Outline business case for application for private finance initiative credits

Waste Infrastructure Delivery Programme

Submission to Department for Environment, Food and Rural Affairs

30th April 2008

Gloucestershire
COUNTY COUNCIL

Abbreviations and Glossary

AD	Anaerobic Digestion. A process where biodegradable material is encouraged to break down in the absence of oxygen. Material is placed in to an enclosed vessel and in controlled conditions the waste breaks down typically into a digestate, liquor and biogas.
AONB	Area of Outstanding Natural Beauty.
ATT	Advanced Thermal Treatment. Waste treatment technologies that involve the heating of waste in a reduced oxygen environment to produce a combination of char, synthetic gas and oils that can be used as fuel. These technologies include Pyrolysis and Gasification.
Autoclave	Autoclave is a form of mechanical heat treatment where waste is subjected to steam under pressure. Generally this process is followed by mechanical sorting and separation of the sterilised waste. The autoclave process produces cleaned glass and metal that is unchanged and that can be recovered. Plastics form mixed lumps/pellets that can be recovered easily and organics form consistent fibres/floc material.
BaFO	Best and Final Offer.
Base Payment	The Base Payment is payment calculated on a rate per tonne which is applied to the total tonnage of waste accepted by the contractor in a contract year.
BMW	Biodegradable Municipal Waste. The component of Municipal Solid Waste capable of being degraded by plants and animals. Biodegradable Municipal Waste includes paper and card, food and garden waste, and a proportion of other wastes, such as textiles.
Bottom Ash	The ash that arises from a combustion process in a furnace.
BRE	Building Research Establishment.
BREEAM	Building Research Establishment Environmental Assessment Method.
Business as Usual	Continuing to landfill all untreated residual waste (also called Status Quo).
BVPI	Best Value Performance Indicator.
C&D	Construction and Demolition – category of waste.
CABE	Commission for Architecture and the Built Environment.
CapEx	Capital Expenditure.
CD	Competitive Dialogue.
CEEQUAL	Civil Engineering Environmental Quality. CEEQUAL is an awards

	scheme that assesses the environmental quality of civil engineering projects.
CHP	Combined Heat and Power. CHP is the simultaneous generation and utilisation of usable heat (usually steam/hot water) and power (usually electricity) in a single process. CHP can be used to provide energy to a single home, to a large industrial plant, or even a whole city.
CIRIA	Construction Industry Research and Information Association.
Contract Waste	Contract Waste is the types of waste to be accepted at the residual waste facility.
Core Project Team	The team who will be dedicated to the Residual Waste Project, this includes members of the waste management unit team and external advisors.
CP	Conventional Procurement. Procurement through conventional approaches (e.g. letting separate “Design and Build” and “Operating and Maintenance” contracts) that use public funding.
CPO	Compulsory Purchase Order. A legal function that allows certain bodies which need to obtain land or property to do so - without the consent of the owner.
CSR	Comprehensive Spending Review 2007.
D&B	Design and Build. This is a type of contract.
DBFO	Design, Build, Finance and Operate. This is a type of contract.
DCLG	Department of Communities and Local Government.
DCMS	Department of Culture, Media and Sport.
Defra	Department for Environment, Food and Rural Affairs.
Defra’s PFI Criteria	Criteria, that waste projects must meet to be considered for PFI credits, as listed in Appendix A (Defra Template).
DPD	Development Plan Document. A spatial planning document, subject to Independent Examination, and with Development Plan status. DPDs are part of a range of documents that sit within a Local Development Framework or a Minerals and Waste Development Framework.
DQI	Design Quality Indicators.
EfW	Energy from Waste. The treatment of waste through the controlled combustion leading to the reduction in volume of waste. Energy can be recovered in the form of heat and electricity and metals can be recovered.

