



# **Waste Solution for Leeds**

## **Residual Waste Treatment Project**

**Outline Business Case to DEFRA  
for PFI Credits**

November 2007

**Version 6.0 (Final to DEFRA)**

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### Version Control

Version 1.0	Distribute first draft to Project Team for comment
Version 2.0	Distribute first draft to wider LCC for comment
Version 3.0	Distribute final draft to Project Team for comment
Version 4.0	Distribute final draft to Project Board/PFI Co-ordination Board for comment
Version 5.0	Distribute final version to Executive Board for approval
Version 6.0	Submit final version to DEFRA

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### 1. EXECUTIVE SUMMARY

#### 1.1 Introduction and Overview of Key Issues

Public interest in waste and recycling has never been higher. People are becoming increasingly aware of the environmental threat posed by the vast quantities of waste that we produce each year, and climate change and global warming are at the top of the political agenda. Whilst the issue of how to deal with the problem of waste presents a huge challenge to our society, the current focus on these issues represents a unique opportunity to achieve a radical change in our attitudes and habits in relation to waste.

The arguments for moving forward are compelling from both an environmental and economic point of view. Disposal to landfill is the least favourable waste management option, due to the associated greenhouse gas emissions, and moving away from landfill is a fundamental principle of the Council's Integrated Waste Strategy for Leeds 2005-35.

Leeds City Council's strategy includes targets for achieving recycling levels in excess of 50% of household waste by 2020. However, achievement of this target will still leave an estimated 180,000 tonnes of non-recycled (or residual) waste requiring some form of treatment to reduce its volume and biodegradability, and to ensure recovery of value from this material.

It is, of course, conceivable that recycling performance will exceed these targets, and the procurement strategy proposed by Leeds allows sufficient flexibility to ensure that future contracts encourage reduction and recycling performance above targeted levels.

Following approval of its Expression of Interest for PFI credits, the Council has now developed its Outline Business Case (OBC), based on the assumption that DEFRA will reserve PFI Credits of a minimum of 50% of the relevant capital investment value of the residual waste treatment project (equivalent to approximately £63 million).

In accordance with Government guidelines, the OBC has been developed around a reference technology, to enable costs to be evaluated, and around a reference site within the Council's ownership or control. The Council has now completed a major appraisal of residual waste treatment technology options and a comprehensive district-wide site selection study to identify its reference technology and site.

The OBC sets out details of the proposed procurement strategy and objectives, and the anticipated timescales for project delivery. The proposed approach to procurement, consistent with DEFRA's advice, will be that the Council adopts the principle of a neutral stance on both technology and sites, in order to encourage competition and ensure that the most environmentally sustainable solution is identified. All bids received will be evaluated on the basis of environmental, technical and commercial considerations.

The OBC has been developed to address the Defra and PRG criteria checklists for PFI credits which can be found at Appendix 1A.

#### **Selection of a Reference Technology**

This Outline Business Case is predicated on reference Energy from Waste technical solution. To arrive at this reference technology, the City Council completed an appraisal of a broad, representative range of technology solutions during 2005. Energy from Waste (EfW) emerged as the best performing option, achieving the highest ranking of all the technological solutions in terms of risk. Based upon the outcome of the appraisal, and the limited operating experience of alternative technologies at the time of the completion of the appraisal, EfW has

been selected as the reference technology for this Outline Business Case. The reference project has taken around two years to develop, and there would be significant time and resource implications to undertake a fresh appraisal. Furthermore, waste treatment technologies are evolving and a further review is not guaranteed to provide any more certainty for the City Council.

With regard to other potential treatment technologies, Mechanical Biological Treatment (MBT) is generally viewed as the main credible alternative to EFW. Three MBT options were evaluated as part of the original technology options appraisal, but at the time of appraising MBT there was significant uncertainty around the marketing of its outputs, and this represented a major risk in terms of the cost of this technology. However this technology is gaining credibility and there are indications that the market for its outputs are developing.

Whilst the Council has used EFW as its reference technology for this OBC, it is keen to ensure that the procurement process encourages the submission of a full range of technological solutions, including MBT, to come forward and to be assessed against the range of technical, environmental and economic criteria.

### **Selection of a Reference Site**

The Council has completed a comprehensive district-wide site selection study based on national, regional and local planning guidance and criteria to identify sites suitable for the treatment of significant volumes of residual waste. This study identified a short-list of four sites:

1. Operational land within the Knostrop sewage treatment works, not in the ownership of the City Council;
2. The site adjacent to the sewage treatment beds on Pontefract Lane, also not in the ownership of the City Council;
3. The site of the former wholesale market on Pontefract Lane, which is in the ownership of the City Council;
4. The site of the former Skelton Grange power station, also not in the ownership of the City Council.

These sites have now been identified as suitable for a major waste facility within the Preferred Options stage of the Aire Valley Area Action Plan, which was approved at the Council's Executive Board meeting on 11<sup>th</sup> September 2007.

In addition to being predicated of an EFW reference technology, this Outline Business Case is also predicated on a reference site in the Council's ownership. However, as the procurement moves forward, there will be full opportunity for other sites to come forward from, or in addition to, the four sites listed above.

### **Managing Treatment Capacity Risk**

The reference project is based upon assessments by Council officers and external advisers of the most probable scenario for waste arisings, challenging targets for recycling, and the subsequent tonnage of residual waste to be treated, estimated at approximately 180,000 tonnes per annum. Recycling performance during the life of the contract may exceed these estimates and the Council's procurement strategy will be to ensure that the contract will contain provisions to accommodate reductions in throughput into the facilities and the

opportunity for the contractor to market any subsequent spare capacity, subject to sustainability considerations. This is to ensure that the Council's residual waste management choices do not place a ceiling on the level of recycling or deter initiatives to reduce waste arisings. It is anticipated that such a scenario may prove attractive to potential bidders because the anticipated increases in landfill tax will drive commercial waste away from landfill, thus creating a demand for this treatment capacity. The Waste Development Plan Document (DPD) forming part of Leeds Local Development Framework (LDF) which has just started development will need to make provision for dealing with all of the City's waste, and this issue will have to be addressed.

### 1.2 Background

#### Profile of Leeds and Strategic Context

Leeds is the regional capital of the Yorkshire and Humber region and the second largest metropolitan authority in the UK. Leeds has a population of over 750,000 people living in around 325,000 domestic properties. Current projections show that the number of domestic properties in Leeds is expected to increase by over 30,000 by 2015/16 alone, with increasing Government targets for new housing currently being consulted upon.

The Council delivers more than 500 different local authority services to the City of Leeds and to its residents. Its population is composed of more than 75 nationalities, with around 8% from a black or minority ethnic community background, although in certain communities this rises to as high as 40%.

Over the last ten years Leeds has become one of the most vibrant and successful cities in the UK, with £2.5 billion invested in commercial property development, resulting in an increase in the number of businesses, visitors and students attracted to the City. Leeds' economic performance stands out, with high economic growth and low unemployment.

However, the prosperity that Leeds has enjoyed is not equitably distributed, with high levels of deprivation in significant areas of the City.

#### Analysis of Waste Arisings

Historical trends in waste growth in Leeds have seen year on year increases in overall waste arisings. However, total MSW fell between 2004/5 and 2005/6, although a small increase was registered between 2005/6 and 2006/7. Total MSW arisings in 2006/7 was 367,000 tonnes, of which household waste (excluding re-use) accounted for 338,000 tonnes.

Table 1.1 Historical MSW arisings in Leeds

Year	Total MSW Arising Tonnes	Percentage change (from previous year) %
2003/4	367,892	-
2004/5	374,429	1.78
2005/6	366,112	(2.22)
2006/7	367,210	0.3

#### Current Waste Management Arrangements

Leeds is a unitary authority and has a statutory responsibility for the collection and disposal of waste, operating its own in-house collection services. At present every property in Leeds has a weekly residual waste collection. Around 92% of households in Leeds currently have access to a four weekly co-mingled kerbside collection of paper, cardboard, plastics and

cans. A pilot kerbside collection of garden waste has also been introduced to approximately 20,000 properties across five areas.

Leeds City Council operates eleven household waste sorting sites (or CA sites), eight of which have now undergone major redevelopment, transforming them into model recycling centres. The Council also manages around 435 bring bank sites for glass, plastic, paper, cans, textiles shoes and tetrapaks.

Recycling and composting levels have been rising steadily for a number of years. Leeds was consistently the top recycling Core City and metropolitan authority in the UK between 2003/04 and 2005/06 and had a combined recycling and composting rate of 22.3% in 2006/07. Leeds also won the 'Recycling Target Success' award at the National Recycling Awards in 2005.

A series of waste composition studies have been commissioned by the Council over the last two years, and this data has been used to inform both the waste modelling for the OBC and the Council's future recycling strategy.

However, Leeds City Council landfilled around 77% of the 338,000 tonnes of domestic waste that it collected in 2006/07, and is committed to fundamentally addressing this situation.

### 1.3 Strategic Waste Management Objectives

#### Integrated Waste Strategy for Leeds 2005-35

The Integrated Waste Strategy for Leeds 2005-2035 was adopted by the Council's Executive Board in October 2006. This sets out the long-term strategic vision and key objectives for waste management in Leeds. The Strategy has undergone a detailed sustainability appraisal and Strategic Environmental Assessment (SEA), with the Environmental Report subject to consultation alongside the Strategy itself. The Strategy was updated in 2007 to reflect the Council's commitment to achieving a combined recycling and composting rate in excess of 50% by 2020.

The vision set out in the Waste Strategy is of an aspiration to become a *zero waste* city, where we reduce, re-use, recycle and recover value from all waste, and where waste becomes a resource.

#### Waste Minimisation

Reducing the historically high growth in waste provides a primary focus for the Waste Strategy for Leeds. In conjunction with its technical advisers, Jacobs UK Ltd, the Council has undertaken a detailed analysis of the projected profile of municipal waste in Leeds. The scenario selected for the purposes of modelling, and the specific target set out within the Integrated Waste Strategy for Leeds, is to reduce annual growth in household waste in Leeds to 0.5% per household by 2010 and to 0% by 2020.

This reflects recent trends in waste growth, the growing emphasis both locally and nationally on waste prevention and a growing awareness of the need to change behaviour and attitudes to waste. It takes into account the increasing pressure through legislation to reduce packaging and the increasing number of companies committing to reduce waste and packaging.

However, the number of households in Leeds is set to rise significantly over the term of a potential contract, and household growth projections are therefore based on a high housing completion trajectory for planned and windfall development.

*Table 1.2 Summary forecast of MSW arisings in Leeds*

Year	Total MSW arising	Percentage Change (from previous year)
	Tonnes	%
2007/08	377,534	2.81%
2009/10	390,503	1.50%
2012/13	406,622	1.40%
2014/15	416,610	1.20%
2019/20	439,693	1.03%
2037/38	505,746	0.73%

### **Recycling Strategy**

The Council has undertaken an appraisal of a wide range of different options for increasing the range of recyclable and compostable materials collected at the kerbside, and taking into account performance, cost, environmental impact and public acceptance issues. Based on this information, the following range of optimised collection and education initiatives is proposed for Leeds.

- Garden waste collection (fortnightly)
- Glass collection (fortnightly)
- Increased frequency of co-mingled recycling kerbside collections (fortnightly)
- Food waste collection (weekly)
- Reduced frequency of residual waste collection where weekly food waste collections introduced (fortnightly)
- Increased range of plastics collected in kerbside recycling bins
- Increased range of paper and card collected in kerbside recycling bins
- Increased roll-out of kerbside recycling collections
- Enhanced participation in recycling through increased education
- Introduction of compulsory recycling

The introduction of the optimised recycling initiatives set out above is expected to enable Leeds to reach the specific target set out in the Integrated Waste Strategy for Leeds to achieve a recycling rate of beyond 50% by 2020. These proposals were agreed by the Council's Executive Board on 11<sup>th</sup> September 2007. Table 1.3 below shows how the reference project performs against national recycling targets.

*Table 1.3 National and Reference Project Recycling Targets*

Year	Waste Strategy for England 2007	Reference Project
	%	%
2009/10	40	33.42
2014/15	45	49.35
2019/20	50	52.06

In terms of the Council's commitment to tackling its current reliance on landfill, the Waste Strategy sets a target to achieve the recovery of value from 90% of household waste by 2020.

**1.4 Procurement Strategy and Reference Project**

**Development of Overall Waste Solution for Leeds**

The delivery of the overall Waste Solution for Leeds comprises a number of separate procurements for recycling, composting, residual waste treatment and disposal, and the development of an interim solution for landfill diversion. The Council has developed a strategy for managing the options appraisal, market sounding and tendering exercises required to deliver this complex range of interrelated procurements. The range of facilities (or capacity) required in order to deliver the overall Waste Solution for Leeds is set out in Table 1.4 below.

*Table 1.4 Indicative Range of Facilities Required for Waste Solution*

<b>Type of Facility</b>	<b>Number of Proposed Facilities</b>	<b>Capacity of Facility (tonnes at 2038)</b>	<b>Date Facility Required</b>
Materials Recycling Facility (MRF)	1	131,000	Currently provided through merchant capacity
Green Windrow Composting Facility	1	55,000	
Food Waste Processing Facility	1	42,000	2010
Residual Waste Treatment Facility	1	182,000	2014
Waste Transfer Facility	1	80,000	2014
Household Waste Sorting Sites	2	107,000	2011

**Selection of Reference Residual Waste Treatment Technology**

The OBC, however, focuses on the delivery of the residual waste treatment infrastructure required to ensure the necessary level of diversion from landfill and achievement of targets for the recovery of value from waste. Whilst the Council has now adopted a challenging long-term recycling target, its waste flow modelling has shown that achievement of this target will still leave an estimated 180,000 tonnes of residual waste for processing.

In order to address this issue, the Council has undertaken an appraisal, in conjunction with its technical and financial advisers, of a broad, representative range of technology solutions. Based on the outcome of the appraisal and the operating experience of the technologies at the time of its completion, Energy from Waste (EfW) has been identified as the preferred option to take forward to the reference project. However, it is acknowledged that some alternative technologies have gained credibility since the completion of the options appraisal, and the Council is therefore committed to ensuring that there is full opportunity for a range of solutions to come forward during procurement.

**Reference Project**

With Leeds being the largest metropolitan district in England by area, and given the site locations being considered for the residual waste treatment facility, a single transfer station is required. The Council believes that value for money may be improved if this transfer station is operated by the PFI Contractor. The transfer station will effectively be a gateway for the residual treatment facility with the contractor having the same obligations for receiving and diverting waste from the gate of the Transfer Station as for the treatment facility. It is acknowledged that the Council will have to finance any new or improved transfer loading facilities from its own resources, as the level of PFI Credits is limited to the residual waste treatment facility only. Table 1.5 provides a summary of the facilities included within the reference project and the associated headline capital costs.

*Table 1.5 Reference Project Facilities*

<b>Facility</b>	<b>Waste Stream</b>	<b>Estimated municipal throughput</b>	<b>Estimated Capital Cost</b>
Energy from Waste Facility	Residual waste	182,000 tonnes	£126.1m
Waste Transfer Facility	Recyclables and residual waste	80,000 tonnes	£1.8m

Table 1.6 provides a summary of the performance of the EfW reference project.

*Table 1.6 Summary Performance of Reference Project (EfW)*

<b>Year</b>	<b>National Recycling Targets</b>	<b>Reference Project Recycling Performance</b>	<b>Recycled tonnage + composted</b>	<b>LATS allowance</b>	<b>Reference Project –BMW Landfilled</b>	<b>LATS Surplus/ (Deficit)</b>
	%	%		Tonnes	Tonnes	Tonnes
2009/10	40	33.42	120,807	151,189	174,756	(23,567)
2013/14	-	48.40	183,845	96,383	135,574	39,191
2014/15	45	49.35	189,703	92,063	16,704	75,359
2019/20	50	52.06	211,174	70,465	17,507	52,958
2037/38	-	57.62	268,765	70,465	20,011	50,453

**Proposed Scope of the Project**

The contract objectives are set out in Table 1.7 below. The output specification will be developed in accordance with the guidance issued by the 4ps for waste procurements. The contract will be open to any technology, provided that it can deliver to the output specification.

*Table 1.7*

<b>Contract Criteria</b>	<b>Anticipated Scope and Performance Indicators</b>
Contract Structure	The contract will be a PFI procurement on the basis of an output specification that will be in accordance with the 4ps guidance. The contract will cover design, build, finance and operation of the facility.
Contract Scope	The Council will procure a contract to provide treatment of 182,000 tonnes per annum of residual municipal waste from households, kerbside and household waste sorting sites in Leeds. Bidders will have the option of managing and operating a waste transfer station.
Contract Duration	Commercial close is programmed for April 2010. The period April 2010 to March 2011 is programmed to secure the final detailed Planning approvals with Financial Close in April 2011. It is anticipated that there will be a two year construction period, followed by a further year to enable successful commissioning of the facility. Operations are programmed to commence in April 2014. The operational phase of the contract will run for 24 years and the contract will terminate on 31 <sup>st</sup> March 2038.
Recycling Performance	The operation of the facilities will not prejudice the Council's continued efforts to maximise overall recycling rates in the City. The facility will include recovery operations that contribute to the Council's recycling performance.
Flexibility to adapt to changes in waste volumes, composition, collection arrangements, regulation and legislation	<ul style="list-style-type: none"> <li>• Facility has sufficient flexibility to accommodate reasonable variations in the growth of waste volumes;</li> <li>• The contractor will be responsible for cost-effective utilisation of spare capacity through third party contracts;</li> <li>• The process is reasonably tolerant of long-term changes in waste composition including improving waste recycling</li> </ul>

Contract Criteria	Anticipated Scope and Performance Indicators
	performance; <ul style="list-style-type: none"><li data-bbox="667 259 1410 367">• Both parties to the contract will be able to implement improvement and initiate change through agreed change mechanisms in accordance with recent amendments to SoPC4 and response times.</li></ul>

It is envisaged that the technology to ultimately be delivered under the contract will deal primarily with the disposal of municipal solid waste collected from Leeds households. However, it is not intended that this should restrict the facility's ability to take third party waste on the basis that this could deliver added value for money, that is, waste could be accepted on the basis that any savings realised would be expected to reduce the cost to the Council. The ability to generate third party revenues will be assessed against considerations of sustainability.

### 1.5 Risk Management, Risk Allocation and Contractual Structures

#### Risk Management – From OBC to Service Commencement

The Project Team has developed a Project risk assessment log setting out the risks during the procurement of the Project, commencing at the development of the Outline Business Case. This risk log incorporates risks relating to delivering the wider Waste Solution for Leeds in addition to risks related exclusively to the Residual Waste Treatment Project. The Project Risk Log can be found at Appendix 5a.

#### Risk Allocation in the Contract

The relative risks within the contract will be set out in the Project Agreement, which will be compliant with SoPC4 and any standard waste management contract that may be developed by DEFRA, Partnerships UK and the 4ps in due course. The significant relative risks are summarised in Section 5 of this Outline Business Case and in greater detail in Appendix 5B.

A summary of the main risks that it is anticipated will be covered in the Project Agreement are listed below:

- Planning, covering delays in submission of detailed plans, delays in approvals, judicial review;
- Construction, including ground conditions, any latent defects;
- Commissioning/technology risk;
- Delays to service commencement;
- Demand risk – scarce/surplus capacity;
- Unavailability and risks of poor performance – diversion to landfill risk;
- Disposal of waste residues after treatment;
- Change in Law.

The contract is programmed to reach Commercial Close in April 2010. It is estimated that it will take one further year to achieve the necessary planning approvals and Financial Close is programmed for April 2011. It is estimated that the build period will take two years to April 2013 and a further year for commissioning and to commence operations in April 2014. The contract is programmed to operate for 24 years and to terminate on 31<sup>st</sup> March 2038.

### 1.6 Project Team and Governance

#### PFI Experience

Between June 1999 and April 2007, the Council has delivered or is procuring thirteen PFI projects with a combined capital investment value of over £1bn. These comprise:

- Seven PFI Schools projects, including Wave 1 of the Government's 'Building Schools for the Future' Programme;
- A Street Lighting Infrastructure PFI Contract, to replace 80,000 street lights and illuminated signs in Leeds over a five year period;
- A Social Housing PFI Contract in Swarcliffe, in East Leeds;
- The joint procurement of two housing projects at Little London and Beeston & Holbeck
- Four further projects currently at varying stages of procurement, two of which are programmed to reach Financial Close in February and March 2008.

Two recent projects, the Leeds Street Lighting PFI and the Leeds 'Building Schools for the Future' project, which is the largest national new schools scheme, went from the issue of the OJEU notice to reach Financial Close in a record time. As a consequence of this growing expertise the City Council has been awarded Beacon status by the IDeA and two further national awards, nominated by the Private Sector, for its abilities in the procurement of complex PFI Projects.

The Council has therefore developed considerable expertise in procuring PFI schemes. The Council's PFI/PPP Programme is led by the Deputy Chief Executive, as the 'Portfolio Owner'. He is supported in this role by the Head of the City Council's Public Private Partnerships Unit (PPPU).

The Environment and Neighbourhoods Directorate is the client department for the Residual Waste Treatment Project, providing and co-ordinating service user and related client input through an established team that ensures consistency and best practice in the requirements of the project. The Director of Environment and Neighbourhoods is the Project Sponsor, and the client team will be led by a Project Director who will have overall responsibility for the project.

The PPPU has established a team within the Unit, led by an experienced Project Manager to manage the procurement of the project on behalf of the Director of Environment and Neighbourhoods.

#### Corporate Governance of PFI / PPP Projects in Leeds City Council

In October 2005, the Council's Executive Board approved the corporate governance arrangements for its PFI and PPP programme to ensure the successful and efficient management and delivery of schemes by establishing clear roles, responsibilities and decision making processes. The corporate governance arrangements will be used for this project, under which the Council's Executive Board approves the submission of the Outline and Final Business Cases and the delegated approval to designated officers for the Council to enter into the contract. The corporate governance structure can be viewed in more detail in Section 6 of this OBC and the associated appendix.

The Residual Waste Treatment Project Board will be responsible for the delivery of the project, with authority delegated by the Council's Executive Board to take decisions on the following procurement matters:

- Criteria for the selection of bidders;
- Initial and further selection of bidders;
- Issue of the Invitation to Participate in Dialogue (ITPD);
- Matters relating to clarifications with bidders;
- Appointment of the Preferred Bidder.

### External Advisors

Specialist staff within Leeds City Council will undertake the work on this project with the support of experienced external advisers appointed under framework agreements. The advisers currently engaged are as follows:

- Technical – Jacobs UK
- Financial – PwC
- Legal – DLA Piper Ruddick (DLA)

The Council is currently re-bidding its framework agreements for legal services and financial services, with the outcomes expected to be known in late November 2007 and early December 2007 respectively. The successful advisors following this process will be selected partially based upon their expertise in the waste sector.

### 1.7 Sites and Planning

#### Planning Policy Framework

The strategy for securing sites has been developed in conjunction with DEFRA's Planning Health Framework. In summary, the policy framework for dealing with a planning application will be PPS10, the Regional Spatial Strategy, UDP Review policies and the emerging Local Development Framework (LDF) documents, particularly new policies contained in Area Action Plans. Because of the advanced stage of work on the UDP Review and a number of major area-based regeneration projects that are a Council priority, the first LDF documents to get underway in Leeds are three Area Action Plans (AAPs). National planning guidance recognises Area Action Plans as one form of Development Plan Document suitable for advancing proposals for waste management facilities. The Local Development Scheme includes production of a Waste DPD which the Council has appointed consultants to undertake. However, adoption is unlikely before mid-2010.

#### Site Selection and Reference Site

As a development of the Integrated Waste Strategy for Leeds, the Council has commissioned a district-wide search for site suitable for major waste management facilities, including those with the potential to accommodate a Sustainable Energy and Resource Park or Residual Waste Treatment Facility. The site search has been undertaken in full recognition of the policy background described above and the guidance given in PPS10 and its companion guide, as well as regional and local planning guidance. The methodology and the factors taken into account are described in full in the site selection report in the appendices to the OBC. From this site search it became apparent that the most promising opportunities fell within the boundary of the Aire Valley AAP.

The site selection process involved a comprehensive search of a wide range of databases and data sources to identify an initial list of sites. This data initial interrogation produced in excess of 2000 sites. These were then subject to a broad sieve resulting in a long list of 42 sites.

The assessment of these 42 sites focused on compatibility with the criteria set out within paragraphs 17-21 of PPS10.

From this assessment, seven sites were graded for more detailed evaluation of their characteristics using the following criteria taken from PPS10 and Annex E:

- The likelihood of site owners wishing to sell sites and potential acquisition costs.
- Site accessibility in terms of the capacity of the highways network.
- The potential for alternative access (i.e. by rail, canal, river etc).
- A more detailed assessment on the impact on or of surrounding land uses using the detailed criteria provided in Annex E of PPS 10.
- The potential for negative impacts on regeneration objectives and economic investment.

The results of this assessment produced a short-list of four sites, summarised in Section 1.1 of this Executive Summary. The potential suitability of the short-listed sites emerging from the site selection study has been included within the Aire Valley Area Action Plan at the Preferred Options Stage, approved by the Council's Executive Board on 11<sup>th</sup> September 2007. The Aire Valley AAP Preferred Options stage provides opportunity for key stakeholders to formally register their views on the proposals. Widespread consultation will be undertaken consistent with the Council's adopted Statement of Community Involvement.

The reference site for the project has been identified from this list of preferred options, and is in Leeds City Council's ownership. This is a 9.5 hectare vacant site, immediately north of Pontefract Lane, currently being redeveloped as part of the East Leeds Link Road. It is the site of a former wholesale market and is a flat open site. The land is partly allocated for employment in the UDP.

The three other sites short-listed are in private ownership. Acquisition of one of these sites will be pursued if it is found to be preferable to a Council owned site and can be secured by the ISOP stage of the procurement. If a privately owned site is found to be the preferred location, the Council's intention is to enter into the procurement process on the basis of the Council's own reference site and one privately owned site.

The Council has been proactive in ensuring that it is able to secure the planning policy framework to provide a robust basis for securing planning permission within the procurement timetable. The emerging Aire Valley AAP, although unlikely to have progressed to adoption, will be at an advanced stage at the time an application is submitted. The AAP process will have provided an early opportunity for engagement with the general public and other stakeholders, including key consultees. These will include the Regional Assembly and Government Office.

### **1.8 Costs, Budget and Finance**

Section 8 of this Outline Business Case seeks to demonstrate that this Project will offer good value for money to the Public Sector, will be affordable and bankable and will meet the accounting requirements to classify as a PFI transaction.

#### **Value for Money**

The City Council has utilised HM Treasury's "Value for Money Assessment Guidance". The Qualitative Evaluation assessment was undertaken to demonstrate that PFI is an appropriate

procurement route for the Residual Waste Treatment Project, and the full Qualitative Assessment is attached to this OBC as Appendix 8A (i).

