

CONFIDENTIAL

## **Appendix S1**

Waste Services Contract Shadow Tariff Model Assumptions Book

## Introduction

Ernst and Young LLP (Ernst & Young) has prepared two Shadow Tariff Models (the Models), one for the Waste Services contract and the other for the Fuel Use contract, for the North London Waste Authority (the Authority) Reference Project.

This Financial Model Assumptions Book summarises the underlying assumptions used in each Model, and considers the following aspects:

**Table 1: Aspects considered by the Financial Model Assumption Book**

Section	Purpose
<b>Model Structure</b>	Explanation of the overall design of the model and the purpose of each worksheet.
<b>Background Assumptions</b>	Statement of the key background assumptions made for the model.
<b>Revenue</b>	Explanation of how the different elements of the Unitary Charge have been modelled.
<b>Costs</b>	Breakdown of the constituent costs within the model and their associated assumptions.
<b>Financing</b>	Summary of the key assumptions that have been made regarding debt and equity financing of the project.
<b>Accounting Assumptions</b>	Summary of the balance sheet assumptions made within the model.
<b>Taxation Assumptions</b>	Summary of the Corporation Tax and VAT assumptions made within the model.

The purpose of the Financial Model Assumptions Book is to provide a summary of the key financial and commercial assumptions that have been made with regard to the Model and provide an overview of how the Model operates.

## Model Structure

The Models are grouped into three sections; an inputs section, a workings section, and an outputs section. The worksheets for each are summarised in the following tables:

**Table 2: Inputs**

Name	Description
<b>Scenario Control</b>	Contains key dates and funding terms, and enables different sets of scenarios to be stored.
<b>TI</b>	Contains time independent assumptions including financing, working capital, accounting and tax assumptions.
<b>UC</b>	Contains tonnages and gate fees required to calculate the Unitary Charge.
<b>Capex</b>	Contains the annual data provided from Ramboll AEA in relation to capital expenditure and lifecycle costs.
<b>TD Con</b>	Provides the time dependent Ramboll AEA data from 'Capex' on a monthly basis throughout the construction period.
<b>Opex&amp;Income</b>	Contains the annual data provided from Ramboll AEA in relation to operating expenditure and third party income.
<b>AEA Capex Profile</b>	Provides the split of capital expenditure for the MBT facilities between development costs and capital costs, and the annual spend profile
<b>AEA Opex workings</b>	Provides links from Ramboll AEA technical models and calculates labour splits and margins for operating costs
<b>TD Ops</b>	Provides the time dependent Ramboll AEA data from 'Opex&Income' on a semi-annual basis throughout the operational period.

**Table 3: Workings**

Name	Description
<b>Const</b>	Contains workings to calculate costs, revenues and funding during construction and a monthly cash flow statement for the construction period based on inputs from 'TD Con'.

<b>Ops</b>	Contains the majority of workings in the model to produce semi annual financial statements (cashflow, profit and loss and balance sheet) for the life of the Project, based on inputs from 'TD Ops'.
<b>Debt</b>	Contains calculations of the amount of debt drawn down and interest charged during the concession.

**Table 4: Outputs**

Name	Description
<b>Annual</b>	Contains annualised financial statements (cashflow, profit and loss, balance sheet) and tax reconciliation for the Project.
<b>Outputs</b>	Contains the results of critical checks on the model and summarises key outputs, including rates of return, ratio analysis and sources and uses of funds.
<b>Graphs</b>	Graphically illustrates the outputs of the model, such as cashflow analysis and profiles of Unitary Charge profile and shareholders returns.

## Background Assumptions

### Dates

The models assume a contract period of 29.5 years from 1 October 2012 to 31 March 2042.

There are three specific time periods contained within the financial model, these being monthly, semi-annual and annual periods. The monthly time period is used for the purposes of calculating funding requirements and costs during the construction period, from 1 October 2012 to 31 March 2016. The semi-annual period is used for all other calculations for the financial statements. The annual time period is used to present the financial statement outputs of the financial model

The following table shows key dates:

**Table 5:**

Detail	Assumptions
<b>Project commencement</b>	1 October 2012
<b>Operational Commencement of MRFs, AD plant and MBTs</b>	1 April 2016
<b>Operations end</b>	31 March 2042

### Inflation

The key date assumptions in relation to inflation are:

**Table 6:**

Detail	Assumptions
<b>Cost indexation base date</b>	1 April 2009
<b>Inflation uplift</b>	Annually on 1 April each year from 1 April 2010