EIA	Environmental Impact Assessment.
ELFF	End of Life Fridges and Freezers.
EoI	Expression of Interest.
EU	European Union.
FBC	Final Business Case.
FRS5	Financial Reporting Standard 5.
Gasification	Gasification is the process whereby carbon based wastes are heated in the presence of air or steam to produce fuel-rich gases.
GCC	Gloucestershire County Council.
GGD	Great Gloucestershire Debate. A consultation and promotional campaign to get people living and working in Gloucestershire talking about the issues that matter most to them including waste.
GHG	Greenhouse Gases. A term given to those gas compounds in the atmosphere that reflect heat back toward earth rather than letting it escape freely into space. Several gases are involved, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, water vapour and some of the chlorofluorocarbons
HM Guidance	HM Treasury Value for Money Assessment Guidance.
GWP	Gloucestershire Waste Partnership. The seven waste authorities (6 WCAs and the WDA) within Gloucestershire. The partnership is a mix of waste officers, senior officers and county/district councillors.
HM Treasury	Her Majesty's Treasury.
HM Treasury's Value for Money Assessment Guidance	See www.hm-treasury.gov.uk/media/4/4/vfm_assessmentguidance061006opt.pdf
HRC	Household Recycling Centre.
ICE	Institute of Civil Engineers.
IFRS	International Financial Reporting Standards. They are a set of accounting standards. Currently they are issued by the International Accounting Standards Board (IASB). Many of the IFRS standards developed from the older International Accounting Standards (IAS) and while IAS are no longer produced, they are still in effect unless replaced by an IFRS.

Indifference Points	The point at which an authority would be indifferent between two options as they offer equal value for money.
IRR	Internal Rate of Return. This is a capital budgeting metric used by firms to decide whether they should make investments.
ISDS	Invitation to Submit Detailed Solution.
ISOS	Invitation to Submit Outline Solution.
ISRS	Invitation to Submit Refined Solutions.
IVC	In-vessel Composting. The aerobic decomposition of shredded and mixed organic waste within enclosed container, where the control systems for material degradation are fully automated. Moisture, temperature, and odour can be regulated, and a stable compost can be produced much more quickly than outdoor windrow composting.
JIB	Joint Improvement Board. This is a high-level strategic board including Chief Executives and Leaders of all seven local authorities in Gloucestershire.
JMWMS	Joint Municipal Waste Management Strategy. The strategy sets out the county's current position, and the aims, objectives and future plans of the Gloucestershire Waste Partnership regarding management of MSW in the county up to 2020.
LAA	Local Area Agreement. The agreement between stakeholders and government on key priorities for a local area, including setting targets such as recycling performance.
LATS	Landfill Allowance Trading Scheme. This was implemented by the Waste and Emissions Trading (WET) Act 2003. A scheme where waste disposal and unitary authorities are allocated annual allowances of BMW that can be sent to landfill. Authorities can meet their allowance through diversion of BMW or by banking, borrowing or trading allowances. Authorities that do not meet their allowance will be liable to a penalty of £150 per tonne of waste landfilled over their annual allowance of BMW.
LAWDC	Local Authority Waste Disposal Company.
m	Million.
MAA	Multiple Area Agreement.
M-BEAM	A LATS modelling instrument developed by Defra.
MBT	Mechanical Biological Treatment. MBT systems combine the mechanical sorting/separating of materials for recycling and the biological treatment, such as composting, of the remaining waste that will have a higher organic content.