The Council has also utilised HM Treasury's Guidelines (revised in November 2006) and VFM Spreadsheet to calculate the VFM margin to the Public Sector, and this is attached as Appendix 8A (ii) to this OBC. After this data has been input into HM Treasury Model, the resultant output shows that at the Treasury Spreadsheets Pre-Tax Equity IRR of 15%, the project offers value for money through the PFI route with a margin of 3.22%. HM Treasury Guidance also recommends that VFM be tested against a range of sensitivities to understand the impact of variables in both the assumptions used, and the calculations performed by HM Treasury Model. A summary of the results from the key sensitivities analyses are set out in Section 8.

### **Affordability**

The revenue and affordability implications of the project are the products of the Unitary Charge payable to the Special Purpose Vehicle (SPV), partially offset by the Revenue Support Grant received from Central Government.

The calculation of the Unitary Charge is underpinned by the development of a Whole Life Cost Model (WLCM) developed by the Council's financial adviser, PwC, and this is attached to this OBC at Appendix 8B (i). The Council has also made a number of cost and financing assumptions, and these are also attached to this OBC, as Appendix 8B (ii). With the assistance of its external financial adviser, PwC, the Council has developed a Shadow Bid Financial Model (Appendix 8B (iii)) and has calculated that the estimated Unitary Charge to be paid to the PFI contractor in the first full year of operations in 2014/15 will amount to £20.867m.

The level of PFI Credits for this reference project has been derived according to DEFRA funding 50% of the relevant capital cost of the project. Based upon the WLCM, with initial capital and lifecycle costs estimated to be £126.1m, this will generate a level of PFI Credits of £63.05m. The annual PFI Revenue Support Grant is based upon the Department for Communities and Local Government's PFI RSG Annuity Model, which calculates the annual PFI RSG to be £4.986m per annum over the life of the Contract. The Model is attached as Appendix 8B (iv).

The annual estimated Affordability cash flow statement, attached at Appendix 8B (v), shows the annual 'affordability gap' required to be financed by the Council. The Council has undertaken its affordability analysis for this project by first calculating the estimated annual Unitary Charge and the funding available from Central Government in the form of PFI Revenue Support Grant. For this project, procured through PFI, this will leave an affordability gap in the first full year of operations of £16.191m to be financed by the Council.

Members of the Council's Executive Board approved this Outline Business Case at their meeting on 14<sup>th</sup> November 2007. This included the Council's understanding and commitment to the revenue funding implications set out in the table below.

*Table 1.8 PFI Project Cash Flows*

<b>PFI Project Cash Flows</b>	<b>£000</b>
<b>Headline Nominal Unitary Charge in the first full year of operations (2014/15)</b>	<b>20,867</b>
<b>Total Unitary Charge over the life of the Contract</b>	<b>579,853</b>
<b>Client Contract Management costs</b>	<b>3,235</b>
<b>Total Costs</b>	<b>583,088</b>
<b>PFI Revenue Support Grant at FBC (£63.05m PFI Credits)</b>	<b>( 119,235 )</b>
<b>Net cost to be Financed by the City Council</b>	<b>463,853</b>

The period between the development of the Outline Business Case, from October 2007, through to Financial Close programmed for April 2012, is, in terms of conventional PFI procurements, a long period where changes in the macro-economic climate and design could impact on both the price and the affordability of the project. A number of scenarios have been modelled to illustrate the possible impact on the Unitary Charge and these are summarised in Table 1.9 below.

*Table 1.9 Sensitivity Analysis*

<b>Sensitivity</b>	<b>First Year Unitary Charge £000</b>
<b>Base Case with 15% IRR</b>	<b>20,867</b>
<b>Base Case with 17% IRR</b>	<b>21,957</b>
<b>Capital cost sensitivities:</b>	
<b>Minus 5%</b>	<b>20,162</b>
<b>Plus 5%</b>	<b>21,572</b>
<b>Operating cost sensitivities:</b>	
<b>Minus 5%</b>	<b>20,644</b>
<b>Plus 5%</b>	<b>21,090</b>
<b>Combined capital and operating cost sensitivities:</b>	
<b>Minus 5%</b>	<b>19,940</b>
<b>Plus 5%</b>	<b>21,795</b>
<b>Interest SWAP rate sensitivities:</b>	
<b>Minus 50 basis points</b>	<b>20,325</b>
<b>Plus 50 basis points</b>	<b>21,420</b>

### **Accounting Treatment**

Current regulations under the Local Government Act 2003 require that, based on proper practice, if an authority determines that the liabilities arising from the PFI transaction do not require the Authority to recognise a fixed asset in the Balance Sheet, then it is not a qualifying liability and is therefore excluded from the definition of a credit agreement. Currently, the Local Authority Code of Practice defines proper practice in Application Note F to Financial Reporting Standard 5 (FRS 5) – “Reporting the substance of transactions: Private Finance Initiative and Similar Contracts” (the “Application Note”), as interpreted by Treasury Taskforce Technical Note Number 1 (Revised) – “How to Account for PFI Transactions” (the “Technical Note”).

An initial review of the relative property risks associated with the proposed PFI contract for the proposed Residual Waste Treatment PFI Project has been undertaken, and advice has been received from the Council's external financial adviser, PwC, (attached as Appendix 8C (i)). This is expected to lead to an assessment by the Director of Resources that, based on the information and advice provided to him, and in accordance with proper practices, no liabilities will arise which will result in the Council being required to recognise a fixed asset in any balance sheet required to be prepared by the Council in accordance with such practices for the financial year in which the agreement will be entered into for the purposes of Regulation 3 of the Local Authorities (Capital Finance and Accounting (England) Regulations 2003).

The advice received by the Council from PwC is currently being reviewed by the Council's external auditor, KPMG, and their view will be forwarded on as Appendix 8C (ii) at the earliest opportunity.

### **Bankability**

When compared with the Education Sector, PFI in waste is relatively new and not yet widely tested. However, it is becoming generally widely known that the Government's objective of increased recycling, extracting value from waste and diversion of residual waste away from landfill are high policy priorities. The Government is backing these policy objectives by providing PFI Credits to Waste Disposal Authorities to plan and ultimately enable these objectives to be met. The certainty of a market will encourage not only existing but new entrants into the waste management market. It is also expected that established financial institutions will also wish to be equity shareholders as well as providing either Senior Debt or Bond Finance. Senior Lenders in other PFI sectors are now well familiar with the standard contract terms set out in the Standardisation of PFI Contracts, through their various iterative versions through to SoPC4.

### **1.9 Stakeholder Communications**

#### **Public and Elected Member Engagement**

On 18<sup>th</sup> October 2006, the Council's cross-party Executive Board gave approval to the revised Integrated Waste Strategy for Leeds 2005-2035, following the completion of an extensive programme of consultation over a six month period. Consultation clearly indicated strong and widespread support from the people of Leeds for the long-term proposals being put forward for waste prevention, recycling, recovery and landfill diversion.

Further to this, the Council has commissioned a programme of independent consultation exercises during Summer 2007 to elicit feedback from residents specifically on the most recent proposals for kerbside recycling collections, and on the criteria to be considered in identifying a short-list of sites for a residual waste treatment facility.

Leeds City Council also commissioned a full Scrutiny Inquiry into the Waste Solution Project by its Environment and Community Safety Scrutiny Board, which has run in parallel with the development of the Integrated Waste Strategy for Leeds and the Residual Waste Treatment Project.

#### **Market Interest**

The City Council is aware that, at the present time, market capacity is constrained and that it will need to tailor its procurement requirements to maximise competition. Key waste management companies (including fully integrated and residual technology suppliers) and

large scale infrastructure companies have been approached by the Council explaining its current waste strategy and details of the procurement, including proposed timescales and progress on sites and planning matters. Interested companies were requested to provide their views on the proposed scope of the Waste Solution, its structure and key risks. Eight of the respondents favoured inclusion of the Waste Transfer Station within the contract to minimise interface risk and to provide better value for money for the City Council.

The most recent soft market testing exercise has indicated that there is significant interest in the Private Sector to bid for this procurement. These organisations include both waste management and large scale infrastructure companies. The Council will continue to engage with and inform the market prior to the issue of the OJEU notice and will hold an 'information day' for potential bidders after the Outline Business Case has been approved.

Leeds is a large city, with no treatment facilities currently located within its boundary to deal with residual municipal waste. Due to the relatively central location of the four short-listed sites within Leeds, and the experience of the Council, and reputation it has with the Private Sector for quick and efficient delivery of large PFI Projects, Leeds City Council is confident that when the OJEU is issued, there will be substantial interest from the Private Sector to work in partnership with the Council to deliver this Project.

### **Other Relevant Authorities**

Leeds City Council is engaged in regular dialogue with the other local authorities within the region, and is a key participant in the Waste Regional Advisory Group (WRAG). The geographical area of Leeds and that of some of its neighbours means that the provision of regional solutions would create logistical difficulties and potentially cause greater environmental impacts. However, Leeds is committed to exploring the benefits of potential regional synergies and economies of scale.

### **1.10 Timetable**

The procurement process shown is a competitive dialogue and is linked with the planning application process, with the submission of the planning application being made by the preferred bidder once the organisation has completed the outstanding areas of the EIA unique to its bid. A financial close to the project is anticipated to coincide with the granting of planning permission by the Council, with a commercial close taking place in 2010 when negotiations are complete. Should the application be called in for determination by the Secretary of State, then financial close is expected to be linked to the ultimate granting of planning permission by the Secretary of State. The main project stages have been considered by the Council and are shown in summary in Table 1.10 below.

Table 1.10 Summary Project Timetable

<b>Project Stages</b>	<b>Date</b>
Outline Business Case (OBC) approved by Council	<b>Nov 2007</b>
Submission of OBC	<b>Nov 2007</b>
Defra Approval of OBC	<b>Jan 2008</b>
PRG Approval of OBC	<b>Jan 2008</b>
OJEU Published	<b>Jun 2008</b>
Descriptive Document Issued	<b>Jun 2008</b>
ISOS Issued	<b>Aug 2008</b>
ISOS Returned	<b>Oct 2008</b>
ISDS Issued	<b>Dec 2008</b>
ISDS Returned	<b>Mar 2009</b>
ISRS Issued	<b>May 2009</b>
ISRS Returned	<b>Jul 2009</b>
Call For Final Tenders	<b>Sep 2009</b>
Preferred Bidder Selected	<b>Oct 2009</b>
Submission of FBC	<b>Dec 2009</b>
Defra Approval of FBC	<b>Feb 2010</b>
Contract Awarded	<b>Apr 2010</b>
Financial Close	<b>Apr 2011</b>
Planning Application Submitted	<b>Mar 2010</b>
Operational Commencement	<b>Apr 2014</b>

### Appendices supporting this section of the Outline Business Case

- 1A Defra and PRG Criteria Checklists
- 1B Executive Board Report - 14<sup>th</sup> November 2007
- 1C Extract of Minutes of Executive Board - 14<sup>th</sup> November 2007

## 2. BACKGROUND

### 2.1 Introduction

Public interest in waste and recycling has never been higher. People are becoming increasingly aware of the environmental threat posed by the vast quantities of waste that we produce each year, and climate change and global warming are at the top of the political agenda. Whilst the issue of how to deal with the problem of waste presents a huge challenge to our society, the current focus on these issues represents a unique opportunity to achieve a radical change in our attitudes and habits in relation to waste. We need to capitalise on this huge and growing public interest at city-wide and local community level, and to build on that enthusiasm.

Since Leeds City Council published the first version of the Integrated Waste Strategy for Leeds in 2003, we have achieved significant increases in the recycling and composting of household waste and reductions in the proportion of waste which is landfilled. However, these improvements must only be the start. We need to do much more of what we are already doing to increase recycling. Getting in place the necessary investment and infrastructure to meet this objective must be a high and urgent priority if we are to hit our current targets. We also need to prioritise our work on education and awareness to encourage maximum public participation. With these measures in place, we are confident of being able to achieve high recycling levels for household waste, and this document reflects our ambitious new recycling targets.

Having said this, it is widely acknowledged that recycling alone will not be sufficient to achieve the necessary diversion from landfill. We need to shift our thinking towards treating all waste as a resource. Materials that are left over after they have been used should be seen not so much as a problem but far more as an opportunity for re-use or conversion into whatever form will give us the most economic, social and environmental gains. Modern treatment technologies have a clear role to play in obtaining environmental value from our waste resources, but we are committed to solutions that are informed by the evidence on environmental, health and economic effects.

To this end, Leeds City Council initiated the formal 'Waste Solution Project' in January 2005 as the mechanism for determining and delivering its Waste Strategy in relation to the achievement of recycling and landfill diversion targets. This project, or programme of projects, incorporates the delivery of new recycling, composting and residual waste treatment facilities, providing a package of enhanced recycling services for Leeds, and changing the future of waste collection and disposal. The term 'Waste Solution' will be used from this point on to refer to this overall programme of projects, of which the residual waste treatment PFI will form a key part.

The focus of this Outline Business Case is on the delivery of the residual waste treatment infrastructure required to ensure that we divert the necessary level of waste from landfill and meet our targets for the recovery of value from waste. The development of this infrastructure would represent a radical change in terms of how Leeds' waste is managed and would deliver a major reduction in the impact of this waste on the environment.

### 2.2 Details of Key Characteristics of Area Profile

#### Profile of Leeds

Leeds is the regional capital of the Yorkshire and Humber region and the second largest metropolitan authority in the UK. Leeds has a population of over 750,000 people living in around 325,000 domestic properties. Current projections show that the number of domestic

properties in Leeds is expected to increase by over 30,000 by 2015/16 alone. It is extremely diverse, covering an area of 55,000 hectares, and consists of a main urban area with a population of approximately 500,000, and an outer ring of small towns and countryside, the majority of which is green belt.

Over the last ten years Leeds has become one of the most vibrant and successful cities in the UK, with £2.5 billion invested in commercial property development, resulting in an increase in the number of businesses, visitors and students attracted to the City. Leeds' economic performance stands out, with high economic growth and low unemployment.

Over the last twenty years Leeds has created more jobs than any other major city outside London. This success has been largely due to the strength and diversity of the local economy. Between 1996 and 2002, over 51,000 extra jobs were created in Leeds. This trend looks set to continue with independent estimates of nearly 28,000 new jobs being created over the next ten years. This will account for nearly half of the extra jobs in the region. Nearly a third of the City's jobs are in the City Centre and it is a significant visitor destination for both shopping and tourism. By 2008, approximately 15,000 people will live in the city centre

The Council delivers more than 500 different local authority services to the City of Leeds and its residents from more than 75 nationalities. Around 8% of the population is from a black or minority ethnic community background, although in certain communities this figure rises to 40%.

The prosperity that Leeds has enjoyed is not, however, equitable across the City. The Indices of Multiple Deprivation highlight that, despite Leeds' prosperity, there is a significant level of deprivation.

There are 32,482 lower level Super Output Areas (SOA's) in England, and 476 lower level SOA's in Leeds. Of the 476 lower level SOA's in Leeds:

- 31 (6.5%) are ranked in the most deprived 3% of SOA's in England;
- 100 (21%) are ranked in the most deprived 10% of SOA's in England;
- 152 (31.9%) are ranked in the most deprived 20% of SOA's in England.

### **Strategic Context**

Following our 2006 Comprehensive Performance Assessment (CPA) inspection, Leeds City Council was rated as a '3 star' council, the second highest of the five categories, and was found to be '*improving adequately*'.

The overarching Community Strategy for Leeds is the 'Vision for Leeds 2004-2020'. This has been developed by the Leeds Initiative, the City's Local Strategic Partnership, and has the following aims:

- Go 'up a league' as a city;
- Narrow the gap between the most disadvantaged people and communities and the rest of the City;
- Develop Leeds' role as the regional capital.

One of the key priority areas set out in the Vision for Leeds is entitled, '*Environment City - A Reputation for Environmental Excellence*', and sets out the following commitment:

*Leeds will have a reputation for environmental excellence through the quality of our built environment, the use of our green space, the effective use of natural resources, clean air quality and waste management. It will be a place that joins economic, social and environmental objectives so that the action we take today does not limit the choices of future generations or others elsewhere in the world”.*

Leeds City Council’s Corporate Plan 2005-8 and its annual Council Plan set out the Authority’s key objectives for delivering the Vision for Leeds. One of the key outcomes identified within this plan is that, “all neighbourhoods are safe, clean, green and well maintained”, and the plan sets out specific objectives for reducing waste, increasing recycling and minimising landfill.

The Leeds Strategic Plan 2008-2011 will replace the current Corporate Plan. This is currently under development and contains eight key themes, one of which is ‘Environment’. The two key strategic outcomes under the ‘Environment’ theme are:

- To reduce our ecological footprint through leading the response, influencing, mitigating and adapting to environmental and climate change;
- To deliver a cleaner, greener and more attractive city through effective environmental management and changed behaviours.

In order to achieve these outcomes the priorities for the next three years have been identified as follows:

- To increase recycling rates and reduce the amount of waste going to landfill;
- To reduce emissions from public sector buildings, operations and service delivery;
- To undertake actions to improve our resilience to current and future climate change;
- To address neighbourhood problem sites and improve cleanliness of publicly owned land.

### 2.3 Analysis of Waste Arising

Historical trends in waste growth in Leeds have seen year on year increases in overall waste arisings. However, total municipal solid waste (MSW) fell between 2004/5 and 2005/6, although a small increase was registered between 2005/6 and 2006/7. Table 2.1 provides a breakdown of recent historical MSW arisings in Leeds.

Table 2.1 *Historical MSW arisings in Leeds*

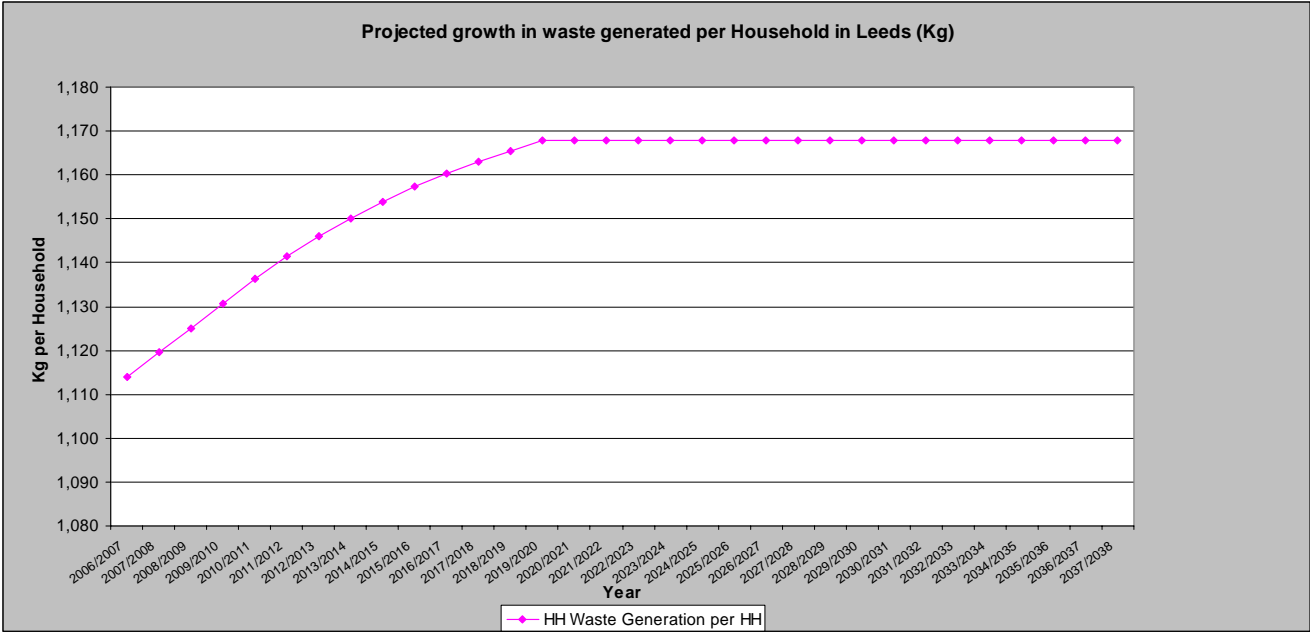
Year	Household Collected Waste	Collected Trade Waste	HWRC Collected Household Waste	Other MSW	Total MSW Arising	Percentage change (from previous year)	Percentage change (from Base year)
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	%	%
2003/4	242,248	1,367	77,685	46,592	367,892		
2004/5	254,238	1,473	80,202	38,516	374,429	1.78	1.78
2005/6	254,711	645	77,445	33,311	366,112	(2.22)	(0.48)
2006/7	255,759	122	77,822	33,507	367,210	0.3	(0.19)

*Includes reuse tonnage within ‘Other MSW’*

There is no consistent trend over recent years, with Leeds experiencing both growth and reductions in overall MSW from year to year. This only serves to demonstrate the difficulties in accurately forecasting growth in waste levels. The Council has therefore modelled a wide range of possible waste growth scenarios before agreeing on its reference project. These scenarios incorporate a range of factors, including national and local historical trends, projected household growth and best data on predictions for waste growth per household.

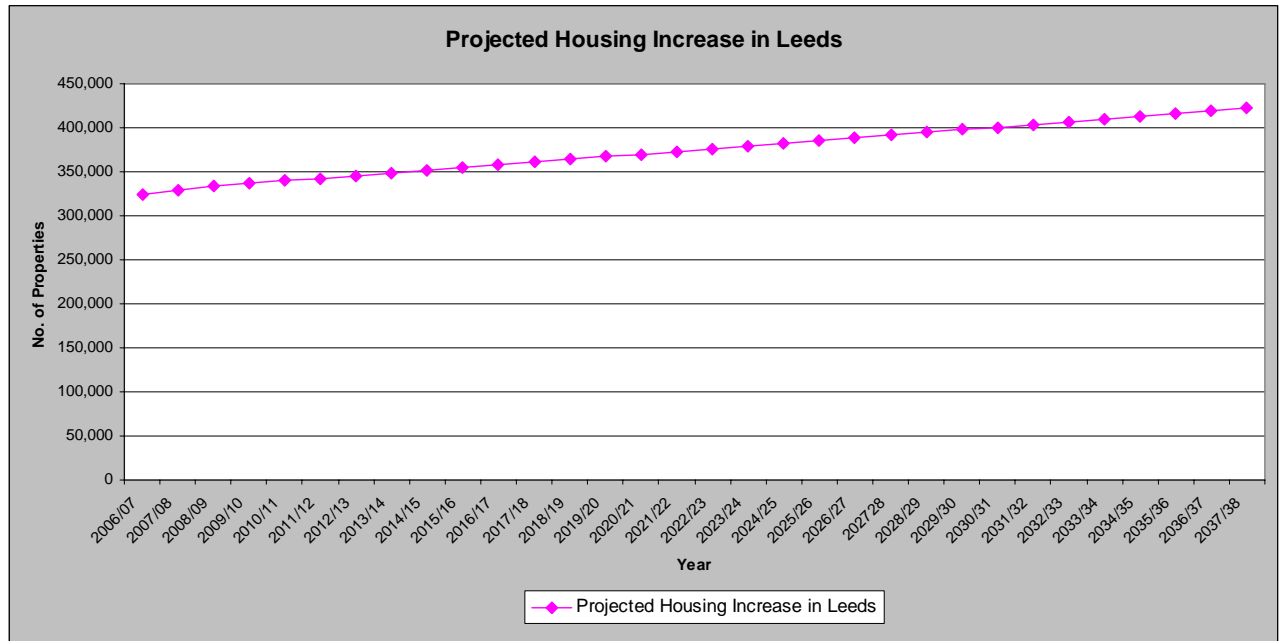
The waste growth modelled for the reference project assumes a reduction in growth per household to 0% by 2020. This reflects the recent trends in waste growth, the growing emphasis both locally and nationally on waste prevention and a growing awareness of the need to change behaviour and attitudes to waste. It takes into account the increasing pressure through legislation to reduce packaging and the increasing number of companies committing to reduce waste and packaging. Figure 2.1 shows the projected level of waste generation per household.

Figure 2.1



As stated, Leeds is a vibrant, successful city, and the number of households is set to rise significantly over the term of the contract. This is reflected in the recent draft Regional Spatial Strategy (RSS) and the Panel Report. The household growth projections, developed in conjunction with the Council’s Planning and Economic Policy Team, are therefore based on a high housing completion trajectory for planned and windfall development, net of anticipated demolition, up to 2015/16. Projections beyond 2015/16 have been based on a straight line average of the previous years. Figure 2.2 shows the projected level of housing growth. Furthermore, the proposed Government increases to the targets for new housing currently being consulted upon will potentially have a further impact on waste generation, and these will be factored into the Council’s ongoing refinement of waste projections leading up to and during procurement.

Figure 2.2



These two projections combined (i.e. for waste per household and housing growth) result in an overall growth in waste arisings, but at a greatly reduced level compared to projecting forward Leeds’ historic growth which is considered to present the realistic upper extreme of waste growth that could occur in Leeds. The Leeds Historic Growth scenario (shown in Figure 2.3 below) was developed based on projections of the average increase in total waste arisings between 2001/02 and 2005/06.

The projection for the reference project, which is consistent with that set out in the Integrated Waste Strategy for Leeds, is marginally above the DEFRA (iii) low growth projection of 0.75% considered in DEFRA’s Waste Strategy Review consultation<sup>1</sup>, but below Defra’s medium growth projection. A 0% growth projection was considered by DEFRA, however this assumes the possibility that waste growth completely decouples from economic growth. Realisation of this hypothetical projection for Leeds would require a significant negative growth in arisings per household to counter-balance continued increases in the number of households in Leeds. DEFRA’s 0.75% growth scenario, on the other hand, is more reflective of current national projections for household growth. This was therefore considered to represent a realistic lower extreme for waste growth that might be experienced in Leeds.

Sensitivity analysis has been completed around the high projection based on Leeds’ historic growth and the low projection based on the DEFRA 0.75% growth to assess the potential impact on the requirements for treatment capacity in Leeds. This is discussed in more detail in Section 4. The selected reference project scenario, along with the high and low sensitivities for waste growth, is presented in Figure 2.3 below.

