relevant HM Treasury guidance on PFI procurements.

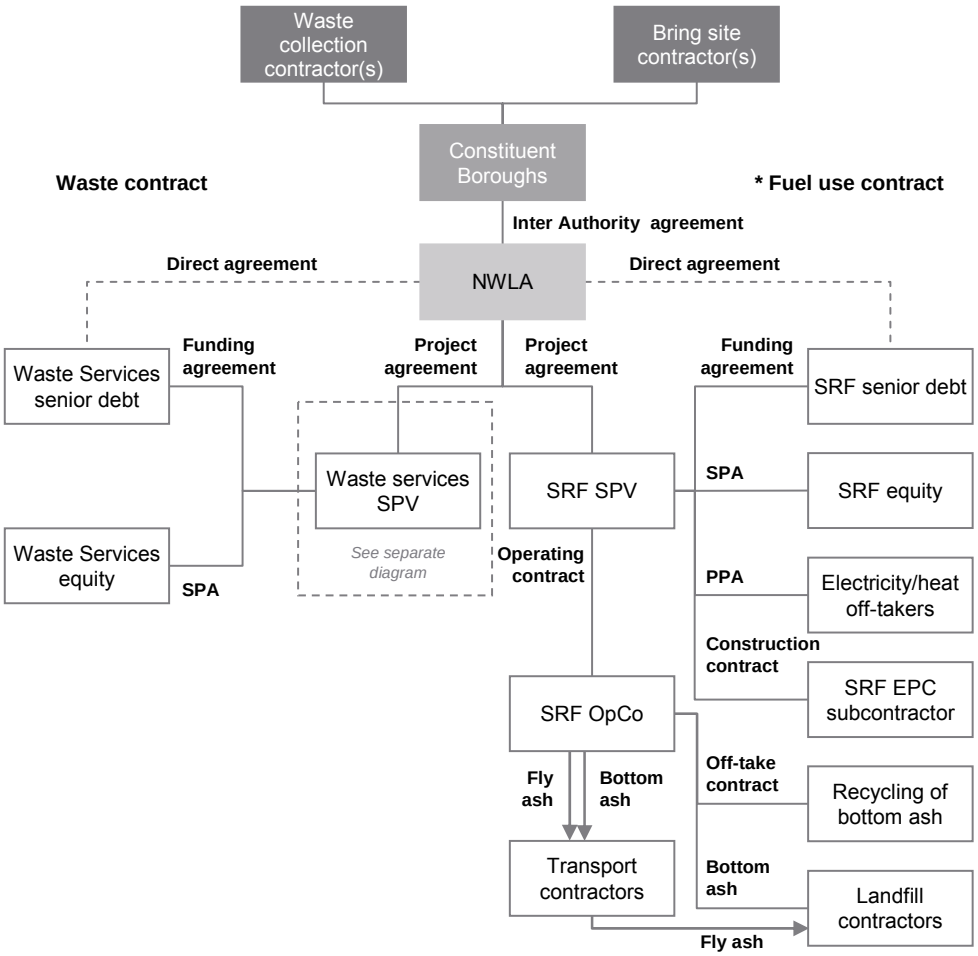
Equally, the Authority's intention is to ensure that the commercial risk allocation within the Fuel Use contract is compatible with the contract being treated as a PFI contract. Specifically, the contract will be a long term, privately financed new build infrastructure led contract that will follow the principles of SoPC4 in respect of the compensation on termination provisions, utilise an output specification and use as far as practicable the WIDP payment mechanism template (discussed in greater detail below). It is possible that specific proposals may entail derogations from SoPC4 and WIDP, and any material derogations will be discussed with the

Authority's WIDP Transactor and PUK as they arise. The derogations from the SoPC4/WIDP models, which may require specific PUK and HM Treasury approval, are likely to depend on:

- The extent to which the fuel use facilities pre-exist.
- The residual value interest that the industrial energy user may require over the facilities on termination and contract expiry.
- The extent to which the industrial energy user is prepared to agree to PFI standard approaches to delay and interruption, change in law provisions and performance conditions and termination.

The Authority has given considerable thought to the structure for contract management that arises from the separated procurement for Waste Services and Fuel Use, and the anticipated contractual structure is summarised in the diagram below.

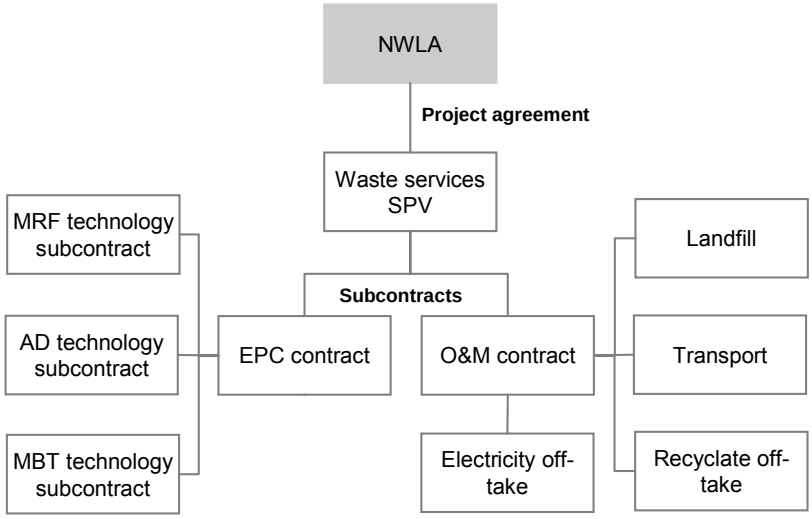
Figure 5.1: contract management structure for procurement of Waste Services and Fuel Use contracts



** It is envisaged that the Fuel Use Contract could be let in lots. This is not shown on the diagram.*

In adopting an SoPC4 compliant approach, the Waste Service contract in particular transfers material asset and service interface risks to the SPV, materially reducing the contractual management burden on the Authority, and transferring significant risk to the private sector as compared to a disaggregated, non PFI approach. The diagram below illustrates the single contractual interface between the Authority and the SPV, as compared to the multiple contracts that will need to be effectively managed by the successful bidder to deliver the Waste Services contract.

Figure 5.2: illustrative contractual structure for the Waste Services contract



5.7 Payment mechanism

Two payment mechanisms will be developed for the purposes of the project; one for the Waste Services contract; and a second payment mechanism for the Fuel Use contract. Whilst these payment mechanisms will necessarily differ according to the differing service solutions and risk profiles embodied within these contracts, both will have a dual purpose in that they will not only act as a payment method but also provide an incentive to the contractor to deliver a high level of performance. The payment mechanism for each contract will be inextricably linked to the performance levels as detailed in the Output Specifications (see section 4.9). For each contract the payment mechanism will be supported by a robust monitoring system to ensure that the relevant contractor's level of performance meets the required targets.

Payments will be made monthly in arrears and in accordance with the level of service provided. The main principles that will underpin each of the payment mechanisms are that:

- Payments will be made proportional to the services provided and only when the relevant facilities are able to process contract waste/SRF. Where delays in facility provision create a consequential financial loss for the Authority, this will be recovered from the Contractor.

- Risk will be transferred to the Waste Services and Fuel Use Contractors in line with their service provision and target obligations. Financial incentives and disincentives (including, where appropriate financial bonuses and deductions) will be set in accordance with the Output Specifications to reflect the consequences of the contractors' performance and protect the financial position of the Authority.

- The contractors will be incentivised to exceed contractual performance targets where there is a shared advantage between the Authority and the contractors to do so.

The Authority's intention is to adopt the WIDP Payment Mechanism (issued in July 2008) as the foundation for both the Waste Services contract and the Fuel Use contract. The Authority recognises, however, that a number of amendments will be required to reflect the specific circumstances of the Authority's project. Having established the key risk positions and approaches as part of its detailed pre-procurement workstream, the Authority is currently investing significant effort in developing draft payment mechanisms for both contracts to form part of the ISOS/ISDS competitive dialogue documentation. Key elements of the Authorities approach are briefly summarised below for each contract:

5.7.1 Waste Services Contract

The Waste Services Contract follows the same structure as the WIDP payment mechanism, with a number of project specific amendments. The proposed structure is as follows:

$$AUC = B – D – P – M – N –T + R +/- IR +/- O$$

Table 5.1: the key components of the payment mechanism

Symbol	Description	Comments
B	Base Payment	The Waste Services Contract includes a range of services, including ► The processing and sale of mixed dry recyclables (MDR) ► The marketing and sale of source separated recyclables ► Management of HWRC sites ► Processing of organic waste (source separated green waste and food/mixed organic waste) ► Treatment and disposal of residual waste The marginal cost of processing inputs to the system will vary significantly been these streams. As the Authority is not able to guarantee composition of contract waste (for example in terms of the split between MDR, organics and residual waste in a given year), it is considered unlikely to be achievable to pass composition risk to the Waste Services Contractor in a value for money way, whereby the Authority pays a single price per tonne for all waste delivered to the Waste Services Contractor. Correspondingly, the Waste Services Contract Base Payment is disaggregated at a secondary level into: ► A Recycling Base Payment (which in turn distinguishes between mixed and source separated recyclates) ► An Organic Waste Base Payment (which distinguishes between food, mixed organic and green waste components) ► A Residual Waste Base Payment (to cover treatment through the MBT process and landfill of treated/untreated waste on a basis consistent with the WIDP payment mechanism) ► An HWRC Base Payment (which comprises a management fee for the running of the sites, and a payment by tonne for waste accepted at the HWRC. The Authority is seeking to transfer composition risk at HWRCs to bidders, as this is outside the Authority's/Boroughs' direct control. In this way the Authority pays the PFI contractor according to the mode of delivery by the Boroughs into the Waste Services Contract. The benefits of this approach are in terms of (i) economic efficiency (ii) transparency in respect of the pass-through of differential processing costs via the Inter-Authority Agreement (iii) a clear boundary for risk transfer. Once accepted by the Waste Services Contractor, processing and destination risk lies with the private sector.
D	Diversion Performance Adjustment	The standard WIDP approach is suitable for the Waste Services Contract. The Waste Services Contractor is expected to achieve a certain level of landfill diversion (by way of supply of SRF to the Fuel Use Contractor) and where this is not achieved the Diversion Performance Adjustment shall apply (The Waste Services Contractor will be liable for any resulting landfill gate fee and tax costs within the normal operation of the Base Payment, in accordance with standard WIDP principles). Excuse from deductions in the Waste Services contract will be required where (non-legitimate) non-acceptance in the Fuel Use contract results in additional material being sent to landfill as part of the Waste Services contract. Compensation for incremental costs is addressed as part of the Interface Risk Adjustment.
P	Performance Deduction	The main purpose of the performance deduction component is to incentivise the contractor to meet the performance standards set out in the Output Specification.
M	Mileage Deduction	Within the WIDP payment mechanism, the mileage deduction is to compensate the Authority for extra mileage costs incurred to deliver contract waste to the contingency delivery point. In the context of the Waste Services Contract, the Mileage Deduction will also address compensation payable to the Waste Services Contractor (recoverable by the Authority in the Fuel Use Contract) where, as the Authority's agent, the Waste Services Contractor has to deliver to contingency delivery points as directed by the Fuel Use Contractor.
N	Non-Acceptance Deduction	Any contract waste not accepted by the Waste Services Contractor will result in the Authority not paying the Base Payment and a Non Acceptance Deduction will apply related to incremental costs incurred by the Authority in relation to alternative services sought, taking account of deductions levied as part of the diversion performance adjustment.

Symbol	Description	Comments
T	Third party income	Third party income is anticipated to arise from the following sources: ► The sale of source separated and mixed dry recyclables ► Sale of electricity, including ROCs and LECs ► Sale of heat/steam ► Sale of surplus capacity to third parties Third party income risk is considered in the context of tonnage, price and processing efficiency. Given the Authority's inability to guarantee tonnages by source, the Waste Services Contractor will be required to guarantee a price per tonne by source of income. Therefore, if tonnages increase the Authority receives the full benefit in terms of income in terms of reduced gate fee. The Third party income deduction will share the benefits associated with higher market prices or enhanced processing efficiency as compared to the base case financial projections with the Waste Services Contractor.
R	Recycling Adjustment	The Recycling Adjustment within the WIDP payment mechanism is intended to incentivise recycling as part of the residual waste treatment process. The Waste Services Contract contains a number of sources of recycling and composting, and consequently a more sophisticated mechanism is required. The Authority's intention is to anchor the mechanism on system wide recycling performance (recognising the importance of achieving the ultimate objective of 50%+ recycling in North London), though ultimately this mechanism will be disaggregated to reflect the contributory factors of: ► Borough performance in extracting recyclable material ► The processing efficiency of the Waste Services Contractor, including extraction at HWRCs.
IR	Interface Risk Adjustment	Whilst the risks associated with the interfaces between the Waste Services and Fuel Use contracts are captured in a number of places within the payment mechanism, the Interface Risk Adjustment is designed to crystallise those interface risks not captured elsewhere. This adjustment will address: ► Compensation payable to the Waste Services Contractor where it has to landfill (non-legitimately) non-accepted SRF (This will be recovered by the Authority through the non-acceptance deduction in the Fuel Use Contract). ► Compensation payable to the Authority for incremental costs incurred by it (crystallising in the Fuel Use payment mechanism) where the SRF does not meet the Fuel Specification, but is accepted by the Fuel Use Contractor at higher cost or landfilled on behalf of the Authority.
O	Other components	As predicted in the WIDP payment mechanism there is likely to be a need for other components to allow for miscellaneous payments/deductions that may arise for various reasons, including project specific reasons.

5.7.2 Fuel Use Contract

The Fuel Use Contract follows the same structure as the WIDP payment mechanism, and anticipating a single asset project will be more akin to the residual waste treatment project structure anticipated in the WIDP payment mechanism. The proposed structure is as follows:

$$AUC = B – D – P – M – N –T + R +/- O$$

Table 5.1: the key components of the payment mechanism

Symbol	Description	Comments
B	Base Payment	The Base Payment captures all the cost of the services provided to fulfil the requirements of the Output Specification, and will include a minimum and maximum tonnage.
D	Diversion Performance Adjustment	The basic WIDP approach is suitable for the Fuel Use contract (which involves diversion of SRF from landfill). Excuse from deductions in the Fuel Use Contract will be required where (legitimate) non-acceptance in the Fuel Use contract results in additional material being sent to landfill as part of the Waste Services contract.
P	Performance Deduction	The main purpose of the Performance Deduction component is to incentivise the Fuel Use Contractor to meet the performance standards set out in the Output Specification.
M	Mileage Deduction	The Mileage Deduction is to compensate the Authority for extra mileage costs incurred (by the Waste Services Contractor and compensated in the Waste Services Contract Mileage Deduction) to deliver Contract SRF to the contingency delivery point.
N	Non-Acceptance Deduction	Any contract SRF not accepted by the Fuel Use Contractor will result in the Authority not paying the Base Payment and a Non-Acceptance Deduction will apply related to costs incurred by the Authority (through the Waste Services Contract) in relation to alternative services sought, taking account of deductions levied as part of the Diversion Performance Adjustment.

Symbol	Description	Comments
T	Third party income	The purpose of the third party income deduction is to allow the Authority to share in the financial benefits that arise if actual income is in excess of that anticipated. The intention is to leave the Fuel Use Contractor with the risks and rewards relating to operational efficiencies. The Authority intends to explore the value for money of alternative electricity price guarantee arrangements with Fuel Use Contractors as part of the dialogue process, and would expect to modify this mechanism accordingly.
R	Recycling Adjustment	It is not anticipated that a Recycling Adjustment will be utilised in the Fuel Use Contract.
O	Other components	As predicted in the WIDP payment mechanism there is likely to be a need for other components to allow for miscellaneous payments/deductions that may arise for various reasons, including project specific reasons. In the context of the Fuel Use Contract this will incorporate factors such as the market testing of Fly Ash disposal costs and compensation payable in the event that the Fuel Use Contractor accepts SRF outside of the Fuel Specification (to be recovered in the first instance through the Interface Risk Adjustment component of the Waste Services Contract payment mechanism).

5.7.3 Performance management system

For each of the Waste Services and Fuel Use contracts, the payment mechanism will be complemented by the performance management system, which will set out a deductions regime to deal with instances of non-performance or poor performance of the services, as measured against key performance criteria not otherwise captured in the financial deduction and performance regime embodied in the payment mechanism. These criteria will reflect the requirements of the services to be provided as detailed within the output specifications.

The performance management system will detail the elements of the service that are measured to monitor and to incentivise performance by means of deductions for substandard performance. The contractors will monitor and record their performance in respect of the performance criteria and notify the Authority of any failure. Any deduction from the UC will be based on the failures accrued in the relevant monthly period.

The level of deductions will be set in each case to reflect the severity of the impact of failure to comply with the relevant performance standard, and to discourage the contractor from abandoning a particular element of the service. Ultimately, deductions (or equivalent performance points) arising from persistent and/or severe under-performance in key performance categories will be expected to culminate in failure and termination notices.

5.7.4 Performance monitoring by the Authority

Performance monitoring against the Output Specifications will be an essential part of the contract management. Service Delivery plans will be the working documents by which the Authority will manage the process on a day to day basis. Performance reports on tonnages and the monitoring of the performance management schedules will be used to identify any slippages.

The Authority understands that the proposed procurement will present new challenges for management of the contract, and is in the process of reviewing the structures for supporting the Authority with the aim of ensuring robust systems and continuity of personnel where possible. The management of the contracts will comply with Treasury Guidance Operational Taskforce Note 2: Project Transition Guidance and cover the individual contracts and ensure that any potential risks to the Authority are picked up in advance.

5.8 Markets for process outputs

5.8.1 Key process outputs

Currently the Authority primarily relies on LWL and its subcontractors to find outlets for materials from the commingled recyclates stream, compost derived from IVC, materials separated from bulky-type waste in the Edmonton Bulky Waste Recycling Facility and

process outputs from Edmonton incinerator including ash and ferrous metals. All Constituent Boroughs also currently consign materials, to a lesser or greater extent, to the recycling market themselves or through their contractors, whether from source separated collections, bring banks or their HWRCs. Historically, the funding of some individual collection services has been strongly supported by the income from the sale of materials.

As set out in section 2.5.1.3 the collection systems employed and the degree of separation of materials are currently subject to review. The Authority is also investigating where additional materials, such as tetrapaks and mixed plastics, can be economically added to Constituent Borough collections to reduce contamination, improve recycling rates and meet the expectations of constituents.

The Authority is keen to reduce the contamination in the recyclates and thus reduce the rejection rate and improve the quality of recyclates available to the market. The menu pricing structure within the emerging IAA (the principles of which are in Appendix AA) will not only incentivise Constituent Boroughs to recycle more and produce less residual waste, there will also be incentives to produce high quality recyclates with low levels of contamination. The Constituent Boroughs have been broadly supportive of this way forward.

The Authority is strongly attracted to the environmental and financial benefits of separate food waste collections to feed an AD facility and is testing the potential impact on collection systems through its ongoing work set out in section 2.5.1.3. In November 2008, the Environment Agency and WRAP published a draft quality protocol production and use of quality outputs from anaerobic digestion of source-segregated biodegradable waste. This is regarded as a substantial step forward in the potential to find markets for this material. Nevertheless the Authority is aware that it presents a greater challenge than compost derived from aerobic composting of source segregated garden organics.

Substantial tonnages of material captured at HWRCs will also be consigned to the market and, depending on the sortation/treatment processes the main waste services contractor uses, materials extracted from bulky-type waste and other streams such as street sweepings. Key among these materials is wood, a waste stream that is the subject of a great deal of interest at the moment with regards its potential to feed sustainable biomass energy generation projects. Clearly however the relative merits of recycling in the pursuit of the Authority’s recycling targets would have to be weighed against those of energy generation.

The Authority has established its Reference Project residual waste treatment technology as MBT/AD. However, irrespective of the technology that the Waste Services contractor employs, markets will need to be found for metals and an inert materials fraction which would normally comprise predominantly glass and grit from an MBT/AD facility which would normally only find low-grade uses. The inerts fraction is of particular interest to the Authority because of its potential contribution to its challenging recycling targets if a market can be found. The total tonnages by year from that the reference project is projected to produce are set out below in table 5.2.

Table 5.2: forecast recyclate tonnages

	2008/2009	2015/2016	2020/2021
Paper	72,656	119,886	132,663
Plastic film	14	460	788
Dense plastic	6,414	8,255	9,197
Textiles	3,040	6,203	6,949
Other combustibles	3,450	5,826	7,725
Glass	31,968	43,148	43,466
Other non-combustibles	24,177	18,391	19,277
Organics	59,244	128,783	155,364
Fe metal	11,374	16,697	17,887
Non-fe metal	3,452	8,584	11,623
Fines	-	4,763	8,371
Wood/Furniture	3,826	8,383	9,458
White goods	436	923	1,260
TV, electronic, WEEE	3,075	5,493	6,532
Mixed HH waste	424	946	1,208
	223,550	376,741	431,768
Excluding organics	**164,306**	**247,958**	**276,404**

In the instance of MBT/AD and similar technologies a 'Compost Like Output' or CLO would be produced. Legislative barriers currently prevent the use of this material on land not subject to an appropriate waste management license. Despite this, other WDAs and contractors have sought to identify outlets for this material with no successes that the Authority is aware of beyond use on landfill sites. The Authority has not assumed that any market can be found for this material and, to ensure that waste to landfill is minimised and that the maximum use is made of the this resource, it has assumed that a substantial proportion of this fraction is re-blended with the SRF fraction from the MBT/AD facilities.

The combination of the SRF fraction and re-blended materials amounts to circa 320,000 tonnes of SRF per annum for electricity and heat generation. The Authority's procurement strategy means that this is a key process output. Clearly identifying high quality markets for this material is a central component of the Authority's procurement process and is covered in more detail in both section 4.6 and the confidential fuel market report (appendix G). It is assumed at this stage likely that the Fuel Use Contractors will be responsible for finding markets for electricity and, especially importantly, heat that they generate. However, the Authority is considering where it might add overall value to the procurement in this area.

Additionally, depending on the nature of the technology used there may be an ash-like residue from the fuel use process for which established markets exist. We will expect the fuel user to be responsible for recycling ash that can be recycled and we will want to understand bidders' proposals in terms of the market for this material and potential changes to the landfill tax regime. The Authority has considerable understanding of this market as a result of our involvement with Edmonton. We will use this experience to ensure an appropriate market solution is found.

For the purposes of the affordability analysis contained within section 8 of this OBC, conservative assumptions have been made in respect of the income that may be guaranteed by contractors in respect of electricity, heat and recyclate commodity prices.

5.8.2 Market strategy

In signing the Memorandum of Understanding contained within appendix AA, the Constituent Boroughs have committed themselves to transferring any recyclates they collect which are not already consigned to the Authority and operation of their HWRCs into the NLWA's control. The pooling of the sales of recyclate materials will improve the expected long-term revenue by reducing the costs of managing and negotiating the contracts, and through better pricing arising from the aggregation of materials. It is expected that this will result in an improvement in the secured revenue stream going back to the Constituent Boroughs. In addition, the

access to a greater resource on the client side will allow some market development activities that will both improve the potential prices still further and increase the potential scale of the market such that security is improved.

Our procurement approach is to invite bidders as part of the Waste Services contract to identify appropriate end market outlets for recyclate materials and to evaluate these solutions as a part of the overall evaluation.

The large volume of pooled recyclates provides a substantial market development opportunity that could provide a significant environmental and financial benefit. The Authority is aware of the desirability of creating local markets for recycling and will seek to work with Constituent Boroughs to create local markets. Where possible it intends to conduct a full review of local authority purchasing/green procurement codes to identify where linkages can be found.