MCA	Multi-criteria assessment.
MRF	Materials Recycling Facility/Materials Recovery A dedicated facility for the sorting/separation of recyclable materials.
MSW	Municipal Solid Waste. Predominantly household waste and some commercial waste that is collected by, or on behalf of, the WCAs. It also includes other wastes such as construction and demolition waste received at the Household Recycling Centres and street sweepings.
MTFS	Medium Term Financial Strategy of GCC.
MWDF	Minerals and Waste Development Framework. A suite of minerals and waste related planning documents, including a Local Development Scheme, a Statement of Community Involvement, an Annual Monitoring Report, Supplementary Planning Documents and Development Plan Documents.
MWDS	Minerals and Waste Development Scheme. A scheme which sets out the timetable for preparing the MWDF and the documents intended to be produced.
NAO	National Audit Office.
NI	National Indicators.
NPC	Net Present Cost.
NGO	Non-government organisation.
O&M	Operating and Maintenance. This is a type of contract.
OBC	Outline Business Case.
OGC	Office of Government Commerce.
OHiO	Own House in Order. This is a GCC project that covers a range of activities that contribute to “getting our own house in order” within GCC to improve its waste related environmental performance.
OJEU	Official Journal of the European Union.
OpEx	Operating expenditure.
Optimism Bias	A systematic tendency to underestimate project costs by the public sector.
Output Specification	Definition of service requirements included in PFI Contract, which are output based.
PB	Prudential Borrowing. Under PB local authorities are free to raise finance

	for capital expenditure - without government consent - where they can afford to service the debt without government support. There are reserve powers for government to set limits on borrowing and credit, but these would be used only in exceptional circumstances.
PFI	Private Finance Initiative. This is a procurement route used in central and local government. In projects procured by local authorities, the capital element of the funding enabling the local authority to pay the private sector for these projects is given by central government in the form of what are known as PFI "credits".
PFI Credits	PFI credits are a measure of the private sector investment that will be supported from central government.
PID	Project Initiation Document.
PPP	Public Private Partnerships. These are arrangements typified by joint working between the public and private sector.
PPS10	Planning Policy Statement 10.
PQQ	Pre-Qualification Questionnaire. Initial questionnaire in the procurement process, seeking information about a company such as financial status, legal compliance, customer base, policies and procedures, etc.
PRG	Project Review Group.
PRG's criteria	These criteria, which waste projects must meet to be considered for PFI credits, as listed in Appendix B.
Project Agreement	Suite of documents effecting contract close.
PSC	Public Sector Comparator. Known as Conventional Procurement. –
PUK	Partnerships UK.
Pyrolysis	The heating of waste in a closed environment (i.e. in the absence of oxygen) to produce char and syngas which can be combusted or used directly as a fuel.
RDF	Refuse-Derived-Fuel. A fuel produced from combustible waste that can be stored and transported, or used directly on site to produce heat and/or power. (Also see SRF).
Reference Project	The technical solution selected as the basis for establishing the operational and financial deliverability of the project. This is a model of a hypothetical residual waste technology solution and is at the heart of the OBC. Whilst the Reference Project defines an actual technology type (so that the model can have some real-world meaning and credibility), it does not necessarily represent an authority's preferred solution.
Residual	The elements of the waste stream that remains after recycling or

Waste	compostable materials have been separated or removed.
Residual Waste Project	The project GCC is undertaking to secure a long term residual waste solution for the County.
RO	Renewables Obligation. Introduced in 2002 by the Department of Trade and Industry, this system creates a market in tradable renewable energy certificates, for which each supplier of electricity must demonstrate compliance with increasing Government targets for renewable energy generation.
ROC	Renewables Obligation Certificate. Eligible renewable generators receive Renewable Obligation Certificates (ROCs) for each MWh of electricity generated.
ROTATE	Recycling and Organics Technical Advisory Team. This is a free advisory service that provides advice to local authorities (in England and Northern Ireland) on their collection programmes and on their local communications and awareness programmes for kerbside and bring schemes and household waste recycling centres.
RPI	Retail Price Index.
RSG	Revenue Support Grant.
RSS	Regional Spatial Strategy. Its main purpose is to provide a long term land use and transport planning framework for the Region (the South West).
RWPP	Residual Waste Procurement Plan. GCC's overall plan for the procurement of facilities to enable sustainable management of residual waste.
SCI	Statement of Community Involvement. The SCI sets out how all 'stakeholders' will be engaged and consulted during the process of plan preparation and during the consideration of planning applications.
SEA	Strategic Environmental Assessment. A high level, strategic assessment of local development documents and other programmes that are likely to have significant effects on the environment.
Shadow Bid Model	A model prepared at the OBC stage using the same principles a bidder will use to price its bid.
SoPC4	Standardisation of PFI Contracts - Version 4. This provides guidance on the key issues that arise in PFI projects in order to promote commercially balanced Contracts and enable public sector procurers to meet their requirements and deliver best value for money. Version 4 updates the guidance to take into account new legislation and developments in the PFI market.
SPD	Supplementary Planning Document.