<sup>1</sup> Waste Strategy Review: A Consultation Document DEFRA, 2006

Figure 2.3 Projections of Total Waste Arisings 2007/08 to 2037/8

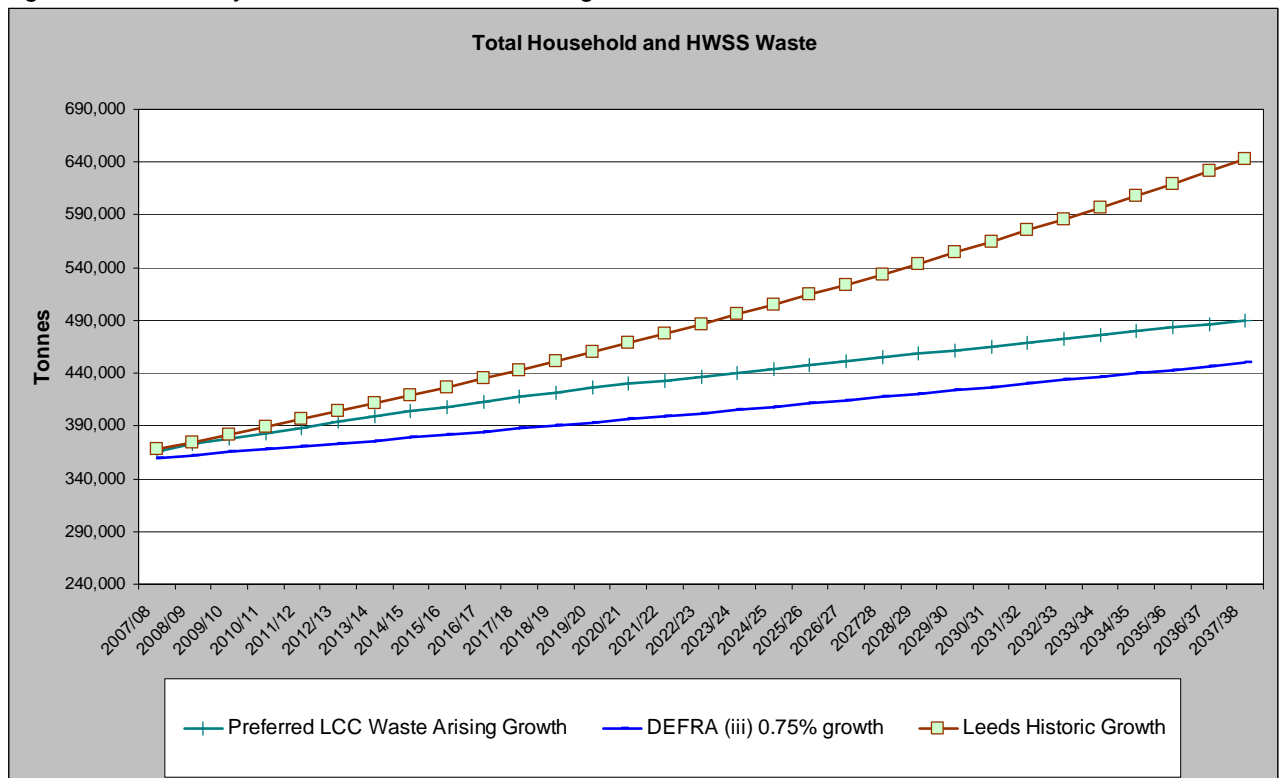


Table 2.2 provides a complete forecast of MSW waste arising in Leeds over the anticipated duration of the proposed contract.

Table 2.2

Year	Household Collected Waste	Collected Trade Waste	HWRC Household Collected Waste	Other MSW	Total MSW Arising	Percentage Change (from Previous Year)	Percentage Change (from Base Year 2003/04)
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	%	%
2007/08	267,767	199	79,898	29,670	377,534	2.81%	2.62%
2008/09	273,089	202	81,434	30,006	384,731	1.91%	4.58%
2009/10	277,334	204	82,669	30,296	390,503	1.50%	6.15%
2010/11	285,944	206	83,849	26,017	396,016	1.41%	7.64%
2011/12	289,644	208	84,917	26,233	401,002	1.26%	9.00%
2012/13	293,940	210	86,118	26,354	406,622	1.40%	10.53%
2013/14	297,723	212	87,195	26,533	411,663	1.24%	11.90%
2014/15	301,470	213	88,252	26,675	416,610	1.20%	13.24%
2015/16	305,049	215	89,248	26,760	421,272	1.12%	14.51%
2016/17	308,567	217	90,258	26,961	426,003	1.12%	15.80%
2017/18	312,040	219	91,248	27,138	430,645	1.09%	17.06%
2018/19	315,442	221	92,221	27,322	435,206	1.06%	18.30%
2019/20	318,796	223	93,177	27,497	439,693	1.03%	19.52%
2020/21	321,513	224	93,954	27,672	443,363	0.83%	20.51%
2021/22	324,234	226	94,732	27,840	447,032	0.83%	21.51%
2022/23	326,955	228	95,510	28,009	450,702	0.82%	22.51%
2023/24	329,678	230	96,267	28,196	454,371	0.81%	23.51%
2024/25	332,401	232	97,065	28,343	458,041	0.81%	24.50%
2025/26	335,126	234	97,843	28,507	461,710	0.80%	25.50%

Year	Household Collected Waste	Collected Trade Waste	HWRC Household Collected Waste	Other MSW	Total MSW Arising	Percentage Change (from Previous Year)	Percentage Change (from Base Year 2003/04)
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	%	%
2026/27	337,851	236	98,620	28,673	465,380	0.79%	26.50%
2027/28	340,578	237	99,398	28,837	469,050	0.79%	27.50%
2028/29	343,305	239	100,176	28,999	472,719	0.78%	28.49%
2029/30	346,034	241	100,953	29,161	476,389	0.78%	29.49%
2030/31	348,763	243	101,731	29,321	480,058	0.77%	30.49%
2031/32	351,493	245	102,508	29,482	483,728	0.76%	31.49%
2032/33	354,225	247	103,286	29,640	487,398	0.76%	32.48%
2033/34	356,957	249	104,064	29,797	491,067	0.75%	33.48%
2034/35	359,690	250	104,841	29,956	494,737	0.75%	34.48%
2035/36	362,425	252	105,619	30,110	498,406	0.74%	35.48%
2036/37	365,160	254	106,397	30,265	502,076	0.74%	36.47%
2037/38	367,896	256	107,174	30,420	505,746	0.73%	37.47%

*Includes reuse tonnage in 'Other MSW'*

## 2.4 Details of Current Arrangements for Collection and Disposal

Leeds is a unitary authority and has a statutory responsibility for the collection and disposal of waste, operating its own in-house collection services. In 2006/07 Leeds City Council managed approximately 367,000 tonnes of municipal waste, of which household waste (excluding re-use) accounted for 338,000 tonnes.

### Residual Waste Collection and Disposal

At present every property in Leeds (approximately 325,000) has its residual waste collected every week using either a black wheeled bin, communal bin or black plastic bags. The majority of households use a 240 litre wheeled bin. However, other bin types are used, from 120 litre to 1100 litre for larger families and shared households. Some households have been provided with more than one bin where there is a need. Around 30,000 properties are serviced through a bag collection, and another 30,000 have a shared bin, largely in flats, including high-rise and bin yards for terraced, back-to-back properties. The Council operates forty-five residual waste collection routes, from Monday to Saturday, and on all bank holidays except for Christmas Day and Boxing Day.

The Council has a number of landfill contracts with the private sector which are due to expire at the end of 2008, with the possibility of extensions for a further two years. The Council currently uses three landfill sites and two transfer facilities. Approximately 80% of residual waste collected is currently delivered directly to a landfill site in East Leeds, within proximity of all of the short-listed sites emerging from the Council's recent site selection study.

### Kerbside Collection of Dry Recyclables ('SORT')

At the end of 2006/07, just over 300,000 of the 325,000 households in Leeds (92%) had access to a co-mingled kerbside collection of four dry recyclable materials. This includes paper (newspapers, magazines and general paper), cardboard (brown and glossy), plastics (carrier bags and bottles – types 1, 2 and 4) and cans (food and drink), and is known as the SORT scheme. A high-rise scheme also includes the collection of glass in communal bins.

Access to kerbside recycling varies across the City with some wards with up to 99% coverage, and others with only 55%. Where access to kerbside recycling is low, this is

largely due to property types (for example high-rise in the City Centre), or where significant contamination problems have been experienced.

At present the vast majority of properties included in the recycling scheme have their SORT bin collected every four weeks. In some small pilot areas the SORT bin is collected every two weeks. Collections from high-rise properties are weekly.

Most households have a 240 litre green bin to collect these recyclable materials (around 96% of those households with the kerbside SORT collection) but, as with residual waste, some households use a green bag for collection (approximately 6,300 properties) and some high-rise properties have communal recycling bins (around 5,500 properties).

As with residual collections the Council operates forty-four SORT waste collection routes, from Monday to Saturday, and on all bank holidays except for Christmas Day and Boxing Day.

### **Kerbside Garden Waste Collection**

A pilot kerbside collection of garden waste has been implemented, using part of the Waste Performance and Efficiency Grant, for approximately 20,000 properties across five areas. This material is collected fortnightly between Easter and September, and four weekly over the winter months, using brown 240 litre wheeled bins.

### **Household Waste Sorting Sites and Bring Banks**

Leeds City Council also operates eleven household waste sorting sites (or CA sites), eight of which have now undergone major redevelopment, transforming them into model recycling centres. The Council manages around 435 bring banks sites for glass, paper, cans, textiles, shoes and tetrapaks

### **Enforcement Action**

At present, environmental enforcement is primarily focussed on fly-tipping and street cleanliness issues, and not on refuse collection or recycling contamination. The Council has recently started taking enforcement action where bins are left out on the street, but has not yet introduced enforcement for waste collection related issues (e.g. the contamination of recycling bins with non-recyclable material).

### **Performance of Existing Services**

#### Recycling & Composting performance

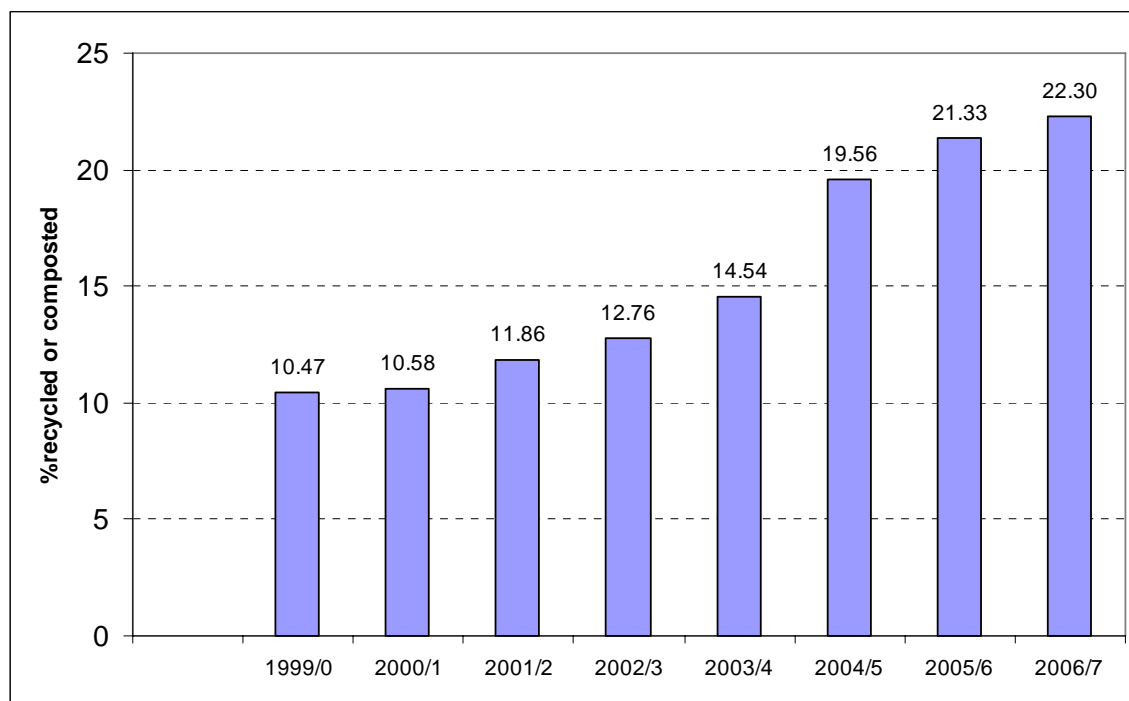
Recycling and composting levels have been rising steadily for a number of years. Leeds was consistently the top recycling Core City and metropolitan authority in the UK between 2003/04 and 2005/06, and reached a combined recycling and composting rate of 22.3% in 2006/07. Leeds also won the 'Recycling Target Success' award at the National Recycling Awards in 2005.

This rate of growth is the product of continued service developments and public education campaigns. The level of education and awareness has progressively increased and is being given greater emphasis as evidenced by its growing budget. Table 2.3 and Figure 2.4 summarise improvements in recycling and composting performance for household waste over recent years.

Table 2.3 Recycling and composting performance for household waste

Year	Household Recycling performance (BV82a) tonnes	Recycling performance (BV82a) %	Household Composting performance (BV82b) tonnes	Composting performance (BV82b) %	Household Recycling & composting (BV82a+b) %
1990/2000	28,359	9.99%	1,363	0.48%	10.47%
2000/01	30,706	9.98%	1,852	0.60%	10.58%
2001/02	32,737	10.30%	4,965	1.56%	11.86%
2002/03	33,888	10.27%	8,006	2.43%	12.76%
2003/04	40,357	12.15%	7,953	2.39%	14.54%
2004/05	53,449	15.80%	12,765	3.80%	19.56%
2005/06	57,390	17.26%	13,540	4.07%	21.33%
2006/07	53,481	15.83%	21,845	6.47%	22.30%

Figure 2.4 Recycling and composting performance for household waste



The level of recycling (i.e. BV82a) for 2006/07 reduced by 1.43% compared to the 2005/06 result. This can be attributed largely to the reclassification of gully waste from recycling to composting. The level of composting rose from 4.07% in 2005/6 to 6.47% this year. The increase in tonnage can also be attributed to the introduction of a garden waste collection pilot involving 20,000 households and an increase in the amount of leaf fall collected.

The overall level of waste recycled and composted (BV82a+b) continues to rise. Leeds City Council met its statutory target to recycle or compost 21% of household waste in 2005/6. The proportion of household waste recycled and composted has increased from 10.6% in 2000/01 to 22.3% in 2006/07. The steep rise in recycling rates between 2003/04 and 2004/05 corresponds to a large scale roll-out of the SORT kerbside collection and the redevelopment of Household Waste Sorting Sites (HWSSs). HWSSs and Bring Banks are very important in terms of the Council's diversion of waste from landfill. In 2006/7, 53% of the waste that was recycled or composted was collected through the Household Waste Sorting Sites and Bring Banks.

Performance compares well with other large authorities with similar demographic diversity. Leeds has a large student population and areas of high deprivation where engagement with recycling and composting of waste has often presented a significant challenge. The City also has major areas of inner city, back to back and high-rise properties where access to recycling and composting services presents particular challenges. As previously mentioned, the Council currently provides kerbside collections of recycling to around 92% of properties.

An options appraisal to identify the future strategy for improving recycling and composting performance has now been completed. This appraisal and its outcomes are detailed in Section 3.

Residual Waste Treatment

The Authority landfilled 73% of municipal waste in 2006/07, and the diversion of municipal waste from landfill is one of the key issues addressed in the revised Integrated Waste Strategy for Leeds 2005-2035 and this OBC. Table 2.4 provides a breakdown of the management of residual waste.

*Table 2.4 Profile of Residual Waste*

<b>Year</b>	<b>Total MSW Thermal Treatment</b>	<b>Total MSW Landfilled</b>	<b>Diversion Rate</b>	<b>BMW Landfilled</b>	<b>Landfill Allowances</b>	<b>LATS surplus/ deficit</b>
	Tonnage	Tonnage	%	Tonnage	Tonnage	
2004/5	100	284,997	23.88	n/a	n/a	n/a
2005/6	87	268,368	26.70	198,720	237,062	(38,341)
2006/7	1,743	266,449	27.44	191,520	222,750	(31,223)

**2.5 Waste composition**

Table 2.5 below shows that the greatest percentage of Leeds' household waste is collected through its weekly residual waste collection. Household waste sorting sites account for nearly a fifth of household waste and are currently responsible for the largest contribution to overall recycling.

*Table 2.5 Collection Streams for Household Waste*

<b>Origin of Domestic Waste 2006/07</b>	<b>%</b>
Kerbside collections of residual waste (Black Bin)	68.5%
Household waste sorting sites	17.5%
Kerbside collections of dry recyclables (SORT)	7.4%
Street arisings	4.2%
Bring Banks	2.4%

A breakdown of the domestic waste streams collected for recycling is shown in Table 2.6 below.

*Table 2.6 Domestic Waste Streams Collected 2006/07*

<b>Recyclate</b>	<b>Tonnes (2006/07)</b>
Glass	7,560
Timber	6,820
S Metal	4,825
Newspapers/pamphlets	2,370
Tyres	158
Fridges	1,486
Batteries	110
Oil	51
Cans	44
Textiles/Shoes	257
Cardboard	1,686
Co-mingled dry recyclables (SORT)	24,615
Litter Patrol (SORT from Litter bins)	676
Televisions	912
Fluorescent Tubes	1
<b>Recycling Total</b>	<b>51,571</b>
Green (Garden Waste at HWSS)	13,750
Green Collection Pilot (Garden Waste from Kerbside)	457
Street Arisings	7,229
Gulley Waste	1,392
Leaf Fall	926
<b>Composting Total</b>	<b>29,591</b>
<b>Waste Recovered for Energy</b>	<b>1,743</b>
<b>Waste Landfilled</b>	<b>260,751</b>
<b>TOTAL</b>	<b>337,820</b>

In order to establish the profile of its waste and the potential to increase recycling, Leeds City Council has undertaken three composition analysis studies to date. Both the contents of residual waste and co-mingled dry recyclable bins were analysed. These studies took place in June 2005, February 2006 and February 2007, the latter two of which were funded through DEFRA's Waste Implementation Programme (WIP). Summaries of the findings are shown in Figures 2.2 and 2.3 below. The 2007 report completed by Entec, which also summarises the findings of previous studies, is attached in full at Appendix 2A. Figure 2.2 provides a summary of the contents of the SORT bins (i.e. dry recyclables).

Figure 2.2 Kerbside Dry Recyclables Composition

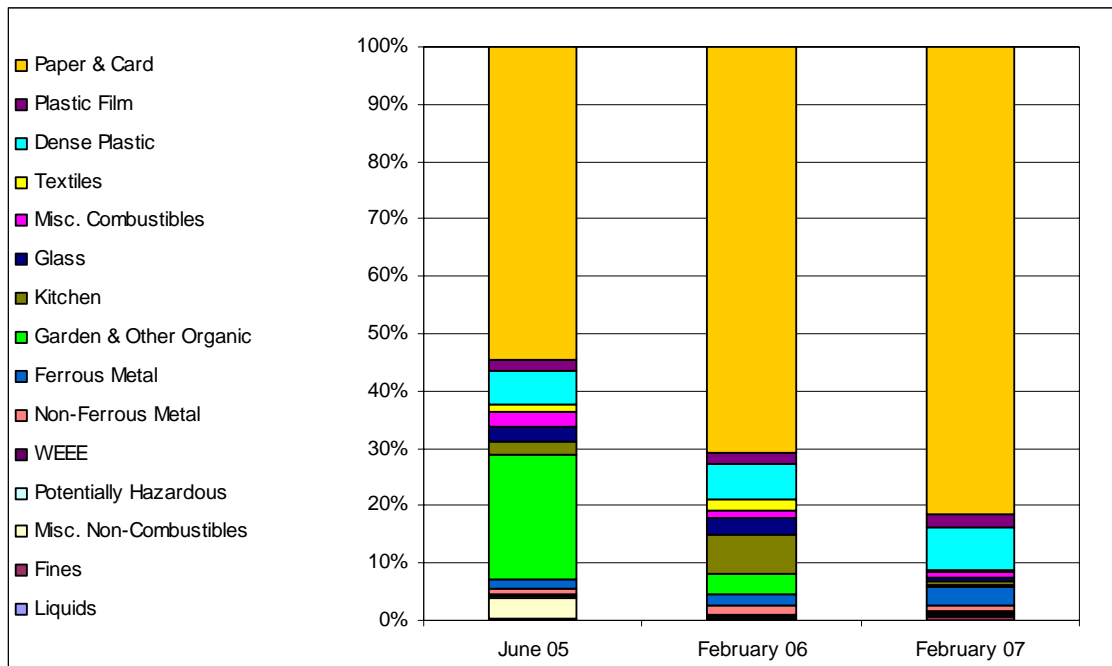
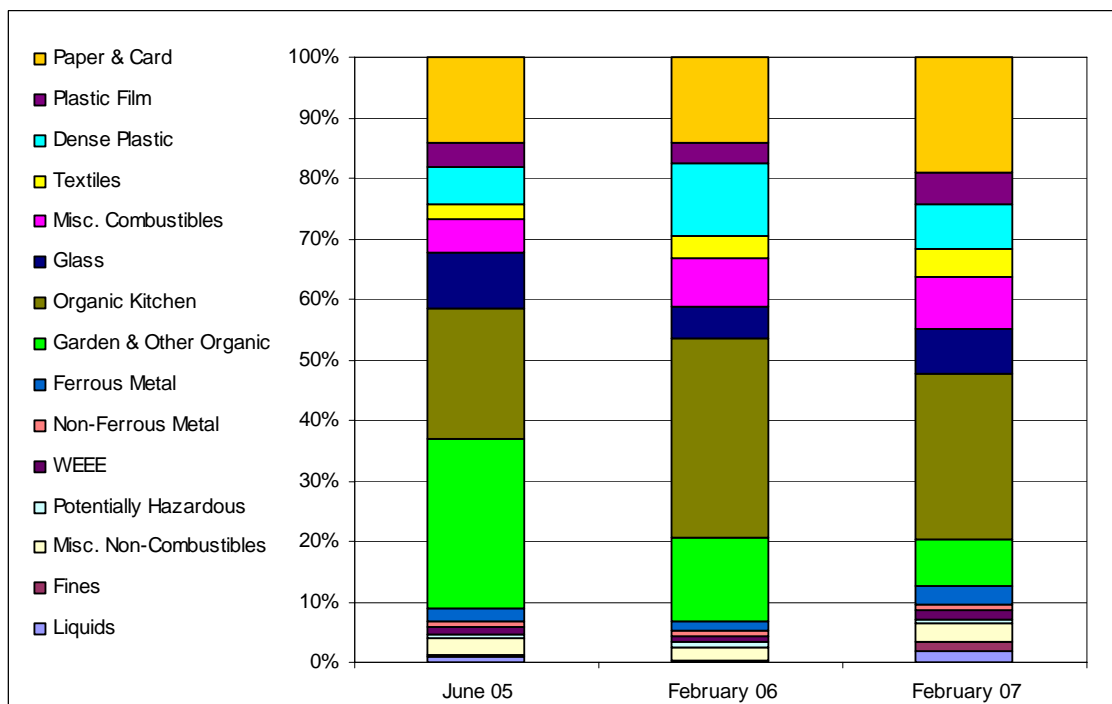


Figure 2.3 shows the profile of the residual waste bins.

Figure 2.3 Kerbside Residual Waste Composition



The most recent waste composition analysis study, carried out in February 2007 found that:

- The dry recyclables collections operating in Leeds yielded an average of 2.4 kg per household per week (kg/hh/wk) of which 82% was paper and card;
- Other materials in the dry recyclables were dense plastic (7.4%), metals (3.3%) and plastic film (2.1%);
- The residual waste collections yielded on average 15.5 kg/hh/wk with putrescibles being the dominant waste type, making up 35% of the total. The majority of this was kitchen waste;
- A significant amount of paper and card was also found in the residual waste (19%);
- A total of 5.3 kg/hh/wk of target recyclable material was identified across the dry recyclable and residual waste streams. Of this, 2.1 kg/hh/wk (39.4%) was actually captured within the recycling scheme;
- Between January 2005 and February 2007 there was an increase in the amount of paper and card arising as dry recyclables and a decrease in the amount of putrescibles present in the dry recyclable scheme.

Past analysis of participation also tells us that:

- Over half of the green SORT bins collected are full on the collection day;
- Participation in the SORT schemes varies between routes, from 34% to 74%, with an average of 58% of people who have a green bin presenting it for collection every four weeks;

Some households on each route do not present their black bins every week with presentation rates varying significantly, again dependent on the route.

Organic kitchen and garden waste offer the most significant opportunities to increase the levels of recycling through new kerbside collection schemes. Glass is the only other stream currently not collected at the kerbside that offers a significant opportunity to increase recycling. The report highlights that there is a significant amount of waste being disposed of through the residual waste bin, which, if sorted, could be recycled as part of the existing green bin collection. This indicates the need for further investment in education and awareness in order to drive up participation and recognition levels.

*Table 2.7 % of residual waste that could be recycled via existing kerbside collections*

<b>February 2007 composition analysis</b>	
<b>Material</b>	<b>% that could currently be recycled</b>
Paper and card	13%
Plastics (bags and bottles)	5%
Cans	3%
<b>Total</b>	<b>21%</b>

*Table 2.8 % of residual waste that could be recycled via proposed kerbside collections*

<b>February 2007 composition analysis</b>	
<b>Material</b>	<b>% that could be recycled via new schemes</b>
Glass (packaging only)	7%
Food waste	28%
Garden waste	8%
<b>Total</b>	<b>43%</b>

The highlighted potential for further recycling is reflected in the range of proposed kerbside recycling collection services outlined in Section 3 and the stretched capture rates targeted across all materials. A series of further waste composition studies are planned to provide the

most up-to-date information on the composition of municipal waste in Leeds both prior to and during the procurement process. The next study, planned for Autumn 2007, will provide a calorific value (CV) and chemical analysis of residual waste.

**Appendices supporting this section of the Outline Business Case**

- 2A Composition Analysis Report– Feb 2007 (Entec) - including summary results from previous studies.

### 3. STRATEGIC WASTE MANAGEMENT OBJECTIVES

#### 3.1 Introduction

Leeds City Council's strategic waste management objectives have historically been set out within its Waste Strategy. The Council's first Integrated Waste Management Strategy was adopted by the Council in 2003. It was then subject to a scheduled review during 2005, which was concluded in 2006. As well as setting a wide range of local objectives and targets, the Strategy addresses the EU targets and subsequent Government LATS targets relating to landfill diversion, and has now been updated to address the statutory recycling targets set out within DEFRA's Waste Strategy for England 2007.

#### 3.2 Integrated Waste Strategy for Leeds 2005-35

The Integrated Waste Strategy for Leeds 2005-35 was adopted by the Council's Executive Board in October 2006, and sets out the Council's long-term strategic vision and key objectives for waste management. The full Waste Strategy document can be found at Appendix 3A, and the relevant October Executive Board minute at Appendix 3B. The Strategy has undergone a detailed sustainability appraisal (SA) and Strategic Environmental Assessment (SEA), with the Environmental Report subject to consultation alongside the Strategy itself. This full SA report can be found at Appendix 3C.