We have had preliminary discussions with WRAP, London Remade and the London Thames Gateway Development Authority about potential regional and national developments that may be relevant. The LWaRB also provides another substantial opportunity to forge partnerships and assist in the development of secondary processing and reprocessing solutions for materials. The Authority is pleased with the willingness of these organisations to work with us to deliver high quality market solutions and is encouraged by the examples, such as the Closed Loop plant in Dagenham, where such collaborations come to fruition.

As part of this ongoing development of potential markets for process outputs we are commissioning the investigation of how we can further exploit market opportunities. This piece of work will identify potential opportunities that will increase the value of current and forecast recyclates. This investigation will focus primarily on glass and grit, mixed plastics and to a lesser extend wood.

This work will identify

- Quantities and type of materials
- Understand alternative uses for the material and industry types that may provide a future market
- Potential buyers within those identified markets
- The ability of the process to provide the materials
- Identify any barriers to the market

At the conclusion of this work the output report will be fed into the procurement process and assist in potential bidders refining their bids and making them as commercially the most attractive as possible. This will allow the Authority to assess the most beneficial bid in terms of diversion, disposal and commercial aspects of the operation generating additional income streams. The technology being introduced in order to deal with more and more outputs from the waste process means that this will be a continual process of assessing the commercial opportunities to be gained from waste disposal and diversion.

However, where local solutions cannot be provided the Authority will ensure that any transport solutions will be sustainable and seek to avoid road transport solutions, preferring to concentrate on rail and water solutions.

5.9 Balance sheet treatment

No formal accounting opinion has been provided for this project to date. However, in assisting the Authority in developing its OBC, Ernst & Young has considered the issues that will impact

upon the final accounting opinion. The final decision on the accounting treatment is the responsibility of the relevant Accounting Officer in conjunction with the Authority's auditors.

In June 2008 HM Treasury published guidance relating to accounting for PPP arrangements, including PFI, under International Financial Reporting Standards (IFRS). The guidance is based on IFRIC 12 *Service Concession Agreements* and has been inserted into chapter 6 of the IFRS based Financial Reporting Manual (iFReM) published by HM Treasury on 10 June 2008 regarding accounting for PPP arrangements, including PFI contracts. It applies for 2009-10 and subsequent years, and the Treasury Technical Note No. 1 *How to account for PFI transactions* will be withdrawn at the same time. The guidance is required to be applied to the 2008-2009 shadow IFRS-based accounts.

The predicted timescale for financial close is in the year 2012/2013, and for the completion of the relevant assets is in the financial year 2015/2016. Therefore the HM Treasury Guidance on *Accounting for PPP Arrangements, including PFI Contracts, under IFRS* (the HMT Guidance) has been used to review the accounting treatment for this project.

In summary, the iFReM proposes that where PPP/PFI arrangements fall within the scope of IFRIC 12, the public sector body should recognise the relevant infrastructure asset on its balance sheet. The main issue in respect of considering the potential accounting treatment for the project is therefore whether the arrangement is within the scope of IFRIC 12.

Based on the OBC documentation, the initial view, based on the scope of the HMT Guidance and IFRIC 12, is that both the Waste Services contract and Fuel Use contract are likely to fall within the scope of IFRIC 12. Accordingly, the infrastructure asset under the contracts will be accounted for on an on-balance sheet basis, providing that the Authority seeks to control any residual interest in the principal infrastructure.

5.9.1 Departmental budget accounting

From 1 April 2009, the accounting and budgetary treatments in relation to PFI and similar transactions will diverge. Departmental resource accounts will follow the guidance in IFRIC 12 as amended in the IFRS-based Financial Reporting Manual ('iFReM'). Departmental budgets must follow National Accounting standards, as set out in the Manual on Government Deficit and Debt ('MGDD') that provides guidance on the application of the European System of Accounts 1995 ('ESA 95'), and the guidance set out in the Draft HM Treasury Technical Guidance dated 2 September 2009 ('HMT Technical Guidance') on the Application of the Standards used in the production of National Accounts to PFI and Similar Transactions.

We would suggest that the Project appears to fall within the scope of the MGDD and HMT Technical Guidance and therefore the key issue is the classification of the assets involved in the arrangement – either as government assets or as the Contractor's assets. The assets can be considered as non government assets only if there is strong evidence that the Contractor is bearing most of the risk attached to the specific partnership. In this context, the risk assessment should focus on the following three main categories of risk:

- Construction risk: covering events like late delivery, respect of specifications and additional costs
- Availability risk: covering volume and quality of output; and
- Demand risk: covering variability of demand

The assets should be classified as off balance sheet for government if both of the following conditions are met (i) the Contractor bears the construction risk; and (ii) the Contractor bears at least one of either availability or demand risk.

If these conditions are met the contract is treated as similar to the treatment of an operating lease in ESA 95; it would be classified as the purchase of services by government. If the

conditions are not met, the assets are to be classified as on balance sheet for the government.

On the basis that the Contractor and not the Authority is anticipated to be exposed to the construction and availability risk, the initial view is that analysis under the MGDD would suggest that for National Accounts purposes the Project assets would be off balance sheet.

It should be noted that any significant change to the final documentation may result in a change to the analysis and the result. A more detailed discussion of the issues associated with the accounting treatment for this project including the role of LWL and the conclusions set out above may be found at appendix O.

6. Project team and governance

6.1 Introduction and legal context

This section outlines the project organisational and governance structures. The governance structure is based on WIDP's guidance on governance arrangement and the Authority's Standing Orders.

The Authority is a statutory joint authority set up by section 10 of the Local Government Act 1985 and the Waste Regulation and Disposal (Authorities) Order 1985 (1985/1884). The Authority has no independent tax raising powers, and is funded through the levy (pursuant to the Joint Waste Disposal Authorities (Levies) (England) Regulations 2006), which is raised on the Constituent Boroughs. This levy has historically been calculated on the default basis set by legislation from time to time.

The Authority will conduct the procurement in its role as WDA for North London in accordance with the Environmental Protection Act 1990, and using the EU public procurement regime pursuant to the Public Contracts Regulations 2006 (SI 2006/5) as amended, under the Competitive Dialogue procedure and the Public Contracts Regulations 2006.

The statutory composition of the Authority is fourteen Members, two from each Constituent Borough, who are nominated on an annual basis by each Constituent Borough. The seven Borough leaders have recognised the importance of the procurement from the start and the need for effective partnership working between the Authority and the Constituent Boroughs. With that in mind, the appointments by the Constituent Boroughs at the start of the municipal year in 2008 were made with a view to securing the involvement of the same body of Members for the next phase of the procurement, thus ensuring continuity of understanding and knowledge of the procurement process and detail among the Members of the Authority, and with a particular focus on getting cabinet level members nominated to the Authority. There has only been one change in membership at the start of the 2009 municipal year.

The current membership of the Authority is as follows:

- Councillor Clyde Loakes – Chair of the Authority, Member, Waltham Forest LBC
- Councillor Michael Lavender – Vice-Chair of the Authority and Member for Sustainable Communities, Employment & Place Shaping and Deputy Leader of Enfield LBC
- Councillor Keith Moffitt – Vice-Chair of the Authority and Leader of the Council Camden LBC
- Councillor Robert Belam – Portfolio Holder Environment Waltham Forest LBC
- Councillor Greg Foxsmith – Lead Member for Environment Islington LBC
- Councillor John Gilbert – Lead Member for Finance Islington LBC
- Councillor Brian Haley – Cabinet Member for Environment and Conservation Haringey LBC
- Councillor Andrew Harper – Cabinet Member for Children's Services and Deputy Leader Barnet LBC
- Councillor Ertan Hurer – Cabinet Member for Finance and Resources Enfield LBC
- Councillor Chris Knight – Executive Member for Environment Camden LBC
- Councillor Alan Laing – Lead Member for Neighbourhoods Hackney LBC

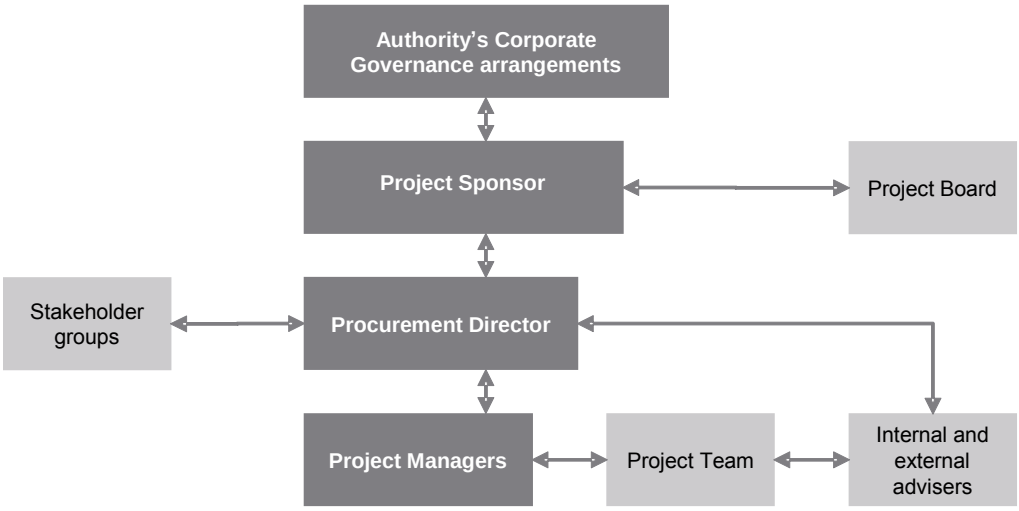
- Councillor Samantha Lloyd – Cabinet Member for Finance Hackney LBC
- Councillor George Meehan – Member, Haringey LBC
- Councillor Daniel Thomas - Cabinet Member for Environment & Transport Barnet LBC

6.2 Project governance

This sub section outlines the arrangements to govern decision making on the procurement. The Authority considered governance arrangements in its meeting on 11 April 2007, and approved a structure for the governance of the procurement project.

This has been put in place, and subsequently updated to meet the needs of the procurement and to take account of WIDP guidance issued in 2008.

Figure 6.1: the Authority's governance structure



To date, Member involvement has been through informal briefings and their decision making in the Authority meetings themselves.

The procurement project benefits from the expertise of the Authority's senior internal officer advisers, appointed from the Constituent Boroughs. These are:

- Moira Gibb, Clerk to the Authority and Chief Executive of Camden, who is the most senior officer in the Authority
- Mike O'Donnell, Project Sponsor, Finance Adviser to the Authority and Director of Finance at Camden
- Niall Bolger, Technical Adviser to the Authority and Director of Environment at Haringey
- Andrew Maughan, Legal Advisor to the Authority and Head of Legal Services at Camden
- Shifa Mustafa, Planning Adviser to the Authority and Assistant Director of Environment at Waltham Forest
- Dinesh Kotecha, Valuation Adviser to the Authority and Head of Property at Haringey

These Advisers receive an honorarium for the contribution of their professional expertise to support the work of the Authority, and provide such expertise to the work of the procurement team.

External assurance of the project has been provided by an initial Gateway review, and further reviews are anticipated at later stages. The report of the initial review has been considered, and it identified that the project was in fact a programme of projects, and should be structured and resourced accordingly. That recommendation has been accepted by the Authority, and is reflected in the project team management structure and resource set out below. The next Gateway review is scheduled for February 2009.

6.2.1 Decision making by the Authority

Under the Authority's Standing Orders, the decision to award a major contract lies with Members. Members will therefore receive reports detailing the progress on the procurement, and requesting decisions at key stages and on matters of policy.

Members' consideration of the options and their related decision making has taken place at both the procurement committee and the Authority meetings. There have been two member training exercises which have taken place at key points in the consideration of the procurement to date, and in particular at the start of the municipal year 2008 when there was a significant change in the membership of the Authority. In March 2009, Members took part in a workshop to consider the evaluation framework for the procurements. There has been a close involvement in the shaping of the procurement strategy and the contract delivery. Key decision points are:

- February 2008 – review of key programme strategy issues
- May 2008 – review of Technical Options Appraisal and shortlisting
- August 2008 – decisions on PFI funding route, the MDT/AD reference project; separate fuel use, with approval of a draft OBC on issues except affordability
- September 2008 – approval of affordability
- October 2008 – approval of OBC (with minutes at appendix BB)

Since submission of the OBC in October 2008, Members have been informed about and consulted on issues arising in the scrutiny process, and have confirmed the strategic approach set out in the May 2009 version of this OBC.

The Authority, now a 100% shareholder in LWL, previously held a 50% shareholding as a Joint Venture partner with SITA. As it has only recently acquired SITA's 50% shareholding, the Authority is currently putting in place appointments of the directors of LWL going forward. Previously, the Authority appointed three directors (with an alternate) each year. These directors had been appointed from within the membership of the Authority, but as the procurement process advanced, those members who were also directors had to be absent from those parts of the meeting considering procurement issues, because of their personal and prejudicial interest in the subject matter under discussion. The Authority therefore set up a procurement committee, with political balance, but consisting of Members who were not directors of LWL. Decisions relating to the procurement in the first half of 2008 were taken by that committee, under delegated authority from the Authority.

To recognise the importance of the procurement in the business of the Authority, members then agreed that the directors to LWL would be appointed from outside the Membership of the Authority, and so decisions on the procurement which should, under Standing Orders, be taken by Members, were taken by the full Authority.

With the acquisition of the remaining 50% shareholding, the Authority will make arrangements for appointment of directors to replace the SITA appointed directors, who will resign. The directors appointed by the Authority and the independent directors will remain in place, to ensure continuity of expertise in the company and of service provision under the current contract with the Authority.

Authority Members have had a variety of experience in other major PPP/PFI projects in areas such as the Building Schools for the Future programme. We are supplementing this knowledge and experience with training and development relating to cost, procurement, commercial and technical issues that are waste sector specific. We will continue to do so as needs arise from changes in Authority membership.

6.2.2 Procurement project board – role

The Authority has followed the principles set out in the DEFRA/WIDP Guidance Residual Waste Procurement Pack Module 2: Project Governance. To take account of the nature of this project, and in particular reflect the role of the Director of Procurement in managing this programme of projects, some adjustments have been made between the respective roles of Procurement project board, Project Sponsor and Director of Procurement, and the details of the roles are set out below.

The Project Sponsor is Mike O'Donnell, the Authority's Senior Finance Officer and the Director of Finance, London Borough of Camden. In accordance with the agreed governance structure, Mike O'Donnell, as Project Sponsor, chairs a Project Board that meets on a monthly basis. By statute the Authority is not able to delegate decision making to the Board, and decisions in the procurement are taken by the Project Sponsor and through him by the Director of Procurement. The role of the Board, as determined by Members in April 2007, is to provide oversight, steering and challenge to the day-to-day project team, and identify key issues for stakeholder engagement through the meetings of Chief Executives, Directors of Finance and Directors of Environment. The Board is accountable via the Project Sponsor to the Authority.

This membership of the Project consists, in addition to the Project Sponsor, of the following members:

- The Authority's internal Legal advisor
- Partner level representatives of the Authority's external Finance, Legal and Technical consultants
- A representative of each of the Directors of Environment and Finance of the Constituent Boroughs
- The WIDP Transactor
- An external non-executive
- The Authority's Managing Director
- The Authority's Director of Procurement
- The Authority's Deputy Director, Legal and Governance

The Board receives reports on strategic issues affecting the project including sites issues, and matters relating to planning, and provides guidance and challenge on such matters. It also reviews regularly the risk registers for the project, and the programme timetable. The role in challenging and supporting the procurement will develop as the project moves into delivery phase.

6.2.3 Project Sponsor – role

The role of the Project Sponsor is to oversee delivery of the project, providing challenge to the Procurement Director and ensuring effective engagement with the various stakeholders to the project.

6.2.4 Constituent Borough involvement

The statutory financial framework for the Authority and the scale of potential future costs means that the procurement is a critical medium to long-term budget management issue for Constituent Boroughs. In recognition of this, and to consider in more detail the key interface between the disposal service and collection, we have supplemented the formal decision making processes with other communication mechanisms:

- Moira Gibb, the Authority's Clerk and Chief Executive, London Borough of Camden, is closely engaged on governance issues and in particular in managing the inter-authority relationship at senior levels. Leaders of the Constituent Boroughs have met six times to date. They plan to meet approximately every three months. The purpose of these meetings is to understand NLWA arrangements and ensure joined-up partnership working, to ensure effective governance arrangements are in place, to ensure that all Boroughs are effectively engaged in the procurement process and to ensure that as far as possible the policy and political risks that can arise on a major project of this type do not materialise.

- Regular meetings of the Directors of Finance and Environment from the Constituent Boroughs with project team members have taken place to aid the flow of information and the dialogue with the Constituent Boroughs.

- Additionally, the project team has held bilateral discussions with key decision makers in each Constituent Borough ahead of key procurement decision points. Alongside regular meetings with Directors of Environment and Finance, this ensures that the Authority's decisions take full account of Constituent Borough considerations and vice versa. The meetings with the Directors of Finance have been incorporated into their existing monthly meetings. Those with Directors of Environment have been arranged specifically to allow discussion of the policy and technical issues arising out of the preparatory work for the procurement. This approach means the risk of conflict with local priorities is minimised.

Through their cabinet structures the Constituent Boroughs have approved the:

- Transfer of HWRCs from the Constituent Boroughs to the NLWA

- Principles of the basis of the IAA

- Affordability Letters

- Memorandum of Understanding (MoU)

These agreements have followed extensive discussions with the Constituent Boroughs through their officer and Member structures, further detail of which is in section 6.6 and section 9. This has included Member briefings by the Authority officers for pre-cabinet meetings, and attendance at Cabinet and Scrutiny meetings where required by the Constituent Boroughs.

6.3 Project management

The Authority has allocated an appropriate budget for the creation of a project team that is additional to the resources that are provided for mainstream and ongoing Authority activity. The Authority has sought to build a team that has an appropriate mix of knowledge, skills and experience covering waste, other technical, commercial, financial, legal and project management matters. It has sought to ensure stability, but also to retain flexibility to adjust the capacity reflecting the changing nature of the project as it moves into the procurement and then competitive dialogue phase.

A particular emphasis has been placed on securing people with experience of delivering procurements to a commercial conclusion in waste.

The role of Procurement Director is one of programme management to ensure effective delivery of the projects with appropriate co-ordination of timescales, risk management and resources. In carrying out this task, he will be assisted not only by the managers with direct responsibility for the specific procurement projects, but also by the Deputy Director, who has a primary role ensuring appropriate governance arrangements, and is responsible for ensuring effective project management and delivery to timescales in conjunction with the project manager and specific procurement managers.

In addition, the Director has been supported by a special projects officer, to enable the enhancement of the project through initiatives such as investigation of the Authority becoming involved in the 2012 approach to employment training related to construction jobs. This work will continue through the technical officers working within each of the procurement teams.

The team recognises that going forward the management of the procurement will require a programme management approach, with projects being managed within a wider umbrella. This will be important to ensure that the projects are timetabled to take account of the requirements of each element of the overall programme. The diagram below summarises the programme management structure.

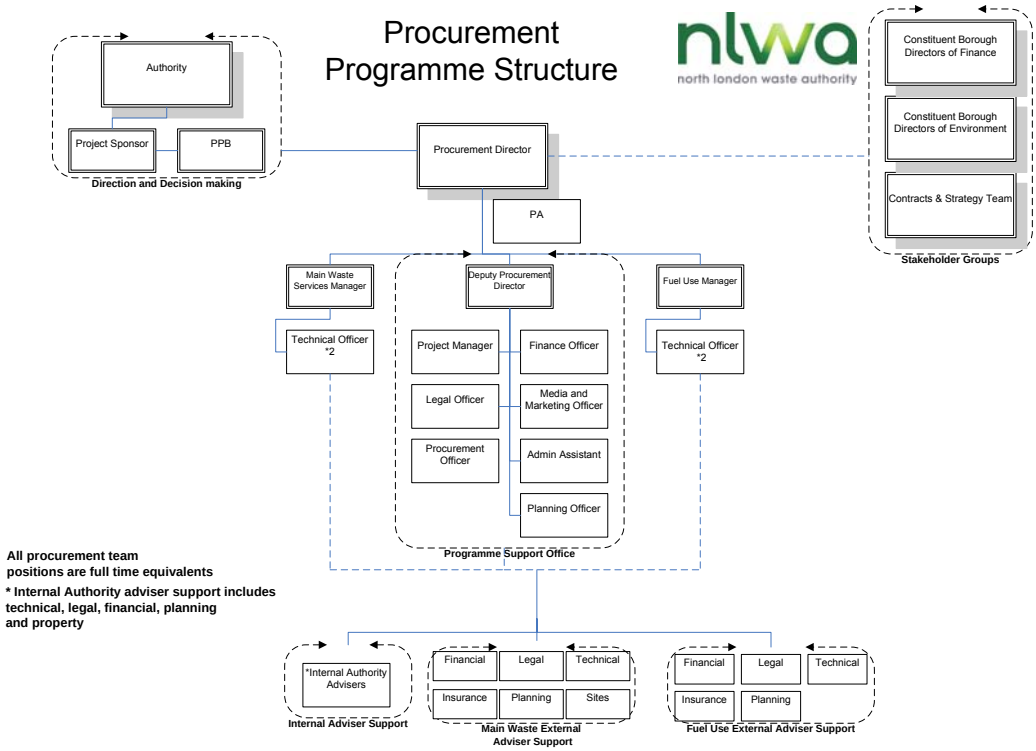
The Deputy Director has responsibility for project management and will support the Procurement Director in the programme management and also provide project management support to the individual project managers.

The finance officer is managed by the manager of the fuel use procurement, and will provide financial support across the projects.

The legal support will similarly be provided across the projects.

The Deputy Director has responsibility for specific areas of work across the programme including governance and probity, and legal matters, supported by the legal officer.

Figure 6.2: the management reporting structure of the project team



The current project team includes Legal, Technical (waste and energy), Finance, Communications and Project Management expertise:

- **Procurement Director, Tim Judson**: Tim has a substantial background in both central and local government, waste policy and finance matters, and undertook a similar Director of Procurement role in respect of the Greater Manchester waste PFI project through to commercial close. He is responsible for delivery of the procurement programme.

- **Deputy Procurement Director, Legal and Governance:** [redacted]: [redacted] is a solicitor acting as Deputy Director and legal advisor to the procurement Authority with over 10 years of previous experience in local government. [redacted] has advised the Authority on a variety of legal issues during this time, and has been involved in corporate projects for London Borough of Camden including the proposed PPP for IT services.

- **Manager Waste Services,** [redacted]: Most recently Head of Housing and Sustainable Services at London Borough of Southwark and Project Director for the Council's Waste PFI contract which closed in 2008. Previously [redacted] was the Head of Waste Management Services at London Borough of Haringey. Spending three days a week at the Authority, he will be responsible for delivery of the Waste Services Procurement. He was central to the team that closed Cumbria Waste PPP.

- **Manager Fuel Use,** [redacted]: [redacted] is on secondment from the Authority's technical consultants Ramboll AEA. He is a waste manager with over 16 years of direct waste management experience and a significant background in strategic analysis in the waste sector and the design and development of waste management systems. He has been involved in similar projects from the private sector perspective.

- **Technical Officer Waste,** [redacted]: [redacted] is on secondment from the Authority's technical consultants, Entec. She is experienced in process design and environmental management, and has been involved in the tender and evaluation stages of similar projects.

- **Technical Officer Waste,** [redacted]**:** [redacted] has been seconded from the Authority's modelling consultants Entec UK Ltd and will be responsible for technical modelling and the necessary liaison with Constituent Borough's. Before moving into consultancy, [redacted] worked for five years within the waste teams of various local authorities. Her experience includes contract management, waste collection systems appraisal, strategy development and implementation, contract procurement and bid evaluation.