SPV	Special Purpose Vehicle.
SRF	Solid Recovered Fuel. RDF meeting a standard specification, currently under development by a CEN standards committee The biomass component of SRF is typically in excess of 50%. It is similar to RDF but is recognised by industry as being of better quality.
Status Quo	Business as usual. Continuing to landfill all untreated residual waste.
STM	Shadow Tariff model.
SWRA	South West Regional Assembly.
TUPE	Transfer of Undertaking (Protection of Employment) Regulations 2006.
UA	Unitary Authority.
UC	Unitary Charge. The annual payment made to the PFI contractor for undertaking the services within the PFI contract.
VfM	Value for Money.
WCA	Waste Collection Authority. District Council (in two tier areas) with responsibility for waste collection from each household in its area. WCAs also have a duty to prepare and publicise waste recycling plans and strategies.
WCS	Waste Core Strategy. A strategic Development Plan Document providing an overarching framework for the sustainable management of waste.
WDA	Waste Disposal Authority. County Council (in two tier areas) with responsibility for safe disposal of all waste arisings in a particular geographical area.
WET	Waste and Emissions Trading Act (WET) 2003.
WEEE	Waste Electrical and Electronic Equipment.
Wider Project Team	The wider team who will be involved in Residual Waste Project on an ad hoc basis. This includes officers within GCC, but outside of the Core Project Team.
WIDP	Waste Infrastructure Development Programme.
WLP	Waste Local Plan. A waste planning document that balances the need for facilities to handle MSW, commercial, industrial and construction/demolition waste with the environmental, social and economic implications of its management and disposal. This system is being replaced by DPDs.
WoEP	West of England Partnership. The partnership consists of the unitary authorities of Bristol City Council, Bath and North East Somerset

	Council, South Gloucestershire Council and North Somerset Council. The Councils are working together to create an efficient way to use resources for services and facilities which cross local authority boundaries.
WPA	Waste Planning Authority.
WPB	Waste Project Board. This body was formed to make the necessary decisions during the Residual Waste Project; this includes signing off of reports and stages of the project as it progresses. The WPB consists of GCC key cabinet members and senior officers.
WRAP	Waste & Resources Action Programme.
WRATE	Waste and Resources Assessment Tool for the Environment. This is a 'Life Cycle Assessment' (LCA) software tool for comparing different management systems treating MSW.
WSE 2007	Waste Strategy for England 2007.
4Ps	Public Private Partnerships Programme. 4ps works in partnership with all local authorities to secure funding and accelerate the development, procurement and implementation of PFI schemes, public private partnerships, complex projects and programmes.

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1 Executive Summary

1.1 Introduction

1.1.1 Following approval of its Expression of Interest, Gloucestershire County Council (GCC) is submitting its Outline Business Case (OBC) to the Waste Infrastructure Development Programme (WIDP) for Private Finance Initiative (PFI) credits to support the implementation of GCC's long-term residual waste treatment solution.

1.1.2 This document presents GCC's OBC for the development of capital and investment in waste management services in the county of Gloucestershire.

1.1.3 In accordance with Defra guidance, the OBC has been developed around a reference residual waste technology, to enable costs to be evaluated, and is located on a reference site. Consistent with Defra guidance, the proposed approach for procurement will be that GCC adopts the principle of a neutral stance on both technology and sites; in order to encourage competition and ensure that the most environmentally sustainable and affordable solution is identified.