The Integrated Waste Strategy for Leeds targets have now been updated in 2007 to reflect the Council's commitment to achieving a combined recycling and composting rate in excess of 50%. The Council's Executive Board approved this new target in September 2007 (see Appendices 3K and 3L for the relevant minutes and the report itself).

**The vision set out in the adopted Waste Strategy is of a zero waste city, where we reduce, re-use, recycle and recover value from all waste, and where waste becomes a resource.** *Zero waste* is not considered an absolute figure, but a target to strive for that encourages new levels of innovation and efficiency. A summary of the key targets to be met within the Integrated Waste Strategy for Leeds is set out in *Table 3.1*.

Table 3.1

Target Year	Waste Minimisation Targets (growth per household per annum)	Leeds City Council Recycling Projections	Govt Strategy Recycling Targets	Leeds City Council Recovery Projections	Govt Strategy Recovery Targets	LATS used (Mass Balance calc)	Leeds City Council LATS Allowances (BMW)	LATS surplus/deficit
2010	0.5%	33%	40%	-	57%	174,756	174,756	(23,567)
2013	-	48%	-	-	-	135,713	135,713	(35,010)
2015	-	49%	45%	90%	63%	16,704	16,704	75,359
2020	0%	52%	50%	90%	75%	17,507	17,507	52,958

#### 3.3 Public Consultation

As the changes that the City needs to make to its waste management practices affect all householders and residents, and as the success of future waste management initiatives will be dependent on everyone's participation, the Council has carried out an extensive programme of stakeholder consultation on the Integrated Waste Strategy for Leeds over a six month period.

It is estimated that the people of Leeds and other key stakeholders were provided with over 800,000 opportunities to participate in this exercise between December 2005 and May 2006,

and the programme of consultation implemented was one of the most extensive ever conducted by the Council. Some of the key activities undertaken are listed below:

- Circulated community leaflets, with key messages and a short questionnaire, to libraries, one stop centres, community groups, tenant/resident associations, etc.;
- Provided exhibition stands at various venues across the City and participated in environmental debates within local communities;
- Consulted with residents via a door-to-door campaign in selected areas;
- Re-developed existing website information, and hosted an on-line survey throughout the consultation period;
- Held a high profile media launch in Leeds City Centre, and secured extensive local television, press and radio coverage of key issues;
- Conducted a Citizens' Panel survey using a demographically representative sample of residents;
- Delivered presentations and Q&A sessions at community forums throughout Leeds;
- Consulted with representatives of a wide range of minority groups;
- Consulted with children and young people using presentations and special questionnaires (including a poster design competition);
- Held a series of seminars for Elected Members to ensure involvement and engagement in the key issues and decisions facing the Authority;
- Commissioned a Scrutiny Board Inquiry by Elected Members into the development of the Waste Strategy, including site visits to Energy from Waste, Mechanical Biological Treatment and landfill facilities;
- Consulted statutory consultees, Government Office for Yorkshire & The Humber, Yorkshire & Humber Regional Assembly, regional local authorities and waste contractors;
- Consulted environmental pressure groups.

Views have been obtained from statutory consultees, key stakeholders, local residents and elected members. Support has also been provided by the local media by printing articles which have encouraged residents to contribute to the debate and to make their views known. This has clearly indicated that there is strong and widespread support from the people of Leeds for the long-term proposals being put forward for waste prevention, recycling, recovery and landfill diversion. In particular there was strong support for proposals to increase recycling, and for the development of a residual waste treatment technology.

Following the completion of the stakeholder technology options appraisal in November 2005, and with Energy from Waste (EfW) having emerged at the time of this exercise as the best performing option, EfW was put forward as the proposed option in the Waste Strategy consultation. 85% of the 3,000 respondents to the Citizens' Panel survey and community questionnaires stated that EfW was the right option for dealing with non-recycled waste. A more detailed summary of the responses received is attached at Appendix 3D, and the report on the results of the formal surveys conducted is also attached at Appendix 3F.

In the light of the feedback received from the public the Council tightened its targets on waste prevention significantly, and has since increased its recycling and composting target to a minimum of 50% of household waste.

As regards consultation on the selection of the preferred residual waste treatment option, this was initially the subject of a dedicated Council newspaper supplement circulated to all households in Leeds during 2005, prior to the main Waste Strategy consultation. This provided information to residents on the future of recycling and waste management in Leeds, and requested public feedback on what were felt to be the most important issues to consider in arriving at the preferred residual treatment option for the City. This supplement can be found at Appendix 3G. Over 1700 responses were received from the people of Leeds, and Table 3.2 shows a summary of the results.

Table 3.2 Responses to Council newspaper consultation on residual waste treatment (2005)

	Keeping cost down	Proven track record	Effects on environment	Minimising landfill	Maximising recycling	Generating energy from processing waste	Minimising sites needed for waste processing
<b>Important</b>	<b>66%</b>	<b>84%</b>	<b>98%</b>	<b>97%</b>	<b>99%</b>	<b>91%</b>	<b>69%</b>
<b>Less important</b>	<b>34%</b>	<b>16%</b>	<b>2%</b>	<b>3%</b>	<b>1%</b>	<b>9%</b>	<b>31%</b>

Maximising recycling, minimising landfill and minimising negative effects on the environment were found to be the most important priorities to the public. 91% of respondents felt that the ability to generate energy from waste was important, and 84% felt that the track record of the selected technical solution was important. Fewer respondents, although still a majority, considered the issues of cost and minimising sites required to be the most important priorities. The process in which stakeholders were engaged to complete the actual evaluation of the residual waste treatment technology options is described in detail in Section 4.

Since the conclusion of the Waste Strategy consultation, the Council has continued to deliver a structured programme of communication and public consultation as the Strategy is implemented, and this will form the primary focus for the ongoing work of Leeds City Council's waste and recycling education team. In addition, officers have developed a communications strategy to support the delivery of the waste strategy and the proposed infrastructure. A summary of this strategy is included at Appendix 3E.

Most recently, the Council commissioned a programme of independent consultation exercises during Summer 2007 to elicit feedback from residents specifically on the most recent proposals for kerbside recycling collections, and on the criteria to be considered in identifying a short-list of sites for a residual waste treatment facility. The results of these exercises is discussed in Section 9.

### 3.4 Waste Minimisation

Reducing the historically high growth in waste provides a primary focus for the Integrated Waste Strategy for Leeds. In conjunction with its technical advisors, Jacobs UK Ltd, the Council has undertaken a detailed analysis of the projected profile of municipal waste in Leeds as discussed in Section 2. The scenario selected for the purposes of modelling, and the specific target set out within the Integrated Waste Strategy for Leeds, is **to reduce annual growth in municipal waste in Leeds to 0.5% per household by 2010 and to 0% by 2020**. Future projections for overall waste arisings are detailed in Section 2.

The Integrated Waste Strategy for Leeds includes a range of policies specifically related to waste minimisation. These are as follows:

- Empowering consumers in Leeds;
- Exploring incentives for waste prevention;
- Minimizing and re-using Leeds City Council's waste;
- Building capacity within the voluntary and community sector;
- Reducing the annual growth in waste per household.

Details of specific actions on waste minimisation can be found in the Waste Strategy Action Plan at Appendix 3H.

### 3.5 Recycling and Composting

Improving recycling and composting remain key priorities for Leeds City Council. The Council is committed to introducing enhanced recycling collections that will enable it to exceed the Waste Strategy for England 2007 target of recycling and composting 50% of household waste by 2020.

The Council has undertaken an appraisal of a wide range of different options for increasing the range of recyclable and compostable materials collected at the kerbside, and taking into account performance, cost, environmental impact and customer issues. The initiatives assessed include:

- Kerbside collection of garden waste;
- Kerbside collection of kitchen/food waste;
- Combined garden and kitchen waste collections;
- Increasing the frequency of collection of SORT (i.e. dry recyclables – paper, card, cans, plastics);
- Promotion of home composting and/or digestion;
- Increasing the range of materials collected through SORT (glass, increased range of plastics, textiles);
- Reduction in the frequency of collection of residual, non-recyclable, waste;
- Increasing education and awareness;
- Taking enforcement action against households that do not recycle, or contaminate their SORT bin.

In conjunction with Jacobs, the Council modelled eleven different collection regimes to estimate the impact on the amount of waste being recycled or composted. The eleven options initially considered, and their frequency of collection, are outlined in Table 3.3 below.

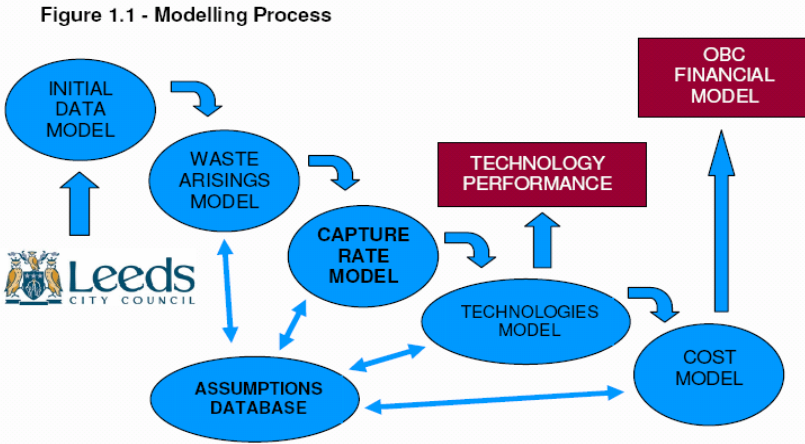
Table 3.3 *Kerbside Recycling Options Appraised*

Option		Residual	SORT/Glass	Garden	Food
1	Status Quo	Weekly	Four Weekly	Not Collected	Not Collected
2	Increased education and awareness only	Weekly	Four Weekly	Not Collected	Not Collected
3	Increased SORT	Weekly	Fortnightly	Not Collected	Not Collected
4	Garden Waste added	Weekly	Four Weekly	Fortnightly	Not Collected
5	Garden waste and increased SORT	Weekly	Fortnightly	Fortnightly	Not Collected
6	Alternate Weekly	Fortnightly	Fortnightly	Fortnightly	Not Collected

Option		Residual	SORT/Glass	Garden	Food
7	Differentiated	Fortnightly in areas with gardens  Weekly in areas with no gardens	Fortnightly	Fortnightly in areas with gardens	Not Collected
8	Outer with garden, inner with food	Fortnightly	Fortnightly	Fortnightly Outer Wards	Weekly Inner Wards
9	Outer with garden, citywide food	Fortnightly	Fortnightly	Fortnightly Outer Wards	Weekly Citywide
10	Citywide garden, citywide food	Fortnightly	Fortnightly	Fortnightly Citywide	Weekly Citywide
11	Citywide garden, inner food	Fortnightly	Fortnightly	Fortnightly Citywide	Weekly Inner Wards

The performance of each of these eleven options (and indeed all of the waste flow and technology modelling for the Waste Solution) was determined using the series of models shown in Figure 3.1 below.

Figure 3.1



The initial data model is the starting point, and the Council provided Jacobs with a detailed analysis of its waste history, including, for example, levels of waste arising, landfill and recycling by type of material.

A series of waste projections were then modelled, taking into account both changes in waste arisings per household and also reflective of anticipated growth in the number of households in Leeds.

A range of waste growth models was identified and, following an internal workshop, the waste growth scenario chosen for existing households was that of 0.5% growth per annum to 2010/11, followed by a gradual reduction to 0% waste growth by 2020. New household waste arisings projections take into account the growth rates indicated above.

The capture rate model was then used to establish the likely recycling and composting performance from each of the eleven options. The actual capture rate for each material is a product of the following calculation:

$$\text{Targeted} \times \text{Roll Out} \times \text{Participation} \times \text{Recognition} = \text{Capture Rate}$$

Definitions of these terms are as follows:

- Targeted – the proportion of material targeted within a waste category;
- Roll-out – the planned coverage across the City;
- Participation – those using the scheme;
- Recognition – the effectiveness with which those participating are able to segregate materials accurately for recycling.

Table 3.4 below outlines the anticipated recycling and composting performance of each of the eleven options at 2010/11. At the time of this initial modelling of recycling options, 2010/11 was considered to be the first year when all services would be fully rolled out across the City, although this has since been revised as discussed later in this section.

*Table 3.4 Summary of Initial Analysis of Performance of Kerbside Recycling Collection Options*

Option		Recycling performance at first year of full roll out (%)
1	Status Quo	25.15%
2	Increased education and awareness only	28.83%
3	Increased SORT	32.25%
4	Garden Waste	33.47%
5	Garden waste and increased SORT	37.01%
6	Alternate weekly	38.88%
7	Differentiated	36.39%
8	Outer with garden, inner with food	40.05%
9	Outer with garden, citywide food	44.82%
10	Citywide garden, citywide food	46.54%
11	Citywide garden, inner food	41.77%

From the analysis, it became clear that to achieve a 50% recycling target, the Council would need to undertake some form of food waste collection. Option 10 demonstrated the highest performance levels. In addition to their poorer performance, some of the other food waste collection options assessed were also considered to be too operationally complex.

The best performing option, Option 10, still did not achieve the required 50% level of recycling under this initial assessment, and therefore the capture rate assumptions were revisited, taking account of Leeds' experience on recycling and best practice elsewhere, to identify where there was realistic scope for stretching these rates further. This challenge, and the subsequent amendments made to some of the capture rate assumptions, resulted in an increased recycling and composting performance.

The outcome of agreeing these capture rate assumptions is that the Council considers 52% as being achievable by 2019/20 rising to approximately 58% by contract end. This would ensure that the specific target set out in the Integrated Waste Strategy for Leeds **to achieve a recycling rate of greater than 50% of household waste by 2020** is achieved.

The details of the capture rate model and the capture rates assumed for each waste type are included in the report by Jacobs at Appendix 3J. The modelling summarised within this report shows how much waste by type the Council will require processing capacity for each year. This data then feeds into the technology model, and ultimately the cost model.

The technology model prepared by Jacobs shows the anticipated facility sizes for each type of waste arising. Although this OBC is focused primarily on the procurement of a residual waste treatment facility, the volumes and types of recyclable and compostable waste need to be known, not only for performance issues, but to assist with the development of strategies for procuring processing capacity for this material.

Based on this information, the following range of optimised collection and education initiatives to increase recycling and composting is proposed for Leeds (in line with Option 10):

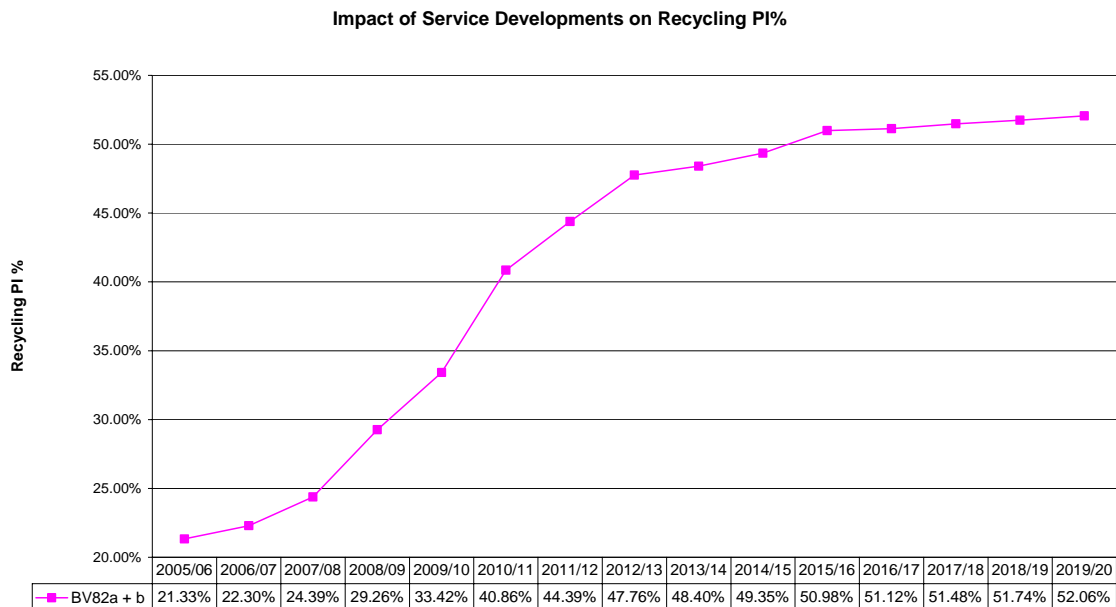
- Garden waste collection (fortnightly in summer and four weekly in winter)
- Glass collection (fortnightly);
- Increased frequency of co-mingled recycling kerbside collections (fortnightly)
- Food waste collection (weekly);
- Reduced frequency of residual waste collection, where weekly food waste collections are introduced (fortnightly);
- Increased range of plastics collected in kerbside recycling bins;
- Increased range of paper and card collected in kerbside recycling bins;
- Increased roll-out of kerbside recycling collections;
- Enhanced participation in recycling through increased education;
- Introduction of compulsory recycling.

Whilst collection services are not within the scope of this proposed PFI project, their future role will form a critical part of the wider Waste Solution. The roll-out profile assumed for the modelling is as follows:

- Garden waste collection (April 2008 – March 2010)
- Increased frequency of co-mingled recycling kerbside collections (April 2008 – March 2010)
- Glass collection (April 2010)
- Food waste collection (April 2010 – March 2012)
- Reduced frequency of residual waste collection (April 2010 – March 2012)
- Compulsory recycling (2013/14)

Figure 3.2 shows the anticipated impact on recycling performance as the proposed service developments are implemented.

Figure 3.2



These proposals were agreed by the Council’s Executive Board on 11<sup>th</sup> September 2007. The relevant minutes and report are attached at Appendices 3K and 3L respectively.

The Council has now applied, as recommended by DEFRA, to the free advice and support programme provided by ROTATE for assistance with the implementation of the proposed service developments and verification of performance projections.

It should be noted that these fundamental changes required to kerbside collections in order to meet long-term recycling targets will necessitate a regular review of the roll-out programme to ensure that it is successfully delivered, is suitable for the diverse range of households across the City and optimises efficiency.

Table 3.3 shows the projected recycling performance profile for Leeds alongside the targets set out in Waste Strategy for England 2007.

*Table 3.3 National and Reference Project Recycling Targets*

Year	National Waste Strategy	Reference Project
	%	%
2009/10	40	33.42
2014/15	45	49.35
2019/20	50	52.06

### 3.6 Landfill Objectives

Leeds City Council landfilled around 77% of the 338,000 tonnes of domestic waste (excluding re-use) that it collected in 2006/07, and is committed to fundamentally addressing this situation. Our aim is therefore **to achieve the recovery of value from 90% of our waste by 2020**. The Integrated Waste Strategy for Leeds sets out a policy to minimise the need for municipal waste landfill with a long term aspiration of zero waste to landfill.

## Leeds City Council - Residual Waste Treatment Project: Outline Business Case

Planned recycling collection enhancements will mitigate the Council's LATS position, but a first LATS shortfall is still projected for 2009/10, although it is anticipated that this can be met from the sale of surplus allowances in 2008/09. From 2009/10 to the opening of a residual waste treatment facility, the Council will face a LATS shortfall each year. This shortfall will be dealt with through interim contracts (see Section 4) and our LATS trading strategy, outlined in Section 8.

Once residual treatment facilities are operational in 2014, the Council will have a surplus of LATS throughout the contract period. Tables 3.3 and 3.4 show the projected LATS position and the impact of the reference project residual waste treatment facility becoming operational.

The Council intends to make full use of the flexibility that the LATS scheme allows by banking and borrowing where required.

*Table 3.3 Before residual treatment facility operational*

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<b>LATS Allowances</b>	203,667	179,813	151,189	134,360	117,531	100,703	96,383
<b>BMW landfilled</b>	197,407	185,823	174,756	153,449	143,724	135,713	135,574
<b>Shortfall/Excess in LATS</b>	6,260	(6,010)	(23,567)	(19,089)	(26,193)	(35,010)	(39,191)
<b>Bank / Sell / Buy</b>	bank/sell	use surplus	buy	buy	buy	buy	buy

*Note: assumes no interim treatment of residual waste*

*Table 3.4 After residual treatment facility operational*

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
<b>LATS Allowances</b>	92,063	87,744	83,424	79,104	74,784	70,465
<b>BMW Landfilled</b>	16,704	16,782	17,062	17,158	17,361	17,507
<b>Shortfall/Excess in LATS</b>	75,359	70,962	66,362	61,946	57,423	52,958
<b>Bank / Sell / Buy</b>	sell	sell	sell	sell	sell	sell

### 3.7 Appraisal of Technology Options for Residual Waste Treatment

Full details of the appraisal of residual waste treatment technology options are included in Section 4.

#### Appendices supporting this section of the Outline Business Case

- 3A Integrated Waste Strategy for Leeds 2005-35
- 3B Executive Board Minutes 18/10/06
- 3C Leeds Waste Strategy Sustainability Appraisal Report
- 3D Waste Strategy Consultation Summary Results
- 3E Summary Communication and Consultation Strategy - 2007
- 3F Waste Strategy Consultation Report
- 3G Council Newspaper Supplement – Sept 2005
- 3H Waste Strategy Action Plan – Oct 2006
- 3J Summary Report of Waste Flow, Technology and Cost Modelling - Oct 2007 (Jacobs)
- 3K Extract from Executive Board Minutes - 11<sup>th</sup> September 2007
- 3L Executive Board Report - 11<sup>th</sup> September 2007 (Recycling Strategy)

## 4. PROCUREMENT STRATEGY AND REFERENCE PROJECT

### 4.1 Introduction

Leeds City Council's Waste Solution requires the development of a range of state-of-the-art facilities for recycling, composting and residual waste treatment. There is also a need to develop a waste transfer facility (or transfer loading station) to receive waste from parts of the City which are geographically distant from the likely site for the residual waste treatment facility.

The Council has undertaken a preliminary assessment of the contractual scope and structure which will optimise value for money. This has taken into account the desire for integration of services, the required performance targets, the expected level of risk transfer and the market sounding response in relation to scope and structure. In particular, the Council considers that the inclusion of collection, landfill operations, materials recycling facility (MRF) processing, food waste processing and green windrow composting in the PFI contract would not be desirable due to the added complexity and commercial concerns about managing performance in diverse areas.

### 4.2 Overall Strategy for Procurement

It is anticipated that the delivery of the overall Waste Solution will comprise a number of separate contracts. These are:

- Residual waste treatment;
- Landfill;
- MRF;
- Green windrow composting (garden waste);
- Food waste processing;
- Interim solution;
- Redevelopment of Household Waste Sorting Sites (HWSSs).

Current contracts are in place for landfill, MRF and garden waste composting. These contracts have all been let with the potential for extensions beyond the end of the contract of four six-month periods. This allows the Council flexibility on when it goes to the market, enabling it to respond to the performance of contractors, market conditions, certainty of feedstock and the resources available within the Council to manage the procurements.

In order to deal with the Council's LATS shortfall between 2010 and 2014, an interim residual treatment contract is being considered to reduce the amount of biodegradable waste sent to landfill during this period and to reduce costs to the Council. The Council is aware that facilities are being developed within the region that would be capable of dealing with residual waste other than to landfill. A market sounding exercise is planned to establish the market appetite for such a contract. If such a contract were to be procured it would be on the basis of merchant capacity using the restricted tendering procedure to minimise the impact on Council resources and avoid impacting on the main residual waste treatment contract.

Landfill capacity is currently provided by two contractors whose contracts expire on 31<sup>st</sup> March 2008 but with the potential to extend until 31<sup>st</sup> March 2010. These contracts have no minimum tonnages. However, the gate fee increases if reduced tonnages are delivered as a result of the banded payment mechanisms in the contract. There are two key points at which waste levels may drop: the commencement of an interim treatment contract and the operation of the residual waste treatment facility in 2014. The Council therefore intends to tender this contract on the restricted procedure in October 2008 with a view to commencing a

seven year contract in October 2009 plus three years.

MRF capacity for co-mingled dry recyclables is currently provided through merchant capacity contracts with two companies. These contracts end in August and November 2008 although have the potential to be extended to 2010. In the past there has been a lack of MRF facilities locally, but there is now a facility in Leeds, and the Council expects capacity to develop within the sub-region. It is therefore likely that this contract will be let on a merchant capacity basis in future, although this will be dependent on the results of market soundings to ensure that appropriate competition exists. Sufficient additional capacity exists to meet the Council's current projections for increased co-mingled dry recyclable tonnage in the short to medium term. It is therefore planned to allow these contracts to run to their maximum term and to commence new arrangements in 2010. Market soundings will be taken at an early stage to inform the type of procurement to be used. If a design, build, operate contract is required, tendering will be brought forward. The next contract will be let for a longer period, potentially ten years, although this decision will be informed by the market sounding.

The Council has still to complete its option appraisal of the method to be used to collect glass at the kerbside. However, initial discussions with contractors would suggest that there are significant risks associated with co-mingling glass together with other dry recyclables. It therefore seems more likely that the glass will be collected in a separate basket or box.

Green windrow composting (GWC) of garden waste is likely to continue to be provided through local third party operators. The Council is working with Recycling Action Yorkshire (RAY) to develop additional local capacity in this area in order to meet the growing need for increased capacity. The lower capital investment required for these facilities means that it is likely that merchant capacity will be sought through a restricted procedure tender. Bidders will be encouraged to source additional capacity through sub-contracts from the farming and community sector where possible. Tonnages are expected to rise significantly from 2008 onwards and so the current framework contract will be refreshed or tendered in 2009, with a view to ensuring that sufficient capacity is guaranteed. Food waste processing capacity does not currently exist in the sub-region although RAY is working with companies to develop capacity on a speculative basis. The roll-out of food waste collections proposed by Leeds City Council means that capacity will be required from 2010 onwards. Leeds intends to monitor the development of this market and to take market soundings before deciding on the likely procurement. Market soundings will also consider the bundling of GWC and food waste processing, and may therefore also influence decisions relating to GWC. At present it is assumed that these facilities will have to be procured through design, build, operate PPP contracts, funded through unsupported borrowing or private sector investment. On this basis the Council has assumed tendering will commence in spring 2008.

Re-use and recycling of other waste streams will be dealt with through appropriate contract arrangements or through partnerships with the community and voluntary sector. The Council already has links with this sector and work is underway to strengthen these relationships and expand the scope of the services that they provide. A key partner in this work is the Community Recycling Network.

The Council would retain responsibility for collection. The collection service would continue to include management of household waste sorting sites and bring banks as well as collection vehicles and household bins. These services would either be directly managed or separately contracted on a shorter term basis following an efficiency review of the services and market testing.

Although not within the scope of the PFI project, the overall Waste Solution for Leeds includes plans to upgrade the three (out of eleven) household waste sorting sites that have yet to be developed into model recycling centres.