- **Technical Officer Sites and Planning,** [redacted]: [redacted] is on full time secondment from the Authority's planning consultants, Arup. [redacted] is a chartered town planner, with over 12 years experience in development management, masterplanning and policy research, including securing consents for major developments and infrastructure schemes on behalf public and private sector clients. She is responsible for advice on planning matters, progressing planning applications and detailed work relating to sites

- **Technical Officer Fuel Use,** [redacted] On secondment from the Authority's consultants Mace, and with a background in surveying [redacted] has a wide breadth of experience as a project and programme manager, delivering both public and private sector capital programmes via PFI and traditional procurement routes. Prior to joining the NLWA, [redacted] was involved in master planning and delivery of Health Care Estate strategy.

- **Finance Officer** [redacted]**:** [redacted] is a full time secondee from The Collaborative Working Centre, and a Chartered Management Accountant, [redacted] has experience within the Oil, Gas, Energy and Airline industries. His specialist knowledge includes business strategy, stakeholder management, financial policy, financial management and risk

management, and he has previously worked on the financial management of a contract within local government.

- **Project Manager,** [redacted] is on secondment from BRE and has some 15 years experience in project management delivering projects for Central Government Departments and Local Government Authorities as well as private sector clients. He has delivered projects covering areas such as energy performance of buildings and large contract procurements in line with OJEU procurement rules. [redacted] is very experienced in using standard approaches to project management including PRINCE 2 and managing and controlling all aspects of project delivery including stakeholder management, risk, planning and governance.

- **Legal Officer,** [redacted]**:** [redacted] is a one year qualified solicitor on secondment from the Authority's legal advisers Eversheds' Project and Infrastructure Finance Group. [redacted] assists on a wide variety of legal matters, including sites, procurement preparation and governance issues.

- **Media & Marketing Officer,** [redacted]: Prior to joining the NLWA as Media and Marketing officer, [redacted] worked for a number of years in both local government and private sector communications posts. Previous roles include Communications Officer at Pendle Council on the campaign that supported the roll out of the Council's new recycling collections and switch to alternate weekly collections. [redacted] spends four days a week working on Authority matters.

- **Procurement Officer,** [redacted]: Joining the Authority in October 2006, with a background in project and quality management [redacted] has been instrumental in implementing project management systems and processes in various local and central Government projects. As a fulltime member of the team, [redacted] provides project management support and leads on quality assurance issues.

- **Technical Officer,** [redacted]: [redacted] provides support to the waste services manager. [redacted] has a wealth of experience in local government waste arena. Most recently [redacted] was employed as programme manager on the Southwark PFI contract, a project with a value of £650 million.

- **Personal Assistant/Office Manager,** [redacted]: [redacted] provides PA support to the Director and the team and takes responsibility for general office management.

- **Admin Assistant,** [redacted]**:** [redacted] is working part time providing admin support in the team.

In terms of future developments, we consider that, for the programme as a whole, the demands of finance work related to the management of day to day finance adviser support, discussions with potential bidders, the development of the payment mechanism, evaluation work related to proposals and alike, together with ongoing work in respect of the joint venture and Authority finances will require an increase in capacity. To supplement the existing role we intend to recruit a further post.

Other potential changes may arise from the commercial negotiations that need to be taken forward at the front end of the project, including the need for sufficient expertise in the area of fuel markets and commercial issues.

Our use of a combination of permanent appointments and secondments means that the Authority can change the capacity and expertise as the project progresses, and consider the need for different skills going forward such as those related to planning and design while retaining continuity. The Authority benefits from the secondment to the team of people from its external consultants, thus obtaining a high level of expertise at a lower cost than if advice were sought from the consultants direct, and with the further advantage of a possibility of replacing secondees with other experienced staff from within the external consultant staff

should any secondee leave the team. There is a high level of commitment to the procurement from all the seconded consultants.

This method of building a team for a time limited project which requires a high degree of technical skill also means that the Authority will be able to establish a continuing client team to manage the contract without a need to reduce the employed staff to any significant extent. In process terms, the team's office manual sets out procedures for hand over as team members leave and others join. The project team strength is increased by the use of expert external consultants, details of whom appear below. Their role is to provide professional support and advice to the team, and each consultant firm or company has a principal point of contact within the project team, who is responsible for monitoring work and the budget allocated to that consultant. Day to day contact with the consultants is through the managers of the procurements, the Director and Deputy Director. The use of external consultants will also improve continuity of understanding and knowledge of the project in the event of changes of personnel within the team. In addition, support can be seconded at short notice into the team from external advisers, where necessary to supplement resources. This has been done in the case of project management, where a short term need has been met by an external secondment from Mace and then BRE for additional support in addition to that provided for in the structure; the Authority would use this mechanism again in appropriate circumstances.

The Director has contingency plans to cover the possibility of changes at manager level in the project team. These are designed to ensure continuity of approach within the procurement; and to maintain confidence of the bidding community as well as members and stakeholders in the project.

Cover for the Director would depend on an assessment of the requirements at the stage in the project that the need arose. Either the Manager, Waste Services or the Deputy Director, Governance and Legal, could take on the role of Director, with backfilling as follows:

For the Manager, Waste Services, continued deputy role support from the Deputy Director, Governance and Legal, increased project management support for Waste Services procurement; For the Deputy Director, Governance and Legal, deputy support from the Manager, Waste Services, additional legal support in particular on governance issues.

Cover for the Manager, Waste Services, would be provided by a combination of management of the procurement directly by the Director, pending replacement, with the sites and planning elements being taken by the Deputy Director, Legal and Governance, and backfilling of her time through increased legal support.

Cover for the Manager, Fuel Use, would be provided by a combination of management of the procurement directly by the Director, pending replacement, and in the first instance a further secondment from the Authority's technical advisers.

Looking forward to the competitive dialogue phase, the Authority is cognisant of the increased pressure, intensive periods of activity and the need for supplementary skills to support the core team, particularly in the context of:

- The resource demands implicit in the competitive dialogue process
- The separate procurement of the Waste Services and Fuel Use contracts, amongst the other procurement activities highlighted in chapter 4
- The potential for the Fuel Use contract to be procured in more than one lot

In addressing these challenges, the team structure creates separate teams for the delivery of the Waste Services and Fuel Use procurements. The intention is to resource the project so as to carry out the competitive dialogue process in two largely separate teams in order to support two separate procurements. Each of these teams will be supported by external advisors providing additional resource and expertise as required to ensure that the processes

are carried out in an appropriately timely manner. The Procurement Director will retain responsibility and leadership for the overall procurement but the role of the Procurement Director will then become more strategic, with the individual work streams being led by people with appropriate expertise. If, in the event, the resource proves insufficient, for example in the case of the letting of the fuel use contract in more than one lot, leading to simultaneous financial close on more than one contract in this procurement, then the Authority will have advance notice, and take steps to ensure the right resource is available.

The Authority is mindful of the need to ensure a smooth transition from the procurement stage to the contract management stage, in order to ensure effective delivery of the services to be covered by the contract. In considering the transition, the Authority has considered the structure of the contract management relationships that will exist following contract signature. Specifically, it is anticipated that the Authority's contract management team will be principally responsible for the management, monitoring and enforcement of three key contractual relationships:

- The IAA (which regulates the relative roles and responsibilities of the Constituent Boroughs and the Authority)
- The Waste Services PFI contract project agreement (with a specific focus on the payment and performance regime governing the interface risks between this and the Fuel Use contract) and the relationship between this and the IAA.
- The Fuel Use PFI contract project agreement
- Any interim contract, prior to any novation to the Waste Services PFI contractor, or direct service provision by LWL.

To achieve a timely and effective transition, members of the project team are in regular contact with the staff managing the existing contracts of the Authority. Whilst the Authority's contract management team are experienced contract managers, the Authority recognises that the contractual and management complexity will be substantially greater than that of the current LWL contract. The project management of the procurement process will ensure compliance with Treasury Guidance Operational Taskforce Note 2: Project Transition Guidance. To recognise and address the compliance of potential contracts, the Authority's procurement team will progressively involve the contract management team in the detail of the PFI contracts being negotiated so that those responsible for managing the contracts are engaged prior to financial close. In order to facilitate this process, the Authority has appointed a Managing Director with overall responsibility for the work of the Authority. The Managing Director will have a lead role in determining the contract team structure and capacity requirements in the run-up to operational commencement. Based on evidence from procurements in other Joint WDAs it is likely that NLWA will need to review whether the current resources and structure are sufficient for contract management and other new functions that are growing in importance (e.g., waste minimisation work). The highest priority to date has been to create a Project Team that has the ability to tackle a complex procurement and significant commercial issues at the front end of the procurement. It is likely that over time new project team resources will be brought in and we expect that some of these people will take on a contract management role in the future.

6.4 Advisers

The Authority has put in place an appropriate external adviser budget and a framework agreement for the duration of the procurement, with appropriate and experienced external advisers, and has used a mini-tender exercise at key stages where more than one external adviser is qualified to undertake a task. The external advisers who have been fully engaged on this OBC are as follows:

- Finance: Ernst & Young – lead contacts [redacted] (Partner); [redacted] (Director) reporting to the Procurement Director.

- Legal: Eversheds – lead contacts [redacted] (Partner); [redacted] (Partner, Head of Product Group) reporting to the Deputy Director, Legal and Governance.
- Technical: Fuel Use: Ramboll AEA – lead contacts [redacted] (Project Director); [redacted] (Project Manager) reporting to the Manager – Fuel Use
- Technical: Waste Services: Entec – lead contacts [redacted] (Technical Director) and [redacted] (Principal Consultant), reporting to the Manager – Waste Services
- Planning: ARUP – lead contact [redacted] (Associate), responsible to the. Technical Officer Sites and Planning reporting to the Manager – Waste Services
- Property: MACE/Dalton Warner Davies – lead contact [redacted] (Operations Director); [redacted] (Partner)), responsible to the Technical Officer Sites and Planning reporting to the Manager – Waste Services.
- Insurance: Willis – lead contact [redacted] (Partner), reporting to the Deputy Director, Legal and Governance.
- Risk Management: HVR Consultancy – lead contact [redacted] (Principal Consultant) reporting to the Deputy Director, Legal and Governance.

In addition, the Authority has engaged Bevan Brittan to provide further support in particular legal areas ancillary to this project. Lead contacts are [redacted] (Partner, Commercial Projects and PFI) and [redacted] (Partner, Property Planning and Construction), reporting to the Deputy Director Legal and Governance.

The criteria against which the consultants were assessed prior to appointment included the provision of evidence of expertise of similar services in the recent past, as well as skills and resources to deliver the services for the current project.

The Authority has appointed advisers for the post OBC period in accordance with the provisions of the framework agreement to reduce the list of advisers in order to ensure continuity in advice and to release specialist advice to support bidders with no conflict of interest. The Authority recognises the need to ensure effective communication during the procurement process with all stakeholders, including residents, Constituent Boroughs, the bidding community and Government. To that end, it will supplement the current communications support with strategic communications expertise, and this is planned for the next weeks.

6.5 Outline of partnership arrangements with other WDAs

While the NLWA project is likely to be one of the two largest waste procurements ever let in the UK, we have adopted a positive and outgoing view on exploring potential joint working. North London has administrative borders with a variety of London Boroughs and County Councils. We have had discussions with most of these to examine whether there is benefit and scope for joint working. There are three main approaches we have considered:

- Joint working with large authorities (Essex, Hertfordshire, WLWA) on Fuel Use procurement solutions.
- Joint working with WLWA on a broader range of waste management programme issues.
- Joint working with ‘non-aligned’ Boroughs that border North London.

The Authority is aware that the Essex procurement may mean that an SRF use procurement is required, and has had preliminary discussions on any joint approach.

The Authority has a number of common interests with the WLWA, including the joint use of the rail transfer operation at Hendon and have had discussions with the Authority to ensure we consider any mutual benefits that might arise from joint working. However, WLWA is itself the fifth largest WDA, responsible for managing around 800,000 tpa of municipal waste. There is no evident benefit for either Authority of running a joint procurement, and an approach would involve complexities and limitations on competition that would not be helpful to either Authority.

On 'non-aligned' authorities in close proximity to North London, discussions with the City of London identified that there may be some common interests if we are developing AD capacity. We have also identified a possible benefit in exploring use of a wharf in the City of London in the event that the North London project includes some waste transport by water solution. However, the City of London is at an advanced stage of agreeing a contractual arrangement that has no particular linkage to North London.

Officers have had discussions with London Borough of Tower Hamlets (LBTH) and the Authority commissioned a preliminary analysis of the potential effects of joint working from our external advisers and shared this with LBTH. The analysis suggested that there may be significant advantages to LBTH in linking up with a larger procurement/waste management solution (whether North London, East London or with other authorities). The benefits to NLWA are less evident, for example, there are no evident improvements related to economies of scale.

The Authority understands that LBTH continues to develop its strategy but has provided no indication that it considers there to be a case for a substantive involvement in the Authority's procurement. NLWA has therefore completed its OBC on that basis. It remains possible that some linkage can be made at a later stage in the procurement process if there is an LBTH request for such a consideration. However, it is more likely that this would need to be an arrangement that is more akin to a contractual relationship relating to any surplus capacity, rather than with LBTH needs planned from the start.

The Authority has met on several occasions to discuss the possibilities of joint working and or any synergies with South London Waste Partnership. To date the meetings have not identified any such opportunities. However a relationship has been established and both authorities have agreed to be open minded towards any future possibilities.

The waste flow and financial models within this OBC, together with the investment requirement, location of facilities and application for PFI credit support, have been constructed on the basis of the Constituent Boroughs only. Similarly, the procurement timetable and resource issues are addressed assuming the Authority works only with its Constituent Boroughs.

The Authority will continue to have dialogue with other relevant WDAs in particular on the fuel use procurement and on transport solutions.

6.6 Constituent Borough involvement

A Memorandum of Understanding (MoU) signed by all Constituent Boroughs is included as appendix AA. The MoU commits all Constituent Boroughs to signing an IAA with the Authority which will be a legally binding document. The purpose of this document is to ensure that the Authority can manage the contract for Waste Services with the cooperation and agreement of the Constituent Boroughs on critical issues such as: the interface between the collection systems, which are in their control as WCAs; measures being taken to increase recycling and minimise residual waste; and ensuring that the cost of the contract can be met through the levy on an agreed basis rather than the statutory default basis. The Agreement will be based on an agreed Statement of Principles which is attached at appendix AA.

The Authority will form an evaluation sub-committee for the waste services procurement from the existing technical officers group of Constituent Borough officers, to carry out technical evaluation of all bids at ISDS stage, which will feed into the evaluation process. This will

ensure the involvement of the Constituent Boroughs in the solutions proposed by bidders and build on their current involvement.

The evaluation teams for the procurements will be augmented at director level by representatives from the Environment, Finance and Legal areas of the Constituent Boroughs. This will ensure that the dialogue which has been built up at OBC stage will continue into the evaluation and award stages.

The Constituent Boroughs will also be exercising their statutory planning role on any relevant planning application, and their more general powers when considering place shaping for their Boroughs.

There have been separate briefings for Directors of Environment and Finance as well as joint meetings throughout the preparation of the IAA and briefings on the OBC progress. There have also been meetings with Borough Technical officers (ToG Meetings) and individual meetings with Finance officers in the Constituent Boroughs.

The Constituent Boroughs have been fully involved in drawing up the draft IAA. They are fully committed with the NLWA to working in a spirit of partnership to achieve an effective agreement which will benefit all parties. An Inter-Authority group, chaired by the Director of Finance and Resources from the London Borough of Barnet, and made up of Directors of Finance or Environment from the Constituent Boroughs, has met to consider and agree the principles of the IAA, and the work is now being taken forward under the management auspices of the Managing Director, with significant input from the Manager – Waste Services, since the content of the document primarily relates to the interface between the disposal contract and the collection authorities.

7. Sites, planning and design

7.1 Introduction

DEFRA/WIDP have specified that the Authority must have control over suitable sites for the waste services reference project and that there are good planning prospects in relation to these sites. The Authority's site strategy to deliver the waste service reference project incorporates four sites: three in the west of the area and one site in the east of the area. The Authority currently controls three of the sites and is in discussions on the fourth. Each of the sites is considered to be consistent with planning policy and of a sufficient size to accommodate the required facilities.

In formulating its approach to sites, the Authority has been very aware of the regional strategy that is designed to ensure greater self-sufficiency and best practice procurement guidance on the need to make sites available to bidders in order to attract a competitive market response on a level playing field. It has also considered the relationships between sites, planning and sustainable transport solutions. Sustainable transport solutions mean that the carbon impact and local transport 'nuisance' can be significantly reduced. This facilitates sensible decisions on the ideal location for fuel use facilities in the same way that sites for the reprocessing of recyclates can be located outside of the area where the recyclate is collected.

In completing this section, the Planning Health Framework and the Design and Sustainable Development Checklist the Authority aims to provide assurance that:

- Its proposals have been fully consulted on and there is broad consensus across all stakeholders on the Joint Waste Strategy for North London.
- The sites identified by the Authority accord with the North London Waste Plan (NLWP) Preferred Options, policies in Planning Policy Statement (PPS) 10 and the Regional Spatial Strategy (RSS) (the London Plan).
- The Authority has engaged, as appropriate, in the preparation of the RSS (the London Plan) and the development plan document for waste (the NLWP) and the emerging DPDs being produced by the local authorities in the Constituent Boroughs.
- The Authority has proactively sought to acquire the sites it requires for the waste services contract to ensure it has secured ownership, or, is at an advanced stage of negotiations with site owners, at the time of submission of the OBC. The Authority's procurement approach and timetable also allows for bidders to submit their own preferred sites should they wish to do so.
- The Authority has taken significant account of design issues in determining its proposed solution for both the waste services contract and the fuel use contract.
- The Authority has considered the site options in relation to the fuel use procurement and reached a justifiable conclusion that a site should not be acquired, and cleared such an approach with the WIDP Executive.

7.2 Site identification and acquisition

In determining the reference project for the OBC, consideration has been given to the most appropriate configuration of facilities. The capacity requirements for residual waste treatment, recycling and composting have been derived from the waste arisings predicted within the NLWA area until 31 March 2042. The Authority has considered both a centralised and decentralised approach to providing this capacity requirement.

A decentralised approach to provide the appropriate capacity would result in a number of smaller facilities being established. A scenario intended to test the principle of

decentralisation containing four residual waste sites was included within stage 2 of the Technical Options Appraisal assessment process. Against a benchmark scenario the 'decentralised' scenario was assessed to cost around £200m extra. It also scored significantly worse in relation to local environmental impacts such as noise and odour due to the higher number of neighbours as well as land and planning deliverability (although it is expected that these could be largely mitigated through good design and operational controls). However, the decentralised approach did perform better in terms of minimising transport impacts and, marginally, climate change impacts.

The very limited scope for site development and acquisition in the heavily developed area of North London poses a considerable barrier to developing a larger number of smaller waste sites. A larger number of smaller sites would also provide limited opportunity for:

- optimising the transport of waste within the sub-region;
- the development of innovative sustainable transport solutions that accord with the requirements of the London Plan (Policy 4A.22) which states that 'where waste cannot be dealt with locally, promote waste facilities that have good access to rail transport or the Blue Ribbon Networks, and
- meeting the desire of the Authority to use sustainable transport as a stimulus for fuel use proposals and also maximising the role it plays in improving planning prospects for sites.

The Reference Project provides the need for land to be made available to support 585,000 tpa Mechanical Biological Treatment (MBT) capacity, 100,000 tpa Materials Recycling Facility (MRF) capacity and 112,000 tpa Anaerobic Digestion (AD) capacity for source segregated kitchen waste, 50,000 tpa bulking facility and a 300,000 tpa rail transfer station. In addition the Authority is seeking proposals for alternative transport solutions in the form of either a Rail Transfer Station and/or a wharf for river transport. It should be noted that the reference project is based on a rail based transport solution but the Authority wishes to retain the flexibility of potentially using river transport for waste and or waste derived products in the future. It is this capacity requirement and the wish to secure alternative transport solutions for waste in the future that has framed the site selection process for the waste services contract.

The Authority is not intending to seek sites for use by the fuel use contractor and as such site identification has focussed on sites to support the Waste Services contract.

Site identification to support the Waste Services procurement was informed by the planning policy context, including the emerging North London Waste Plan (NLWP), the London Plan, local Unitary Development Plans (UDPs) and emerging Local Development Frameworks (LDF) Development Plan Documents (DPDs).

7.2.1 Site strategy

The Authority's site strategy is framed on the basis of three strands to deliver an overall waste management solution for north London:

- The Waste Services contract
- The Fuel Use contract
- HWRC infrastructure

Waste Services contract

The Authority's site strategy to deliver the waste services reference project incorporates four sites: one in the east of the area; and three in the west of the area (incorporating one proposed site if it is required). The sites comprise:

Edmonton: The Authority has secured the existing Edmonton waste site, as a part of the process of acquiring SITA UK's 50% share in LondonWaste Limited. The reference project proposes the following new facilities: 345,000 tpa MBT (AD); 112,000 tpa AD. This site is located in London Borough of Enfield.

Pinkham Way: The Authority has exchanged contracts to purchase the site from the London Borough of Barnet. The reference project proposes the following new facilities: 240,000 tpa MBT (AD). This site is situated in London Borough of Haringey.

Hendon (existing): The Authority has a fifteen year lease (with the option to extend for three further periods of 15 years) on this site from 25 March 2009, which allows for the ongoing use of the site as a rail transfer station (RTS) and for the bulking by road of pre-sorted recyclable and compostable wastes. In addition to the existing 300,000 tpa RTS the reference project includes a 50,000 tpa bulking facility and use existing merchant MRF capacity. This site is located in the London Borough of Barnet.

The Authority has also identified a new Hendon site for the relocation of the existing Hendon RTS and bulking facilities should the Brent Cross Cricklewood (BXC) regeneration proposals be implemented. Development of the facility will be dependent on a successful CPO to acquire the part of the site (Bestway Cash & Carry) that is not in the ownership of CRL (see Appendix L). The remainder of the site is in the ownership of CRL. The Authority has been in discussions with CRL and is confident that a negotiated agreement for occupation on the basis of a long lease would be readily agreed (see appendix FF). The new Hendon site is identified for a 100,000 tpa MRF to support the Authority's proposals. The local authority is London Borough of Barnet.

The identified waste services sites are consistent with planning policy (see section 7.3 and Appendix L), are of sufficient size to accommodate the infrastructure necessary to deliver the Authority's reference project (see site layouts at Appendix II) and Edmonton, Pinkham Way and the existing Hendon site are owned by the Authority, or in the case of the existing Hendon site, subject to a long lease in favour of. A full planning assessment for each new site is provided at Appendix DD.

Fuel Use contract

Section 4 and Appendix L – Planning Health Checklist establishes the Authority's intention to pursue a separate procurement for fuel use and identifies from both the perspective of the Authority and potential bidders that the solution for the fuel use procurement should ideally be located close to potential heat users and that it makes sense for the fuel use provider to provide the relevant site, rather than the Authority to do so. As such the Authority has not sought to provide a site to support this procurement.

The Authority has however considered potential locations that may be put forward by bidders in the future, the results of which are provided at Appendix V. These locations have been informed by the confidential market study (Appendix G) and have been assessed on the basis of planning and other consents risks, with the result that the Authority is confident that sufficient likely bidders will be able to show planning deliverability. Bidders will be required to complete a planning health checklist (see proposed checklist at Appendix V) to demonstrate the deliverability of proposed solutions at key stages of the procurement process (e.g. ISOS, ISDS).