The model applies inflation at 2.5% per annum measured in terms of Retail Price Inflation (RPI), to both costs of revenues with the exception of:

- ▶ Capital expenditure at 4% per annum, as agreed with Ramboll AEA; and
- ▶ Labour element of operating costs indexed at 4% (RPI+1.5%)

## Margins

Funding margins are charged throughout the contract period at the following annual rates:

- ▶ London Inter-Bank Offer Rate (LIBOR) – 4.60% (which includes a buffer of 0.5%, based on an underlying 20 year sterling swap rate as at 23<sup>rd</sup> November 2009).
- ▶ Equity Bridge rate of 3.11% (which includes a buffer of 0.5%) based on pro-rated underlying 3 year (2.43%) and 5 year (3.14%) sterling swap rates as at 23<sup>rd</sup> November 2009).
- ▶ Interest rate swap credit spread – 0.25%.
- ▶ Mandatory Liquid Assets (MLAs) – 0.02%.

Senior Debt interest is charged at LIBOR plus a specified margin depending on the phase of the project. These margins are:

Table 7:

Phase	Margin
<b>Constructions</b>	2.75%
<b>Operations</b>	
- Years 1 to 5	2.85%
- Years 6 to 10	2.95%
- Years 11 to 15	3.30%
- Years 16 onwards	3.30%

Deposit interest is received at 1% below LIBOR and overdraft interest is charged at 1% over LIBOR.

## Revenue

Revenue is derived from the unitary charge and third party income generated from the sale of the outputs of the waste management system. The Model assumes third party revenue from sale of recyclates, energy sales from electricity and income from sale of ROCs.

## Unitary Charge

The Unitary Charge (UC) is calculated on the basis of a gate fee per tonne. An average gate fee of £56.53 per tonne (in real terms as at 1 April 2009) has been calculated for all of the services.

The UC may be considered in terms of two component elements:

- ▶ A proportion of the unitary charge (50%) is not subject to indexation. This reflects the fact that the SPV's funding arrangements will be such that interest rates are fixed at financial close, and as a result, debt service (senior and subordinated debt interest and principal repayment) costs are not uplifted in line with inflation during the project; and
- ▶ The remaining element (50%) of the UC is indexed to match the behaviour of the costs in the financial model.

The UC commences in the first year following financial close to cover the operational costs of the HWRCS and the IVC at Edmonton. The first step up in the UC occurs in the first full year of operations (1 April 2016) to reflect the completion and first full year of operation of the MRF, AD and MBT facilities..

The overall UC increases as the project progresses due to:

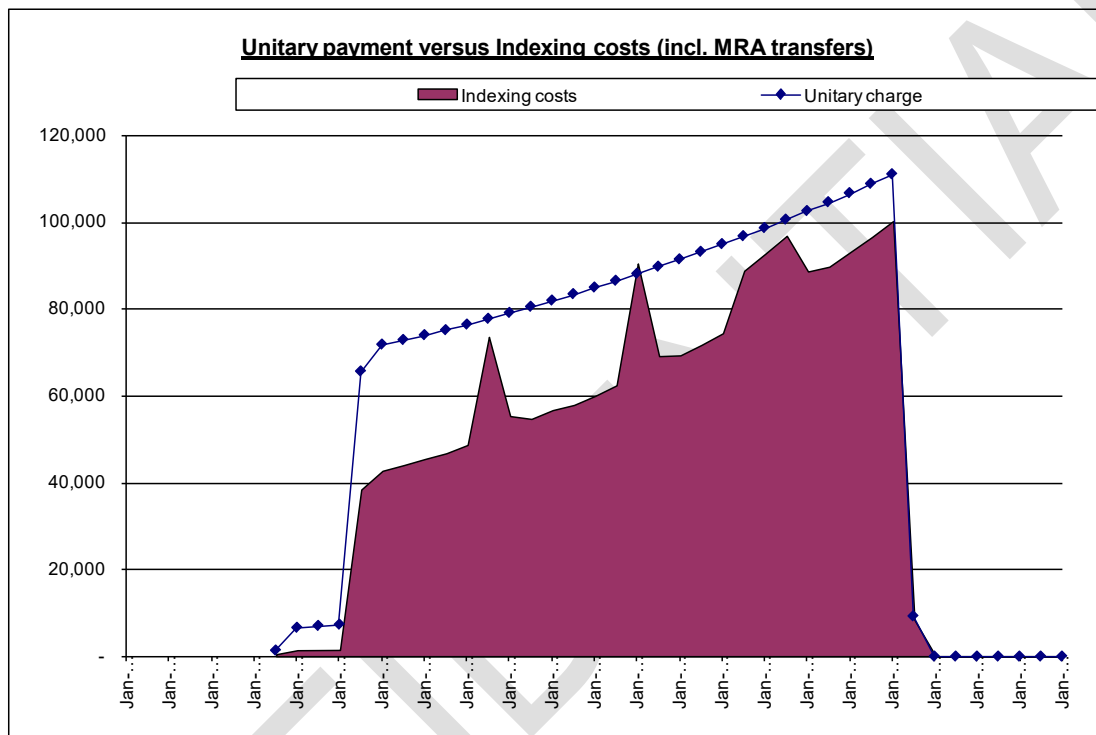
- ▶ RPI being applied to 50% of the gate fee; and