The range of facilities required in order to deliver the overall Waste Solution for Leeds is listed in Table 4.1 below.

*Table 4.1 Indicative Range of Facilities Required for Waste Solution*

<b>Type of Facility</b>	<b>Number of Proposed Facilities</b>	<b>Capacity of Facility (tonnes) by 2038</b>	<b>Date Facility Required</b>
Materials Recycling Facility (MRF)	1	131,000	Currently provided through merchant capacity
Green Windrow Composting Facility	1	55,000	
Food Waste Processing Facility	1	42,000	2010
Residual Waste Treatment Facility	1	182,000	2014
Waste Transfer Facility	1	80,000	2014
Household Waste Sorting Sites	2	107,000	2011

*Note: The Council currently has a range of contracts to deal with individual recycled waste streams collected via HWSSs and Bring Banks. It is assumed that contracts for these materials will continue.*

The indicative procurement timetable at Appendix 4A illustrates the interrelations between the timescales for both the introduction of new recycling collections and the proposed range of procurements. The timetable may be subject to variances due to any number of variables which could include, amongst other scenarios, ‘merchant capacity versus DBO contract’ or the bundling of related contracts. The critical parameters to be adhered to are the expiry of existing contracts and the subsequent commencement of new contracts.

### **4.3 Appraisal of Procurement Options for Residual Treatment**

Residual waste treatment facilities require significant project finance to bring them to realisation. The need for project finance brings with it a need for security of repayment and, as a result, the need for contracts for the base load supply of waste

For merchant capacity to be available at a level that would provide sufficient security for the Council, another local authority or party must have already committed waste to the project. Treatment facilities for residual waste with significant uncommitted capacity, are not readily available.

Looking specifically at the area around Leeds it is clear that there is no appreciable existing merchant capacity for the treatment of residual waste and that other local authorities are proceeding with procurements to satisfy exclusively their own needs.

Having concluded that insufficient merchant capacity exists, the project team considered the various routes through which the necessary facilities or services identified in the technical options evaluation could be procured. The consideration of the procurement options was undertaken in the following sequence:

1. The selection of the procurement procedure;
2. The type of contract and bundling of content to be used once the procurement process has been established;
3. Methods of financing.

### **Procurement Procedure**

Competitive Dialogue is available where, “a contracting authority wishes to award a particularly complex contract and considers that the use of the open or restricted procedure will not allow the award of that contract.”

The Competitive Dialogue procedure is structured to allow dialogue with potential bidders to explore technical solutions available and the financial and contractual means by which they may be delivered. It is intended to allow varying solutions across the bidders and the bringing forward of innovative solutions. These opportunities are not available within the Restricted Procedure.

The Competitive Dialogue procedure has a major advantage over the Negotiated Procedure in terms of process in that it is designed in such a way that all dialogue to structure tender documents is undertaken before the bidders submit their final offers. It therefore provides far more certainty for the Authority and limits the risk of last minute negotiations driving up the contract price.

Furthermore, DEFRA, through the Waste Infrastructure Delivery Programme (WIDP), has indicated that it considers that the type of contract necessary for the procurement of large scale residual waste treatment facilities meets the requirements allowing the use of Competitive Dialogue and that this route should be used.

**Type of Contract**

Table 4.2 Potential Contract Structure/Financing Options

	Contract Structure		
Source of Finance	DBO	DB&O	D&B&O
<b>Public</b>	Single contract for design, construction and operation of waste infrastructure, but ownership and financing remains with the public sector	Single contract for design and construction, with a separate contract for operation of waste infrastructure	Separate contracts for the design, construction and operation waste infrastructure. A variant of this option would involve providing the site and buildings, and retaining a contractor to commission and operate the treatment plant within it
<b>Private</b>	Single contract for the design, construction and operation of waste infrastructure.		
<b>Joint</b>	Joint Venture (JV) with private sector partner, and JV then awards a single contract for elements of waste treatment infrastructure.		

Notes:

- 1) The financing options also relate to the contract ownership (i.e. public finance assumes “public ownership” of the contract through direct involvement whilst private finance assumes transfer of responsibility to the private sector).
- 2) The shaded areas indicate areas that would not be attractive to the private sector on the basis of the additional inherent risk arising from the bundling of the contract elements and the difficulties in obtaining finance.

The contract structure, as shown in Table 4.2, is the combination of the elements of Design, Build and Operation. Each of these elements could be contracted for in isolation. If this approach were taken then there are a number of interface risks involved. Considering the options in Table 4.2 from the point of view of private sector involvement, it is found that the increased risk of the DB+O and the D+B+O arrangements lead to difficulty in securing external finance from banks or equity providers as a result of the interface risks. As a result the options shown as shaded out are not readily available.

Risk reduces from right (D+B+O) to left (DBO). However, the cost to the procuring authority will also increase from right to left as the contractor will include a charge for taking the interface risks

In terms of risk transfer it is clearly necessary to involve the private sector in at least some of the contract elements, and that may be obtained through a complete transfer to the private sector or through joint ownership. Again is it clear that maximum risk transfer is likely to be achieved by full transfer to the private sector.

Letting an integrated DBO contract removes those interfaces, especially from the procuring authority.

### Input or Output Specification

Maximum risk is transferred by the use of an output specification as it results in the solution being proposed by the bidder and it is therefore at the risk of the bidder. This approach has additional benefits other than risk transfer, in that it allows the bidders to bring forward different solutions to deliver the required objective, thereby taking advantage of their knowledge of the industry, emerging technologies and existing market capacity in the form of existing plants built for other contracts and merchant facilities.

### Risk Transfer

As previously demonstrated, DBFO is considered to provide optimum risk transfer, meaning that risks are borne by the party most able to manage them. It follows that any price premium charged by the private sector is judged to be less than the value of risk if retained by the public sector. This results in the lowest overall risk adjusted cost, as calculated more fully using the HM Treasury VFM methodology discussed in Section 8.

DBFO projects are likely to be funded by a mixture of bank debt and equity. The mix is unlikely to be affected by whether the contract is a PFI or another form or DBFO. Since the DBFO would be priced to recover the full costs of financing and operating over the project life, there is unlikely to be much price difference between different forms of DBFO. For example a Unitary Payment charged by a PFI contract would be a similar cost to the Council as a gate fee based long-term concession.

It is possible that a non-PFI DBFO would charge a lower gate fee in consideration of reduced risk (less stringent terms) or continued ownership of the site/plant at the end of the contract. However, any such price benefit can be offset by risks which the Council retains. Also, a PFI project has the benefit of additional revenue support to the Council, which would far outweigh any price benefit gained from a contract on different terms. There are therefore clear financial reasons to opt for a PFI procurement.

#### 4.4 Output Specification for the Project

In order to minimise the risk profile and keep markets open, the Council intends to procure the contract using an output specification, which will allow more options to be considered. The likely contract objectives which will inform the output specification development are set out in Table 4.3 below. The output specification will be developed in accordance with 4ps guidance for waste. It is stressed that the contract would be open to any technology, provided that it can deliver to the output specification.

It is envisaged that the Council's waste would take priority at the facility. However, it is not intended that this should restrict the facility's ability to take third party waste, subject to considerations of sustainability, on the basis that this could deliver added value for money (i.e. waste could be accepted on the basis that any savings realised would be expected to subsidise the Council's unitary charge).

The scope of the procurement may also include the transfer of waste to the treatment facility. Leeds is a large geographical area which makes transfer loading operations an integral element of waste management. While the Council considers that it will be value for money to include the transfer station in the scope of procurement, the level of PFI Credits applied for is for 50% of the capital value of the residual waste plant only (i.e. £63.05m). However, a failure to include this within the PFI scope would introduce unacceptable levels of risk both in terms of the ability to deliver waste to the treatment facility and the ability to ensure continuity of refuse collection services. The assessment is based on several recent experiences that result in extreme pressure on the service and high costs. Leeds has experienced problems in

the past due to unavailability of either transfer loading facilities or processing facilities. Both impacted upon collection services and resulted in significant additional costs to the Council. In both cases the separation of responsibility for transfer facilities and processing facilities resulted in undue risk resting with the Council.

The Council strongly feels that it is necessary to protect itself in the most robust way possible in this area. It also provides greater efficiency of waste transport given that the contractor will be responsible for transport to landfill from the treatment facility. In essence it is the Council's intention to create a clear and consistent gate at which responsibility for the waste is transferred to the contractor. Market sounding responses indicate a strong weighting towards including a transfer station in the scope of the scheme, with respondents following the same logic as the Council that the commercial partner is best placed to manage the risk of waste from the interface with collection vehicles

This will help in providing a clear scope of responsibilities for the contractor that all the treatment and transfer facilities will be newly built and there will be no need to transfer existing operations to the contractor with the possible exception of a currently underutilised transfer station at Kirkstall Road (depending on the locational benefits of retaining this transfer station).

Table 4.3 identifies the key service requirements that the Council anticipates will be delivered through the contract.

*Table 4.3 Key Contract Requirements*

<b>Contract Criteria</b>	<b>Anticipated Scope and Performance Indicators</b>
<b>General</b>	
Contract structure	The contract will be a PPP/PFI type procurement on the basis of an output specification that will be in accordance with 4P's guidance. Risk transfer on the technology provided is expected. The contract will cover design, build and operation of the facility.
Contract scope	The Council will seek a contract to provide for the treatment of 182,000 tpa of residual municipal waste from household kerbside, household waste sorting sites and Council trade collection services. Options within the standard bid will include operation of a transfer station
Contract duration	Typically up to 24 operational years with three years development
Asset transfer	The Council intends to retain ownership of those waste management assets that the council provides for the purposes of the contractor to deliver services during the lifespan of the contract but will make facilities available to prospective bidders under leasehold arrangements
<b>Treatment facilities</b>	
Address medium term and long term LATS targets minimising potential LATS liability (fines)	Facilities to be operational from 2014/15 to treat progressively greater levels of diversion of biodegradable waste from landfill in order that the Council complies with its LATS targets in all contract years.
Recycling performance	Facilities operated will not prejudice the Council's continued efforts to maximise overall recycling rates in the City. The facility will include recovery operations that contribute to the Council's recycling performance.
Facility availability and acceptance of Waste	The contractor will accept all waste required to be treated by the Council and will make provision to manage waste delivered by the Council when the facility is unavailable for scheduled or unscheduled reasons. The contractor will also be responsible for transport of all products and residues from the facility on to the end user.

<b>Contract Criteria</b>	<b>Anticipated Scope and Performance Indicators</b>
Flexibility to adapt to changes in waste volumes, composition, collection arrangements, regulation and legislation	<ul style="list-style-type: none"> <li>• Facility has sufficient flexibility to accommodate an average growth in household waste of 1.5% per annum until 2010 decreasing to 1% per annum by 2020 and years thereafter.</li> <li>• Contractor is responsible for cost-effective utilisation of spare capacity through third party contracts;</li> <li>• The process is tolerant of long-term changes in waste composition including as a result of high recycling performance;</li> <li>• Both parties will be able to implement improvement and initiate change through an agreed change mechanism incorporating defined response times.</li> </ul>
Risk allocation	Risk allocation will be as set out in Section 5 and Appendices 5A and 5B.
Vehicle turn-around times	Turnaround times at the transfer / reception facility to be agreed to minimise non-productive time.
Compliance with permits	The contractor will ensure that the facility is operated at all times in compliance with the facility PPC Permit and Planning consent. This will include compliance with all emissions standards, vehicle movement limits and reporting arrangements with regulatory organisations.
Maintenance and cleanliness	The facility will be maintained as per maintenance schedule and contractor will be responsible for all arrangements to manage unscheduled plant shut down. Site cleanliness will be monitored daily and documented. The contractor will take all measures required to ensure cleanliness is maintained. Any litter, spills or other material affecting site cleanliness will be rectified within one hour of identification.
Communication strategy	The contractor will be an integral partner in education and other Council waste initiatives and make provision for public viewing and displays that reflect the wider Council waste strategy.
<b>Transfer Facilities (Optional)</b>	
Long term facility located for easy reach and access for the refuse collection operation	The contract may also include operation and haulage from Transfer Facility, if applicable, to residual treatment facility.

#### **4.5 Long Listing of Technology Options**

##### Identification of Technology Options and Appraisal of Long List

In arriving at the reference technology option and reference project, the Council has considered, in conjunction with its technical adviser, a broad range of the available technology options for the management of residual municipal waste that have the potential to meet the Council's need to divert biodegradable waste from landfill. The long list of technologies assessed is set out in *Table 4.4*. These included commercially established technologies and emerging technologies. The options appraisal was completed during 2005.

Table 4.4 Summary of Long List of Technologies

Available Technology Types
Incineration with energy recovery (moving grate, fluidised bed, rotary kiln)
Gasification and Pyrolysis
High Temperature Incineration
Mechanical Biological Treatment
Mechanical Heat Treatment
Autoclave
Mechanical Separation
In-Vessel Composting
Anaerobic Digestion
Landfill

The relative strengths and merits of the technologies were discussed and considered in terms of deliverability and bankability. This covered issues such as supplier experience and robustness, flexibility to changes in waste inputs and outputs, market risks and technology risks. Based on the assessment, the initial long list was refined to a shorter list of six options for more detailed options appraisal.

#### 4.6 Appraisal of Short-listed Options to Identify Reference Project

Through the considerations above, the Council selected the following options for the more detailed appraisal. These options were not intended to be prescriptive but were considered indicative of the current market offering for the treatment and diversion of biodegradable municipal waste from landfill.

The Council commissioned its technical advisers to develop a waste technical model to assess each of the short-listed options. The technical modelling encompassed a number of stages. The stages were developed in turn to build up a full waste flow model for each treatment option:

- Estimation of future waste growth rates;
- Projection of existing waste arising data;
- Estimation of the capture of recyclable and compostable materials through source segregated schemes;
- Calculation of the waste tonnage performance of residual waste treatment technologies (including diversion of BMW from landfill);
- Calculation of the net present value (NPV) of each treatment option.

The stages of the modelling allow a comparison of each option, relative to one another, in terms of recycling and composting performance, biodegradable waste diversion from landfill and indicative cost.

The short list of technologies taken forward for detailed evaluation is set out in Table 4.5 below.

*Table 4.5 Short List of Technology Options Appraised*

<b>Technology Options</b>	
DN	Do Nothing
DM	Do Minimum (i.e. optimised recycling, but no residual waste treatment)
Option 1	Autoclave + Advanced Thermal Treatment
Option 2	Autoclave + Landfill
Option 3	Energy from Waste (EfW)
Option 4	Mechanical Biological Treatment (MBT) + Advanced Thermal Treatment + In-Vessel Composting
Option 5	Mechanical Biological Treatment (MBT) + Landfill + In-Vessel Composting
Option 6	Mechanical Treatment + Anaerobic Digestion + Landfill

All of the options set out in *Table 4.5*, with the exception of ‘do nothing’, assumed the introduction of a range of service improvements and enhancements to existing kerbside recycling services. It should be noted that the Council’s kerbside recycling strategy has been reviewed since the completion of the technology options appraisal in order to address the Waste Strategy for England 2007 recycling targets. The revised recycling strategy is detailed in Section 3.

Each of the technical options modelled, again with the exception of the ‘do nothing’ scenario, assumed the procurement of materials recycling facility (MRF), and in-vessel and windrow composting capacity to process the anticipated increases in recyclable materials being collected. The interrelations between these procurements are detailed earlier in Section 4. In accordance with DEFRA and 4ps guidance, ‘meet targets’ and ‘exceed targets’ scenarios were modelled for each technology option.

Table 4.6 provides a description of the technologies types evaluated during the options appraisal.

*Table 4.6 Summary Description of Technology Types*

<b>Technology</b>	<b>Description</b>	<b>Operational Experience In UK</b>
Energy from Waste (incineration with energy recovery)	<ul style="list-style-type: none"> <li>Recover embedded energy and potentially heat from the input material by burning with full supply of oxygen</li> <li>Input – mixed waste material,</li> <li>Outputs - heat, bottom ash, fly ash,</li> </ul>	Extensive track record with > 20 commercial facilities operational
Advanced Thermal Treatment (Pyrolysis and Gasification)	<ul style="list-style-type: none"> <li>Recover embedded energy from input material in absence of oxygen (pyrolysis) and low oxygen (gasification).</li> <li>Inputs – feedstock derived from mixed waste material</li> <li>Outputs - char, syngas, oil</li> </ul>	Emerging technology with number of commercially operational facilities abroad and limited gasification facilities under construction in UK. Gasification is nearer to market than pyrolysis
Mechanical Biological Treatment	<ul style="list-style-type: none"> <li>A wide range of treatment processes that mechanically sort input material and reduce biodegradable content of organic fraction through composting, biodrying or digestion.</li> <li>Inputs – mixed waste material</li> <li>Outputs – generally include recyclates (occur once materials have been stabilised), low grade compost and a high calorific fraction that can be manufactured into a solid recovered fuel</li> </ul>	Rapidly establishing track record with >10 operational facilities in UK

<b>Technology</b>	<b>Description</b>	<b>Operational Experience In UK</b>
Autoclave	<ul style="list-style-type: none"> <li>Sanitisation of waste through application of steam and pressure in an autoclave.</li> <li>Inputs – Mixed Waste material</li> <li>Outputs - sanitised secondary recyclates and a higher calorific value fibre. The fibre can then be used in a thermal treatment process or passed to a fibre market</li> </ul>	Only proven in UK at pilot plant stage and limited plants working with waste abroad
Mechanical Treatment	<ul style="list-style-type: none"> <li>Mechanical/physical sorting and screening processes</li> <li>Inputs - mixed waste material</li> <li>Outputs - remaining homogenised waste (this may be passed to a thermal treatment process for combustion or to a biological process for composting)</li> </ul>	A number of commercially operational facilities in UK
Anaerobic Digestion	<ul style="list-style-type: none"> <li>Degradation of organic fraction of waste by bacteria in the absence of oxygen and in the presence of heat. Undertaken in Sealed digestion tanks</li> <li>Inputs - Waste material</li> <li>Outputs - methane gas, 'digestate' product (which can be marketed as a soil conditioner/compost for spreading to land applications)</li> </ul>	Limited track record (<5) for mixed residual MSW
In-Vessel Composting	<ul style="list-style-type: none"> <li>Degradation of organic waste by bacteria in the presence of oxygen and heat in an enclosed container</li> <li>Inputs – organic element of mixed household waste ( kitchen/catering and garden waste)</li> <li>Outputs – stabilized compost material or soil conditioner</li> </ul>	Extensive track record in processing source segregated organic waste, but only a limited number operating for residual municipal waste
Landfill	<ul style="list-style-type: none"> <li>An engineered facility designed to minimise public health and environmental impacts in the disposal of MSW</li> <li>Inputs – Mixed waste material</li> <li>Outputs - Gas (which can be used for energy generation), leachate, settled residual material, possibility that future mining can recover additional materials such as metals, wood and plastic</li> </ul>	Historically the most common method of waste disposal

In order to consider technologies, the best modelling information available at the time of the options appraisal was utilised. Where available, values for typical plants that are operational in the market place were used. This does not mean that any technologies were favoured or that other technologies proposed by bidders in the future will be at a disadvantage.

#### **4.7 Performance of the Short Listed Options**

Table 4.7 below shows the LATS performance of each technology. It considers the performance of each treatment system with regards to both the 'meet' and 'exceed targets' scenarios (denoted by M1 or E1, etc). It should be noted that the evaluation was based on the projected waste arisings at the time of the options appraisal, which have now been revised and which has also resulted in changes to the cost modelling for the reference project.

*Table 4.7 Summary of LATS Performance of Short Listed Options (2005)*

<b>OPTION</b>	<b>Tonnage of BMW landfilled 2020</b>
Do Nothing	245,420
Do Minimum	200,428
M1: AC + ATT	63,418
M2: AC + Lf	190,947
M3: EFW	63,418
M4: MBT + ATT + IVC	63,418
M5: MBT + IVC + Lf	100,045
M6: MT +AD + Lf	90,087
E1: AC + ATT	28,359
E2: AC + Lf	190,947
E3: EfW	22,893
E4: MBT + ATT + IVC	32,066
E5: MBT + IVC + Lf	100,045
E6: MT +AD + Lf	90,087

The performance of each option is presented under the 'meet' and 'exceed' scenarios. The 'meet' scenario requires that only sufficient waste to meet the landfill diversion targets is processed by the technology, and therefore those technologies that fail to achieve landfill diversion under the 'meet' scenario will not perform any better under the 'exceed' scenario.

For options that achieve landfill diversion under the 'meet' scenario, the 'exceed' scenario provides an indication of the potential of each technology to outperform landfill diversion targets if all available residual waste was treated.

Details of Evaluation Against Non-Financial or 'Benefit' Criteria

An options appraisal methodology has been applied to provide a means of evaluating the various technical options against an agreed range of weighted criteria. Whilst achieving landfill diversion is one key benefit of investment in a residual technology facility, it is important to define the balance of benefits against which the residual waste treatment options should be assessed.

The technology options were therefore assessed against a range of non-financial criteria at a stakeholder workshop in November 2005, involving Elected Members, senior Council officers, regional government officers, external advisors and representatives from community and environmental groups (see Appendix 4C for details of the scoring of options resulting from the stakeholder workshop).

The criteria and associated weightings agreed by the Council and stakeholders for the purposes of the options appraisal are listed in Table 4.8 below.

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Table 4.8 Non-Financial or 'Benefit' Criteria

Criteria	Weighting
Achieves sustainability in relation to social, economic and environmental impacts	25%
Provides long-term and certain markets for outputs	10%
Provides flexibility (i.e. to adapt to changes in waste volumes, composition, etc.)	15%
Achieves landfill diversion (LATS) targets	25%
Achieves long term statutory and local recycling and composting targets	15%
Minimises impacts associated with land use and allows self-sufficiency	10%

Table 4.9 provides a summary of the stakeholder scores for the technology options assessed against each of the weighted 'benefit' criteria.

Table 4.9 Non-Financial or 'Benefit' Criteria Scores

'Benefit' criteria	Do Nothing	Do Min	AC + ATT	AC + LF	EfW	MBT + ATT + IVC	MBT + LF + IVC	MT + AD + LF
	DN	DM	1	2	3	4	5	6
Sustainability (social, economic and environmental impacts)	0	2	18	9	16	15	10	10
Long-term, certain markets for outputs	5	5	9	6	10	6	1	4
Flexibility to adapt to change	4	5	3	6	10	3	5	6
Landfill diversion (LATS) targets	0	0	20	0	20	20	10	10
Long-term statutory and local recycling targets	0	5	10	8	10	10	9	13
Land use impacts and self-sufficiency within Leeds	1	1	5	5	7	4	3	3
<b>Total</b>	<b>10</b>	<b>19</b>	<b>64</b>	<b>33</b>	<b>72</b>	<b>57</b>	<b>39</b>	<b>45</b>
<b>Ranking</b>	<b>8</b>	<b>7</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>4</b>

It was agreed that the issues of cost and affordability, risk and market interest would be assessed separately (although the issue of risk is implicit in all of the above criteria). These three issues were considered to be of such significance that they needed to be assessed independently but alongside the non-financial criteria.

### Cost of Technology Options

A detailed financial appraisal of the technology options was also completed by PricewaterhouseCoopers on the Council's behalf. A summary can be found at Appendix 4E. The approach to the financial options appraisal has been to model the costs of the technology options to provide Net Present Values (NPVs) over a theoretical 28 year contract

period, which allow the costs to be compared on an equal basis. Table 4.10 sets out the results.

*Table 4.10 Summary of Costs of Short Listed Options*

<b>Ranking</b>	<b>Option</b>	<b>Description</b>	<b>Net Present Value (NPV)</b>
1	Option 3	Energy from Waste (EfW)	£474m
2	DM	Do Minimum	£518m
3	DN	Do Nothing	£530m
4	Option 5	Mechanical Biological Treatment (MBT) + Landfill + In-Vessel Composting	£585m
5	Option 4	Mechanical Biological Treatment (MBT) + Advanced Thermal Treatment + In-Vessel Composting	£614m
6	Option 6	Mechanical Treatment + Anaerobic Digestion + Landfill	£617m
7	Option 1	Autoclave + Advanced Thermal Treatment	£618m
8	Option 2	Autoclave + Landfill	£631m

*Risk Appraisal*

In addition, the Council undertook an assessment of the risks of deliverability in conjunction with its technical advisors, Jacobs. Table 4.12 summarises the results. Further details of this assessment are set out in the Technical Options Appraisal Report produced by Jacobs which can be found at Appendix 4D(i).

*Table 4.12 Summary of Risk Criteria Scoring*

<b>Key Risk</b>	<b>Do Nothing</b>	<b>Do Min</b>	<b>AC + ATT</b>	<b>AC + LF</b>	<b>EfW</b>	<b>MBT + ATT + IVC</b>	<b>MBT + LF + IVC</b>	<b>MT + AD + LF</b>
	<b>DN</b>	<b>DM</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Market interest risk	2	2	10	6	8	10	6	8
Supplier robustness	1	1	9	5	5	10	6	7
Input specification	1	1	7	4	5	11	8	7
End market risk	1	1	7	5	5	10	8	9
Performance risk	2	2	10	6	6	12	8	8
Operational risk	2	2	10	6	7	12	8	8
Planning risk	4	4	11	7	12	14	10	10
<b>Total</b>	<b>13</b>	<b>13</b>	<b>64</b>	<b>39</b>	<b>48</b>	<b>79</b>	<b>54</b>	<b>57</b>
<b>Total (with throughput weighting)</b>	<b>47</b>	<b>38</b>	<b>129</b>	<b>103</b>	<b>52</b>	<b>107</b>	<b>88</b>	<b>101</b>
<b>Overall Ranking</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>6</b>	<b>3</b>	<b>7</b>	<b>4</b>	<b>5</b>

Summary of Options Appraisal Results

The results of each of the elements of the options appraisal are brought together and summarised in *Table 4.13* below. The full Technical Options Appraisal Report produced by Jacobs can be found at Appendices 4D(i) and 4D(ii). The sustainability appraisal and the land use impacts assessment of the technology options completed by Jacobs can be found at Appendix 4G. The evaluation of the markets for outputs from the technologies completed by CalRecovery Europe Ltd can be found at Appendix 4H, and Appendix 4E details the financial options appraisal output.

*Table 4.13 Option Appraisal Results*

<b>Option</b>	<b>Description</b>	<b>'Benefit' Score</b> (highest = best)	<b>Risk Rating</b> (lowest = best)	<b>NPV (£s)</b> (over 28 years)
DN	Do Nothing	10	47	£513m
DM	Do Minimum	19	38	£501m
Option 1	Autoclave + Advanced Thermal Treatment	64	129	£601m
Option 2	Autoclave + Landfill	33	103	£614m
Option 3	Energy from Waste (EfW)	72	52	£456m
Option 4	MBT + Advanced Thermal Treatment + In-Vessel Composting	57	107	£597m
Option 5	MBT + Landfill + In-Vessel Composting	39	88	£567m
Option 6	Mechanical Treatment + Anaerobic Digestion + Landfill	45	101	£600m

The results of the options appraisal were considered carefully to identify the preferred technologies for the reference project. Although other options scored high on either LATS performance, benefit, risk or cost, the Energy from Waste option scored consistently well across all appraisal criteria.