HWRC infrastructure

As detailed in section 2.4.2, the Authority considers the current HWRC network to be deficient in a number of locations to meet the stretching recycling and composting targets it has set within its Joint Waste Strategy. As such the following strategy is proposed for HWRC provision:

New site in the north-west of the area to provide 10,000 tpa capacity from 2012;

New site in the south-west of the area to provide 3,500 tpa capacity from 2015;

New site in the west of the area to provide 3,500 tpa capacity from 2016;

Closure and replacement of the 22,000 tpa capacity Barrowwell Green, Enfield with a new site in the north east of area to provide 30,000 tpa capacity from 2013. Potentially the Martinbridge Estate site, identified in the NLWP Preferred Options as a potential waste management site, could accommodate the new provision;

Closure and replacement of the 3,500 tpa capacity Hornsey High Street, Haringey and replacement with a new facility in the local area with equivalent capacity from 2013;

Closure and replacement of the 6000 tpa capacity Park View Road, Haringey with the Marsh Lane site to provide 10,000 tpa capacity from 2013. The Marsh Lane site is identified as a potential waste management site in the NLWP Preferred Options;

Refurbishment of the existing South Access Road and Kings Road sites in Waltham Forest in 2012.

The Authority intends to ensure that suitable sites are acquired to support the required infrastructure prior to requesting proposals from bidders for the Contract. The contractor will be required to design, build, finance and operate all new, replacement and refurbished HWRC. The Authority will identify appropriate sites for new facilities.

Schedule C of the NLWP Preferred Options report identifies a range of potential new HWRC sites, including three in Enfield and two in Barnet. The Marsh Lane site is also identified as a potential waste management site. The policies in the NLWP also identify that the majority of existing waste management and transfer sites are suitable for re-use or reorientation, which could include use as HWRC. Additionally, the Authority has submitted representations to the NLWP Preferred Options requesting that a policy be added to require major new developments to provide HWRC facilities.

7.3 Planning framework

The Authority's proposals are being advanced at a time when the development planning context is in a state of transition to the system of RSSs and Local Development Frameworks (LDF) and associated DPDs, introduced by the Planning and Compulsory Purchase Act 2004 and the Planning Act 2008 that introduced a new system for nationally significant infrastructure planning, alongside further reforms to the town and country planning system. However, the impact of these changes in London has been less pronounced. This is because the function of RSS is deemed to be fulfilled by the London Plan (the Mayor's Spatial Development Strategy) as provided for under the enabling legislation for the Mayor of London and the Greater London Authority.

Detailed answers against the WIDP planning health framework are provided at appendix L and the following statements summarise the overall planning and waste policy framework within which the Authority's procurement and site development plans are being implemented, and highlight the key issues of relevance to the procurement process.

7.3.1 PPS10

At the national level, PPS10 provides government guidance on planning for sustainable waste management. PPS10 sets a clear guideline that the RSS (or in London, the London Plan) should provide overarching regional guidance on planning for new waste management facilities.

7.3.2 London Plan

Within London, the Mayor of London is responsible for strategic planning and as such the production of the London Plan. DPDs of the boroughs within London must be in 'general conformity' with the London Plan. The London Plan (Consolidated with Alterations) was

published in February 2008, but a replacement London Plan is currently undergoing consultation (see below).

The London Plan promotes self sufficiency in terms of capacity for managing the waste produced in London as well as more sustainable management of waste, and requires that borough DPD policies should safeguard waste management sites and identify new sites to ensure waste management targets are met. Policy 4A.24 requires compensatory provision where any existing waste management site is lost to a non-waste use. Where waste cannot be dealt with locally, facilities with good access to rail or water transport should be promoted. Criteria are also set out for selecting sites for waste management and disposal (Policy 4A.23). The London Plan also supports emerging technologies in preference to conventional incineration.

The Authority's proposals as set out in the reference project are consistent with the London Plan, further details of which are provided at Appendices L and DD.

Further alterations to the London Plan are proposed in respect of the use of planning obligations in the funding of Crossrail and to incorporate revised waste apportionment figures.

The planning obligations will be subject to examination in public from 14 December 2009. The aim of the policy is to raise £200M towards the funding of the Crossrail project and if adopted will require boroughs to reflect the requirements of the London Plan and local needs in DPD. The alteration would also introduce policy to ensure the effective development and implementation of the proposed Community Infrastructure Levy.

The GLA has advised that revised borough level projections of waste arisings will be produced for incorporation into the current plan as a minor alteration. Any changes to the projections are expected to reduce the level of waste arisings overall. However, the Authority does not consider this to be a significant issue for the identification of sites, as it is anticipated that the same number of sites will be required, albeit with slightly smaller facilities. The figures were not published when the OBC was completed.

7.3.3 Replacement London Plan

Currently the Mayor is consulting on the draft replacement London Plan for the period to 2031, published in October 2009. The London Plan (2008) will remain in force until the new plan is formally published. However the emerging plan will be a material consideration that can be taken into account in determining planning applications and is likely to be the adopted plan by the time the planning application for the waste services contract are determined. An indicative timetable for the review is set out in table 7.1 below:

Table 7.1: timetable for the full review of the London Plan

Item	Timescale
Statement of Intent (Assembly Consultation)	Spring 2009
Draft London Plan for Public Consultation	Autumn 2009
Examination in Public	Summer 2010
Publication	Winter 2011/12

In respect of waste policies the draft replacement plan states 'London's waste is potentially a valuable resource that can be exploited for London's benefit, and not solely a disposal problem' and that the Mayor intends to address the challenges and opportunities 'in the most environmentally friendly and effective ways possible'. In line with the current plan, there is recognition that London should manage as much of its waste within its boundaries as possible. However, whilst self sufficiency is promoted the draft replacement plan also identifies that coordinated strategic waste management with neighbouring regions is required and that this may result in preference being given to facilities outside London if they are closest to where waste is produced as demonstrated through the carbon outcomes of the treatment method and transportation.

Paragraph 4.73 also states ‘For the purposes of meeting self-sufficiency, waste is deemed to be managed in London if: it is used in London for energy recovery (e.g. through anaerobic digestion, pyrolysis/gasification or through existing incinerators); it is compost or recyclate sorted or bulked in London materials recycling facilities for reprocessing in London or elsewhere; it is solid recovered fuel (SRF) produced in London, provided the SRF is a ‘biomass fuel’ as defined in the current Renewable Obligation Order. This will encourage the production of a high quality waste fuel that can be used to generate renewable energy using a range of technologies including anaerobic digestion and gasification which qualify for double Renewable Obligation Certificates (ROCs)’. This provides useful guidance, but whilst the draft replacement plan sets out ambitions in relation to use of energy from waste it does not address how and when this will be delivered (i.e. when large users will feasibly be available), how associated infrastructure will be funded and delivered, or how SRF should be used in the interim. Policy 5.16 provides some comfort, stating ‘improving London’s net self sufficiency through reducing the proportion of waste exported from the capital over time’, indicating that SRF export outside of London may be acceptable as an interim position, although this does not address the Plan’s requirements in terms of securing positive carbon outcomes of waste treatment methods and technologies (Policy 5.17).

Policy 5.17 – Waste Capacity – supports increasing waste processing and identifies the need for new capacity including strategically important sites for management and treatment and locations where recycling, recovery and manufacturing activities can co-locate. Strategic Industrial Locations continue to be identified as suitable locations for waste management uses. It is noted that the Edmonton and Pinkham Way sites are both consistent with this policy.

Energy generated from waste is promoted through the draft replacement plan, particularly where waste cannot be recycled or composted, but there is limited policy guidance on how this will be achieved. Climate change mitigation is also promoted and it will be necessary to demonstrate how emissions reductions will be achieved in development proposals as well as providing detailed energy assessments.

In summary, the current adopted London Plan provides a firm foundation for planning decisions on new waste facilities. The replacement London Plan is expected to contain a number of similar policies, updated to reflect other requirements such as the need to deliver zero carbon development from 2019. The emerging policies of the replacement plan will carry increasing weight as they pass through progressive stages of consultations and review. In view of the timescale for adoption of the plan, as well as the policy continuity provided by PPS10 and other government planning policy statements, it is appropriate for the Authority to form its plans for new sites on the basis of the adopted London Plan, while taking account of the emerging policies.

The Authority will be submitting representations to the draft replacement plan seeking clarification on the approach to the utilisation of SRF. Defra support would be welcomed to ensure that the most appropriate use of SRF as a renewable fuel source is secured, which may not be constrained by London boundaries.

7.3.4 Local planning context

7.3.4.1 North London Waste Plan

At a local level, the seven local authorities within the NLWA region have agreed to work together as planning authorities to produce a joint DPD for waste, called the North London Waste Plan (NLWP).

This approach of joint working mirrors the approach of the Constituent Boroughs in terms of the production of the Joint Waste Strategy (JWS) with the NLWA which is described in section 3 of this OBC. The JWS is a parallel document but is inextricably linked to the NLWP, in a relationship which echoes that of the Government’s Waste Strategy 2007 and PPS10.

The NLWP will sit alongside the North London JWS and make sure that suitable sites are provided through which waste arising in North London can be sustainably managed in the future. The NLWP will also set a policy framework for other waste aspects, including commercial waste facility developments and the management of waste in new developments. The NLWP will become part of each of the Constituent Boroughs' LDF and provide the framework for the Boroughs' specific waste development control decisions.

The Constituent Boroughs see the NLWP as fulfilling three key aims:

- To identify a range of suitable and viable sites to meet the Constituent Boroughs' future waste management needs and increased self sufficiency.

- To set out a range of policies designed to support determination of planning applications for waste facilities as well as ensure a more general and sustainable approach to waste and resource management as impacted on by the land use planning system.

- To maximise the contribution of the NLWP to North London's environment, economy and society. The NLWP will both reflect and feed into North London's wider needs to ensure an integrated approach to improving quality of life across the area.

These aims are underpinned by a number of objectives, which are set out within the Authority's response to the Planning Health Framework at Appendix L.

The first stage of the production of the NLWP, the Issues and Options Report was published in January 2008 and subject to public consultation in January and February 2008. The Preferred Options Report was published for public consultation in October and November 2009. The Reference Project is consistent with the NLWP Preferred Options in that the Edmonton and existing Hendon sites are in existing waste use and are therefore safeguarded for waste uses; and the Pinkham Way and new Hendon sites are identified as potential waste management sites in Schedule C. The Authority's response to the Preferred Options consultation supported the proposed overall policy direction, as detailed in Appendix L.

A timetable for the full process of development of the NLWP is detailed in table 7.2 below. This indicates that the NLWP should be adopted in December 2011.

Table 7.2: timetable for the full process of NLWP development

Item	Timescale
Issues and Options Report	January 2008
Public Consultation	December 2009
Preferred Option and Sustainability Appraisal (SA) Report	North London Authorities ratify preferred options 2009
Public Consultation	October/November 2009
Submission of Draft Plan and SA Report	November 2010
Examination in Public	Examination June 2011. Inspector's report September 2011
Adopted Plan	December 2011

7.3.4.2 Local Development Frameworks

Work has also commenced on the Boroughs' new LDFs and a number of DPDs are at various stages of preparation. Of particular relevance to the project in addition to the NLWP are the key emerging DPD set out in table 7.3.

Table 7.3: progress with development plan documents

Borough	Document	Current stage	Relevant site	Likely adoption date
Barnet	Core strategy	Direction of Growth	Hendon	Spring 2011
Enfield	Core strategy	Further consultation on the preferred options	Edmonton	Autumn 2010
	Central Leeside Area Action Plan	Issues and options	Edmonton	Spring 2012
Haringey	Core strategy	Preferred options	Pinkham Way	Late 2011

Status of engagement

London Borough of Enfield

The Authority has engaged with Enfield, and the Council has consistently identified the Edmonton site as the preferred location for waste facilities in the borough. Correspondence from Enfield in this regard is attached at Appendix FF. Representations have also been submitted to the following consultations:

- Core Strategy – Further consultation on the Preferred Options
- Central Leeside Area Action Plan – Issues and Options stage
- Draft Scoping Report for the SA/SEA of Enfield's LDF

The representations submitted sought allocation of sites within the Upper Lee Valley for waste facilities or to ensure that the sites remain in employment use.

London Borough of Barnet

The Authority has held meetings with the Head of Planning at Barnet since October 2008 in respect of the existing and new Hendon sites as well as the Pinkham Way site. The Council has supported the Authority's proposals for delivery of waste facilities in the western part of the area. In respect of the possible new Hendon site, LB Barnet has encouraged the Authority to work to this site solution as it is consistent with their long term regeneration plans for the area and the emerging planning framework. Correspondence from Barnet is attached at Appendix FF.

London Borough of Haringey

The Authority has consulted Haringey and has received a planning brief of the site which assesses the local and /strategic policy description and assessment for the relevant site.

The Authority has met with Haringey and has formally written to the Council (letter attached at Appendix FF) seeking advice on the potential use of the site in the west of the sub region area for development of a new residual waste management treatment facility. The Council's response to the Authority's letter is also attached at Appendix FF.

Greater London Authority (GLA)

The Authority met the GLA's Director of Environment and discussed the Authority's procurement ambitions. During this meeting the Authority outlined the opportunities arising from the scale of its activity, positive messages about the procurement and its fit with the Mayor's ambitions and how the procurement would help move London forward to a more sustainable waste and energy position. The GLA was supportive of the Authority's plans including the creation of substantial AD capacity and the ambition for 50% recycling in the area.

7.3.5 Conclusion

The main policy framework for dealing with a planning application for new waste facilities within London will therefore be:

- PPS10.
- The London Plan (taking account of the emerging London Plan at the time a planning application is submitted and determined).
- Any saved Constituent Borough Unitary Development Plan (UDP) policies, until superseded by the LDF.

- ► The emerging NLWP DPD with a weight to be given to the DPD appropriate to the stage of the development at the time of determination of the planning application.

- ► Other emerging DPDs, including Constituent Borough Core Strategies and relevant Area Action Plans.

Unusually for a WDA, the Authority needs to consider the London wide planning context which extends beyond the Authority's administrative area and is relevant in relation to the establishment of new waste handling facilities. This is as a result the Authority's wish to consider solutions from bidders that potentially use sites outside of both the North London area and London for the treatment of SRF.

As such the Authority has undertaken a high level assessment of planning and other consents risks associated with potential sites (or facilities) identified through its market capacity study as potential users of SRF. The details of this exercise are set out at Appendix G.

The study reviewed the policy context, current status and prospects for securing approval for SRF treatment associated with a likely heat and power user. The results indicate that while there will be a range of environmental and procedural issues to address for any site which does not already have a consent in place for treatment of SRF, overall there appear to be no major planning policy impediments to one or more of the reviewed sites being able to accept and treat SRF. Indeed, the national policy context which supports energy recovery and decentralised energy tends to be highly supportive of such schemes.

7.3.6 Planning Strategy

The Authority's strategy is for the preferred bidder to prepare and submit planning applications for development of the sites. The Authority proposes that detailed planning applications will be submitted three months after announcement of the preferred bidder. To assist the bidders in developing design solutions the Authority will carry out a number of activities to provide additional information for sites so as to inform the preparation of bids, and in the case of the preferred bidder to provide a baseline against which a planning application can be prepared. The activities will include:

- ► development of site wide constraints and opportunities;

- ► meeting with the local planning authorities to discuss the sites and key constraints and opportunities including scoping for environmental impact assessment;

- ► completion of baseline studies and surveys to inform the preparation of an EIA (by the bidder);

- ► early consultation with key stakeholders and the local community.

In relation to the Fuel Use contract, the planning health checklist requires bidders to demonstrate that full planning applications could be submitted three months after announcement of the preferred bidder (see Appendix V). The Authority would underwrite reasonable planning costs from the announcement of preferred bidder to submission should the contract not go ahead.

7.4 Design issues

It is the intention of the Authority to give appropriate weight to design issues for all facilities developed as a result of both the waste services contract and the fuel use contract. The output specifications have been designed to ensure specifically that:

- ► The projects meet the key objectives of the Egan Report.

- They take account of guidance on design quality included in the following documents:
  - DCMS publication ‘Better Public Buildings’;
  - OGC guidance ‘How to achieve Design Quality in PFI projects’;
  - DEFRA guidance ‘Designing Waste Facilities’;
  - GLA guidance ‘Rubbish In – Resources Out: Design ideas for waste facilities in London;
  - The 4ps document ‘Achieving quality in local authority PFI building projects’.
- They take into account design legislation/guidance specific to waste.

The Authority is also mindful of the London Plan within the context of design, in particular Policy 4A.21 which provides for principles of Sustainable Design and Construction to be incorporated in waste facilities and more specifically Policy 4B.1 Design Principles for a Compact City, which states the Mayor will, and London Boroughs should, seek to ensure that developments should:

- Maximise the potential of sites;
- Promote high quality inclusive design and create or enhance the public realm;
- Contribute to adaptation to, and mitigation of, the effects of climate change;
- Respect local context, history, built heritage, character and communities;
- Provide for or enhance a mix of uses;
- Be accessible, usable and permeable for all users;
- Be sustainable, durable and adaptable in terms of design, construction and use;
- Address security issues and provide safe, secure and sustainable environment;
- Be practical and legible;
- Be attractive to look at and, where appropriate, inspire, excite and delight;
- Respect the natural environment and biodiversity, and enhance green networks and the Blue Ribbon Network;
- Address health inequalities.

New developments in London will also be required to conform to the following design documents:

- ‘Accessible London: Achieving an Inclusive Environment’ Supplementary Planning Guidance to the London Plan (April 2004).
- ‘Architects Guide to Sustainable Design and Construction’ published in 2008 by London District Surveyors Association.

Any sites in Barnet will be required to be consistent with ‘Supplementary Planning Document (SPD) - Sustainable Design and Construction’ (June 2007). In Camden development will be required to be consistent with ‘Design guide to enhance and protect the Built Environment’, in Haringey ‘Supplementary Design Guidance (SPG) Urban Design’ (2006)

In response the Authority intends to issue Design Guidance to support both the waste services and the fuel use contract procurement. Separate Guidance notes will be provided for the all the sites acquired by the Authority and offered to bidders. Each guidance document will have due regard to the place shaping agendas of the relevant planning authorities as a whole and specifically the areas in which the developments are proposed and will be framed to ensure proposals address key concerns of waste treatment technologies such as odour from anaerobic digestion and noise from MRFs.

Bidders will be required to recognise the proximity of residents and businesses to the proposed developments. Techniques such as scrubbing, carbon absorption, UV light and biofilters will be encouraged to address odour and enclosed tipping under negative pressure will be a requirement for both odour and noise abatement.

Design guidance will also be provided for HWRC developments. Design requirements will be framed to maximise recycling whilst minimising traffic problems on surrounding roads. Managing Heath and Safety will also be a key strand of the design principles and ensuring the users and the operations are kept separate will be an essential element of any design proposal.

The design guidance for the fuel use contract will be framed taking into consideration; sites proposed within the NLWA area to support regeneration schemes, sites proposed in the Thames Gateway and sites proposed elsewhere.

Sites proposed within the NLWA areas as being integral to regeneration schemes will have to have due regard the place shaping agendas of host boroughs as a whole and specifically the areas in which the developments are proposed. The Authority would wish them to be perceived as contemporary in the field and fit as a good neighbour.

Some potential fuel use solutions are located in the Thames Gateway. The regeneration of the whole of the Thames Gateway is taking shape and as such the Authority wishes to ensure that any development does not detract from the general requirements and aspirations of the area. Clearly all sites will need to be considered on their merits; however, general design parameters from the authority will be framed to enhance industrial developments in the locality recognising the overarching principles of the Thames Gateway development. This will not only enhance any proposal but also ensure planning concerns are addressed going forward.

The final category of proposal for fuel use the Authority feels may be put forward is the location of a fuel use solution elsewhere in the country. Whilst clearly, each proposal will need to be considered against the specific location and the design principles of the host planning authority and area specific requirements, the Authority intends to provide generic design principles which should as far as is practicable be embraced.

The Authority will ensure the evaluation criteria take into account design and whole life costing as well as factors to ensure the most efficient construction techniques are employed and that the contractors' supply chain is appropriately managed.

The WIDP Design and Sustainable Development checklist response is provided at Appendix M.

8. Costs, budgets and finance

8.1 Introduction

In addressing the costs, budget and finance implications of the Reference Project, this section demonstrates that the Authority has carefully considered the relative value for money merits of PFI as opposed to conventional procurement. Furthermore, the section fully evaluates the affordability implications of the PFI Reference Project, defined in section 4 and demonstrates Authority and Constituent Borough member approval. Specifically, this section examines:

- The estimated procurement costs to the Authority (section 8.2).
- The choice of private finance over prudential borrowing (section 8.3).
- The comparative value for money of PFI as opposed to conventional procurement (termed the Public Sector Comparator (PSC)) using current HM Treasury Guidance (section 8.4).
- The affordability of the Reference Project, including a comparison of the 'Do Something' (Reference Project) option with the 'Do Minimum' (Landfill Option) and the effect on the affordability position of sensitivities carried out on key cost assumptions (section 8.5).
- Authority and Constituent Borough member approval of the affordability implications of the project (section 8.6).
- The Authority's LATS trading strategies (section 8.7).

The shadow tariff financial model that supports the Reference Project and the supporting assumptions for the Reference Project as a whole are included in appendices R and S.

8.2 Procurement costs

The budgetary provision for internal resources inclusive of secondees and external consultancy support to complete the required procurements is set out in table 8.1 below.

Table 8.1: waste procurement programme budget and resource requirements

£m (real)	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
	Actual		**Budget**	**Forecast**		
Internal Resources	0.5	1.0	1.4	1.4	0.9	0.9
External Resources	0.7	1.6	2.7			
Financial Waste Services				0.3	0.3	0.3
Financial Fuel Use				0.2	0.2	0.2
Technical Waste Services				0.2	0.2	0.1
Technical Fuel Use				0.1	0.1	0.1
Legal Waste Services				0.3	0.3	0.3
Legal Fuel Services				0.2	0.2	0.2
Other				0.2	0.0	0.0
Contingency	-	-		0.3	0.3	0.1
Total	1.2	2.6	4.1	3.1	2.6	2.1

The budgets are being managed by the NLWA project team and finance officer and are regularly reviewed and kept up-to-date. In addition, the budgets are reviewed annually by the Project Board and necessary amendments made and agreement sought during the annual budgetary process.

The contractual arrangements covering the procurement of external advisors are set out in section 6.4.

Procurement costs, as set out in table 8.1, show actual figures, budgetary provisions and forecasts for internal resources and external consultancy going forward. The costs have been determined by the Project Board and the advisors who have considerable experience in procurement projects of similar type and recognise the challenge of running two parallel procurements. The budget and forecasts have been agreed with the Authority and will be reviewed and updated on an on-going basis as the procurement progresses.

8.3 Private finance

In its reports *'Comparison of Funding Options, 17 July 2008'*, '*Comparison of Funding Options: Addendum, 12 September 2008'* and *'Assessment of Alternative funding Options, 28 May 2009'* (included at appendix Q of this OBC), Ernst & Young, the Authority's financial advisor, has undertaken an analysis of the likely costs and risks to the Authority associated with private finance and Prudential Borrowing funding structures as methods of financing the capital investment in waste management infrastructure required by the Authority. The Authority is continuing to examine funding options to enhance and refine the traditional PFI approach and the emerging outcomes of this are discussed in greater detail in section 5.3.11.

On the basis of the analysis contained in these reports, and being cognisant of the guidance provided by WIDP in its consultation draft of December 2007 'Prudential Borrowing in the Waste Sector' the Authority has reached the view that the use of private finance in the context of a PFI contract is likely to deliver a superior balance of risk transfer and cost, and hence superior value for money for the North London taxpayer compared to a structure funded through Prudential Borrowing. This assertion is examined formally using a HM Treasury compliant VfM analysis below.

The Authority has taken into consideration the potential risk of not securing senior debt funding in its entirety and an initial strategy has been developed to address this risk. The use of prudential funds informs part of this strategy and is discussed in greater detail in section 5.