- The increasing tonnes of municipal solid waste stemming from waste growth.

This is partially offset by improvements in the level of service provision, flowing from the completion of infrastructure and the consequent increases in recycling from 36.7% up to 50.2%, recovery and diversion performance under the contract.

Figure 1 below depicts the unitary charge and costs in nominal terms.

**Figure 1: Unitary Payment versus costs in nominal terms**



The unitary charge has been derived to achieve:

- A minimum Annual Debt Service Cover Ratio (ADSCR) of 1.25;
- An average ADSCR of 1.388; and
- A nominal blended equity Internal Rate of Return (IRR) of 14.0%.

The impact of the lifecycle cost profile on financial efficiency of the project is mitigated in the financial model through the provision of a lifecycle reserve account that 'smoothes' the cash flow of SPV lifecycle expenditure. This is discussed in greater detail below.

### **Third Party Revenues**

Each model includes an estimate of third party income provided by Ramboll AEA stemming from the following elements of the waste management system, indexed annually:

- Upper Lea Valley MBT revenue from recyclates, heat and electricity at £4.05 per tonne;
- Hendon MBT revenue from recyclates, heat and electricity at £4.05 per tonne;
- ROCs income at £5.36 per tonne for MBT and £7.15/tonne for Biowaste Composting;

- ▶ MRF (both Upper Lea Valley and Hornsey Street) revenue from recyclates at £35.15 per tonne;
- ▶ Revenue for Biowaste Composting facility generated from electricity sales of £3.80 per tonne;
- ▶ Revenue from CAS facility of £7.29 per tonne from sale of recyclates.

## Cost

Cost in the financial model can be considered within the following categories:

### Operating Costs

The “Opex&Income”, “TD\_Ops” and “Ops” worksheets contain a profile of operating costs for the provision of the waste management service over the life of the project, sourced from Ramboll AEA.

### SPV Operational Costs

The financial model makes a provision within operating expenditure for overheads and SPV running costs during the life of the Project. Ongoing management and overhead costs would be incurred by the SPV, covering cost elements such as insurance, SPV management, legal, tax and audit services. These are estimated in the financial model at £1.25 million per annum, in April 2009 prices.

### Capital Costs

The “Capex”, “TD\_Cons” and “Cons” worksheets contain a profile of capital costs for the project. The construction period, the period from financial close to commencement of full services delivered by the new facilities, is the three and a half years from 1 October 2012 through to 31 March 2016.

### SPV Capital Costs

It is assumed that the SPV incurs bidding costs of £3 million, which are paid following financial close.

### Lifecycle Costs

Lifecycle expenditure is incurred periodically through the contract term to the end of the concession in 31 March 2042. All lifecycle costs have been assumed to be capitalised and depreciated over the remainder of the contract. Lifecycle costs are taken from data provided by Ramboll AEA and are indexed at 2.5% per annum over the life of the Project.

In common with the typical requirements of a bank funded PFI project, a maintenance reserve account builds a cash reserve against future lifecycle expenditure. The reserve account looks forward three years and places a proportion of the expected future period’s lifecycle expenditure in the reserve using the requirement 100%:50%:25%.

## Financing

The financing for the project is assumed to come from third party banks (79.7% of the funds) and from the equity investors (20.3% of the funds).

### Senior Debt

Senior debt is drawn down to fund the majority of construction and development costs. Initial funding is provided by an equity bridge (see below). The maturity date of senior debt is 30 September 2039, assuming a two and a half year tail.