Based on the outcome of the appraisal and taking into consideration technology experience and options appraisal process based on availability of guidance at the time, Energy from Waste was considered the preferred option to take forward for the reference project. It was therefore specified as such in the revised Waste Strategy approved by the Council's Executive Board in October 2006. Appendix 3B contains the relevant minutes from the Executive Board.

**4.8 Technical Sensitivity Analysis and Refinement of Assumptions**

Subsequent to the completion of the original technology options appraisal, and indeed the development of the Expression of Interest, further refinement of the assumptions on waste growth, performance and costs underpinning the technical model was completed in order to arrive at the final reference project around which this Outline Business Case is based. This was in the following main areas:

- Revised waste growth projections;
- Increased recycling and composting targets;
- Validation and refinement of EfW costs.

Revised waste growth projections

Since completing the technology options appraisal and developing the Expression of Interest, the waste growth projections for Leeds have been revised for the OBC. Both the targets for waste growth per household now included within the revised Waste Strategy, and the

projections for household growth have been reviewed. In addition, the waste flow model has been adjusted to reflect the latest actual data for waste arisings in Leeds, which has become available since the approval of the Expression of Interest by DEFRA. This has resulted in a significant reduction in overall waste arisings by the end of the proposed contract and a significantly reduced requirement for residual waste treatment. Details of these projections can be found within Section 2 of the OBC.

### Increased recycling and composting targets

The original technology options appraisal was also completed ahead of DEFRA commencing their consultation on the increased recycling targets which have now been adopted within Waste Strategy 2007. Significant work has therefore been completed to develop the recycling strategy in between completion of the technology options appraisal/submission of the Expression of Interest and development of this Outline Business Case. The reference recycling strategy, which has now been approved by the Council's Executive Board, is set out in detail in Section 3.

It should also be noted that, whilst the reference project for the Expression of Interest assumed in-vessel composting of garden waste collected at the kerbside, it has since been recognised that this would not be the most beneficial or economical means of processing this material, and windrow composting of this garden waste has been assumed within the OBC.

### Validation and refinement of EfW costs

Following the completion of the technology cost model by Jacobs, the Council decided, due to the magnitude and critical nature of the costs to be included in the reference project, to commission Fichtner Consulting Engineers to review and validate the technical and cost assumptions proposed by Jacobs. In particular this covered the following:

- a) Validation of the basic EfW capital and operational costs, as well as a full validation of the schedule of EfW technical and cost assumptions (to identify alternative figures where those used are not considered to reflect the current market).
- b) Identification of a schedule of life cycle costs for the EfW plant and in particular identification of details of the maintenance elements that should be considered as capital replacement and the scale of these costs.
- c) Provision of a summary of the potential scale of costs associated with creating an innovative architectural design for an EfW facility.

In broad terms the findings of the Fichtner review (see Appendix 4F for full report) validated the costs proposed by Jacobs. However, in summary, the following amendments to the technical and cost assumptions were agreed in response to Fichtner's findings and recommendations:

- To adopt a minor increase in the base capex based on assuming a more realistic calorific value of waste (i.e. 9.2MJ/kg);
- To include a proportion of life cycle maintenance costs in the capex
- To assume 'abnormals' costs at 10% of the base capex;
- To assume architectural design costs at 5% of base capex (based on using Lakeside as a reference project for these costs).

A breakdown of these cost and assumptions is set out in the Summary Report of Waste Flow, Technology and Cost Modelling prepared by Jacobs at Appendix 3J. Naturally, these revised assumptions have subsequently been incorporated into the technical cost modelling.

Summary of Reference Project

Table 4.14 provides a summary of the resulting performance of the reference project.

*Table 4.14 Summary Recycling, Composting and LATS Diversion Performance of Reference Project*

Year	National Recycling Targets	Reference Project Recycling Performance	Recycled Tonnage inc Composting	LATS allowance	Reference Project – BMW Landfilled	LATS Surplus/ (Deficit)
	%	%		Tonnes	Tonnes	Tonnes
2009/10	40	33.42	120,807	151,189	174,756	(23,567)
2013/14	-	48.40	183,845	96,383	135,574	39,191
2014/15	45	49.35	189,703	92,063	16,704	75,359
2019/20	50	52.06	211,174	70,465	17,507	52,958
2037/38	-	57.62	268,675	70,465	20,011	50,453

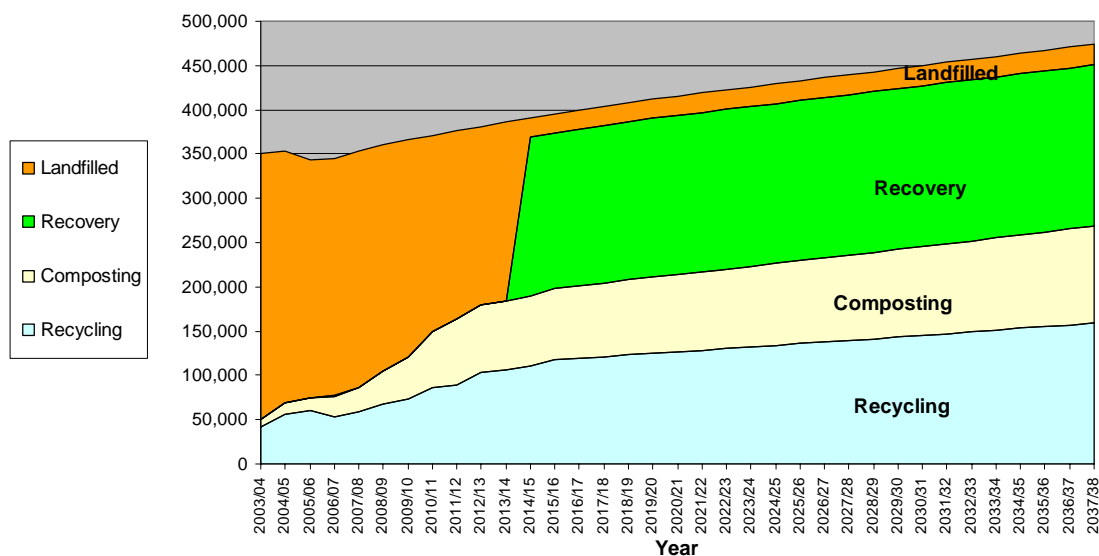
Table 4.15 provides a summary of the elements that are included within the reference project and the projected capital cost for which PFI credits are sought.

*Table 4.15 Summary Elements of Reference Project*

Facility	Waste Stream	Estimated municipal throughput *	Estimated Capital Cost
Energy from Waste Facility	Residual waste	182,000 tonnes	£126.1m
Waste Transfer Facility	Recyclables and residual waste	80,000 tonnes	£1.8m

Figure 4.1 provides an illustration of the profile of waste management in terms of recycling, composting, recovery and landfill over the life of the proposed contract.

*Figure 4.1 Profile of Waste during Life of Reference Project*



Details of the waste flow, technology and cost modelling can be found in the Summary Report of Waste Flow, Technology and Cost Modelling prepared by Jacobs at Appendix 3J.

**Appendices supporting this section of the Outline Business Case**

- 4A Indicative Timetable all Procurements
- 4C Technology Options Appraisal: Summary Stakeholder Evaluation Results - Nov 2005
- 4D(i) Technical Options Appraisal Report (Jacobs)
- 4D(ii) Technical Options Appraisal Report – Appendices (Jacobs)
- 4E Technology Options Appraisal: Financial Appraisal Assumptions & Results
- 4F Fichtner – EfW Cost Validation Report - Sept 2007
- 4G Sustainability Appraisal & Land Use Impacts Assessment of Technology Options
- 4H Evaluation of Markets for Outputs (CalRecovery Europe Ltd)
- 3J Summary Report of Waste Flow, Technology and Cost Modelling - Oct 2007 (Jacobs)

## 5 RISK MANAGEMENT, RISK ALLOCATION AND CONTRACTUAL STRUCTURES

### 5.1 Introduction and Scope

The previous sections of the OBC have explained how the overall Waste Strategy is being delivered through a Waste Solution comprising a range of collection and procurement initiatives. This section of the OBC focuses on a single component of the overall Leeds Waste Solution, which is the procurement of residual waste treatment through PFI.

Although the procurement will not specify technology solution, in order to provide a necessary degree of focus in understanding risk and delivery, the remainder of this OBC has been written on the basis of an EfW solution in accordance with the selected reference technology.

The Output Specification for the PFI contract has been outlined in Section 4. The core requirement is for a single residual treatment plant with a capacity of 182,000 tonnes per annum. The plant must be available in line with Council collection timings and vehicle requirements. The contractor will be responsible for both treatment and disposal of any residues, and for diversion of both tonnage and BMW content.

The site locations being considered for the treatment facility require a single Transfer Station which will bulk a proportion of the residual waste. The Council believes that value for money may be improved if this Transfer Station is operated by the PFI contractor. The Transfer Station will effectively be a gateway for the residual waste treatment facility with the contractor having the same obligations for receiving and diverting waste from the gate of the Transfer Station as for the treatment plant. The willingness of contractors for operating and transferring waste has been demonstrated in responses to market sounding as summarised in Section 9.

It is expected that the procurement process will elicit a certain level of innovation and potential improvement to specification and delivery. Bidders will be encouraged, for example, to include recycling processes for the residual waste prior to the residual treatment itself. This is not included in the reference project due to uncertainty of delivery.

### 5.2 Risk Management

The Project Team have developed a risk assessment process, which is subject to continual development. Separate risk registers have been set up as follows:

- Procurement and waste solution issues;
- Contract risk allocation between the Council and the contractor.

The Council undertook workshops with key stakeholders to assess both the risk allocation matrix and a procurement risk matrix for the project. The risk allocation matrix is shown at Appendix 5A and explains where risks will be placed within the contract. The procurement risk register included at Appendix 5B shows a range of project risks which, due to the project forming part of a wider Waste Solution, contains risks also relating to these wider issues.

In respect of the PFI Procurement, the mitigation strategy for the main risks is explained within the OBC. The Council has agreed to recycling targets which require changes to collection arrangements and to increasing resources for both collection and residual treatment. At the same time, the Council has identified a deliverable site in its ownership and has reviewed planning processes to ensure that planning requirements will not delay the

procurement and that a planning application submitted at Financial Close will have the maximum chance of success (this is explained more fully in Section 7).

As a result of this rigorous preparation, review and approval of the OBC, the risk of failing to deliver a signed contract is considered to be low. There is evidence of an increasing market capacity with new entrants to the waste market and considerable interest already shown through discussions with suppliers. A key benefit for the scheme is the experience of the Council in delivering PFI procurements, for example the recently signed 'Building Schools for the Future' and Street Lighting projects.

There are also benefits as a result of the PFI procurement being independent of other components of the Waste Solution. It is relatively 'stand alone' in its scope and capable of operating without changes to other waste activities. Even if, for example, recycling increases are not achieved as quickly as projected, it will be possible to utilise surplus capacity of the residual waste treatment facility in the early years of operation.

### 5.3 Risk Allocation Matrix

The main risks associated with the PFI Contract are set out in detail in Appendix 5A and summarised in Table 5.1.

*Table 5.1 Summary of Contract Risk Allocation*

<b>Risk</b>	<b>Allocation</b>	<b>Details</b>
Planning delay	Shared	Council will have knock-on impact of landfill costs and LATS penalties; Contractor will bear construction indexation and financing carry costs, subject to a Planning Long Stop date
Construction including ground conditions	Contractor	The Contractor will be required to satisfy itself as to site conditions and take full risk on cost and time overrun
Commissioning and Technology risk	Contractor	The Contractor will be fully responsible for ensuring that the technology is working effectively and on time, and bear costs of any breakdowns or teething problems
Service Commencement	Contractor	Contractor to bear landfill costs and LATS deductions if not operating on time
Volume of residual waste	Shared	Council has to guarantee a minimum tonnage; Contractor will be expected to take risk of tonnage variations within a wide range including handling waste above the capacity of the plant (though not required to divert above capacity) subject to an overall maximum cap
Diversion of tonnage and BMW	Contractor	Key benefit of contract: Contractor bids a fixed diversion rate and is liable for additional landfill costs, and deductions or bonus to a different BMW performance
Energy income and other Third Party Income	Contractor	Contractor take commercial risk of changes to base electricity and any assumed ROCs up to an initial guaranteed threshold. Any income above the guaranteed level is shared 50:50.
Disposal of residues	Contractor	The contractor will be fully responsible for the volume and toxicity of any residues including finding landfill capacity and costs and associated taxes for disposal
Composition and delivery schedule for residual waste	Shared	The contract will specify parameters within which the Contractor is expected to still provide the agreed performance.

Risk	Allocation	Details
Change in law	Shared	Contractor has risk of general changes in law (subject to capex cap), while Council retains risk of waste specific legislation except where foreseeable at time of contract.

### 5.4 Project Agreement

The Council welcomes the increasing level of standardisation in PFI Contracts both across sectors, with the release in March 2007 of SOPC4, and specifically for Waste schemes, through DEFRA's May 2006 Guidance on SOPC Derogations. The Council is fully committed to using these standard terms and understands that derogations outside those permitted by DEFRA are unlikely to be acceptable. The Council will also comply with any updated DEFRA guidance (in line with the recent SOPC4) and is hopeful that a fully developed Standard Waste Contract will be issued alongside an updated 4ps procurement pack before this project reaches procurement.

The Council will seek to either lease or license the site to the PFI contractor at peppercorn rent co-terminus with the PFI Project Agreement. The contract is expected to operate for 24 year plus a three year build period, and the site will revert to the Council on expiry or termination. The approach to planning will be in line with the DEFRA WIDP health check whereby it is not necessary to achieve planning approval prior to contract signature, and the contractor will bear certain costs of delay so that achieving planning on time is incentivised.

The Council will consider other project specific contractual issues in line with its development of the output specification, for example the termination triggers for poor performance. The Council does not believe that there should be any need for benchmarking or market testing services as the risk of all supply arrangements and cost changes are best managed by the contractor (previous waste projects have adjusted costs such as landfill and haulage, but usually this has been the case where these costs have a disproportionate impact on the cost base).

### 5.5 Payment Mechanism

The Payment Mechanism provides the financial incentive for delivering the Output Specification and ensures risk transfer in line with the Project Agreement. It is expected that the contractor will self-monitor its performance and submit monthly invoices supported by evidence of tonnages, diversion performance and quality measures. The principles of the Payment Mechanism are based on both market precedent and 4ps procurement pack as applied to the specific scope of this scheme. The Payment Mechanism will comprise the following elements:

#### 1. Payment Rates

To reflect the Council's twin objectives of ensuring facilities are open to receive waste and then paying for actual usage, the payments to the PFI Contractor will be divided into:

- an Availability Rate per hour for meeting Availability Criteria, i.e. keeping the facility and Transfer Station open and operational;
- a Tonnage Rate per tonne processed.

#### 2. Direct Deductions and Bonuses

For the hours that the facilities are not available, there will be no Availability Rate paid, effectively acting as a deduction from the expected contractor revenues. The Council will also want to ensure that it is fully compensated for 'tipping away' the residual waste

where the facilities are unable to receive waste. This may be through a separate deduction where not covered by Availability Rate.

In order to ensure that the contactor bears the full risk of diversion, the Payment Mechanism drafting will ensure that the contractor is only reimbursed for landfill costs and taxes at the guaranteed diversion rate. Conversely, if the contractor is able to improve on its guaranteed diversion rate, it will keep the savings on landfill.

Similarly, with regard to LATS, there will be both a deduction and bonus element from worse or better diversion of BMW than the guaranteed rate. In this way, the Council will be able to pass on to the contractor the impact of LATS.

### 3. Performance Points

The Output Specification will include a number of quality standards, such as the turnaround time for vehicles, proper staffing levels, and operating procedures. Failure to meet these standards, subject to rectification periods, will incur performance points. Each point will have a certain financial deduction value. The number of performance points assigned to each standard will correspond to the impact on the Council.

There will also be performance points for failure to report accurately. This will be coupled with the Council having the contractual right to access and audit contractor records to check on the self monitoring.

## 5.6 Markets for process outputs

The main output from the reference EfW technology is creation and sale of energy. This includes both sale of electricity to the grid and production of steam in a combined heat and power (CHP) process. The financial incentive for the contractor to maximise energy recovery comes from both market rates and from government initiatives including ROCs income for certain technologies in relation to the biomass content of waste, and enhanced capital allowances for equipment uses in CHP.

It will be a key feature of the procurement competition to seek a contractor that is able to guarantee the maximum level of third party income and thereby reduce the price charged to the Council. This will include energy and also sale of spare capacity. The bidders will need to form their own views on the market pricing and what they can guarantee. Where income is not guaranteed, the evaluation of bidders will take into account the potential for income generation and the income sharing proposals. The above principles will also apply to any income from recyclables.

### Appendices supporting this section of the Outline Business Case

- 5A Contract Risk Allocation Register - June 2007
- 5B Waste Solution Procurement Risk Register -Sept 2007

## 6. PROJECT TEAM AND GOVERNANCE

### 6.1 Introduction

To date the Council has delivered or is procuring 11 PFI Projects with a combined capital value of £848m. Two recent projects, including the largest national new schools scheme, went from OJEU to contract close within eighteen months, and as a consequence the Council was awarded Beacon status by the IDeA and two national awards for its abilities in the procurement of such projects.

The Council therefore has developed considerable expertise in procuring PFI schemes and the Council's PFI programme is led by the Deputy Chief Executive (DCE) as Portfolio Owner (PO). He is supported in this role by the Head of the PPPU who is the Programme Director. The DCE chairs each scheme Project Board. Both the current Portfolio Owner and Programme Director, in their respective capacities, have been responsible for delivery of five signed PFI schemes, along with the ongoing programme referred to above.

Figure 6.1 – PFI Experience

Current City Council Projects	Stage	Capital Investment £m
Cardinal Heenan High School Project	Operational	9
Leeds 7 Schools Project	Operational	37
Leeds Primary Schools Project	Operational	36
Swarcliffe Social Housing Project	Year Two	113
Leeds Combined Secondary Schools Project	Operational	97
Street Lighting Project	Operational	105
Building Schools for the Future Programme (incl ICT)	Phase 1 – Financial Close Phase 2&3 OBC submitted	286
Independent Living Project	ITN 2	47
Joint Service Centres Project	Stage 1 Approval	18
Little London Social Housing Project	Approved	78
'New Leaf' Leisure Centres	OBC Submitted	22
<b>TOTAL INVESTMENT</b>		<b>848</b>

### 6.2 Governance

In October 2005, the Council's Executive Board approved the corporate governance arrangements for its PFI and PPP programme to ensure the successful and efficient management and delivery of schemes by establishing clear roles, responsibilities and decision making processes. The corporate governance arrangements will be used for this project, under which the Council's Executive Board approves the Outline Business Case and Final Business Case. The governance manual for this project can be viewed in detail at Appendix 6A.

### 6.3 Project Management

The Environment and Neighbourhoods Directorate is the client department for the Residual Waste Treatment project, providing and co-ordinating service user and related client input through an established team that ensures consistency and best practice in the requirements of the project. PPPU leads the procurement of the project on behalf of the client department.

The project management structure is well developed and has successfully delivered a number of operational projects. Leeds City Council's corporate governance arrangements set out the management and delivery responsibilities for each project within the City Council. The governance manual at Appendix 6A outlines the roles and responsibilities in relation to the Residual Waste Treatment Project in more detail.

The finer details of the resources required to support the work is being determined as part of the Project Initiation Document (PID) this is currently being drafted and will be available imminently.

### **6.4 An overview of the Competitive Dialogue process**

The procurement process will be undertaken utilising the Competitive Dialogue process leading in the following stages:

- Stage 1 – Pre-Qualification
- Stage 2 – Invitation to Participate in Dialogue (ITPD)
- Stage 3 – Invitation to Continue Dialogue (ITCD)
- Stage 4 – Call for Final Tenders

Firstly there will be a pre-qualification process where bidders are required to respond to the Pre-Qualification Questionnaire (PQQ). Pre-qualified bidders will be invited to respond to an Invitation to Participate in Dialogue (ITPD) and to submit outline solutions for evaluation by Leeds City Council. Based on the evaluation of the ITPD, it is envisaged that a short-list of at least three bidders will be selected and invited to proceed to the Invitation to Continue Dialogue (ITCD) stage.

#### **Stage 1 – OJEU and Pre-Qualification stage (PQQ)**

The OJEU notice was published June 2008 and in order to assist Leeds City Council in evaluating the extent to which bidders meet its requirements, interested bidders will be required to complete a PQQ, which has been prepared in accordance with the criteria set out in Part 4 of the Public Contracts Regulations 2006. Leeds City Council needs to be satisfied that potential partners selected for the project have the appropriate capacity to undertake the tasks required. No more than four bidders will be taken forward to the next stage of ISOS.

#### **Stage 2 - Invitation to Submit Outline Solutions (ISOS)**

The Council proposes to provide Pre-Qualified bidders with the following documentation at the ISOS stage:

- Risk allocation matrix;
- Summary to confirm standardised approach to Project Agreement and Payment and Performance Mechanism;
- High level Output Specification;
- Summary waste solution strategy ;
- Site selection report.

In addition the Council proposes to seek bidders' responses on the following issues in the ISOS documentation:

- Comment on the Council's proposed approach to risk and make any suggested amendments or additions to the outline allocation proposed;

- Respond to a number of specific provisions/requirements within the Output Specification;
- Demonstrate how the output specification can be delivered;
- Consider how bidders propose the project integrates with other aspect of the Council's Waste Solution.

Pre-qualified bidders will also be issued with the details of Leeds City Council's evaluation methodology which will be used to assess the bids. A series of clarification meetings with the short-listed bidders will follow during the initial bidding process. Interviews will be held with bidders to discuss their proposals in more detail and to enable Leeds City Council to agree a short-list of three bidders to proceed to the next stage.

### **Stage 3 - Invitation to Submit Detailed Solutions**

Leeds City Council will issue the Invitation to Continue in Dialogue (ITCD) to short-listed bidders and anticipates that this will include:

- An Invitation to Submit Detailed Solutions (ISDS);
- A detailed Project Agreement;
- A detailed Development Agreement;
- A detailed payment and performance mechanism;
- A detailed Output Specification.

Leeds City Council expects that following further clarification and evaluation that the number of bidders will be reduced to two at this stage. It is at this stage that bidders will be expected to carry out survey works and appoint an EIA consultant to agree scope for the planning application.

Once this has been achieved, a parallel dialogue will take place with the remaining bidders to refine solutions until the Leeds City Council is satisfied that the Competitive Dialogue process can be closed.

### **Stage 4 – Call for Final Tenders**

Once the dialogue process has been closed, it is anticipated that bidders will be asked to submit final tenders for consideration. The final tenders will be considered and evaluated by Leeds City Council on the basis of a MEAT (Most Economically Advantageous Tender) appraisal. This stage will conclude with the appointment of a Selected Bidder.

At this stage, the Selected Bidder will be expected to finalise the preparation of the planning applications for the development sites. Following final clarifications (if any), and subject to funding approval and the approval of Leeds City Council's Final Business Case, the contract will reach a commercial close. Financial close will take place once planning permission has been secured.

## **6.5 Decision-making**

The Residual Waste Treatment Project Board is responsible for the delivery of the project with delegated authority to take decisions on the following procurement matters:

- Criteria for the selection of bidders;
- The initial and any further selection of bidders;
- Contract award criteria;
- The issue of the Invitation to Participate in Dialogue (ITPD);

- Matters relating to clarifications with bidders;
- Appointment of the selected bidder.

The Project Director has responsibility for the overall delivery of the project and will ensure that the project vision is met through the procurement process. The Executive Project Manager has the authority and responsibility to manage the procurement on a day-to-day basis.

There is a specific Project Team for the project. The team utilises the skills and expertise that Leeds City Council has gained from successful implementation of other PFI contracts and partnering arrangements. The Project Team will also include other specialists from within the PPP/PFI Unit, the Council's Development Department and professional staff within in the Environment and Neighbourhoods Directorate. In addition, advice will also be drawn from the Council's Corporate Services Department on employee, insurance and other relevant issues.

The Project Team meets regularly, as determined by the workloads of each stage in the procurement. A full resource analysis over the procurement and construction timescale has been developed and approved by the Project Sponsor, subject to the successful approval of this OBC. Budget provision of £450k has been made for 2007/08, and the resource requirements for the remainder of the procurement have been identified as a budget priority.

### 6.6 External Advisers

Specialist staff within Leeds City Council will undertake the work on this project with the support of experienced external advisers appointed under framework agreements. The advisers currently engaged are as follows:

- Technical – Jacobs UK
- Financial – PwC
- Legal – DLA Piper Ruddick (DLA)

The Council is currently re-bidding its framework agreements for legal services and financial services, with the outcomes expected to be known in late November 2007 and early December 2007 respectively. The successful advisors following this process will be selected partially based upon their expertise in the waste sector.

### 6.7 Project Assurance

To ensure that the project is continually reviewed and audited, a series of project assurance processes will be incorporated into the project at various stages:

**Gateway Review** – The Council works with the 4ps to ensure external project assurance through participation in the Gateway Review process. The Gateway Review process examines the project at critical stages in its lifecycle to provide assurance that it can progress successfully to the next stage.

Gateway Review 1 - The first Gateway Review for the Waste Solution Project will take place in December 2007. This review, entitled 'Business Justification' provides assurance to the Project Board that the proposed approach to meeting the business requirement has been adequately researched and can be delivered.

**Internal challenge** – Prior to Gateway Reviews, it is envisaged that an internal challenge will take place to review whether, internally, it is felt the project is ready to

progress to the next stage. Members of both the Project Board and PFI Co-ordination Board will attend. Internal challenge sessions took place prior to Gateway 1 to assist with review preparations.

**End of stage review** – These reviews will take place on a regular basis to ensure that lessons learnt from each stage are recognised and used to improve for the next stage. These will take place prior to ITPD, ITCD, CFT and FBC.

**Appendices supporting this section of the Outline Business Case**

6A Residual Waste Treatment Project Governance Manual

## 7. SITES, PLANNING AND DESIGN

### 7.1 Policy Context

Section 7 sets out the Council's approach to sites and planning in relation to the delivery of residual waste treatment facilities, and has been developed with reference to DEFRA's Planning Health Framework (the checklist for which can be found at Appendix 7A).