8.4 Value for money assessment

8.4.1 Overall

Having defined the scope of the PFI project, the next step is to establish the procurement route that represents the best VfM for the residents of the Constituent Boroughs served by the Authority. The approach adopted is consistent with the guidelines set out in the updated *HM Treasury Value for Money Assessment Guidance* (the Guidance) as issued in November 2006, the *Supplementary VfM Guidance for Waste PFI* prepared by Partnerships UK for DEFRA in November 2006, the *Quantitative Assessment User Guide*, March 2007 and *Department of Communities and Local Government (DCLG) PFI Project Support Guide (2009-10), 1st Revision (September 2009).*

This OBC assumes that DEFRA has undertaken a Stage 1 programme level assessment for waste PFI projects as part of the Comprehensive Spending Review completed in 2004, demonstrating that waste, as an investment programme, is likely to achieve VfM under PFI. This OBC details the Stage 2 project level assessment, aimed at verifying whether the Stage 1 decision to use PFI is in fact valid for the Authority.

This project level assessment has considered both qualitative and quantitative factors. The qualitative appraisal considers the viability, desirability and achievability of PFI. The

quantitative analysis uses a prescribed methodology and electronic spreadsheet provided by Treasury to determine whether PFI represents indicative VfM when compared to the PSC, reflecting a conventional public sector procurement route.

As discussed in greater detail in Chapter 4, the Reference Project comprises two separate PFI contracts; the Waste Services contract and the Fuel Use contract. This section outlines the results of the qualitative and quantitative assessment for both contracts, considering the specific characteristics of each separately where appropriate.

8.4.2 Qualitative assessment

The Guidance states that PFI should generally apply to large projects that are critical to the delivery of public services. PFI projects commit the procuring authority to a particular provider for some years ahead, and whether the projects are successful or not will depend on both cost and a number of qualitative and quantitative considerations, relevant to deciding the most appropriate procurement route. The three qualitative factors identified by the Guidance are as follows:

- **Viability:** Confirmation that the investment objectives and all desired project outcomes can be translated into outputs that are measurable, 'contractable' and can be agreed. This factor also involves assessing whether there are efficiency or accountability issues which demand that the project is provided by the public sector directly rather than through the PFI procurement route.

- **Desirability:** Involves assessing the relative merits of different procurement routes. Considerations include incentivisation; risk transfer in PFI; the Government's lower cost of borrowing in conventional procurement; and the relative advantages and disadvantages associated with a long-term contractual relationship between the public and private sectors.

- **Achievability:** Involves gauging the expected level of market interest and whether the public sector client would have sufficient capability to manage the complex processes involved. This is integral to both the procurement of the services and their ongoing management and performance.

The Authority has given due consideration to a series of qualitative questions designed to verify the decision for proceeding with PFI. Table 8.2 below summarises the Authority's responses for each of the three qualitative factors described above. In each case the responses are considered to both the Waste Services and Fuel Use contracts. The full list of questions and responses is included in appendix N.

Table 8.2: qualitative assessment summary – Reference Project

Qualitative factor	Summary question from the guidance	The public sector's considered response
Viability	Overall, in considering PFI, is the department satisfied that sustainable long-term contracts can be constructed, and that strategic and regulatory issues can be overcome?	The Authority is satisfied that a contract structure can be arrived at which will: ► Meet the public sector's strategic aims and objectives for Waste Management ► Deliver the project to the Output Specification ► Meet the diversion performance targets from the infrastructure proposed. As discussed in chapter 5, the Authority is of the view that its over-arching performance requirements can be successfully split between the Waste Services and Fuel Use elements of the project ► Provide a flexible solution, so that changing regulatory targets can be met where necessary ► Satisfy all current regulatory requirements, including SoPC4, taking account of the draft WIDP Residual Treatment Contract.
Desirability	Overall, is the accounting officer satisfied that PFI would bring sufficient benefits that would outweigh the expected higher cost of capital and other disadvantages?	The Authority is satisfied this PFI contract will bring sufficient benefits to outweigh an expected higher cost of capital through: ► The risk transfer of future performance and costs which could be subject to fluctuation ► Certainty of service delivery during the contract term ► The use of a DBFO contract, which will ensure the construction and subsequent operating cost benefits are linked.

Qualitative factor	Summary question from the guidance	The public sector's considered response
Achievability	Overall, is the accounting officer satisfied that a PFI procurement programme is achievable, given an assessment of the market, Authority resources and the attractiveness of the proposal to the market?	In consideration of the points above, the Authority is satisfied the procurement programme is achievable, given that: ► The right level of resource and expertise has been committed to the project. This is supported by experienced consultants ► The Authority has experience of managing major procurement projects including the current contracts for waste disposal ► Soft market testing has provided positive feedback. Much interest has been expressed in the project from all sectors of the market place including established waste management operators, industrial energy users, technology providers and financial institutions ► The project seeks a product with which the private sector is familiar ► Risk sharing will be based on established standards, which the private sector is familiar with ► Whilst current debt market conditions mean that securing senior debt finance cannot be taken for granted, the 34month period between OBC submission and the expected date of financial close provides the Authority with time to monitor evolving developments in the debt market and to plan an appropriate strategy for securing finance based on prevailing market conditions. The Authority has established an alternative funding options group to develop a strategy to maximise the likelihood of securing private sector finance and enhancing the deliverability and VfM of the project. This is discussed in greater detail in chapter 5

Based on the qualitative project level assessment, the Authority believes that the Waste Services and Fuel Use contracts underpinning the Reference Project both meet the viability, desirability and achievability requirements of the Guidance, confirming the initial programme level assessment decision that PFI offers VfM for the Authority. The results of the quantitative assessment are discussed below.

8.4.3 Quantitative assessment

The quantitative assessment considers how the quantifiable costs and benefits of using PFI as a procurement route are likely to compare with conventional procurement through the PSC. This involves estimating values for the capital and operating costs attached to the project and adjusting these for any inherent Optimism Bias (see section 8.4.3.2 below) and/or specific risks, as well as expected transaction costs. For the PFI option, the project cost is calculated using an assumption of private financing and adjusting relevant factors accordingly. A generic spreadsheet has been developed by Treasury (the Treasury spreadsheet) to capture the values and enable sensitivity testing that, according to the Guidance, must be used as part of the project level assessment. Within the Guidance, the two procurement methods are defined as:

► **The PSC Option:** Procurement through conventional approaches that use public funding (for example, letting a design and build contract for the construction of an asset, and then letting annual operating and maintenance contracts for the ongoing operation and maintenance of that asset).

- **The PFI option:** Procurement under the PFI which dictates a specific contract structure through which the public sector lets a design, build, finance and operate contract to the private sector for the construction and whole life maintenance of an asset and/or associated service.

The quantitative analysis has been carried out separately for each of the Waste Services and Fuel Use contracts. For each contract, the next four sub-sections outline:

- Key input assumptions that have been made in using the Treasury spreadsheet
- Optimism bias
- Indicative VfM results
- The outcome of sensitivity analysis performed

8.4.3.1 Key input assumptions

The Treasury spreadsheet contains a number of assumptions that have been 'hard coded' and therefore cannot be altered. For example, employment cost per employee for the PSC option is fixed to equal the amount input for the PFI option. There are, however, many project specific input assumptions to be made. A summary of the key financial input assumptions is provided below with a full listing detailed in appendix S.

The Shadow Tariff Models (STMs) used to estimate the cost of the Reference Project to the Authority assume that financial close occurs on 30 September 2012.

- For the Waste Services contract STM model, this is followed by a three year and six month planning and construction period which commences on 1 October 2012 and completes on 31 March 2016. As the Treasury spreadsheet works on the basis of full years only, for the Waste Services contract model it has been assumed that the construction period is three years and full operations commence from 1 April 2016, with the contract ending on 31 March 2042.
- For the Fuel Use contract STM model, this is followed by a four year and six month planning and construction period, which commences on 1 October 2012 and finishes on 31 March 2017, with full operations of the plant commencing on 1 April 2017. For the purposes of the VfM analysis, a four year construction programme is assumed, completing on 31 March 2017, with full operations commencing from 1 April 2017 and the contract ending on 31 March 2042.

Tables 8.3 and 8.4, below, summarise the key input assumptions used for the Treasury spreadsheet for the Waste Services and Fuel Use contracts, respectively.

Table 8.3: summary of key input assumptions – Waste Services contract

Variable	Description	Authority input assumption
Timings	The contract period is restricted to intervals between six and 40 years.	The contract period for this project is modelled at 29.5 years, which is assumed as 29 years for the purposes of the Treasury spreadsheet. Financial Close is assumed to be 30 September 2012. A three year construction period is then followed by a full operations period of 26 years.
Capital Expenditure (CapEx)	Expenditure incurred in procuring the asset. It does not cover expenditure required to maintain the asset.	The initial (real) CapEx of the project at projected financial close of 30 September 2012 totals £264 million over a three year period for the PFI option and £238 million for the PSC option, which is consistent with HM Treasury guidance that CapEx in the PSC would be comparatively lower. The PFI CapEx costs reflect the estimated cost of the risks borne by the private sector under a PFI transaction.

Variable	Description	Authority input assumption
Lifecycle costs at each LC date	The investment incurred, on an ongoing and/or periodic basis during the course of the contract period, to maintain the asset so that it remains fit for its intended purpose. The lifecycle interval for the PFI option is hard-coded as an annual cost	Ramboll AEA has derived the lifecycle costs of the project. These costs are paid at certain points throughout the project. To derive a single lifecycle cost at a given interval, the net present value of the total lifecycle costs has been calculated (using the Treasury real discount rate of 3.5%). Using the Treasury spreadsheet this equates to a five yearly lifecycle lump sum of £13.6 million, which in turn equates to an annuity of £2.5 million. The PSC lifecycle assumes cash flows happen at a five yearly interval. In case of PSC, the five year lifecycle cost is calculated as £12.2 million It is assumed that a premium is payable under PFI as compared to CP given the differential operating cost risk transfer between these options.
Operating Expenditure (OpEx)	Represents the costs incurred by the Authority in operating the asset and/or running the services that are included within the scope. Expenditure which falls outside of the scope is excluded.	The annual OpEx cost (non-employment) is calculated as £33.1 million. It is assumed that a premium is payable under PFI as compared to CP given the differential operating cost risk transfer between these options for non employment costs. The annual PSC cost is calculated without this risk premium of 12.5% at an annual cost of £29.0 million. The employment costs are calculated as £7.2 million per annum. Operating costs commence following the completion of the three year construction period. The average wage cost is £43,591 in real terms as at the projected financial close date of 30 September 2012.
Transaction costs	These represent the costs incurred by the private sector and the public sector, in reaching contractual agreement.	The transaction costs have been assumed at £2m under the PSC and £5m under PFI, based on the size and complexity of the procurement and costs incurred on other waste PFI projects.
Third Party Income	This represents any income stream which may result from the procurement which will reduce the unitary charge	Third party income data for the project relates to recyclate sales, electricity income from the AD process and income from sale of ROCs. An annual amount of income is calculated following the same methodology as with lifecycle costs (as described above). The average annual amount calculated is approximately £9.2 million. As with lifecycle costs, the third party income stream only commences after the initial three year CapEx period has finished.
Gearing	This represents the share of the total financing requirement which is funded by debt under the PFI option.	The level of senior debt as a percentage of the total project funding is 79.73%, based on a prudent level of gearing acceptable to the current market.

Table 8.4: summary of key input assumptions – Fuel Use contract

Variable	Description	Authority input assumption
Timings	The contract period is restricted to intervals between six and 40 years.	The contract period for this project is modelled at 29.5 years, which is assumed as 29 years for the purposes of the Treasury spreadsheet. Financial Close is assumed to be 30 September 2012. A four year construction period is then followed by a full operations period of 25 years
Capital Expenditure (CapEx)	Expenditure incurred in procuring the asset. It does not cover expenditure required to maintain the asset.	The initial (real) CapEx of the project at projected financial close of 30 September 2012 totals £259 million over a three year period for the PFI option and £233 million for the PSC option, which is consistent with HM Treasury guidance that CapEx in the PSC would be comparatively lower. The PFI CapEx costs reflect the estimated cost of the risks borne by the private sector under a PFI transaction.

Variable	Description	Authority input assumption
Lifecycle costs at each LC date	The investment incurred, on an ongoing and/or periodic basis during the course of the contract period, to maintain the asset so that it remains fit for its intended purpose. The lifecycle interval for the PFI option is hard-coded as an annual cost	Ramboll AEA has derived the lifecycle costs of the project. These costs are paid at certain points throughout the project. To derive a single lifecycle cost at a given interval, the net present value of the total lifecycle costs has been calculated (using the Treasury real discount rate of 3.5%). Using the Treasury spreadsheet this equates to a five yearly lifecycle lump sum of £8.4million, which in turn equates to an annuity of £1.6 million. The PSC lifecycle assumes cash flows happen at a five yearly interval, In case of PSC, the five year lifecycle cost was calculated as £7.5 million It is assumed that a premium is payable under PFI as compared to CP given the differential operating cost risk transfer between these options.
Operating Expenditure (OpEx)	Represents the costs incurred by the Authority in operating the asset and/or running the services that are included within the scope. Expenditure which falls outside of the scope is excluded.	The annual OpEx cost (non-employment) is calculated as £13.8 million. It is assumed that a premium is payable under PFI as compared to CP given the differential operating cost risk transfer between these options for non employment costs. The annual PSC cost is calculated without this risk premium of 12.5% at an annual cost of £12.0 million. The employment costs are calculated as £2.2 million per annum. Operating costs commence following the completion of the three year construction period. The average wage cost is £48,108 in real terms as at the projected financial close date of 30 September 2012.
Transaction costs	These represent the costs incurred by the private sector and the public sector, in reaching contractual agreement.	The transaction costs have been assumed at £2m under the PSC and £5m under PFI, based on the size and complexity of the procurement and costs incurred on other waste PFI projects.
Third party income	This represents any income stream which may result from the procurement which will reduce the unitary charge	Third party income data for the project relates to heat and electricity income and income from sale of ROCs. An annual amount of income is calculated following the same methodology as with lifecycle costs (as described above). The average annual amount calculated is approximately £12.0million. As with lifecycle costs, the third party income stream only commences after the initial three year CapEx period has finished.
Gearing	This represents the share of the total financing requirement which is funded by debt under the PFI option.	The level of senior debt as a percentage of the total project funding is 80.30%, based on a prudent level of gearing acceptable to the current market.

8.4.3.2 Optimism Bias

The Treasury spreadsheet accounts for the impact of uncertainty over project costs through input assumptions for Optimism Bias. Optimism Bias relates to the demonstrated and systematic tendency for project appraisers to be overly optimistic when considering project benefits and costs.

The Guidance states that there is currently little, if any, evidence to suggest that either conventional or PFI-style procurement methods deal any more or less efficiently with Optimism Bias. However, there is evidence that the allocation of risks achieved under a PFI contract reduces the impact of any Optimism Bias on the Procuring Authority as compared to the contractual arrangements typically resulting from a PSC option.

The Guidance explains that, in accounting for Optimism Bias, the Treasury spreadsheet differentiates between two key stages of the investment decision process, namely pre-Full Business Case (FBC) and post-FBC. FBC in this instance represents the date of contract award. The pre-FBC Optimism Bias factor represents the increase in estimated costs or

shortfall in estimated income between the OBC and the FBC stage. Post-FBC Optimism Bias factor represents the increase in costs or the shortfall in income between the date of contract award and the completion of the associated asset(s).

Fundamental to the internal operation of the Treasury spreadsheet is the assumption that the impact of post-FBC Optimism Bias will be greater under the PSC option than the PFI option.

The Treasury spreadsheet requires inputs for both pre-FBC and post-FBC Optimism Bias percentages for CapEx, Lifecycle costs, OpEx, transaction costs and third-party income. These inputs are detailed in Tables 8.5 and 8.6 below for the Waste Services and Fuel Use contracts, respectively. Comprehensive details of how the inputs have been derived are provided in appendix N.

Table 8.5: optimism Bias input assumptions – Waste Services contract

Cost centre	Overall Optimism Bias (%)	Pre-FBC Optimism Bias (%)	Post-FBC Optimism Bias (%)
CapEx	46.6%	11.6%	35.0%
Life cycle	46.6%	11.6%	35.0%
OpEx	25.0%	5.0%	20.0%
Transaction	50.0%	10.0%	40.0%
Third-party revenue	20.0%	5.0%	15.0%

Table 8.6: optimism Bias input assumptions – Fuel Use contract

Cost centre	Overall Optimism Bias (%)	Pre-FBC Optimism Bias (%)	Post-FBC Optimism Bias (%)
CapEx	47.8%	12.0%	35.8[15]%
Life cycle	47.8%	12.0%	35.8%
OpEx	25.0%	5.0%	20.0%
Transaction	50.0%	10.0%	40.0%
Third-party revenue	59.0%	11.8%	47.2%

As an example of how the above Optimism Bias inputs are used in the Treasury Spreadsheet, for capital expenditure the overall level of Optimism Bias for the Waste Services contract is 46.6%. The pre-FBC Optimism Bias of 11.6% represents the likely increase in costs up to the point-of-contract award and the post-FBC Optimism Bias of 35.0% represents the potential cost increases after contract award. As stated above, the impact of the post-FBC Optimism Bias for the Procuring Authority is likely to be reduced by a PFI contractual structure due to the ability under this contractual structure to transfer risk of cost increase to the private sector, either at the Engineer, Procure and Construct (EPC) sub-contract level or through the SPV.

8.4.3.3 Indicative PFI VfM results

The key outputs from the Treasury spreadsheet are the PSC Net Present Cost (NPC) of the project, the PFI equivalent and the indicative PFI VfM percentage, representing the percentage difference between the two. If the indicative PFI VfM percentage is positive, then this indicates that the project supports the programme level assessment that VfM can be achieved through PFI. If negative, the PSC is deemed to offer better VfM.

Waste Services contract

For the base case scenario, the indicative PFI VfM percentage is generated using a pre-tax Internal Rate of Return (IRR[16]) for the private sector of 15%. This produced an indicative PFI VfM percentage of 6.40%[17], confirming PFI as offering the potential to deliver VfM for the

[15] This is lower by one decimal place than the Treasury spreadsheet is showing due to rounding.
[16] The IRR is defined as the assumed pre tax return targeted by the private sector contractor.
[17] The Treasury spreadsheet allows alternative rates of 13% and 18% to be utilised. The use of these will either increase or decrease the extent to which PFI is seen to offer value for money over traditional procurement. For example for the Waste Services Contract, a blended equity return of 18% will yield an indicative value for money

Waste Services contract. The base case scenario results for the Main Waste Services contract are summarised thus:

Table 8.7: indicative PFI VfM results – Waste Services contract

£000	PSC NPC	PFI NPC
Base case scenario (15% pre-tax IRR)	1,167	1,092
Indicative PFI VfM %		6.40%

Fuel Use contract

For the Fuel Use contract, the indicative PFI VfM percentage is generated using a pre-tax Internal Rate of Return (IRR) for the private sector of 15%. This produces an indicative PFI VfM percentage of 8.73%[18], which confirms that PFI has the potential to deliver VfM for this contract. The base case scenario results for the Fuel Use contract are summarised thus:

Table 8.8: indicative PFI VfM results – Fuel Use contract

£000	PSC NPC	PFI NPC
Base case scenario (15% pre-tax IRR)	699	638
Indicative PFI VfM %		8.73%

8.4.3.4 Outcome of sensitivity analysis performed

The Treasury spreadsheet also allows a sensitivity analysis to be performed which shows the percentage difference by which costs would need to change in order to alter the result of which route represents VfM. The model uses Indifference Points to demonstrate the level of change required in the value of individual inputs to erode the difference between the PSC and PFI NPCs to zero, thus making the Procuring Authority indifferent between the two procurement routes. Tables 8.9 and 8.10 set out Indifference Points for capital and operating expenditure for the PSC option and for the unitary charge for the PFI option for the Waste Services and Fuel Use contracts, respectively.

Table 8.9: indifference analysis – Waste Services contract

Procurement option	Variable	Indifference points (%)
PSC	CapEx	(16)%
PSC	Non-employment OpEx	(13)%
PSC	Employment-related OpEx	(42)%
PFI	Unitary charge	8%

Table 8.10: indifference analysis – Fuel Use contract

Procurement option	Variable	Indifference points (%)
PSC	CapEx	(13)%
PSC	Non-employment OpEx	(27)%
PSC	Employment-related OpEx	(117)%
PFI	Unitary charge	12%

For the Main Waste Services contract, the analysis demonstrates that, all other things being equal, the capital expenditure under the PSC would have to decrease by 16% in order for the Authority to be indifferent between the two options. Similarly, non-employment operating expenditure would have to decrease by 13% under the PSC. Employment related OpEx would have to decrease by 42% under the PSC for it to become equal to PFI.

result of 4.0% whereas a 13% rate would yield a value for money result of 7.8%. Given the robustness of the results set out above, these sensitivities have not been explored further.

[18] For the Fuel Use contract, a blended equity return of 18% will yield an indicative value for money result of 4.2% whereas a 13% rate would yield a value for money result of 11.5%. Given the robustness of the results set out above, these sensitivities have not been explored further.

Correspondingly, for the Fuel Use contract, the results within table 8.10 above show that, all other things remaining equal, capital expenditure would need to decrease by 13% for the PSC to become the preferable option. In relation to operating expenditure, non-employment costs would need to decrease by 27%, or the employment related costs to decrease by 117% for the Authority to be indifferent between PFI and the PSC in terms of VfM provided.

For both contracts, these are above the Guidance benchmark which states that indifference points should be at least 5% in order to prove an acceptable sensitivity.

Affordability constraints aside, the Unitary Charge would have to increase by 8% and 12% for the Waste Services and Fuel use contracts, respectively for the Authority to be indifferent between the two procurement options. Again, these percentages are within comfortable distance of the Guidance benchmark of 3%.

8.4.3.5 Project level assessment – conclusion

The qualitative assessment for both the Waste Services and the Fuel Use contracts produces a clear indication that, in terms of viability, desirability and achievability the Authority is well positioned to deliver PFI procurement. In addition, the results of the quantitative assessment show an indicative PFI VfM percentage of 6.4% for the Waste Services contract and a PFI VfM percentage of 8.7% for the Fuel Use contract. The robustness of these results has been demonstrated through sensitivity testing, and these assessments have provided a clear indication that verifies the outcome of the programme level assessment that PFI can deliver VfM for the Authority's waste project.

8.5 Affordability analysis

8.5.1 Introduction

Having defined the preferred procurement route in section 8.4 above, this section considers the affordability of the Waste Services and Fuel Use contracts as the two constituent parts of the Reference Project, taking into account:

- The costs of the overall waste management system, including the costs of the Waste Services and Fuel Use contracts, those waste management services that fall outside the scope of the PFI contracts, but within the remit of NLWA and the Constituent Borough collection costs (sections 8.5.2, 8.5.3 and 8.5.4).
- The Authority's projected waste management budgets and the Constituent Boroughs' collection budgets over the contract period (section 8.5.5).
- The revenue support contribution of the PFI credit (section 8.5.6).
- The 'affordability gap' between the cost of the overall waste management system and the Authority's and Constituent Boroughs' projected waste management and collection budgets over the term of the contract (section 8.5.7).
- The costs associated with the 'Do Minimum' option (section 8.5.8).
- An annualised sinking fund analysis for each of the Constituent Boroughs (section 8.5.9).
- The effect that sensitivities, carried out on key assumptions, has on the projected 'affordability gap' for the Authority and its Constituent Boroughs (section 8.5.10).

As discussed in the context of the VfM analysis, the OBC assumes a 29.5 year contract period from financial close. For the purposes of the affordability analysis, and in order to provide an analysis consistent with the Constituent Borough affordability letters of support included in the October 2008 version of the OBC, the affordability analysis covers a 31 year

period from 1 April 2011 to 31 March 2042 as was the case in the October 2008 submission, thereby including a year and a half of costs prior to financial close.

8.5.2 The costs of the waste management system

In arriving at an affordability assessment, it is necessary to estimate the cost of services underpinning the waste management system, which in turn is comprised of two elements:

- Services within the scope of the PFI Reference Project - Two STMs are used to estimate the costs to the Authority of delivering the Waste Services Contract and the Fuel Use Contract through a private finance structure.