Senior debt principal repayments are sculpted to achieve the required cover ratios. Interest on the senior debt is based on the rates detailed in the table below.

Table 8:

Element	Value
Fixed LIBOR	4.10

<b>LIBOR risk buffer</b>	0.5%
<b>Swap credit margin</b>	0.25%
<b>Mandatory Liquid Assets</b>	0.02%
<b>Margin during construction</b>	2.75%
<b>Margin During operation</b>	2.85% - 3.30%
<b>'Rate during construction</b>	7.62
<b>'Rate during operations</b>	7.72% - 8.17%
<b>Commitment Fees</b>	1.38% on undrawn balances
<b>Arrangement Fees</b>	2.50%
<b>Minimum DSCR</b>	1.258
<b>Average DSCR</b>	1.388
<b>Minimum LLCR</b>	1.407

### ***Equity Bridge***

An equity bridge is drawn down on 1 October 2012 and is repaid in full on 31 March 2016 through the drawdown of subordinated debt. Interest on the equity bridge is calculated as 3.11% as being the weighted average of the current 3 and 5 year long sterling swap rates as at 23<sup>rd</sup> November 2009.

The arrangement fee on the equity bridge is 2.5% and commitment fees are 1% of the unutilised facility.

### ***Subordinated Debt***

The subordinated debt is drawn down on 1 April 2016 to repay the equity bridge and is repaid during the operational phase of the Project. Interest on the subordinated debt is 12.5%.

Interest is paid where there is sufficient cash to do so after payments to senior debt and reserves. Where interest is not paid, this is added to an outstanding interest balance. Outstanding interest is repaid when sufficient cash is available. No arrangement or commitment fees are charged on subordinated debt.

### ***Equity***

Pure equity of £50,000 (0.014% of the funding requirement) has been assumed with annual dividends subject to positive retained earnings, available cash and the satisfaction of the distribution lock up mechanism. Equity is repaid after the end of the contract.

### ***Debt Service Reserve***

In common with the typical requirements of a bank funded PFI Project, a debt service reserve account builds a cash reserve against future debt service requirements. The reserve account holds cash sufficient for six months of debt service (senior debt principal and interest).

### ***Interest Receivable***

Interest is received semi-annually on brought forward cash balances at a rate of LIBOR less 1% per annum.

### ***Accounting Assumptions***

Fixed asset accounting is used in the model, whereby fixed assets are recorded in the balance sheet at Net Book Value and depreciated over the life of the Project on a straight-line basis.

Interest on senior debt and subordinated debt is capitalised during the construction period and amortised from the commencement of full operations to the end of the concession.

A 30 day working capital assumption in relation to debtors and creditors has been assumed.

### ***Taxation***

#### ***Corporation Tax***

The financial model calculates a measure of taxable profit as the profit (loss) before taxation on the following basis:

- ▶ Where losses are made in a year, the loss is added to the cumulative total of losses that may be used to offset future taxable profits.
- ▶ Where taxable profits are made, any accumulated losses are offset against them.

The requirements of the recent Budget announcement have been incorporated into the model such that:

- ▶ Profits chargeable to corporation tax are taxed at 28%;
- ▶ A writing down allowance of 20% of the general pool is applied from the end of the construction period onwards;
- ▶ A writing down allowance of 10% for long life-assets is applied from the end of the construction period onwards; and
- ▶ No Industrial Buildings Allowances are claimed as these will be abolished before construction on all facilities completes.

Of total capital expenditure, 35% is assumed to be Industrial Buildings, 45% Plant and Machinery and 20% long life assets. Of the total Plant and Machinery expenditure, 95% of construction expenditure is assumed to be eligible for capital allowances

Deferred taxation is calculated taking into account timing differences between depreciation and capital allowances. The provision is recorded in the balance sheet of the financial model, and the movement in provision is recorded in the profit and loss account.

In keeping with the experience of recent Waste PFI bid submissions, it has been assumed that bidders' group tax positions will be such that the application of Transfer Pricing legislation to the project vehicle will not adversely affect the price quoted in the Shadow Tariff model, which currently assumes full tax deductibility of subordinated debt interest.

#### **VAT**

The model considers VAT on the unitary payment charged to the Authority and the operating costs incurred by the SPV, which is assumed to be fully recoverable, by both the Authority and the SPV. VAT is also, considered on all capitalised costs with VAT assumed recoverable on all costs, with the exception of arrangement fees and agency fees.