The proposals are being advanced at a time when the development planning context is in a state of transition to the new system of Regional Spatial Strategy (RSS) and Local Development Framework (LDF) introduced by the Planning and Compulsory Purchase Act 2004. The following statement describes where the Council is now in the process of transition, and highlights key issues of relevance to the procurement process. This sets the context for the response to the questions given in the 'Planning Health Framework', the completed checklist for which can be found at Appendix 7A.

PPS 10 was released in July 2005. It provides national guidance on planning for sustainable waste management. This document is clear that the RSS should provide overarching regional guidance on planning for new waste management facilities.

At a regional level Draft RSS for Yorkshire and the Humber was published for consultation in December 2005 and was subject to Examination in Public in autumn 2006. The Panel's report to the Secretary of State was published in May 2007 and the Government Office anticipates publishing proposed changes over the summer 2007.

The Panel report concludes that the policies should be adopted with only a number of minor amendments. Whilst at the time of writing the proposed changes have still to be concluded, the Panel report suggests that considerable weight can be given to the policies of the Draft Plan with a high measure of confidence that they will, with the minor recommended amendments, form part of the final version of RSS for which adoption is anticipated in 2008. This version of RSS is therefore likely to be part of the development plan at the time a planning application for the Council's residual waste treatment facility is considered.

Given this position, it is relevant to consider the policies of Draft RSS that are of particular relevance to the emerging Leeds proposals. In particular Policy ENV12C states that:

Local Planning Authorities should support the urgent provision of a combination of facilities and other waste management initiatives which best meets environmental, social and economic needs for their areas based on the following principles:

- (i) Moving the management of all waste streams up the waste hierarchy
- (ii) Achieving all statutory waste management performance targets during the period to 2016 .....

In addition paragraph 15.88 notes that the Region still produces large volumes of waste, "and investment in new waste facilities and initiatives needs to take place at an accelerated rate".

Policy ENV13 provides a more detailed level of guidance indicating in Part A that proposals for new capacity should take into account the split between recovery/ recycling and disposal, LATS, the balance between new and existing facilities and opportunities to provide treatment facilities for multiple waste streams.

Location criteria for waste management facilities are set out in Policy ENV14. These included that: waste should be dealt with locally (Part B); facilities should reflect the proposed housing and economic growth (Part C) and; that priority should be given to established and

proposed industrial sites with the potential for the co-location of complementing activities and to previously developed land (Part D).

It is also worth noting that paragraph 15.108 sees the prime strategic role of RSS to provide sufficient opportunities for new waste management facilities of the right type, in the right place and at the right time. Paragraph 15.109 notes the potential for innovative and high quality design and expects the LPA to secure this.

At the local level the Council's waste policies are set out in the UDP Review adopted in 2006. Work on the Council's new Local Development Framework has commenced and a number of Development Plan Documents are at various stages of preparation as set out in the Local Development Scheme. The current programme is largely as envisaged in the original Local Development Scheme submitted in March 2005 and subsequently agreed by GOYH. Because of the advanced stage of work on the UDP Review and a number of major area-based regeneration projects that are a Council priority, the first LDF documents to get underway in Leeds are three Area Action Plans (AAPs). Of particular relevance to this project is the Aire Valley Leeds AAP which is planned for the Regulation 26 consultation on preferred options during September/October 2007. The Core Strategy of the Local Development Framework is still at a very early stage of development, with the preferred options stage envisaged in May/June 2008, and is not likely to be adopted until April 2011. The LDS includes production of a Waste DPD which the Council has appointed consultants to undertake. However, adoption is unlikely before mid-2010.

The policy framework for dealing with a planning application will therefore be PPS 10 the Regional Spatial Strategy, UDP Review policies and the emerging LDF documents, particularly new policies contained in Area Action Plans.

Like RSS the UDP Review recognised the need to accommodate new waste management facilities (Policy N47). At a strategic level Policy WM1 requires that waste management facilities should generally be provided locally where possible. Policy WM5 goes on to state that waste management facilities will be treated as an industrial use and policies regarding the acceptability of manufacturing and distribution will be equally applicable. The supporting text (paragraph A7.4.3) indicates that facilities will be "encouraged in the urban area, ideally on employment land". Policy WM6 requires that proposals provide the most sustainable solution taking into account activity in neighbouring authorities. Policy WM8 sets out a number of factors to be considered at a detailed level and in many respects reflects the matters identified in PPS10. One particular point is the use of combined heat and power where a waste plant produces energy (part iii).

As a development of the Waste Strategy, the Council has commissioned a district wide site search for major waste management facilities. The site search has been undertaken in full recognition of the policy background described above and the guidance given in PPS10 and its companion guide, as well as regional and local planning guidance. The methodology and the factors taken into account are described in full in the Site Selection Report. From this site search it became apparent that the most promising opportunities fell within the boundary of the Aire Valley AAP.

In taking the Aire Valley AAP forward through the Preferred Options stage it is therefore considered appropriate that this potential be recognised. This will provide an opportunity for landowners of the sites identified, those with adjoining interests and the public more generally to offer a view on the suggested locations. Widespread consultation will be undertaken consistent with the Council's adopted Statement of Community Involvement. It is considered that this approach is entirely consistent with PPS10 which indicates that 'waste planning authorities should identify in development plan documents sites and areas suitable for new or enhanced waste management facilities for the waste management needs of their

areas' (paragraph 17). More specifically the Companion Guide to PPS10 (paragraph 7.4) recognises AAPs as one form of DPD suitable for advancing proposals for waste management facilities by reference to the Companion Guide to PPS12.

The Council has been pro-active in ensuring that it is able to secure the planning policy framework to provide a robust basis for securing planning permission within the procurement timetable. Whilst it is acknowledged that the transitional period for new development plans creates some difficulties, the Council has ensured that its proposals are reflected in emerging documents and supported by robust evidence.

National guidance clearly recognises that LPAs should reflect Municipal Waste Strategies in their DPDs. It also acknowledges that there may be timing difficulties in advancing waste schemes compared with progress on the development plan and hence the need to take account of emerging plans.

The proposals are considered to be consistent with Draft RSS which encourages councils to make progress with the delivery of new waste management facilities. The provision of new facilities on previously developed employment land, with potential to support complementary uses and well located to serve the needs of the district as a whole, is entirely in line with ENV14. The Council's proposals also take account of the projected levels of growth incorporated in RSS.

While the UDP Review policies were formulated prior to the publication of PPS10 they are likely to remain in force until superseded by the Waste DPD. Consistency with the UDP Review policies will therefore continue to be an important consideration, particularly as many aspects mirror PPS10 guidance. Although some matters such as visual impact/design can only be properly explored at the application stage it is considered that the proposed Aire Valley sites fully reflect UDP Review policies.

The emerging Aire Valley AAP, although unlikely to have progressed to adoption, will be at a more advanced stage at the time an application is submitted. The AAP process will have provided an early opportunity for engagement with the general public and other stakeholders including key consultees. These will include the Regional Assembly and Government Office. The Council has sought early dialogue with both bodies to explain the proposed process for delivering the waste facilities. To date there has been no indication that either body has any particular concerns about the approach and recognise the position created by progress with the development plan in the region.

### **7.2 Site Identification**

The Council has commissioned a district-wide site selection exercise to identify sites which could be suitable for major waste facilities (to include any of the residual treatment technologies that may come forward during procurement). This was carried out by Leeds City Council officers and Jacobs. Sites have been assessed against a range of criteria derived from planning guidance provided by PPS 10, the emerging Yorkshire and Humber RSS and the Review of the Leeds UDP.

*Stage 1* of the site selection process involved a comprehensive search of a wide range of databases and data sources to identify an initial list of sites. This data initial interrogation produced in excess of 2000 sites. These were then subject to a broad sieve to eliminate sites falling below a minimum size threshold of 2.5 ha, those with conflicting UDP allocations and those which were clearly within inappropriate locations such as the Green Belt, the city centre or affecting sites of special interest. This resulted in a long list of 42 sites.

Stage 2 of the process required a broad comparative assessment to identify which of these 42 sites should be discounted from the site selection process. The assessment focused on compatibility with the criteria set out in paragraphs 17-21 of PPS 10 namely:

- Land ownership and deliverability constraints gave an indication of the likelihood that the site could be acquired and planning permission delivered within the procurement time frame;
- Whether the site is previously developed land;
- Surrounding land uses (existing and proposed);
- Strategic accessibility in terms of proximity to the main waste arisings, i.e. sites within the main urban area which are centrally located to serve the whole city are considered to be meet the proximity principle more than those on the edge of the main urban area or outside it in more rural locations.

A 'traffic light' system was used to produce a short list of potential sites. Each site was graded as green, amber or red to indicate their suitability against each of the criteria with an overall grading based on this. Sites graded green were subject to further detailed assessment, amber held in reserve and red rejected outright. A total of 7 sites were graded green and formed the short list for detailed assessment.

At Stage 3 of the process, the 7 'green' sites identified at Stage 2 were subject to a further assessment of their characteristics using the following criteria taken from PPS 10 and Annex E:

- The likelihood of site owners wishing to sell sites and potential acquisition costs;
- Site accessibility in terms of the capacity of the highways network;
- The potential for alternative access (i.e. by rail, canal, river etc);
- A more detailed assessment on the impact on or of surrounding land uses using the detailed criteria provided in Annex E of PPS 10;
- The potential for negative impacts on regeneration objectives and economic investment.

This resulted in the exclusion of a further 3 sites, leaving a short-list of 4 sites. These are discussed below. The site selection study itself is included at Appendix 7B. The Council has also commissioned a programme of independent consultation exercises during Summer 2007 to elicit feedback from residents specifically on the criteria considered in identifying a short list of sites for a residual waste treatment facility. This is detailed in Section 9.6.

### 7.3 Site Strategy

The reference site for the project is in Leeds City Council's ownership. This is a 9.5 hectare vacant site, immediately north of Pontefract Lane (East Leeds Link Road). It is the site of a former wholesale market and is a flat open site. As the land is owned by the Council there are no deliverability constraints in terms of land acquisition.

The land is identified for employment in the UDP, and it is proposed to retain the land for employment uses within the Aire Valley Area Action Plan (AVAAP). The site is large enough to allow flexibility in siting the facility sensitively taking account of surrounding land uses.

A consideration in terms of surrounding land uses is the proximity to existing housing to the northwest and north east of the site. The properties to the north east are proposed for employment uses within the EASEL Area Action Plan, and this should make it easier to mitigate against the potential impacts on surrounding land uses.

Access to the site would be good from the East Leeds Link Road. To the north of the site is the Neville Hill Railway Maintenance Depot. There is real potential for rail access. There are also proposals for an EWS rail freight terminal on the immediately adjoining site to the north.

Three further sites have been short-listed which are in private ownership. Acquisition of one of these will only be pursued if it is found to be preferable to a Council owned site and can be secured by the ISOP stage of the procurement. Dialogue is in progress with both landowners to establish whether either site is deliverable within the relevant timescales.

If a privately owned site is found to be the preferred location, the Council's intention is to enter into procurement with a maximum of two potential sites for the residual waste treatment facility: one Council owned and one privately owned site. Details of both will be made available to bidders. If the privately owned site cannot be secured before the ISOP stage of the procurement the Council will proceed with the site in its ownership.

The privately owned sites on the short-list do represent genuine opportunities in terms of the potential for a landowner consortium to come forward, and in terms of possible synergies with existing operations on these or adjoining sites. The site selection study at Appendix 7B provides further details.

The potential suitability of the short listed sites emerging from the site selection study has been identified in the Aire Valley Area Action Plan at the Preferred Options stage. This was approved by the Council's Executive Board on 11<sup>th</sup> September 2007. The relevant extract from the Area Action Plan Preferred Options document can be found at Appendix 7C

The third round of public consultation takes place between 5<sup>th</sup> October and 16<sup>th</sup> November 2007. A series of staffed exhibitions will be held giving the public opportunity to view the preferred options and comment on their preferences. The information gathered at the events will be fed into the Consultation Report/Statement, the draft plan and will also be encompassed in the sustainability appraisal.

### **7.4 Planning Health Framework**

The Council's approach to sites and planning in relation to the delivery of residual waste treatment facilities has been developed with reference to DEFRA's Planning Health Framework. The completed Planning Health Checklist which forms part of this framework can be found at Appendix 7A. The key issues covered within the framework are predominantly covered within Section 7. The status of the Council's municipal waste management strategy is covered in Section 3, and details of the recent public consultation relating to site selection is discussed in Section 9.6.

### **7.5 Design Issues**

#### **Application of Principles and Policies**

This project creates an opportunity to build a residual waste plant as part of a wider strategy to create improved recycling and waste collection services throughout the city. It is the Council's intention to make use of the latest thinking in design of such facilities to ensure that these are adaptable and respond to 21<sup>st</sup> century expectations.

In its wider role Leeds City Council has a firm commitment to highest quality urban design, with its City Centre Urban Design Strategy achieving national recognition, and the Renaissance Leeds initiative for the whole district well underway. The Council's Executive Board agreed Ten Urban Design Principles (2005) and these underpin all the procurement and planning work by Leeds City Council and its partners throughout the city.

Design championing in the City Council is well co-ordinated and effective. The Executive Member for Development and Regeneration (currently Deputy Leader of the Council) works with the Civic Architect and the Director of City Development to ensure all major initiatives develop creatively to achieve the best possible outcome, and they provide strong advocacy of highest quality design (in line with the Ten Urban Design Principles and the Renaissance Leeds initiative).

Within the PFI programmes in Leeds, design championing has been central to its recent success – a designated Design Champion (Architect/Planner/Urban Designer) has steered the process. The ‘Leeds Way’ has recently been presented as part of the Commission for Architecture and the Built Environment’s (CABE) national series of workshops for Design Champions and Design Advisers.

The Ten Urban Design Principles are as follows:

1. Investing effectively – *recognize that good design is good business;*
2. Working together – *get the team right;*
3. Involving the community – *make places for (and by) people;*
4. Regenerating throughout Leeds – *close the gap and move forward;*
5. Delivering sustainable environmental solutions – *provide for future generations;*
6. Creating excellent new places – *take a visionary approach;*
7. Improving existing identity – *analyse and enhance the character;*
8. Connecting places – *create visual and physical links;*
9. Managing the investment – *look after the place;*
10. Reviewing our work – *improve continuously.*

This PFI project will ensure highest design quality is achieved by establishing clear principles and a good iterative process with the bidders. The principles will encompass urban design and architectural issues, based on the site, managed stakeholder input and best practice from elsewhere (the DQIs provide an established form of engagement and assessment as a continuous thread through a project, and independent advice on this will be considered).

The process overall will develop from our recent successes, which include design workshops with bidder teams and design review (including independent review/advice – the PFIs in Leeds have benefited from qualified and experienced design representatives from CABE, our Local Strategic Partnership, Leeds Architecture and Design Initiative and Leeds’ Civic Architect), managed by the project Design Champion.

The Council will seek guidance from the Commission for Architecture and the Built Environment (CABE) to ensure that the design and build of the facility will be undertaken to the highest possible standards.

The City Council wishes to utilise the most up to date design specifications for the building envelope. It will consider any recommendations made by the CABE in this respect. The Council's objective is to achieve the highest possible standards of building design and environmental mitigation that will create a facility of which the people of Leeds are proud.

The specific urban design principles for this programme will be developed from the site, the brief and good practice precedent. As with previous PFI projects, a framework will be established which includes generic urban design principles and urban design issues drawing based on site analysis and opportunities. Themes of *use, movement, space and form* have been used in the past to capture all the urban design issues creating a thorough framework with clarity for bidders and stakeholders. This will be used at the outset to initiate ideas, provide basis for outline planning submission and be used by bidders and procurement team to assess bid proposals as they emerge. Central to these themes and principles will be

issues of presence to the public realm (distant and streetscene views), massing, architectural expression, orientation, boundary treatment, landscape and sustainability. Relevant local policy and guidance will also be integral to the design steer for excellence, for example, Aire Valley Leeds Design Guide is a strong tool for examining the place and creating appropriate proposals. The Local Development Framework, with relevant Area Action Plans, will also provide essential background for this work.

The Council is familiar with the use of Design Quality Indicators (DQI) in assessing the design quality of bids. On this project a number of critical indicators including indicators such as site layout, built form, boundaries and site access are expected to be used as the basis of the design evaluation. In addition the evaluation criteria will include factors to ensure that the most efficient construction techniques are employed and that the contractors supply chain is appropriately managed. The evaluation criteria will be fully worked up prior to the issue of the OJEU notice and will be included within the Information Memorandum sent to bidders.

The Council is proposing to integrate the issues of planning and highways with procurement at the outset. It is intended that designated staff will be part of an integrated project team, ensuring that key issues of concern and opportunity are embraced early on in the design process.

The Council has made an allowance of £3.86m within the calculation of the capital cost of the project to ensure a suitable architectural design is incorporated into the facility by the bidders.

The Council intends to consult stakeholders in respect of the design and layout of the facility to engender a sense of ownership and ensure community issues are catered for as far as possible. The Council will use the key principles for urban design and DQIs to create a weighting for the design issues. This will enable the project team to continue to assess quality and fitness for purpose throughout the project's life, enabling a sense of ownership, and will give focused control of design development (within the project budget).

In summary, Leeds City Council plans to integrate good design with efficient procurement, providing a cohesive/comprehensive project team (including in-house staff and consultants), managed by the Council's PPP Unit. Building on the wider experience of design championing in the Council and the recent successes of PFI's in Leeds, this project will benefit from a framework and programme to achieve the best possible design quality.

### **Sustainable Development**

The facility will be subject to an Environmental Impact Assessment (EIA) as a requirement of the planning process. Detailed work in respect of the scoping of the EIA will be undertaken by the Council prior to its commencement. The Council has built in sufficient time for the development of the EIA as far as possible by each bidder during the procurement phase of the project, and the EIA will then be completed by the successful bidder to reflect the selected bid and technology. A period of one year after this has been assumed for obtaining planning permission.

The completed Design Quality and Sustainable Development checklist supplied by DEFRA within their OBC guidance can be found at Appendix 7D.

**Appendices supporting this section of the Outline Business Case**

- 7A Defra Planning Health Check – July 2007
- 7B Site Selection Report - Sept 2007
- 7C Aire Valley Area Action Plan (AVAAP) Preferred Options Extract
- 7D Design Quality and Sustainable Development Checklist

## **8. COST, BUDGETS AND FINANCE**

### **8.1 Value for Money (VfM)**

In order to confirm that the preferred PFI procurement route is likely to deliver VfM, in comparison to traditional procurement, the City Council has utilised the Treasury's 'Value for Money Assessment Guidance'. The Council believes that the characteristics of this project indicate that the PFI procurement route is appropriate. In particular, the Council's current intention is that collection, landfill contracts, MRF, IVC and GWC will be outside the PFI contract in order to closely define the PFI services and performance requirements. This requires the Council to undertake a dual approach to VfM appraisal, the two aspects of which are:

- Qualitative evaluation; and
- Quantitative assessment.

The qualitative VfM evaluation table can be found at Appendix 8A(i) and the quantitative VfM assessment can be found at Appendix 8A(ii).

#### **Assessment of the best procurement route**

The detailed option appraisal has been carried out in Section 4 of this Outline Business Case.

In this section we consider which is the most value for money procurement route. In summary, the characteristics of the project indicate that the PFI procurement route is appropriate for this project and that value for money should be achieved through the PFI route.

#### **Qualitative Evaluation**

The first assessment undertaken was to determine whether PFI is an appropriate procurement route for the Residual Waste Treatment Project. This is covered through a qualitative evaluation.

The Treasury's qualitative VfM assessment tool seeks answers to a series of questions regarding the Viability, Desirability and Achievability of the project. The questions, in each section of the assessment, lead to the Authority making a statement confirming the suitability of PFI as the chosen investment option. In line with Treasury Guidance, the Authority has provided a Stage 2 qualitative assessment, and is of the view that a PFI contract is Viable, Desirable and Achievable. This view supports the findings of the quantitative assessment which were that the project delivers VfM when compared to a traditionally procured project. The full qualitative assessment can be found at Appendix 8A(i).

The Council is mindful of HM Treasury guidance that the VfM for Soft FM should be considered in the qualitative assessment, but considers that for a waste treatment plant it is not appropriate to consider any services as soft FM since all services are integral to operation of the plant.

PFI contracts will be suitable where significant risk transfer offers good value for money to the public sector. For new build projects, the contractor has responsibility for design and construction, and is in a position to price efficiently for lifecycle, continuous maintenance and for facilities management. In light of this assessment, the Council is of the view that since

the residual waste treatment facility and waste transfer station are new build, value for money will be maximised where only these facilities are procured within a PFI contract.

**Quantitative Evaluation**

The assessment of value for money is based on, and has been undertaken using the HM Treasury Guidelines (revised November 2006). The Council has utilised the HM Treasury VFM spreadsheet format provided and this is attached as Appendix 8A(ii).

The Council has input the values contained within the Shadow Bid Model (Appendix 8B(iii)) into HM Treasury spreadsheet in Appendix 8A(ii).

Under HM Treasury guidelines, there is no formal Public Sector Comparator (PSC); the PSC is effectively calculated within HM Treasury spreadsheet based upon inputs derived from the Shadow Bid Model subject to adjustment where appropriate (Appendix 8B(iii)).

The key inputs used to derive the PSC in HM Treasury Model, in real terms at the start of the Project in 2010 (i.e. prior to indexation) are as follows:

Capital expenditure (from Shadow Bid)	£117.4m
Operating costs (including lifecycle costs) per annum (from Shadow Bid)	£8.4m
Third party income per annum (from Shadow Bid)	£3.4m

**Optimism Bias**

Pre- Final Business Case (FBC) Optimism Bias

The Project Team has carried out an assessment of the likely optimism bias adjustment required on capital costs, using the methodology set out in HM Treasury Green Book. Based upon this guidance, the City Council takes the view that the proposed Project fits more closely with the “non-standard buildings” sub-heading.

A summary of the pre-FBC Optimism Bias assessment is set out below:

*Table 8.1*

Categorisation	Standard Construction Capital Costs	Works Duration
<b>Upper Bound</b>	<b>51%</b>	<b>39%</b>
<b>Mitigation Factor</b>	<b>66%</b>	<b>63%</b>
<b>Assessment</b>	<b>17.16%</b>	<b>14.33%</b>
<b>Total Adjustment</b>	<b>31.49%</b>	

The values from this analysis have been considered most appropriate to include in the pre-financial close optimism bias cells for capital expenditure in the HM Treasury Model. In addition, 10% optimism bias has been included for operating costs. Within the HM Treasury Model the Pre-FBC Optimism Bias is added onto both PSC and PFI model.

Post- Final Business Case (FBC) Optimism Bias

In assessing the post-FBC optimism bias adjustment required, the Project Team have considered the likelihood and impact of various risks in relation to their impact after Financial

Close as risks that would be borne by the City Council if the procurement at Financial Close was handed back to the City Council to procure conventionally rather than through a PFI contract. A detailed risk quantification spreadsheet supporting this level of Optimism Bias is included as Appendix 8A(ii) to this OBC. A summary of the assessment is set out below:

*Table 8.2*

	<b>Risk Percentage</b>
<b>Capital costs</b>	<b>12.70%</b>
<b>Lifecycle costs</b>	<b>4.50%</b>
<b>Operating costs</b>	<b>14.71%</b>

The values from this analysis have been included in the post financial close optimism bias cells in the HM Treasury Spreadsheet in Appendix 8A(ii).

Summary NPV and Sensitivity Testing

After this data has been input in to HM Treasury Model, the resultant output shows that at the Treasury Spreadsheets Pre-Tax Equity IRR of 15%, the Project offers value for money through the PFI route with a margin of 3.22%.

HM Treasury Guidance also recommends that the VFM figure be tested against a series of sensitivities to understand the impact of variables in both the assumptions used, and the calculations performed by HM Treasury Model.

In each case the percentage sensitivity has either been added / deducted to the PSC costs in HM Treasury Spreadsheet whilst maintaining the PFI costs at the same level. A summary of the results from the key sensitivities analyses, commencing with the Base Case are set out below.

*Table 8.3*

<b>Sensitivity</b>	<b>Value for Money margin</b>
<b>Base Case with 15% IRR</b>	<b>3.22%</b>
<b>Capital cost sensitivities at 15% IRR:</b>	
<b>Minus 5%</b>	<b>0.22%</b>
<b>Plus 5%</b>	<b>6.04%</b>
<b>Operating cost sensitivities at 15% IRR:</b>	
<b>Minus 5%</b>	<b>0.57%</b>
<b>Plus 5%</b>	<b>5.73%</b>
<b>Combined capital and operating cost sensitivities at 15% IRR:</b>	
<b>Minus 5%</b>	<b>(2.60)%</b>
<b>Plus 5%</b>	<b>8.41%</b>
<b>Break-even Point at 15% IRR:</b>	
<b>Capital cost break-even point</b>	<b>- 5%</b>
<b>Unitary charge break-even point</b>	<b>+ 3%</b>

The break-even analysis indicates that the capital cost would have to fall by 5% for the PSC to demonstrate that PFI would not offer better value for money over conventional procurement, and that the Unitary Charge could increase by 3% and procurement through PFI will still offer better value for money than conventional procurement.

### 8.2 Affordability Assessment

#### Introduction

Members of the Council's Executive Board approved this Outline Business Case at their meeting on 14<sup>th</sup> November 2007. This included the Council's understanding and commitment to the revenue funding implications set out below. A copy of the report to Executive Board is attached at Appendix 1B, and the minutes of the meeting of Executive Board at 1C.

The City Council has successfully reached financial close on seven PFI Projects, five schools projects, one social housing project and a street lighting project. Elected Members of the Council, and members of the Waste Project Board are fully aware of the affordability structure of a PFI transaction and that the costs can be borne within the City Council's Revenue Budget. The affordability of the Project is likewise assured by the City Council on the basis of the level of PFI Credits (£63.05m) being committed by DEFRA for this Project.

The revenue and affordability implications of the PFI element of the Project to the City Council are the products of the Unitary Charge payable to the SPV partially offset by the PFI Revenue Support Grant received from Central Government.

#### Calculation of the payment to the PFI Contractor, the Unitary Charge

A Whole Life Cost Model (WLCM) has been developed by the City Council's financial adviser, PwC, and this is attached to this OBC as Appendix 8B(i). The construction costs included within the WLCM form the basis of the Capital cost inputs into the Shadow Bid Project Financial Model for the reference EfW solution.

With regard to the calculation of the Unitary Charge the City Council has also chosen to base the ongoing lifecycle and operational costs on the technical advice provided by Jacobs Babbie, and also included within the Whole Life Cost Model.

The City Council has also made a number of cost and financing assumptions. These are included within the PFI Pricing Assumptions, attached as Appendix 8B(ii).