- Services outside the scope of the PFI Reference Project, which are nevertheless critical in delivering the waste management outcomes required by the Authority and the Constituent Boroughs.

8.5.3 Cost of the Reference Project using private finance

In order to estimate the cost of the Reference Project, the STMs for the Waste Services Contract and the Fuel Use Contract have been constructed based on the assumptions described below.

The unitary charge generated by the STMs is such that a commercial return, comparable with that seen in recent waste management projects, may be generated by the PFI contractor, while meeting likely debt service requirements and banking covenants.

The funding structure (in terms of gearing and covenants) and equity return requirements of the Reference Project are consistent with recent waste PFI project bid submissions. Senior debt funding costs reflect an estimate of current market conditions. In accordance with HM Treasury Application Note *"PPP Projects in Current Market Conditions, August 2009"*, the Authority has not predicated its OBC affordability analysis on a return to "normality" in the funding markets. Specifically:

- Gearing is assumed to comprise 79.7% senior debt and 20.3% equity in the case of Waste Services Contract; and 80.3% senior debt and 19.7%equity in the case of Fuel Use Contract.

- Nominal blended equity return is 14%.

- The models achieve an average annual cover ratio of 1.388 for the Waste Services contract and 1.332 for the Fuel Use contract.

- Underlying long term swap rate of 4.10% (quoted at 23 November 2009), plus a 50 basis point buffer.

- Margins over long-term debt rates are 275 bps to 330 bps.

Contractor margins to reflect the price of risk transfer to EPC and operations and maintenance sub-contractors within the SPV structure have already been included within the base data provided by Ramboll AEA.

The Waste Services and Fuel Use contracts have each been designed in a way to necessitate one senior debt facility to be committed on contract signature of each contract. For the Waste Services contract, the final debt drawdown under the debt facility is expected to take place in March 2016, a period of three years and six months following the scheduled financial close of 30 September 2012. For the Fuel Use contract, the final debt drawdown is due to occur in March 2017, four years and six months after financial close.

The estimated cost of the Reference Project is set out in table 8.11 below. The STMs that support the PFI Reference Project are included in appendix R together with the supporting model assumptions book (included at appendix S):

Table 8.11: cost of PFI Reference Project

(£000) Whole Life, Nominal	Reference Project
Waste Services Contract	2,327,333
Fuel Use Contract	1,207,821
PFI Total nominal gross costs	3,535,154

8.5.4 Services outside the scope of the Reference Project

The cost of the Reference Project described in the sections above solely refers to the services as defined in section 4 as being within the scope of services of the Waste Services and Fuel Use contracts. However, the WIDP template requires that analysis be performed on the nominal costs of all other waste services that will be incurred by the Authority and the Constituent Boroughs[19]. This includes:

- Costs of the collection system incurred by each of the Constituent Boroughs. Within this OBC, there is a commitment to reach recycling levels of 45% in 2015 and 50% in 2020. As such, the cost of the upgraded Constituent Borough collection systems is reflected within the modelling of wider waste system costs.

- The cost of investment in land for each of the facilities, this is assumed as being 100% financed using Prudential Borrowing at a rate of 4.4%, and repaid over the life of the concession.

- The cost of acquiring the remaining 50% shareholding in LWL is assumed as being funded by Prudential Borrowing. A cost of £90 million is assumed as occurring on 31 December 2009. A provisional sum of £72 million has been set against the cost of this borrowing to reflect the assumed sale of the Authority's full shareholding in LWL to the successful PFI Bidder at the date of financial close, 30 September 2012.

- The cost of transfer station services, third party green waste composting services, the run out of third party recycling contracts, the run out of the existing contract between the Authority and LWL and the cost of education and enforcement for increased recycling levels (collectively termed 'additional system costs').

- A recharge to commercial customers for the cost of treating non-household waste. The Reference Project assumes that the PFI contracts treat commercial and non-household customers' waste that falls under section 52(9) and is collected by the Constituent Boroughs. The Constituent Boroughs are able to levy a charge corresponding to the cost of treating this waste, which for the purposes of the Reference Project modelling is assumed to be the average cost per tonne of sending material through the PFI facilities, and is offset against the gross cost of the service.

- Landfill tax for all waste sent to landfill within the system plus the landfill costs of residues from third party green waste composting services (collectively termed 'landfill costs').

- LATS costs. The Reference Project modelling indicates that should the PFI infrastructure be delivered in accordance with the proposed programme, the Authority will not need to acquire LATS. No income is assumed regarding sale of LATS.

[19] It should be noted that wider system costs have been taken into account for the 31 year period from 1st April 2011 to 31st March 2042. This is to maintain consistency and comparability with the submission of the Outline Business Case in October 2008 to Defra.

8.5.4.1 Projected total cost of the waste management system

Table 8.12 below illustrates the projected costs of the overall waste management system for the Reference Project and the wider waste system costs.

Table 8.12: cost of the waste management system

Whole life, nominal	Reference Project (£000)
PFI Reference Project gross cost	3,535,154
Additional system costs	824,126
Landfill costs (gate fee and tax)	494,387
Landfill allowance[20]	-
Reference project non-household recharge	(704,774)
Additional system non-household recharge	(159,184)
Net treatment and disposal costs	3,989,709
Collection costs	3,708,391
Total system costs	**7,698,100**

8.5.5 Authority and Constituent Borough projected budgets

Having calculated an estimate of the cost of the overall waste management system under the PFI procurement option, a comparison can now be made against the project level of the Authority's levy and the Constituent Borough collection budgets across the concession period of the project in order to determine the total forecast 'affordability gap' of the project.

The Authority is funded by the Constituent Boroughs through the levy mechanism. Therefore waste management budgets for each Constituent Borough comprise budgets both for collection and for the levy charged to each of the Constituent Boroughs by the Authority. In order to examine the affordability implications of procuring a long-term waste management contract, the projected 2011/12 budget (for both collection and disposal) for each Constituent Borough has been adjusted to account for inflationary increases using the assumed Retail Price Index (RPI) of 2.5% per annum over the life of the contract.

Table 8.13 shows the projected budgets for the period 2011/2012 to 2014/2015, the final year's budget in 2041/2042 and the 31 year total for both collection and disposal.

[20] In line with WIDP guidance, potential income generated from the sale of LATS has not been included within this analysis. If the income figure were calculated using the same cost profile as for the cost of LATS, the effect of including this income would be to reduce the cost of the Reference Project by £294 million.

Table 8.13: projected Authority and Constituent Borough budgets

Whole life, nominal £000	2011/12	2012/13	2013/14	2014/15	2041/42	31 Year total
Collection						
Barnet	10,310	10,454	10,716	10,983	21,085	**463,120**
Camden	8,513	8,726	8,944	9,168	17,725	**388,971**
Enfield	8,087	8,040	8,241	8,447	14,656	**325,208**
Hackney	10,145	10,398	10,658	10,925	21,279	**466,662**
Haringey	10,164	10,080	10,332	10,591	20,982	**459,777**
Islington	10,133	10,387	10,646	10,913	19,868	**438,467**
Waltham Forest	7,903	7,900	8,098	8,300	15,927	**349,957**
Projected total collection budget	**65,255**	**65,986**	**67,636**	**69,327**	**131,523**	**2,892,163**
Disposal						
Barnet	7,993	8,193	8,398	8,608	17,075	**373,846**
Camden	5,277	5,409	5,544	5,683	11,200	**245,369**
Enfield	5,748	5,891	6,039	6,190	13,855	**300,277**
Hackney	5,662	5,803	5,948	6,097	11,876	**260,442**
Haringey	5,881	6,028	6,179	6,334	11,983	**263,484**
Islington	5,163	5,292	5,424	5,560	12,216	**265,156**
Waltham Forest	5,014	5,139	5,268	5,399	10,757	**235,425**
Projected total disposal budget	**40,738**	**41,756**	**42,800**	**43,870**	**88,961**	**1,944,000**
Projected total budget	**105,993**	**107,742**	**110,436**	**113,197**	**220,484**	**4,836,163**

Source: Borough data

8.5.6 Details of calculation of PFI credits

The PFI Credit has been calculated in accordance with guidance provided by DEFRA. This guidance states that the credit should be calculated in the following stages:

- Calculate the NPC of the element of the unitary charge payments that relate to senior debt repayments (capital and interest).
- Apply a percentage (which has been assumed to be 50%) to this value to determine the PFI credits to award.

As agreed with WIDP, the calculation of the PFI Credit specifically excludes that capital expenditure associated with HWRC, MRF and rail transfer infrastructure. As shown in appendix T, 50% of the NPC of the senior debt component of the Reference Project unitary charge yields a PFI credit of £317.0 million, made up of £143.5 million for the Waste Services contract and £173.5million for the Fuel Use contract.

The calculation of the RSG generated by the PFI Credit has been derived in accordance with the Local Authority PFI Grant Reform that came into force in April 2005, as updated by 'Local Government PFI Annuity Grant Determination (No.2) 27 September 2005'. The guidance prescribes that the RSG should be calculated on an annuity basis using an interest rate which is fixed for the term of the support, currently 5.4%. Grant payment commences when the relevant permanent assets become available and become operational, and continues over the remaining term of the contract, supporting the Authority's cash flows payable to the private sector contractor. A spreadsheet devised by the Department for Communities and Local Government (DCLG) to assist local authorities in calculating expected levels of grant (based on the annuity system) has been used to calculate the estimated annual grant to be paid.

Following this methodology and using the 5.4% rate of interest, a PFI credit of £317.0 million generates a RSG of approximately £23.2 million per annum. This payment stream would

commence on completion of the new facilities, and continue over the remaining years of the contract. It has been assumed that the RSG would be payable only once the facilities have become fully operational. This results in total revenue support of £589.5 million over the duration of the contract. The calculation of the RSG can be found in appendix T.

8.5.7 Affordability Gap

The 'Affordability Gap', set out in table 8.14 is calculated in order to assess the level of funding required by the Authority and the Constituent Boroughs in addition to current committed budgets in order to deliver the waste management outcomes predicted by the Reference Project.

Table 8.14: affordability gap, including PFI credits

Whole life, nominal £000	2011/12	2012/13	2013/14	2014/15	2015/16	31 Year total
PFI Reference project costs	-	1,390	6,621	7,052	7,341	**3,535,154**
Additional system costs	52,797	61,219	66,100	69,782	69,404	**824,126**
Landfill costs (gate fees and tax)	18,561	18,632	18,654	20,345	20,558	**494,387**
Landfill allowance	-	-	-	-	-	**-**
Non-household recharge	(11,645)	(14,357)	(16,575)	(16,736)	(17,670)	**(863,958)**
Net treatment and disposal cost	**59,713**	**66,884**	**74,799**	**80,442**	**79,632**	**3,989,709**
Collection	65,503	66,935	69,589	71,846	75,244	3,708,391
Total system costs	125,216	133,819	144,388	152,288	154,876	7,698,100
Projected budgets	**(105,993)**	**(107,742)**	**(110,436)**	**(113,197)**	**(116,026)**	**(4,836,163)**
PFI support	-	-	-	-	-	**(589,495)**
Affordability gap	**19,223**	**26,077**	**33,952**	**39,091**	**38,850**	**2,272,442**
% of projected Authority budget	**18%**	**24%**	**31%**	**35%**	**33%**	**47%**

This shows that the Authority is facing an affordability gap of £2,272 million, taking into account the contribution of the RSG of £589 million.

Table 8.15 below sets out the projected affordability gap for each of the Constituent Boroughs. Whilst under the contract, this cost allocation will be determined by the pricing system underpinning the IAA, for the purposes of the financial modelling in the OBC it has been assumed that treatment and disposal costs (gross of non-household waste recharges) are apportioned between Constituent Boroughs on the basis of relative contribution to MSW. Non-household waste recharges are apportioned on the basis of relative contribution to non-household waste and collection costs are specific to each of the Constituent Boroughs. The analysis also separates out the available budgets between residual and additional system budgets and the collection budgets.

Table 8.15: affordability gap for Constituent Boroughs

Whole life, nominal £000	Barnet	Camden	Enfield	Hackney	Haringey	Islington	Waltham Forest	Total
Reference project costs	680,508	485,736	556,719	455,215	479,628	402,607	474,741	3,535,154
Additional system costs	158,001	114,035	129,359	106,671	111,693	94,131	110,236	824,126
Landfill costs	94,994	68,130	77,745	63,816	67,049	56,374	66,279	494,387
Non-household recharge	(98,436)	(262,302)	(74,656)	(153,890)	(81,762)	(138,717)	(54,195)	(863,958)
PFI support	(113,456)	(81,054)	(92,806)	(75,921)	(79,967)	(67,153)	(79,138)	(589,495)
(Disposal budgets)	(373,846)	(245,369)	(300,278)	(260,442)	(263,484)	(265,156)	(235,425)	(1,944,000)

Whole life, nominal £000	Barnet	Camden	Enfield	Hackney	Haringey	Islington	Waltham Forest	Total
Treatment and disposal affordability gap	347,765	79,176	296,083	135,449	233,157	82,086	282,498	1,456,214
Collection costs	654,995	541,059	432,764	610,014	506,504	586,335	376,720	3,708,391
(Collection budgets)	(463,120)	(388,972)	(325,208)	(466,662)	(459,777)	(438,467)	(349,957)	(2,892,163)
Collection affordability gap	191,875	152,087	107,556	143,352	46,727	147,868	26,763	816,228
Affordability gap	539,640	231,263	403,639	278,801	279,884	229,954	309,261	2,272,442

8.5.8 Comparison of the Reference Project against the 'Do Minimum' option

The 'Do Minimum' option assesses the cost to the Authority of continuing with the existing service provision and assumes that the financial consequences of the LWL transaction described in Section 8.5.4 are equally incurred under the Do Minimum options. Following the decommissioning of the Edmonton EfW facility in 2020, the Authority would dispose of its residual waste to landfill, thus incurring landfill gate fees, tax and landfill allowance fines under the LATS scheme.

A summary of the costs of the waste management system underpinning the Reference Project (not including contributions from the RSG), and the Do Minimum option is set out in table 8.16. Where landfill allowances are acquired, this has been assumed to be at the LATS trading profile provided by Ramboll AEA.

Table 8.16: comparison of the overall Waste System Costs for the Reference Project to Do Minimum

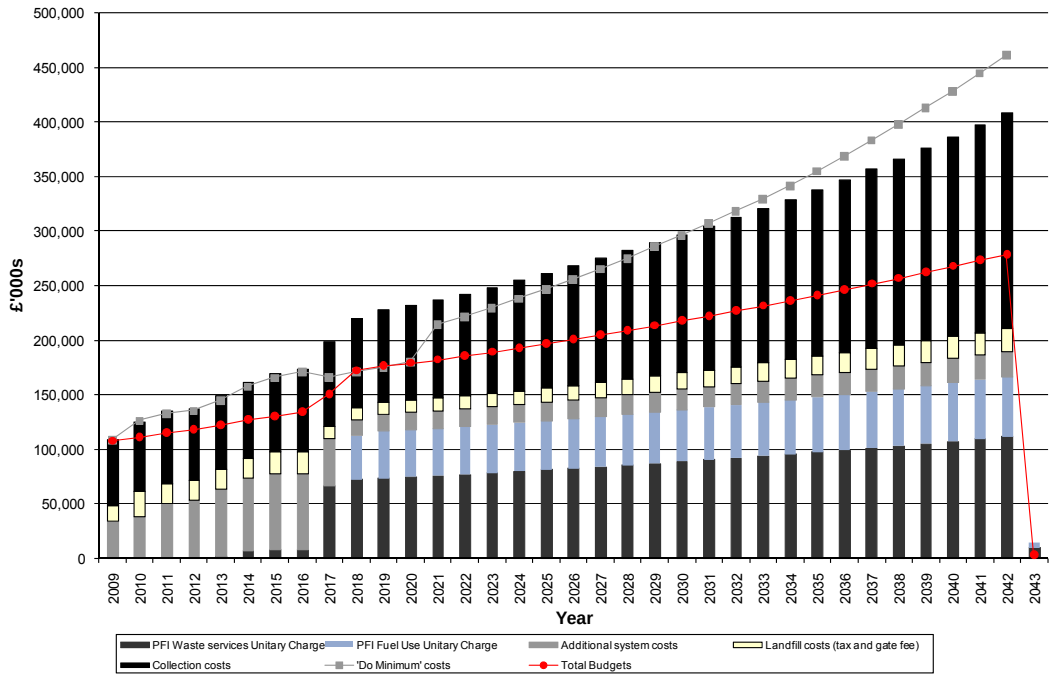
Nominal costs (£000)	Do Minimum	Reference Project	Difference
Reference Project	0	3,535,154	**(3,535,154)**
Additional system costs	1,662,152	824,126	**838,026**
Landfill costs	2,839,625	494,387	**2,345,238**
Landfill allowance [21]	327,416	0	**327,416**
Non-household recharge	(638,463)	(863,958)	**225,495**
Net cost of disposal	4,190,730	3,989,709	**201,021**
Collection costs	3,708,391	3,708,391	**0**
Total project costs	**7,899,121**	**7,698,100**	**201,021**

This table shows that, without taking into account the effect of the PFI credit, implementing the waste system under the Reference Project option would represent a cost saving to the Authority of approximately £201 million. It should also be noted that should potential LATS income be taken into account (following a symmetrical LATS profile as LATS allowance costs), this would lower the cost of the Reference Project option by a further £294m, making the Do Minimum £495m more expensive than the Reference Project.

The difference between the overall waste system costs of the Reference Project and the Do Minimum options are set out in figure 8.1 below. This graph also shows the level of costs of each of these options in comparison to the available budgets of the Authority and the Constituent Boroughs.

[21] Taking into account the PFI Revenue Support and the valuation of potential LATS surpluses, the net cost to the North London taxpayer is £1,084.5 million lower than the 'Do minimum' Option.

Figure 8.1 – affordability gap including RSG (nominal)



8.5.9 Sinking fund analysis

The annualised affordability calculations underpinning the above analysis for each Constituent Borough are included at appendix HH to this OBC. Detailed discussions have been undertaken between the Authority and the Constituent Boroughs' Heads and Finance in respect of potential Council Tax impact and possible approaches to smoothing the impact of the Reference Project on Constituent Borough budgets, including through the use of sinking funds. It has been agreed that each Borough will manage and be responsible for its own exposure to the affordability obligations of the Reference Project, using sinking funds as deemed appropriate. Given the differential spending pressures faced by each of the Constituent Boroughs, it is expected that each Constituent Borough will profile its contributions to any sinking fund according to its own unique constraints.

8.5.10 Sensitivity analysis

8.5.10.1 Costs of sensitivity analyses

The Authority is of the view that it has adopted prudent assumptions in determining the costs of the Reference Project, resulting in a robust and conservative affordability projection. However, in order to further assess the robustness of the affordability analysis performed in section 8.5.7 above, the Authority has conducted a compound sensitivity analysis on two of the key assumptions underpinning the Reference Project to provide a "worst case" scenario sensitivity agreed with WIDP. The sensitivity makes the following assumptions:

3. A two year delay in the commencement of construction for both Waste Services and Fuel Use contracts; and

4. And increase in the underlying capital costs of both contracts by 10%.

The impact of this sensitivity on the affordability of the Reference Project is shown in table 8.17 below.

Table 8.17: affordability impact of the compound sensitivity on the Reference Project

Whole life, nominal	Compound Sensitivity (£000)	Reference Project (£000)
PFI Reference Project gross sensitised cost	3,795,141	3,535,154
Additional system costs	944,470	824,126
Landfill costs (gate fee and tax)	512,012	494,387
Landfill allowance	-	-
Reference project non-household recharge	(763,326)	(704,774)
Additional system non-household recharge	(188,946)	(159,184)
Net treatment and disposal costs	**4,299,351**	**3,989,709**
Collection costs	3,708,391	3,708,391
Total system costs	**8,007,742**	**7,698,100**
Projected Budgets	(4,836,163)	(4,836,163)
PFI support	(565,445)	(589,495)
Affordability Gap	**2,606,134**	**2,272,442**

From the results set out in table 8.17 above, it may be seen that the compound sensitivity increases the total nominal cost of the project by £334 million. The upper boundary of the Authority's affordability envelope is therefore governed by this sensitivity. The Authority is of the view that the affordability envelope created by this sensitivity is sufficient to absorb a number of the risks that may occur over the course of the project. As such, the affordability envelope for the Authority and the Constituent Boroughs yields a total nominal whole life cost of between £7,698 million and £8,008 million excluding revenue support from PFI credits[22], which would be reduced to a range between £7,109 million and £7,443 million net of the respective level of revenue stemming from PFI credits. This would give an affordability gap of between £2,272 million to £2,606 million[23]. The upper boundary of the affordability envelope is shown in detail in table 8.18 below.

Table 8.18: upper boundary of the Reference Project affordability envelope

Whole life, nominal £000	Barnet	Camden	Enfield	Hackney	Haringey	Islington	Waltham Forest	Total
Reference project costs	730,729	521,060	597,853	488,581	514,983	432,091	509,844	3,795,141
Additional system costs	181,082	130,775	148,201	122,228	127,983	107,901	126,300	944,470
Landfill costs	98,373	70,582	80,506	66,094	69,433	58,392	68,632	512,012
Non-household Recharge	(106,277)	(283,744)	(74,734)	(172,408)	(87,235)	(167,823)	(60,051)	(952,272)
PFI support	(107,333)	(80,114)	(87,299)	(73,184)	(76,314)	(65,812)	(75,389)	(565,445)
(Disposal budgets)	(373,846)	(245,369)	(300,278)	(260,442)	(263,484)	(265,156)	(235,425)	(1,944,000)
Treatment and disposal affordability gap	422,728	113,190	364,249	170,869	285,366	99,593	333,911	1,789,906
Collection costs	654,995	541,059	432,764	610,014	506,504	586,335	376,720	3,708,391
(Collection budgets)	(463,120)	(388,972)	(325,208)	(466,662)	(459,777)	(438,467)	(349,957)	(2,892,163)
Collection	191,875	152,087	107,556	143,352	46,727	147,868	26,763	816,228

[22] As compared against £7,825 million and £8,227 million in the October 2008 submission.
[23] As compared against £2,487 million and £2,889 million in the October 2008 submission.

Whole life, nominal £000	Barnet	Camden	Enfield	Hackney	Haringey	Islington	Waltham Forest	Total
affordability gap								
Affordability gap	614,603	265,277	471,805	314,221	332,093	247,461	360,674	2,606,134

8.5.10.2 Mitigation strategies for downside sensitivities

Whilst the sensitivity analysis above is valuable in testing the impact on project affordability as a result of changes in key variables, no assumption is made as to the probability of such risks occurring, nor is it assumed that the Authority is able to take steps to mitigate the impact of these risks. In reality, the Authority will be able to adopt a defensive strategy in respect of a number of downside risks, and will actively adopt a strategy as part of the Competitive Dialogue process to drive value from potential upsides. The table below summarises the core components of the Authority's strategy in respect of key areas of potential financial risk.

Table 8.19: core components of the Authority's mitigation strategy

Risk	Potential mitigation strategies
Construction cost increases	The Authority will act to shorten procurement and planning time periods as far as possible to mitigate the impact of construction inflation. Furthermore, as part of the Competitive Dialogue process the Authority will explore the merits of alternatives to traditional fixed price EPC approaches, where value for money may be better served by a more pragmatic approach to inflation and foreign exchange risks.
Operating cost increases	The Authority will to an extent rely on a robust competitive process and rigorous and detailed technical and financial evaluation to manage the risk of operating cost escalation. The Authority will also explore alternative risk transfer positions, indexation provisions and market testing approaches to manage specific risks in a value for money manner.
Recyclate and electricity prices	For the purposes of the OBC the Authority has made a series of conservative assumptions in respect of potential revenues from these sources, which in turn have been market tested against the experience of the Authority's technical advisers.
Waste growth	The cost impact of waste growth is well understood by the Authority and Constituent Boroughs. It is anticipated that the IAA and inter-authority pricing system will create a strong incentive towards waste minimisation activities, and the Reference Project has made provision for suitable waste minimisation activities.
Planning/construction delay	To ensure that the facilities become operational on time, the Authority is cognisant of the need for an efficient procurement process, such that financial close can be achieved as predicted. As discussed in chapter 6, the Authority is building an experienced and well resourced team to facilitate this. A second element is that related to the timely granting of planning permission. The Authority's strategy in respect of this is discussed in chapter 7. In the event of delay, the Authority has a number of ways in managing its financial exposure. Firstly, and as discussed in this OBC, the Authority intends to procure interim treatment capacity to manage the landfill cost risks associated with delay, which are priced in the affordability sensitivity. Secondly, in the event of planning delay after financial close, in accordance with the provisions of SoPC4, the Authority will retain the option to extend the contract to manage the annual cost impacts of such a delay.
Recycling rates	It is anticipated that the pricing system underpinning the IAA will create a strong incentive towards reinforcing the waste hierarchy by making the reduction in residual waste sent to the Authority through recycling, composting or waste minimisation financially attractive to the Constituent Boroughs.
Funding margins	Whilst current debt market conditions mean that securing senior debt finance in three years time on terms that can be predicted today cannot be taken for granted, the Authority will monitor evolving developments in the debt market and plan an appropriate strategy for securing finance based on prevailing market conditions. In conjunction with its financial advisor the Authority has developed an outline strategy aimed at maximising the likelihood of securing private sector finance on value for money terms. This is discussed in greater detail in Chapter 5.

8.5.10.3 Affordability improvement opportunities

There are a number of ways that the Authority and Constituent Boroughs can work to improve the affordability position of the modelled Reference Project. These will be further explored in the course of the procurement process. Specifically:

- The Authority's view is that substantial upside benefits may be achieved by allowing the PFI contractor to offer shorter term recyclate and electricity revenue guarantees and for the Authority to share in the upside of this approach whilst managing its downside exposure with a suitable floor price.
- Funding costs of the project may be managed or reduced through, involvement of the EIB, the conduct of a rigorous funding competition and negotiation of a funding package on a 'club' basis, and through the potential for the Authority to make a capital contribution to offset an element of the funding costs of the project.
- Further effort will be put into securing markets for heat output from the Fuel Use contract, which in turn may yield additional revenue streams.
- The Authority is seeking to secure London Waste and Recycling Board support towards the capital costs of elements of recycling infrastructure, with a focus likely to be on HWRC infrastructure upgrades.
- There are likely to be opportunities to crystallise revenue from the sale of surplus LATS generated by the Reference Project.
- Examination will be given to what additional waste minimisation and education work can be undertaken to further reduce residual waste arising and the associated costs of the residual waste treatment system.
- Consideration will be given to how the Authority may maximise value from its ownership of LWL as part of the PFI project.
- As part of the procurement process, bidders will be encouraged to secure third party income from the sale of surplus treatment capacity in the early years of the contract to subsidise the cost of the project to the Authority.
- The Authority and Constituent Boroughs will continue to investigate potential efficiency improvements in collection systems underpinning the project.

8.5.10.4 December 2009 affordability comparison to May 2009

The Authority has been asked by DEFRA/ WIDP to look at sensitivity tests relating to a lower PFI credit award than should arise from their normal methodology for calculating PFI credit support. In particular, DEFRA/ WIDP have asked the Authority to consider sensitivities in respect to £258.4m and £230m. The £258.4m figure represents the Authority's request made in its May 2009 OBC i.e. prior to the refresh of waste flow and cost issues reflected in this refreshed OBC.

A PFI credit award of £258.4m would reduce the modelled revenue support from Government by £104m and increase the cost to the local taxpayer by a similar amount. Otherwise the value for money case for delivering the Reference Project remains the same as set out elsewhere in this OBC. The increased cost remains within the affordability envelope that the Authority and the seven Constituent Boroughs have agreed at a total project and individual Borough level. The figures are set out in Table 8.19 below:

Table 8.19: upper boundary of the Reference Project affordability envelope at £258.4 million PFI credits

Whole life, nominal £000	Barnet	Camden	Enfield	Hackney	Haringey	Islington	Waltham Forest	Total
Reference project costs	730,729	521,060	597,853	488,581	514,983	432,091	509,844	3,795,141
Additional system costs	181,082	130,775	148,201	122,228	127,983	107,901	126,300	944,470
Landfill costs	98,373	70,582	80,506	66,094	69,433	58,392	68,632	512,012
Non-household Recharge	(106,277)	(283,744)	(74,734)	(172,408)	(87,235)	(167,823)	(60,051)	(952,272)
PFI support	(87,611)	(65,394)	(71,259)	(59,737)	(62,292)	(53,719)	(61,537)	(461,549)
(Disposal budgets)	(373,846)	(245,369)	(300,278)	(260,442)	(263,484)	(265,156)	(235,425)	(1,944,000)
Treatment and disposal affordability gap	442,450	127,910	380,289	184,316	299,388	111,686	347,763	1,893,802
Collection costs	654,995	541,059	432,764	610,014	506,504	586,335	376,720	3,708,391
(Collection budgets)	(463,120)	(388,972)	(325,208)	(466,662)	(459,777)	(438,467)	(349,957)	(2,892,163)
Collection affordability gap	191,875	152,087	107,556	143,352	46,727	147,868	26,763	816,228
Affordability gap	634,325	279,998	487,845	327,668	346,115	259,554	374,526	2,710,030

A £230m PFI credit award would further reduce the value of Government support to the project so that this is £155m lower than should be provided under the usual methodology for making PFI credit awards. At this level of support, the cost of the Reference Project exceeds the affordability envelope that was agreed by 3 of the 7 Constituent Boroughs. The Reference Project would therefore need to be varied to reduce the relevant capital expenditure and cost.

The Authority has therefore concluded that a £230m PFI credit award would, in all likelihood, give rise to a refinement to the Reference Project that includes a smaller fuel use solution under that procurement than would eventually be required – 160,000 tonnes, rather than the modelled 320,000 tonne facility. Whilst the adjusted approach would be a viable project, there are a number of downsides;

- Major fuel use projects may require the Authority's full SRF supply to justify their development and 160k tonnes available in 2017 may be insufficient, reducing the bidding field especially in respect to facilities that should deliver the most economical results;
- The Authority's waste services provider would be more exposed to risk associated with an ageing Edmonton plant. Full risk transfer from the public to private sector may not be possible in the context of a project finance solution;
- There will be a lower carbon improvement than should otherwise be the case.

8.6 Authority and Constituent Borough member approval of affordability

The Authority and its Constituent Boroughs are committed to funding the affordability envelope in order to ensure the deliverability of the project. This is demonstrated by the approval of this OBC at a meeting of Authority members on 9 December 2009 following detailed presentations and reports on the financial implications of the project. Copies of the report and minutes of the meeting are set out at appendix HH. Affordability letters from each

of the Constituent Boroughs are set out at appendix U, which together with the affordability letter signed by the NLWA confirms the commitment of the Authority and Constituent Boroughs to the affordability range set out above.

The Base Case affordability gap of £2,272 million and that of the compound sensitivity of £2,606 million fall within the envelope determined in the October 2008 OBC submission, which recorded values of £2,487 million and 2,889 million for the Base Case and upper limit of the affordability envelope, respectively.

The affordability letters signed by the Constituent Boroughs in October 2008 confirm their commitment to this wider envelope, and consequently cover the affordability implications of this OBC.

In addition, the affordability envelope for the compound sensitivity has been calculated on the basis of achieving PFI credit support of the same level as calculated in it May 2009 OBC submission of £258.4 million rather than achieving the increased level calculated within this December OBC submission. This would increase the affordability gap of between £2,381 million and £2,710 million. However, under this sensitivity, each of the Boroughs would still be within its respective upper boundary for affordability as set out within the October 2008 submission.

8.7 The Authority's LATS strategy

8.7.1 LATS directives

Article 5(2) of the EU Landfill Directive requires the UK to reduce the amount of BMW that it sends to landfill.

On 1 April 2005, Government introduced the LATS, a system of tradable landfill allowances for the period leading up to the first target year of 2009/2010 and the subsequent interim years in order that the UK meets its obligations under the Directive. LATS has been designed as a tool to enable WDAs collectively to meet their individual targets for the reduction of BMW sent to landfill in the most flexible and effective way.

8.7.2 The Landfill Allowance Trading Scheme rules

The Trading Scheme was established to assist WDAs to mitigate their LATS exposure. WDAs are required to divert a proportion of their BMW from landfill from April 2005 onwards. Alternatively WDAs may purchase an equivalent quantity from other WDAs with surplus allowances.

WDAs may 'bank' any unused allowances from one year for use in a later year. There is a restriction of 5% on the amount of allowances a WDA can 'borrow' from its next year allocation in order to meet an immediate shortfall. No banking or borrowing will be allowed across the target years of 2010, 2013 and 2020, as this could lead to the amount of BMW physically land filled exceeding that permitted by the Directive in a target year.

In addition, trading in landfill allowances is to be permitted, whereby a WDA which estimates it will generate surplus allowances in a future year can sell them to another or other WDAs. The seller would benefit from a current cash receipt and the buyer fulfils its obligations under the scheme.

Transactions may be conducted directly between two WDAs or through a broker registered with the EA. There is to be neither a price floor nor a price ceiling for tradable allowances, although in reality a ceiling may be established at the level of the financial penalty for non-compliance of £150/tonne for any BMW land filled above the level of allowance. Beyond this, Government is also considering passing the whole of any European fine onto the 'offending' WDAs.

The EA provides and maintains an electronic register of all allowances issued, traded and held. One of the requirements is for each WDA to nominate a Trading Officer, who will be the person authorised to enter requests to trade or borrow allowances onto the LATS register. The Strategic Finance Officer (Other Services) has been identified as the Trading Officer for the Authority.

8.7.3 The Authority's LATS strategy

The LATS Members' Working Group is established each year and is responsible for reviewing strategy and other related LATS matters. The Authority last considered a report on its short-term LATS Strategy in 2007 but is provided with regular updates by the Financial Adviser in his reports on the Authority's finances.

Although the LATS scheme became operational on 1 April 2005, the Authority was not able to take advantage of its favourable LATS position because of its contractor's temporary reduction in landfill avoidance treatment capacity at that time. Since then there has been little or no LATS market for the period up to the first target year of 2009/2010. This remains the case and the Authority was required to write off its surplus allowances at 31st March 2009.

The Authority expects to enjoy a favourable trading position up to 2012/2013 but recognises that until new facilities and/or services are procured that the medium to long-term outlook may prove more challenging in the period leading up to the end of its current main contract in December 2014. The Authority has received advice from its external technical adviser on a potential approach to dealing with the sale of future surplus allowances in the medium-term; however, this will need to be further developed in the light of the proposals set out in the OBC.

9. Stakeholder communications

9.1 Introduction

This section covers the communications activities of the Authority and its Constituent Boroughs, and the mechanisms for stakeholder involvement in the procurement project. The Authority and its Constituent Boroughs have a long history of co-operation and engagement which goes back to the NLWA's formation in 1986.

In 2008, the Authority and Constituent Boroughs agreed and constitutionally approved the JWS. All the Constituent Boroughs have approved the JWS, whether at cabinet meetings or through delegated powers. All Constituent Boroughs have issued delegated powers for any minor amendments. The document accords with all National and European waste directives and is in general conformity with the requirements of the London Mayor's Municipal Waste Strategy and the London Plan. It establishes the framework under which the Authority and the Constituent Boroughs will manage the waste arising from a current population of 1.7 million living in approximately 696,000 households.

The document was subject to full public consultation and discussion with the GLA and other statutory bodies. The Authority has taken into full account comments received from the Environment Agency (October 2007), GLA (September 2007), Natural England (September 2007) and English Heritage (October 2007). The Authority also commissioned a SEA of the JWS, and SEA post adoption statement by Entec UK Ltd. The final SEA reports and associated documents were produced in February 2009 following adoption of the JWS. The reports set out the requirements of the EU SEA Directive and the Environment Assessment of Plans and Programmes Regulations 2004 and how they are met.

As stated in section 7, parallel to the strategy the Constituent Boroughs, acting as planning authorities, are preparing the NLWP, the Joint Waste DPD for the area, which is considering planning issues related to the provision of waste facilities in the region. This document has been, and will be, subject to public consultation (see section 9.6.3).

The Authority recognises the important role stakeholder communication will play throughout this process and has developed a communications strategy which was approved by Authority members in December 2008. The communications strategy included in the appendices runs from 2009–2014. The strategy takes the Authority through the procurement period and into the operational dates for the project.

The communications strategy acts as a flexible document which is continuously reviewed and updated as the procurement progresses. It supports the strategic aims and objectives of the Authority, the JWS and the procurement process. All of this work is carried out in consultation with the Constituent Boroughs.

9.2 Strategy

The overall aim and vision of our strategy is to ensure that we reach the widest possible public, resident, Authority and market audiences regarding our procurement proposals for the next thirty years. We have a mission to explain what we wish to achieve in understandable terms to ensure stakeholder support.

Three communications plans make up this strategy. These focus on potential bidders within the waste industry, Constituent Boroughs and residents, with an overarching plan developed to tie the plans together and encompass more general Authority communication. Separating out the strategy in this way ensures that communication is kept relevant, timely and is appropriate for the individual target audiences.

To inform the development of the strategy, research was undertaken with WDAs that had either completed or had further progressed in their procurement processes. The aim of this

research was to identify potential communications opportunities and threats arising from such a process.

A meeting was also held with a number of Authority employees, in particular those involved with the procurement and communications officers from across the Constituent Boroughs. Comments from the initial research and meetings were fed into the communications strategy.

9.2.1 Overarching communications plan

This strategy covers overarching messages which will be common to all targeted audiences, in addition to central government, and incorporates the requirements of reactive and proactive activity for the Authority's day-to-day business. This ensures that stakeholders such as policy makers and staff who are not covered by individual plans are kept informed.

The strategy aims to build and manage the Authority's reputation as follows:

- Develop the Authority's current methods of communication, moving the Authority away from a reactive approach to communication to a more strategic proactive approach
- Clarify the Authority's key messages
- Identify the Authority's target audiences and appropriate means for communicating with them
- Ensure that the Authority works effectively with the media
- Ensure information is accessible to all
- Identify ways to measure the impact of communication

9.2.2 Communications plan for bidders

The target audience for this plan is the waste industry, including waste management companies who are potential bidders for the Authority’s waste contracts, potential investors and lenders, trade bodies, energy companies, technology providers and construction companies.

The proposed Reference Project for the two procurements (one for Waste Services and one for Fuel Use) will necessitate a very wide ranging and proactive communication plan for potential bidders, particularly regarding proposed Fuel Use solutions. We will continue to build up a wider range of market intelligence on potential Fuel Use providers and ensure they are fully aware of our proposals.

The intention is to engage proactively with the industry, to keep them well informed throughout each stage of the procurement process. This is in order to maximise awareness of the procurement, increase market confidence in the Authority, generate interest in bidding and thereby maximise competition and value for money for the Authority.

The plan includes a programme of media outreach, web updates, a procurement newsletter, one to one meetings and a bidder’s day to be held early in the Authority’s procurement process. This bidders’ day will be a significant event designed to showcase to the market the opportunity afforded by this major procurement project. The day will be split into two sections to cover the waste and fuel procurements. It will be designed to ensure maximum attendance from the major players in the market and stress the openness of the Authority to innovative state of the art solutions.

9.2.3 Communication plan for Constituent Boroughs

The target audience for this plan is the Constituent Boroughs. This includes leaders, environment portfolio holders, other members, chief executives, officers and existing employees of effected services.

The intention is for the Authority to work closely with the Constituent Boroughs to deliver a flexible plan of two way communication activity that proactively engages with members and officers on the NLWA procurement process and which positively promotes the JWS's vision for the future management of north London's waste.

The plan includes member workshops and visits, the production of leaflets and resources, member update briefings and one to one meetings, NLWA articles in internal borough publications and officer workshops.

There have been, and will continue to be, regular meetings with the Constituent Boroughs' Directors of Environment, Directors of Finance and technical officers. NLWA officers have attended cabinet and member discussions and Borough scrutiny meetings. All these communication channels will be maintained throughout the procurement process.

9.2.4 Communications plan for residents

The target audience for this plan is residents of the Constituent Boroughs, community groups, local business and Constituent Borough trade waste customers. If any residents external to the Constituent Boroughs are affected by a proposal they will also be consulted.

The intention is to develop a flexible plan of communication activity that proactively engages with residents on issues relating to waste management in north London, site selection and the procurement of new facilities.

This aspect of the plan includes media outreach, the development of resources such as fact sheets, Q&As and website text, articles in Constituent Boroughs' external publications, and a presence at events and road shows. This plan will be updated in line with developments to the procurement.

The Authority recognises that the siting of waste facilities can be a concern to residents living close to any proposed site. At the stage in the process when facilities and sites are identified, the Authority and the Constituent Boroughs will initiate a programme of awareness exhibitions, information leaflets, discussions with the local media and specific web site information. The Authority will also initiate public meetings with residents in any residential areas affected by the proposals. These will be in addition to reassurance work already completed by the Constituent Boroughs and the Authority, and the work on consultation within the NLWP.

The Authority is particularly mindful of the public issues which are raised regarding the Edmonton EfW plant and if other facilities are proposed in that area. We will ensure that, in regard to any matters relating to Edmonton, we work closely with Enfield Borough Council to ensure full public consultation. We believe that the way forward as proposed in the Reference Project will provide a publicly acceptable future for Edmonton.

The communications strategy can be found in appendix CC.

9.2.5 Other communications

In addition to the Authority communications strategy the Constituent Boroughs each have their own communications strategies which relate to waste and recycling. The extensive work of the Constituent Boroughs is set out in section 9.6.

9.2.6 Joint Waste Strategy consultation

The JWS has been extensively reviewed and consulted on through a number of processes and events:

- The North London Recycling Forum (NLRF) Review: there was a dialogue session with the NLRF which is a forum for private, public and third sector bodies and individuals concerned with waste in North London.
- The Technical Review: this included feedback on the Draft Strategy from selected key stakeholders and members of the NLRF.
- The Public Review Direct Responses: feedback on the Draft Strategy from interested members of the public from within North London.
- The Qualitative Review: two community workshops were held, with a broad cross section of residents from within the North London area.
- The Stakeholder Dialogue Event: a meeting with selected technical respondents was held to feedback on the dialogue process and to discuss key concerns.

A total of fifty-eight public feedback forms were received by MORI. The results were collected and collated by MORI. Thirteen Technical Stakeholders and members of The Resource Forum also provided technical feedback on the draft Strategy.

In line with the SEA directive, the retrospective SEA process consisted of two stages of external consultation. The first round of consultation was conducted at the scoping stage with statutory consultees (English Heritage, Natural England and the Environment Agency (EA)), and with the London Mayor. The public was also consulted although no comments were received.

The second stage of consultation was also conducted at the final draft stage on both the SEA environmental report and the draft revised JWS. At this point the consultation process was required to open up to include the public and any other stakeholders likely to be affected by the Strategy. This process commenced on 6 May 2008 for the statutory SEA six week period running until 17 June 2008.

A JWS SIB meeting was held on 20 June 2008 to consider the proposed changes resulting from the consultation. Although the SIB does not have decision-making powers, it has acted as a second, and joint, review mechanism of consultee responses involving both Members and officers from all eight Partner Authorities to the JWS.

9.3 TUPE and Code of Practice on workforce matters

The Constituent Boroughs and the NLWA are communicating with their workforces through the trade unions. The Authorities are fully aware of their duties under the Transfer of Undertakings (Protection of Employment) Regulations 2006 (TUPE) and will comply in full in regard to these matters. This may be of particular relevance in relation to plans for the transfer of HWRCs.

The Authority has agreed in principle with the Constituent Boroughs that the HWRCs will be transferred to the Authority. The transfer of staff will be managed in line with TUPE and in full consultation with the staff and unions. We will also comply with the Code of Practice on Workforce Matters.

The workforce that is currently delivering the bulk of the waste disposal solution is employed by LWL. LWL is largely run as a private sector company, for example employees have private sector pension arrangements. Relevant workforce consultation on any issues related to the Authority's procurement is a matter for LWL's board/senior management in the usual way. It

will be important for the Authority not to seek to interpose in employer and employee consultation.

9.4 Market interest

Whilst the Authority's procurement is inherently a big commercial opportunity that is potentially attractive to the market, the Authority has undertaken a proactive and substantive market dialogue that includes marketing the procurements (waste and fuel) as well as conducting soundings in respect of key procurement issues.

In that work we have met nearly every major waste management company that is active in the UK market and potentially large enough to bid for the procurement. We have met a number of construction and technology companies who may have important sub-contract roles, even if they do not bid themselves. And we have undertaken a comprehensive market dialogue in respect of fuel use. Reports on both exercises are attached at appendix G. The principle objectives and findings of these exercises to date set the context of the Authority's fuel use procurement strategy within section 4.6.

In addition we had a stand at the 2009 Futuresource conference to provide bidders with up to date information about the procurements and spoke to a number of companies and organisations with an interest in both the waste and fuel procurements. Throughout the three days we had over 100 visitors to the stand.

The market dialogue will continue over the coming months, especially in ensuring potential bidders on fuel use are familiar with the procurement approach and issues that they will need to consider in resourcing a bid.

The Authority has taken full account of the issues that potential bidders have raised with us – on the procurement strategy, resourcing of the procurement and such like. Taken together with the inherent commercial opportunity.

A key issue for potential bidders not set out elsewhere in this document is comfort that the existing JV, the existing Edmonton facility and the Edmonton site that is currently in use does not materially affect the procurement outcome. Potential bidders are aware that the Authority is looking at a variety of procurement strategy approaches (see section 4) that are especially relevant including a separated fuel use procurement, a focus on CHP and the provision of sites for waste services (see section 7). Those messages have been very positively received.

The Authority's conclusion is that there is a significant market interest from companies that are capable of delivering the relevant contracts.

9.5 Other relevant Authorities

To date, the NLWA has actively engaged with the seven Constituent Boroughs throughout the procurement process. There have been a series of meetings with the Directors of Environment, Directors of Finance and Constituent Borough technical officers. There have also been regular meetings with the Chief Executives of the seven Constituent Boroughs.

Presentations on the procurement proposals have been made to the members of all seven Constituent Boroughs including leaders and lead members for Environment and Finance.

In respect of the OBC, joint meetings have been held, including all day sessions, with Directors of Environment and Finance to discuss the proposals and engage them in framing the final document.

Prior to the Constituent Borough cabinet meetings in October 2008 pre-meetings with the decision makers in all seven Constituent Boroughs took place at which presentations were made by the NLWA and its advisers.

There is an IAA Working Party chaired by the Barnet Director of Finance, with director level presentation from all Constituent Boroughs, which agreed a Statement of Principles approved by borough cabinets in October. The work of this group will continue post OBC. The working party was formed following the signing of the Memorandum of Understanding by all the Constituent Boroughs which agreed to establish an IAA.

There will also be an improvement programme working group chaired by a director from one of the Constituent Boroughs, which will set up joint working programmes to seek to continually improve affordability, particularly on the collection side. This work will include market development, income improvement, trade waste, efficiency improvements on collection and carbon reduction. The aim of the work already approved by the NLWA will be to over-achieve against currently modelled costs on income. Stakeholder involvement will be integral to this work.

All Constituent Boroughs have approved the Memorandum of Understanding, the JWS, a Statement of Principles for the IAA and an Affordability Letter.

Against this background the NLWA will have a solid basis on which to take forward joint working with its seven stakeholder Constituent Boroughs.