An interest SWAP rate, before margins, of 6% has been assumed. The current interest SWAP rate at the beginning of October for a 20 year Interest SWAP rate was around 5.2 to 5.25% and the buffer of approximately 75 basis points is to provide for the risk of adverse movement in interest rates between approval of the OBC and Financial Close. However it is anticipated that there are likely to be movements, both adverse and favorable, between the submission of this OBC and Financial Close which is programmed for March 2011.

The City Council, with the assistance of its external Financial Adviser, PwC, has developed a Shadow Bid Financial Model to calculate the estimated annual Unitary Charge to be paid to the PFI Contractor. The Unitary Charge, in cash terms, is estimated at £20.867m in the first full year of operations in 2014/15. A copy of the Shadow Bid Financial Model is attached to this OBC as Appendix 8B(iii)

#### PFI Credits

The level of PFI Credits for this reference EfW project has been derived according to DEFRA funding 50% of the relevant capital cost of the project. Based upon the WLCM, with initial capital and lifecycle costs estimated at £126.1m, this will generate PFI Credits of £63.05m. The annual PFI Revenue Support Grant is based upon the Departments for Communities and Local Government PFI RSG Annuity Model, which calculates the annual PFI RSG to be £4.986m per annum over the life of the Contract. The Model is attached as Appendix 8B(iv).

### Additional City Council Contribution Required

The annual estimated Affordability cash flow statement is attached as Appendix 8B(v) shows the annual “affordability gap” required to be financed by the City Council.

The City Council has undertaken its affordability analysis for this reference Energy from Waste Project by first calculating the estimated annual Unitary Charge and the funding available from Central Government in the form of PFI Revenue Support Grant. For this reference EfW Project, procured through PFI, this will leave an affordability gap in the first full year of operations of £16.191m to be financed by the City Council.

The estimated affordability position was reported to the City Council’s Executive Board on 14<sup>th</sup> November and approval given to contribution at this level. A copy of the report to Executive Board is attached at Appendix 1B, and the minutes of the meeting of Executive Board at 1C.

The table below summarizes the overall funding position for the reference EfW Model solution:

Table 8.4 PFI Project Cash Flows

<b>PFI Project Cash Flows</b>	<b>£000</b>
<b>Headline Nominal Unitary Charge in the first full year of operations (2014/15)</b>	<b>20,867</b>
<b>Total Unitary Charge over the life of the Contract</b>	<b>579,853</b>
<b>Client Contract Management costs</b>	<b>3,235</b>
<b>Total Costs</b>	<b>583,088</b>
<b>PFI Revenue Support Grant at FBC (£63.05m PFI Credits)</b>	<b>( 119,235 )</b>
<b>Net cost to be Financed by the City Council</b>	<b>463,853</b>

### Price sensitivity analysis

Changes in the macro-economic environment could impact and probably will impact on both the price and the affordability of the Project between the development of this Outline Business Case in October 2007 and Financial Close programmed for April 2011. A number of scenarios have been modeled to illustrate the possible impact on the Unitary Charge and these are summarized in the table below. These scenarios were also included within the report to the City Council’s Executive Board and Members have supported and approved the submission of this Outline Business Case in the knowledge that the estimated price could change during the period to Financial Close.

Table 8.5

<b>Sensitivity</b>	<b>First Year Unitary Charge £000</b>
<b>Base Case with 15% IRR</b>	<b>20,867</b>
<b>Base Case with 17% IRR</b>	<b>21,957</b>
<b>Capital cost sensitivities:</b>	
<b>Minus 5%</b>	<b>20,162</b>
<b>Plus 5%</b>	<b>21,572</b>
<b>Operating cost sensitivities:</b>	
<b>Minus 5%</b>	<b>20,644</b>
<b>Plus 5%</b>	<b>21,090</b>
<b>Combined capital and operating cost sensitivities:</b>	
<b>Minus 5%</b>	<b>19,940</b>
<b>Plus 5%</b>	<b>21,795</b>
<b>Interest SWAP rate sensitivities:</b>	
<b>Minus 50 basis points</b>	<b>20,325</b>
<b>Plus 50 basis points</b>	<b>21,420</b>

### **8.3 Accounting Treatment**

Current regulations under the Local Government Act 2003 require that, based on proper practice, if an authority determines that the liabilities arising from the PFI transaction do not require the authority to recognise a fixed asset in the Balance Sheet, then it is not a qualifying liability and is therefore excluded from the definition of a credit agreement. Currently, the Local Authority Code of Practice defines proper practice in Application Note F to Financial Reporting Standard 5 (FRS 5) – “Reporting the substance of transactions: Private Finance Initiative and Similar Contracts (the “Application Note”), as interpreted by Treasury Taskforce Technical Note Number 1 (Revised) – “How to Account for PFI Transactions” (the “Technical Note”).

An initial review of the relative property risks associated with the proposed PFI Contract for the proposed Waste Residual Waste Management PFI Project has been undertaken and advice has been received from the City Council’s External Financial Adviser, PwC, (attached as Appendix 8C(i) and this is expected to lead to an assessment by the Director of Resources that, based on the information and advice provided to him, and in accordance with proper practices, no liabilities will arise which will result in the City Council being required to recognise a fixed asset in any balance sheet required to be prepared by the City Council in accordance in accordance with such practices for the financial year in which the agreement will be entered for the purposes of Regulation 3 of the Local Authorities (Capital Finance and Accounting) (England) Regulations 2003.

The advice received by the City Council from PwC is currently being reviewed by the City Council’s External Auditor, KPMG, and their view will be forwarded on as Appendix 8c (ii) at the earliest opportunity.

The Government has announced its intention to adopt International Financial Reporting Standards (IFRS) in the public sector with effect from 2008/09. The Financial Reporting Advisory Board (FRAB) is currently considering the status of the Technical Note and the impact of the adoption of IFRS by the public sector, it is expected that additional guidance will be issued by FRAB and the Treasury within the Financial Reporting Manual as there is currently no IFRS that provides specific accounting guidance on the treatment of PFI

transactions from the perspective of the public sector. Any such guidance will be considered by the City Council's External Auditor, including any specific guidance provided by the Audit Commission. The Accounting Treatment for this Project will be re-assessed towards the Preferred Bidder stage of the procurement.

### 8.4 Bankability

Waste PFI is increasingly dominated by bank finance rather than corporate finance, with an increasing number of lenders becoming familiar with the sector and its standard terms. This is coinciding with a large number of new entrants to the waste market who have invested in PFI in other sectors and who have credibility with lenders. The Council is therefore confident that the market conditions exist to ensure a strong competition and deliverable finance.

At the same time, the scope of Leeds Waste PFI procurement has been carefully defined in order to provide a bankable solution and to be attractive to PFI contractors and their funders. The project allows the private operator to focus on the core service of managing the waste plant and the risks which are being transferred to the private sector are considered controllable by a private operator without the requirement for price premia.

There is a clear interface for handover of responsibility of waste, and the key performance requirements of availability and waste diversion are clearly measurable and straightforward to monitor. The contractor also has an incentive for commercial gain through efficient energy production and management of demand so that it can maximise third party revenue.

For the above reasons, and also because of the relatively central location of Leeds where no waste supplier currently dominates and the experience of Leeds in delivering large PFI schemes and meeting deadlines, the Council is confident that the scheme will be seen as a priority for PFI investors. This was further verified in a market sounding exercise completed in August 2007, the results of which are summarised in Section 9.4.

### 8.5 Member Approval of Affordability

At the meeting of the Council's Executive Board on 14<sup>th</sup> November 2007, Members approved the submission to DEFRA of the Outline Business Case for the Residual Waste Treatment Project.

More specifically they agreed to accept the affordability implications of the OBC and of entering into a PFI contract for the treatment of residual waste from April 2014 to March 2038 as set out within the OBC and the Executive Board report itself. Furthermore, they approved the submission of the OBC in the knowledge that both the procurement process and prevailing macro-economic conditions may affect the Unitary Charge at Financial Close in April 2011, as also illustrated within the OBC and Executive Board report.

Full details of the approval of the affordability of the project by Members can be found in the report considered by the Executive Board on 14<sup>th</sup> November 2007 at Appendix 1B, with the relevant minutes at Appendix 1C.

### 8.6 LATS Trading Strategy

At the end of the second year of the LATS scheme, Leeds has a confirmed surplus of 69,564 tonnes which will be carried forward into the 2007/08 LATS year. However, from 2009/10 the Authority will be in an increasing deficit situation for each year until 2019/20 unless additional recycling services are introduced and/or a residual treatment facility is brought on line. The financial implications of this LATS deficit will be dependent upon the price at which allowances can be bought and sold.

Table 8.6 below shows the latest projections on LATS compared to allocated allowances for the period up to 2013/14.

*Table 8.6 Summary of LATS position*

<b>LATS Year</b>	<b>Options Available</b>	<b>Annual Projection with Initiatives (Surplus) / Deficit (t)</b>	<b>Cumulative Projection with Initiatives (t)</b>
2005/6	Banked	(38,341)	(38,341)
2006/7	Banked	(31,223)	(69,564)
2007/8	Bank / Sell	(6,260)	(75,824)
2008/9	Sell	6,010	(69,814)
<b>2009/10</b>	<b>Buy / penalty</b>	<b>23,567</b>	<b>23,567</b>
2010/11	Buy / penalty	19,089	19,089
2011/12	Buy / penalty	26,193	26,193
<b>2012/13</b>	<b>Buy / penalty</b>	<b>35,010</b>	<b>35,010</b>
2013/14	Buy / penalty	39,191	39,191

The projected LATS position is taken from the Jacobs technology model and LATS is calculated using the Mass Balance approach. The actual LATS figure will be dependent upon the biodegradability of the waste and the level of rejections of any recyclate.

Therefore, these next two years (2007/8 to 2008/9) are crucial to Leeds, as they are the only remaining years (prior to any future treatment facility being brought on line) that the Council will have surplus allowances compared to the allocation, and therefore be able to generate potential LATS income.

Given the volume of allowances that Leeds needs to sell between now and the end of 2008/9, it is unlikely that a single buyer will be found (i.e. it is unlikely that one single authority will require this level of allowances). This means that the allowances need to be sold in blocks which will probably result in different selling prices for each block, depending upon the prevailing market conditions.

Leeds will need to purchase LATS allowances in 2009/10 for this and subsequent years, until a residual waste treatment technology is operational. It is currently estimated that, without additional recycling services or securing capacity in a third party facility, 389,306 allowances will be required between 2009/10 and 2013/14. By implementing the proposed recycling strategy, this figure will reduce to approximately 143,000 tonnes.

As stated above, Leeds will need to sell its surplus LATS within the next two years. The income generated from the sales will either be used to offset the cost of purchase of LATS from the period 2009/10 to a time the treatment facility is brought on line or alternatively the income could also be used as a source of funding for additional recycling services, which would in turn reduce future LATS liabilities.

Post 2014/15 which is the latest operational date for the residual waste treatment facility, it is intended that surplus LATS allowances are sold on the 'open' market.

**Appendices supporting this section of the Outline Business Case**

- 8A(i) Qualitative VFM Evaluation Table
- 8A(ii) Quantitative VFM Evaluation Assessment
- 8B(i) Whole Life Cost Model
- 8B(ii) PFI Pricing Document
- 8B(iii) Shadow Bid Financial Model

8B(iv)	DCLG PFI RSG Annuity Model
8B(v)	Affordability – Cash Flows over the life of the Contract
8C(i)	Initial Accounting Advice from the Council's Financial Adviser (PwC)
8C(ii)	External Auditor's view on Accounting Treatment ( <i>to follow</i> )
1B	Executive Board Report - 14 <sup>th</sup> November 2007 (OBC)
1C	Extract of Minutes of Executive Board - 14 <sup>th</sup> November 2007

## **9. STAKEHOLDER MANAGEMENT AND COMMUNICATIONS**

### **9.1 Introduction**

As the changes that the City needs to make to its waste management practices affect a wide range of stakeholders, and as the success of future waste management initiatives will be dependent on everyone's participation, the Council has carried out an extensive programme of stakeholder consultation on the Integrated Waste Strategy for Leeds 2005-35.

On 18<sup>th</sup> October 2006, the Council's cross-party Executive Board gave approval to the revised Waste Strategy, and to the submission of an Expression of Interest to Defra for PFI credits. The Waste Strategy sets out the range of facilities potentially required to deliver the proposed Waste Solution for Leeds. Elected Members have been significantly involved in the options appraisal process, and an extensive programme of Elected Member consultation has been delivered throughout the development of the Waste Strategy and the OBC.

Leeds City Council has also commissioned a full Scrutiny Inquiry into the Waste Solution Project by its Environment and Community Safety Scrutiny Board in order to secure further Elected Member involvement. This has run in parallel with the development of the revised Waste Strategy.

### **9.2 Strategy**

The Council is committed to continuing to deliver a structured programme of communication and consultation with the public as the Strategy is implemented, to ensure effective, timely and consistent engagement with the public and other key stakeholders. This will form the primary focus for the ongoing work of Leeds City Council's waste and recycling education team. A summary of the Council's proposed communication and consultation strategy can be found at Appendix 3E. Details of the key stakeholder engagement undertaken and planned are set out in the following sections.

### **9.3 TUPE and Code of Practice on Workforce Matters**

There are no TUPE issues that impact upon the Waste Solution and in particular the PFI project scope. The Council, however, recognises the importance of staff involvement in the development of its strategy and collection services. The support of staff is fundamental if higher recycling levels are to be achieved. In view of this a group of staff and union representatives have been meeting on a regular basis since January 2006 in order to review and discuss the progress of the strategy with senior managers. This group has also been working with service managers to improve the efficiency of services provided directly by Leeds City Council.

### **9.4 Market interest**

Leeds City Council is fully aware that market capacity is constrained and that it will need to tailor its procurement requirements to maximise competition. An initial soft market testing exercise was conducted during February and March 2006 and a further exercise has since been conducted during July and August 2007 by PricewaterhouseCoopers on behalf of the Council. Key waste management companies (including fully integrated and residual technology suppliers) and large-scale infrastructure companies were targeted, provided with a letter explaining the Council's current Waste Strategy and details of the procurement, including proposed timescales and progress on sites and planning. Companies were requested to provide their views on the proposed scope of the Waste Solution, its structure and key risks. A copy of the letter issued to companies can be found at Appendix 9A.

A significant number of industry representatives provided responses, including:

Amec	Sita	Amey
Biffa	Skanska	Kier
WRG	United Utilities	Veolia
Edmund Nuttall	Von Roll	Shanks
Interserve	VT Group	Covanta

All responses from these suppliers have been considered in detail and are included in the **confidential** Appendix 9B.

While the Council has used EfW as a reference project, it is encouraging other solutions to come forward. However, the Council received a wide range of interest in providing the reference technology.

In total, the Council received nine letters from suppliers who utilise EfW as their residual technology, seven of whom would act as the primary contractor, one being a design and build subcontractor and one being an EPC subcontractor. These all expressed a keen interest in being involved with the Waste Solution for Leeds, favouring EfW, primarily due to the likelihood of funding being received, as the technology is well understood, safe, proven and reliable, and can complement recycling and recovery programmes. Two suppliers suggested alternative residual technology solutions and four did not have a preferred technology.

As the Council wanted to understand the market appetite for including the Waste Transfer Station in the residual waste treatment procurement, suppliers were asked if they considered that inclusion of the Waste Transfer Station was the optimum strategy for the Council. Eight favoured inclusion of the Waste Transfer Station within the contract to minimise interface risk and provide better value for money. Five suppliers had no preference, two of these being a technology provider and a construction company. These responses demonstrate that inclusion of the Waste Transfer Station is attractive to the waste management companies and would reduce the interface risk and associated costs to the Council.

The Council also requested the supplier's thoughts on the key issues in terms of delivering the project. Site availability and planning was the main risk identified by each of the suppliers. The Council is confident that this risk is being addressed at present as is demonstrated in Section 7 of this OBC. The reference site is in Council ownership and its potential suitability has been highlighted in the Aire Valley Area Action Plan.

The number of other projects in the national pipeline means companies are increasingly stretched in terms of how many they can bid for. Despite this increased market activity, twelve of the fifteen respondents providing answers to the questions confirmed their strong intent to bid for the contract when it comes to market.

To conclude, the recent soft market testing exercise has reiterated that there is a sufficient sized group committed to bid based on the Council's reference project, and indeed these companies include both waste management companies and large scale infrastructure companies. The Council intends to continue to engage with the market prior to the issue of the OJEU notice. In addition to the two soft market sounding exercises, the Council will continue to proactively encourage market interest through the following steps:

- Continuing to make time available for informal meetings with waste operators;
- Meeting with providers to share progress;
- Providing update newsletters;

- Sharing draft specification for comment;
- Seeking a genuine partnership arrangement;
- Encouraging innovation;
- Contributing articles to trade and other press;
- Speaking at relevant conferences and seminars;
- Following standard guidelines to reduce procurement timescales and costs;
- Giving confidence through its strong programme governance arrangements, engagement of suitably experienced advisers and dedicated programme manager, and use of appropriate 4ps Gateway Reviews; and
- Demonstrating cross-party political and senior officer sign-up to the programme.

### 9.5 Other Relevant Authorities

Leeds City Council is engaged in regular dialogue with the other local authorities within the region, and is a key participant in the South and West Yorkshire Waste Forum. The Council has also worked with the 4ps in trying to identify opportunities for developing regional waste management solutions. The practical obstacles to joint working are that most of the relevant authorities are at differing stages of the procurement process or of determining their procurement strategies, as well as the practical difficulties and timescales involved in developing formal partnership arrangements between different authorities. The geographic area of Leeds and that of some of its neighbours also means that the provision of regional solutions would create logistical difficulties and potentially result in greater environmental impacts.

However, Leeds is committed to exploring the benefits of potential regional synergies and economies of scale. Leeds City Council is an active member of the Waste Regional Advisory Group and an informal West Yorkshire forum. Both of these groups allow for regular contact with the other authorities in the region and ensure communication of individual progress and identification of joint working opportunities.

### 9.6 Public Engagement

The Council has carried out an extensive programme of consultation on its Waste Strategy over a six month period. Views have been sought from statutory consultees, local residents, Elected Members and other key stakeholders. Feedback has been obtained through attendance at community-based forums, residents and tenants groups, use of a Citizens' Panel survey, and the distribution of a public questionnaire using a community leaflet and the Council's web site. Support was also provided by the local media who have printed articles which have encouraged residents to contribute to the debate and to make their views known. This has clearly indicated that there is strong and widespread support from the people of Leeds for the long-term proposals being put forward for waste prevention, recycling, recovery and landfill diversion. This is discussed in greater detail in Section 3, and a summary of the consultation results can be found at Appendix 3D.

The Council commissioned a programme of independent consultation exercises during summer 2007 to elicit feedback from residents specifically on the emerging proposals for kerbside recycling collections, and on the criteria considered in identifying a short list of sites for a residual waste treatment facility.

This consisted firstly of two telephone surveys of a random but representative sample of residents: the first from a representative city-wide sample, and the second a representative sample of residents living in the ward in which the emerging sites for a residual waste treatment facility were located and the five wards immediately adjoining this ward.

In addition to this, a series of community based focus groups were conducted within the wards in proximity to the emerging short-list of sites to elicit more qualitative feedback on recycling proposals and site selection considerations. In summary, the findings in relation to recycling collections were as follows:

- 50% of respondents stated that they would recycle more if their dry recyclables collection was increased to fortnightly;
- 80% of respondents would be either 'quite happy' or 'very happy' to receive a separate kerbside collection of garden waste;
- 48% of respondents would recycle more if glass was collected at the kerbside;
- 60% of respondents would be either 'quite happy' or 'very happy' to receive a separate kerbside collection of food waste.

Respondents' receptiveness to a reduction in the frequency of residual waste collections clearly increased as the proposed provision of additional recycling collections was increased. This is illustrated in Table 9.1 below.

*Table 9.1 Responses to reduced residual waste collections under various recycling options*

% 'Quite' or 'Very Happy' to have residual waste picked up fortnightly	Fortnightly recyclable collection	Garden waste collection	Weekly food waste collection
37%	✘	✘	✘
43%	✔	✘	✘
40%	✘	✔	✘
50%	✘	✘	✔
59%	✔	✔	✔

As regards site selection criteria, respondents were asked to rate a range of key considerations when selecting sites suitable for a residual waste treatment facility, and to identify any additional considerations that they considered important. Clearly, there is a range of predetermined planning criteria set out within national, regional and local planning guidance, and these were applied throughout the site selection study completed by the Council. However, it was also considered important to validate the methodology applied by seeking residents' views at a city-wide level, and from the communities most likely to be local to the proposed site options.

In order to provide respondents with a specific point of reference in terms of the potential nature of a waste facility, the survey and focus group material was based around the introduction of an Energy from Waste facility, given that this is the reference technology for the Outline Business Case. Table 9.2 provides a summary of the responses.

*Table 9.2 Percentage of respondents rating site selection criteria as 'most important'*

Criterion	Citywide	Local
That it is not in a residential area	78%	77%
The impact of any smells on you or others	69%	66%
The impact of emissions or dust on you and others	67%	63%
That it is in a commercial/ industrial area	62%	54%
The impact of the noise it makes on you and others	53%	48%
How easy it would be to use other, more environmentally friendly transport than lorries	51%	43%
The impact of how it looks on you and others	47%	37%
The impact of traffic coming in and out of it	45%	37%
How close it is to where the waste is collected	45%	32%
How easy it is for traffic to access the site	44%	32%

An important consideration for residents is that the facility should not be sited within residential areas and, siting it in a commercial/industrial area was also considered important. The various potential impacts on amenity were other important considerations. These criteria were primary considerations for the Council in arriving at its short-list of sites. The full reports setting out the detailed findings from the telephone surveys and focus groups can be found at Appendices 9C and 9D.

The Lower Aire Valley area, in which all of the four short-listed sites are located, is an area where significant regeneration and change is planned. The Aire Valley Area Action Plan is a document that sets out the structure for the area's future development. The document contains a range of guiding principles affecting new housing, employment opportunities, transport and community facilities. In order to ensure that the development delivers the best results for people local to the area both now and in the future, this huge development opportunity needs to be properly planned. Part of this process is public consultation which has been ongoing for some time now. The third stage of this process, the 'Preferred Options' consultation, is due to take place between 5<sup>th</sup> October and 16<sup>th</sup> November 2007. A series of staffed exhibitions will be held giving the public opportunity to view the preferred options and to formally register their views. The information gathered at the events will be fed into the Consultation Report/Statement and the draft plan, and will also be incorporated into the sustainability appraisal on the Area Action Plan.

### 9.7 Community Sector

Re-use and recycling of other waste streams will be dealt with through appropriate contract arrangements or through partnerships with the community and voluntary sector. The Council already has links with this sector and work is underway to strengthen these relationships and expand the scope of the services they provide. A key partner in this work is the Community Recycling Network.

No services are excluded or displaced from the PFI contract in order to redirect them to the CVS sector. The decision to work with this sector to provide services is always made against a test of best value and added value to the Leeds community in other Council priority areas.

### Appendices supporting this section of the Outline Business Case

- 3D Waste Strategy Consultation Summary Results
- 3E Summary Communication and Consultation Strategy - 2007
- 9A Market Sounding Letter – July 2007
- 9B Market Sounding Responses - August 2007 (**CONFIDENTIAL**)
- 9C Telephone Survey Report - Sept 2007 (MRUK)
- 9D Focus Groups Report - Sept 2007 (QA)

## **10. TIMETABLE**

### **10.1 Introduction**

The main project stages have been considered by the Council and are shown at Appendix 10A. The timetable is divided into four key strands, namely: OBC period; initial bid phase; competitive dialogue phase; selected bidder phase and contractor phase.

The planning application will require an Environmental Impact Assessment (EIA) and the planning activities are highlighted in pink to show the methodology as these activities occur throughout the programme. The Council proposes to require the bidders to carry out the EIA during the bidding phase of the project as far as possible with the bidders sharing the cost of site surveys. The cost of these will ultimately be met by the successful contractor once appointed who will if necessary refund the unsuccessful bidders. The Council proposes to work up the scope of the EIA with an EIA consultant appointed jointly by the bidders and paid for by the successful contractor as with the site survey work.

The land acquisition process is assumed to be complete prior to the issue of the OJEU notice if any is needed given that the Council has its reference site in its ownership.

The procurement process is shown as a competitive dialogue and is linked with the planning application process, with the submission date of the planning application being made by the preferred bidder once the organisation has completed the outstanding areas of the EIA unique to its bid.

A financial close to the project is anticipated to coincide with the granting of planning permission by the Council with a commercial close taking place in 2010 when negotiations are complete. Should the application be called in for determination by the Secretary of State, then financial close expected to be linked to the ultimate granting of planning permission by the Secretary of State.

### **10.2 Timetable & Managing Timetable Risks**

The timetable has arranged to minimise the risk of slippage. Prior to the issue of the OJEU notice six months has been allowed for the preparation of documentation so that this does not impact upon the programme later in the process. The evaluation methodology will also be fully developed during this period as shown on the detailed programme at Appendix 10A. The procurement period is 21 months which is believed adequate to complete the competitive dialogue process and the 12 month period allocated for obtaining planning consent following completion of the EIA work is sufficiently generous to ensure a robust programme. The construction and commissioning period for the plant has been established as part of the market testing work to ensure this is a suitable duration. Key dates on the programme are the OJEU notice release of June 2008 and the completion of the competitive dialogue phase in November 2009 together with the construction start and financial close scheduled for April 2011. Table 10.1 below provides a summary of the key project milestones.

Table 10.1 Summary Project Delivery Timetable

	<b>Date</b>
Submission of EoI	<b>Mar 07</b>
Approval of EoI	<b>May 07</b>
Business Case Approved by Council	<b>Oct 07</b>
Submission of OBC	<b>Oct 07</b>
Mayoral Approval (if relevant)	
Defra Approval of OBC	<b>Jan 08</b>
PRG Approval of OBC	<b>Jan 08</b>
OJEU Published	<b>Jun 08</b>
Descriptive Document Issued	<b>Jun 08</b>
ISOS Issued	<b>Aug 08</b>
ISOS Returned	<b>Oct 08</b>
ISDS Issued	<b>Dec 08</b>
ISDS Returned	<b>Mar 09</b>
ISRS Issued	<b>May 09</b>
ISRS Returned	<b>Jul 09</b>
Call For Final Tenders	<b>Sep 09</b>
Preferred Bidder Selected	<b>Oct 09</b>
Submission of FBC	<b>Dec 09</b>
Defra Approval of FBC	<b>Feb 10</b>
Contract Awarded	<b>Apr 10</b>
Financial Close	<b>Apr 11</b>
Planning Application Submitted	<b>Mar 10</b>
Operational Commencement	<b>Apr 14</b>

### Appendices supporting this section of the Outline Business Case

- 10A Residual Waste Treatment Project - Master Programme
- 10B Project Delivery Timetable - Detailed Programme