In addition to the seven Constituent Boroughs the Authority is working with the GLA to secure their support for the NLWA proposals. Meetings have taken place with GLA officers and the procurement proposals have been presented to them, including the reference project. The GLA will work with the Authority and Transport for London on sustainable transport issues on the basis that they are broadly supportive of the proposals of the NLWA.

The Authority will also work with the GLA within the context of the London Plan, not only to address sustainable transport but also to look at special planning of areas to ensure proposed facilities are placed in the context of the surrounding area. We will address how any movement of SRF could be conducted taking local proximity use could be conducted taking local proximity use as our first principle.

We believe that our Reference Project is compatible with the London Plan by addressing transport, sustainability, environmental concerns, design and CHP. In respect of CHP, the discussions referred to in section 7 show real potential for a local CHP solution.

9.6 Public engagement

The Authority recognises the importance of public engagement. In accordance with the Authority and Constituent Borough strategies, the following activity has taken place at Constituent Borough and Authority levels.

9.6.1 Constituent Borough engagement

All of the Constituent Boroughs have comprehensive programmes of public engagement activity relating to waste and recycling to include consultation exercises, public meetings, events, school visits, public workshops and information literature.

9.6.1.1 Barnet

Over the past two years, Barnet Council has undertaken consultation using its Citizens' Panel, to gain feedback on its recycling service. It is now consulting residents on their experiences and view of its kitchen waste caddy pilot scheme. The borough utilises stalls at community events, talks with local schools and community groups, and organises workshops to get recycling and waste information to its residents. In 2009/10, Barnet organised and/or attended 12 public events, gave talks to 11 community organisations (including schools) and spoke to almost 900 people at these events.

The Borough has also undertaken door knocking campaigns to speak to residents about recycling. It produces a range of leaflets, many updated annually, on recycling and waste minimisation such as posters promoting the use of real nappies, Freecycle and the Authority-wide 'Love Food Hate Waste' campaign. Information can also be found on the Council website which highlights what can be recycled in the Borough and how waste can be reduced.

The Borough is also working with Groundwork and a communications agency in a programme to engage residents in adopting more sustainable behaviours including reducing waste and litter prevention.

9.6.1.2 Camden

Camden Council waste minimisation and recycling communications are incorporated under the Borough's sustainability branding 'Small Steps, Big Difference'. It has produced information in the form of leaflets, posters and packs to promote various aspects of sustainable waste management. Information has been distributed to local residents, elected members and other key stakeholders through a series of public events, workshops, talks (over 80 in the Borough since 2006) and information on the Council website. Camden has produced information in the form of leaflets, posters and packs on composting, real nappies, junk mail, estates recycling, what happens to rubbish after it has been disposed of and battery recycling.

Camden uses the Regis Road Recycling and Education Centre to offer interactive recycling workshops to schools, community groups and Camden residents. A video has also been produced that outlines the journey of waste and recycling and highlights why it is important to recycle. This has been produced in five languages and is shown during workshops at the Regis Road Education Centre. In 2003, recycling champions were introduced in the Borough and have since visited residents in homes offering assistance and advice about recycling.

The Borough has carried out six consultation exercises in the past two years which relate to waste. Camden council retains a team of recycling champions that have since visited residents in homes offering assistance and advice about recycling. The advisors will play a key part in helping residents understand the enhanced recycling and organics collection services to be rolled out from April 2010.

9.6.1.3 Enfield

Over the past two years Enfield Council has used focus groups as one mechanism for gathering views on waste and recycling in the Borough. The most recent consultations carried out have been on container types provided for refuse and recycling and on the collections of food and garden waste. In 2007, the Council undertook a significant door-stepping exercise, with over 32,000 households and speaking to over 17,000 residents about its recycling service.

Over the summer months the Borough uses community events such as festivals, fairs and road shows to distribute information on waste and recycling and engage with residents. In the past year Enfield council has attended over 30 events across the Borough and has organised and paid for groups including EcoActive, ArtStart, Compost Crusaders, Litter Detectives and Bin Raiders to visit schools and deliver presentations and workshops. Regular give and take days are also organised and are held across the Borough. Advice about reducing waste is given through the Council's 'Wipe Out Waste in Enfield' Campaign which was launched in 2000. Since its launch over 6,000 residents have signed pledges to prevent household waste.

Enfield Council is planning extensive communication and face to face campaigns as part of the introduction of the new service improvements in the Borough over the next 18 months. This will include extensive outdoor marketing, door knocking, community events, roadshows, and schools visits.

9.6.1.4 Hackney

Hackney Council's recycling team continually engages with its residents to help both shape and maximise use of services provided. A full time Education and Engagement Officer sits within the recycling team and is responsible for coordinating this aspect of the teams work.

The most recent example of large scale engagement includes an externally funded estates door knocking campaign to promote new recycling services. The Council operates Green Champions initiative which encourages residents with an interest in recycling and green issues to volunteer their time and become advocates in their local communities. Officers attend events and road shows throughout the year to promote services and also organise and deliver events in conjunction with Green Champions.

The Council work with an environmental charity to deliver environmental education in schools across the Borough and embed waste minimisation and recycling initiatives within them. It works with the Turkish, Muslim and Jewish communities within the Borough have been nationally recognised. Hackney Council is currently in the process of engaging with residents on its forthcoming waste and recycling strategy.

Ongoing sources of information on the recycling service include the Council free fortnightly newspaper Hackney Today, delivered to all homes and businesses across the Borough, website and leaflets ranging from information on waste prevention to individual collection schemes and how to actively participate in these.

9.6.1.5 Haringey

Haringey Council conducts ongoing door knocking to promote recycling, waste and other environmental issues, which is currently focussed on raising resident participation in recycling in lower performing areas. Promotional leaflets and other materials on recycling and other waste-related issues are produced and circulated. A range of other medium's are also used to promote the Borough's services and encourage behavioural change.

The Council provides a programme of classes and workshops on recycling with schools and community groups at its Environmental Education Centre, and also undertakes sessions in local schools and community centres. The Council operates a Community Volunteers scheme, which provides a forum for residents to engage with officers on issues around waste, recycling, street cleaning and graffiti. Members of the scheme receive quarterly newsletters and invites to regular meetings and gain access to a freephone number to report problems.

Haringey Council also frequently promotes recycling in its free residents and tenants publications.

The Council's recycling team attends resident's association meetings public events in parks, shopping centres, schools and other community venues throughout the year to provide information to residents on recycling and waste. It also stages its own roadshows at public buildings and community centres including special high profile events focussing on key issues.

9.6.1.6 Islington

Islington Council has undertaken various recycling related consultations which has included a focus on 'hard to reach' groups. These have been incorporated into door knocking exercises and have covered the introduction of estates recycling and composting services.

The Council carried out 126 visits and workshops with schools throughout 2007 and substantially more in 2008 on recycling and waste reduction, in addition to organising and/or attending 65 events giving information and talks on recycling and waste. These included the real nappy fashion show, visits to the Edmonton EcoPark, the Great Waste Debate, Compost

Clinic, Camden Green Fair, Give and Take days and 'Ditch and Switch (clothes swapping) events.

Islington Council keeps its website up to date with information on recycling and waste and produce a range of leaflets covering recycling (what residents can do with their recycling and what happens to recycling once it has been collected for example), service standards, green waste, composting and managing business waste. It has produced six videos, available on our website, providing residents with information on the range of services provided, as well as what happens to both dry recycling and organic material.

9.6.1.7 Waltham Forest

Waltham Forest Council has undertaken consultation, including a programme of door-knocking on compulsory recycling, which was completed in 2007.

The Council has also produced a range of information on recycling and waste which is distributed to residents at road shows and through stalls at community events. The Council co-ordinates give and take days across the Borough which act as a waste exchange for residents and the ‘Waste Hut Schools Resource Centre’ is used to provide an interactive learning experience for children about recycling.

Waltham Forest also produces a range of information which relates to waste and recycling for its residents including green waste information letters distributed to relevant parts of the Borough, an information pack on compulsory recycling, and ‘how to recycle’ reminder cards. The Council updates its ‘Waste Know How’ booklet on a regular basis and copies are available at Council buildings or can be posted out to residents upon request. Waltham Forest also utilises the website and residents magazine ‘WFM’ to distribute information to residents.

The Authority works closely with Borough communications teams to support work in this area and will continue to do so.

9.6.2 Authority communication

In conjunction with the NLWP communications activity, the Authority has participated in projects which promote recycling in different communities; promote understanding of waste facilities, and raise awareness of the different materials and items which can be recycled. The Authority has also undertaken a programme of comprehensive media outreach relating to a range of work including the award of the short-term MRF contract and subsequent expanded recycling collections, Love Food Hate Waste, the recycling of WEEE and the signing of the Nottingham Declaration on Climate Change. Media outreach included press releases sent to the local and trade press and advertising in relevant north London publications.

In 2008 the Authority launched a programme of communications activity across north London promoting waste prevention. The ‘Watch Your Waste’ campaign included media outreach and the development of leaflets, materials and web resources. This was in addition to a series of activities and events promoting waste prevention which took place in each of the seven boroughs with the aim of providing residents and businesses with advice and information on reducing their waste. The Authority worked closely with Constituent Boroughs to brand, promote and organise the events.

Building on the success of this work the Authority ran the ‘Watch Your Waste’ campaign again in 2009 and worked closely with the GLA on branding to tie in with the London-wide ‘Starve Your Bin’ campaign.

The Authority was awarded ‘Best Regional Project/Initiative’ in the 2009 LARAC awards for the Watch Your Waste campaign. The Authority was also short-listed as a finalist in the National Recycling Awards again for the Watch Your Waste campaign.

In 2008 the Authority and its Constituent Boroughs participated in a pilot of the European Week of Waste Reduction (EWWR) and is participating fully in 2009. The week is coordinated by the Association of Cities and Regions for Recycling and Sustainable Resource Management (ACR+) and in 2009 the Authority became a member of ACR+ and is one of the first Authorities in the UK to do so.

The Authority website contains information and resources relating to a wide range of waste topics, including a section of frequently asked questions.

The Authority will continue to engage in consultation and communication exercises in line with its strategy as the procurement progresses. For 2009/2010 the Authority has received £200,000 in funding from WRAP to run the 'Love Food Hate Waste' campaign across north London to promote a reduction in food waste. The campaign includes roadshows across north London, cookery workshops, a recipe competition, the production of leaflets and marketing materials, advertising and media outreach.

9.6.3 Consultation on the NLWP

Formal consultation has included:

- Workshops held between January and March 2008 with the Constituent Boroughs
- Letters were sent to groups and individual on the lists of people with interests in planning for the Constituent Boroughs
- Advertisements were placed in each of the Constituent Boroughs
- Press releases were sent out and information leaflets produced
- Views were sought from activist groups and hard to reach groups
- A dedicated website has been set up
- Future plans include a consultation on preferred options at the end of 2009, involving workshops and letters to interested parties
- Submission to the Inspector will take place in early 2010
- There will be a public examination in 2010

As a result of this, it can be seen that the NLWP has been subject to extensive public consultation, which will continue through its final formulation.

9.7 Community sector/Non-Government Organisations (NGOs)

The Authority has strong longstanding relations with the community sector, NGOs and, in particular, the community waste sector in and around North London based upon tangible action and supporting structures. The NLWP has the following implementation actions for the future activities relevant to community sector engagement:

The Partner Authorities will:

- Continue to actively support the development of best practice in waste re-use and will encourage the development of community sector and other partnerships to deliver effective re-use services.
- Continue to support bids for external funding of re-use services and will seek to develop a means of rewarding effective re-use services directly through re-use credits, equivalent to the avoided or deferred cost of disposal.

- Actively support appropriate community compost projects in North London, particularly where these contribute to statutory compost targets, through patronage of bids for external funding, direct support and through payment of third party recycling credits.

- Undertake to maximise the potential of recycling materials from the bulky waste stream with the aim of providing a more sustainable service.

- Consider developing a Waste Community Compact in partnership with the Community Sector to build trust and encourage further involvement of this sector in implementing this strategy.

- In addition, the Partner Authorities welcome the support of community sector organisations in implementing this Strategy and will actively encourage community sector involvement in delivery of Waste Services wherever this can be demonstrated to offer Best Value.

In order to deliver on these policies and actions the Authority has carried out the following:

- The development of a draft compact with the community sector which will shortly be consulted upon with key stakeholders such as London Community Recycling Network (LCRN).

- The development and maintenance of a consistent and accessible system for the payment of third party recycling and reuse disposal credits.

- Successful applications to the London Recycling Fund to underpin partnership projects with the community sector including a proportion of a £4m project to fund LCRN to promote home and community composting in the north London Area, £0.83m on building community sector capacity in London, and £0.21m on developing charity shop recycling. The Authority has also recently contributed (both on the steering group and financially) to the development of a London reuse study looking into the opportunities to expand reuse in the capital, funded by the WIP regional fund and delivered under contract to the GLA by LCRN and London Remade Solutions.

- The funding of a study into the current status and potential to expand the service of the main furniture reuse organisation in North London, ‘Restore’, with the aim of increasing the tonnage of furniture reused. The work also investigated the coverage by Constituent Borough of the service available. This work is complementary to the pan-London reuse study.

- The annual provision of a £25K fund available to the community sector to seed fund new activities in the NLWA area.

- Financial sponsorship and support of the North London Recycling Forum, now the Resource Forum, which runs regular events.

- The provision of a subsidy for parents in north London using reusable nappies for which one of the main laundry services is in the community sector.

- Payment of the administration cost for those Boroughs belonging to the pan-London Real Nappies for London scheme, which is administered by LCRN and for which the promotion and publicity is delivered by Women’s Environmental Network, (WEN).

- The Constituent Boroughs all undertake their own engagements with the community sector, ranging from informal engagement to commissioning such organisations to deliver services including waste education, promotion, provision of third party recycling banks, delivery of estates recycling services and events. Three Boroughs have formal arrangements with community sector reuse organisations underpinned by agreed payments to collect reusable items from the bulky waste stream. Two of the HWRCs in the Authority area have bespoke reuse bays from which such organisations collect.

The Authority and Constituent Boroughs are committed to continuing and enhancing engagement with the community sector, notably by:

- Consistently reviewing its reuse and recycling credits payment system to ensure that it is fair, timely and in line with the relevant DEFRA guidance.

- Joining-up Constituent Borough level engagement with the sector to build on best practice and existing economies.

- Maintaining the high degree of consultation and engagement with the sector.

- Continued support of the Resource Forum and assistance in its expansion across London.

- Facilitating the expansion of agreements with the community sector to collect reusable items from the bulky and HWRC waste streams and bespoke strategic capacity building within this element of the wider sector. This has strong support from the Constituent Boroughs and is expected to be undertaken in close partnership with LCRN.

10. Timetable

10.1 Introduction

The Authority has put in place a robust and realistic timetable for the delivery of the project based on prudent and realistic delivery assumptions. A detailed project plan has been developed for the project and is included in appendix Z. The Authority has identified contingency plans to manage the risks associated with the successful delivery of the project within the proposed timetable.

10.2 Timetable

The timetable summarised below builds on the experience of other procurements and the Authority has been cognisant of the views of the Defra scrutiny team whilst preparing it. The Authority have allowed 29 months for completion of the two procurements running concurrently, 18 months for the bidders securing detailed planning consent and a construction period of 24 months for the Waste Services Contract and 36 months for the Fuel Use Contract. The Authority is of the firm belief that this allowance of time is very prudent and will seek to overachieve against it.

The timetable includes the preferred bidder for each of the two contracts submitting planning applications prior to financial close. Whilst it is accepted that this is not the norm, the Authority are prepared to underwrite the preferred bidders planning costs from the date of appointment of preferred bidder should it not conclude the Contract. If the Contract is concluded the Authority will obviously pay the costs associated with this process through the Unitary Charge as is the normal position.

In terms of the Waste Services Contract the Authority will provide substantial information and data on planning related issues to assist bidders both in preparing the final solutions and allowing them to be in a position to submit planning applications in accordance with the timetable indicated. Chapter 7 of this OBC details the information and data the Authority intend to provide to facilitate this position.

With regard to the Fuel Use Contract the Authority will work with bidders throughout the procurement to ensure that once preferred bidder status is confirmed that a detailed planning application can be submitted in accordance with the timetable. The Authority are unable to provide information to bidders on a specific site or sites as no site is being offered as part of the procurement for the reasons detailed in section 4 of this OBC. However, as part of the assessment of deliverability the Authority will be requiring bidders to demonstrate their readiness to submit planning post appointment of preferred bidder status. The Authority will commence this process at the early stages of the procurement through the use of the Planning Health Checklist for the fuel use contract, which is attached at appendix V.

In drafting the timetable the Authority has been mindful of the interrelationship between the two procurements. Whilst there is no staggering of the phases of the two procurements, with the exception of the closing of the call for final tender's stage, the Authority are very cognisant of the need for the two procurements to inform each other. However, this must be done without the two processes influencing in terms of outcome, which will be a product of the respective evaluation mechanisms. The closing of the call for final tender's stage is staggered, with the Fuel Use Contract closing this stage in advance of the Waste Services Contract to allow the final submissions for the Waste Services Contract to take account of the relevant transport solutions proposed for the various fuel users. This enables the Authority to keep competitive pressure for all aspects of the Waste Services Contract in advance of the selection of a preferred bidder.

Table 10.1 below provides a schedule summary of the key project milestones. The table demonstrates the intention of the procurement timetable

Table 10.1: key project milestones

Task	Date
Milestone	**Delivery date**
DEFRA approval of OBC	Feb 2010
PRG approval of OBC	March 2010
OJEU published and descriptive document and PQQ made available	March / April 2010
Completed PQQ returned	May 2010
PQQ assessment and pre-qualified list of bidders	May 2010
Invitation to Submit Outline Solutions (ISOS) issued	June 2010
Initial dialogue with bidders (ISOS returned, reviewed and need for clarification identified)	July 2010
Evaluation report and approval of shortlist of bidders for dialogue on detailed solutions	August 2010
Refinement of project documents to reflect issues raised during initial dialogue	August 2010
ISDS issued	September 2010
ISDS returned reviewed and required clarification identified	Dec 2010
Invitation to submit final tenders	July 2011
Final tenders submitted, reviewed and clarified	November 2011
Fine tuning of documents with bidders and final evaluation	Nov – Dec 2011
Submission of FBC	January 2012
DEFRA approval of FBC	March 2012
Secure promissory note from DEFRA	March 2012
Announcement of Preferred Bidder	April 2012
Financial close	October 2012
Planning and permitting (pre-application consultation, application submission and determination)	July 2012 – April 2014
Construction and Commissioning – 24 months MBT/AD 36 months SRF	
Operational commencement	
► MRF, AD	April 2016
► MBT	April 2016
► SRF plant	April 2017
►	

The Authority is also cognisant of the need to have an effective pre-procurement phase that allows the finalisation of the practical details of the procurement approach, and to develop tender documentation, including output specifications, payment mechanisms and project agreements as far as practicable prior to the issue of OJEU.

The Authority is intending to go to the market on both Waste Services and Fuel Use procurements in April 2010. In preparation for this, the Authority agreed the principles of its criteria for pre-qualification for each of the contracts at its meeting in April 2009**,** and the draft evaluation framework at its meeting in June 2009. Brief details of the decisions taken to date can be found in appendix JJ. A prior information notice will be developed, and is likely to be published in February 2010.

The Authority will agree the final forms of procurement documentation for going to market, and the publication of the OJEU in March / April 2010 at its meeting in February 2010. The PQQ and descriptive document will be available as soon as the Official Journal of the European Union (OJEU) is published. Details of the procurement documentation involving draft PQQ and evaluation frameworks can be found in appendix JJ.

10.3 Managing timetable risks

The Procurement Director is responsible for the timely achievement of the project aims up until service commencement of the facilities, and will ensure effective management of timetable risks through the project management of the procurement. Within the project team there is an experienced Project Manager and also a Procurement Officer, whose tasks include the management of the project plan to ensure that all members of the project team

are working to the timetable for the procurement, and that any issues affecting delivery are addressed at an early stage. Significant timetabling risks for this project are:

- The length of time required to complete an effective competitive dialogue process.
- The need to ensure that the two procurements (Waste Services and Fuel Use) remain on an appropriate inter-related course.
- Planning delay.
- Adoption of the local DPD.
- Securing funding.

These risks are expressly covered in the project risk register (appendix I), and the most material of these risks are considered further in section 5. In section 5.4, the Authority's intentions for the handling of the CD process, including a funding competition, show how the Authority will manage the process to achieve the best value for money for the Authority and engagement of the bidders within the legal procurement process.

The likely adoption date of the waste DPD, the NLWP is late 2011.Risks related to the emerging planning policy framework are considered in section 7.3.3.

In order to ensure timetable risks are minimised, the project plan is to be reviewed regularly by the project team, with the Procurement Director held accountable for any delays, and the work of the project team members is prioritised by reference to it. The plan is to be reviewed by the Procurement Board and Members on a monthly basis. Within the plan, the following points are addressed to minimise timetable risks, and allow management of them:

- Clear project execution plan with adequate time and budget to allow for the OJEU and the complex competitive dialogue process.
- Planning considerations are incorporated at an early stage, to allow dialogue with planning authorities and consideration of the appropriate timing of planning applications.
- Clear links between the procurement timetable and proposed planning timetable to allow effective management of the risks. Section 5 considers this in detail.
- Project planning of the transitional phase, to ensure the effective management of the transfer of services from the current contract to the new one.

The project plan management process includes the following steps to ensure that timetable risks are identified and managed:

- Regular and frequent review of procurement activities, so that they are always up to date and reflect current project status, thus highlighting any slippages.
- Effective monitoring of work streams and the related tasks to facilitate positive project progress.
- Adjustment of time estimates for work streams and the related tasks as necessary, within the overall procurement timetable.

Key dates within the project delivery timetable are as follows:

Table 10.1: key project milestones

	Revised date
Submission of refreshed OBC to DEFRA for PFI credit support	December 2009
OJEU notice publication	March / April 2010
Adoption of DPD	December 2011
Announcement of Preferred Bidder	April 2012
Financial Close	October 2012
Planning Application Determination	July 2012 – April 2014
Operational commencement of facilities	April 2016 – main waste April 2017 – fuel use

Appendix A DEFRA PFI Criteria

Appendix B PRG criteria

Appendix C JWS for NLWA

Appendix D Strategic environmental assessment on JWS for NLWA

Appendix E Ramboll AEA technical report (Confidential)

Appendix F Ramboll AEA technical assumption book (Confidential)

Appendix G Market sounding report (Confidential)

Appendix H Interface risk review

Appendix I Process risk register

Appendix J Waste Services contract risk allocation

Appendix K Fuel Use contract risk allocation

Appendix L Planning health checklist (Confidential)

Appendix M Design quality checklist

Appendix N Detailed VfM analysis (Confidential)

Appendix O Balance sheet treatment

Appendix P Authority auditor supporting document

Appendix Q Assessment of prudential borrowing and PFI

Appendix R Shadow tariff model (Confidential)

Appendix S Shadow tariff model assumption book (Confidential)

Appendix T Revenue support grant calculation

Appendix U Approval of affordability

Appendix V Fuel Sites planning review (Confidential)

Appendix W Output specification for Waste Services contract

Appendix X Output specification for Fuel Use contract

Appendix Y Current Contracts

Appendix Z Project plan

Appendix AA MOU and IAA draft statement of principles

Appendix BB Member approval of OBC (minutes)

Appendix CC Communications strategy

Appendix DD Planning site appraisal (Confidential)

Appendix EE Improvement programme

Appendix FF Site Contracts (Confidential)

Appendix GG Blank Appendix

Appendix HH Standing orders

Appendix II Site plans (Confidential)

Appendix JJ Procurement documentation

Appendix KK Schedule of Amendments

Appendix LL WIDP Scrutiny Clarifications (Confidential)