1.1.4 The Reference Project encompasses the services associated with managing Municipal Solid Waste (MSW) (this includes household waste and other wastes that are collected by, or on behalf of, a local authority) including transfer, recycling, composting, the treatment of residual waste (recovery) and landfill disposal, but not collection. Waste collection continues to be the responsibility of the Waste Collection Authorities (WCAs) and although collection schemes are considered in the Reference Project, these services are not included in the residual waste contract.

1.1.5 Whilst the reference technology is Energy from Waste (EfW) with the ability to provide Combined Heat and Power (CHP), GCC is keen to ensure that the procurement process encourages the submission of a full range of technology solutions, including but not limited to the list of technology solutions approved by GCC's Cabinet in October 2007.

1.1.6 The reference site suitable for the delivery of a residual waste solution has been selected by carrying out a comparative site assessment using criteria based on PPS10, regional guidance and local planning policy. The study ranked the sites based on planning criteria and deliverability criteria.

1.1.7 The Gloucestershire Joint Municipal Waste Management Strategy (JMWMS) includes targets for achieving recycling and composting levels of 60% of household waste by 2020, 10% higher than the national target. However this still leaves an estimated 175,000 tonnes of non recycled waste (in 2040) that requires some form of treatment to divert this waste from landfill (residual waste).

1.1.8 The strategic aims and objectives of the Reference Project mirror those set in the JMWMS and are designed to meet and exceed statutory obligations for recycling and composting and the diversion of MSW from landfill to meet the Landfill Allowance Trading Scheme (LATS) targets. The following sections of this Executive Summary provide: the context for change, GCC's previous PFI

experience, an overview of our JMWMS and our Residual Waste Procurement Plan (RWPP); the options considered; the components for our long-term and interim solutions, risk management, stakeholder engagement, governance arrangements and the basis for GCC's OBC.

1.1.9 GCC is submitting this OBC with support from Cabinet, and the Waste Project Board (WPB), which is composed of key cabinet members and chief officers.

1.2 Background

1.2.1 Details of Key Characteristics of Area Profile

1.2.1.1 Gloucestershire is located within the northern extremity of the South West of England. Gloucestershire is bounded by Monmouthshire to the west, Herefordshire, Worcestershire and Warwickshire to the north, Oxfordshire to the east and Wiltshire and South Gloucestershire to the south.

1.2.1.2 The county is substantially rural in nature with the main urban development in Cheltenham and Gloucester. The main east/west road is the A40. The green and rural landscape is a key county asset; Areas of Outstanding Natural Beauty (AONB) account for 51% of the county area.

1.2.1.3 The county supports a population of about 580,000. While the population is growing at a relatively steady rate, the number of households has been growing at twice the rate, reflecting the trend toward smaller household sizes.

1.2.1.4 Much of the movement of people into Gloucestershire reflects the prosperity and strength of the local economy, bringing with it associated job creation. For many years, unemployment in the county has been only around two-thirds of the national average.

1.2.1.5 Gloucestershire is a county with a two-tier system of local authority administration. GCC is the Waste Disposal Authority (WDA) and there are six district councils who are the Waste Collection Authorities (WCAs); collectively known as the 'Gloucestershire Waste Partnership'.

1.2.2 Analysis of Waste Arisings

1.2.2.1 Total MSW arisings in 2006/7 were about 324,000 tonnes, of which household waste accounted for 300,000 tonnes. Historically, growth in MSW arisings has risen by about 3% per year. .

1.2.2.2 During the last 3 years, recycling and composting rates have steadily increased resulting in a reduction in residual waste being landfilled. Recycling and composting rates have risen from 30% to 36% in 2007/8, an increase of 6%.

1.2.2.3 However it is forecast that with the implementation of waste minimisation schemes and government initiatives that waste growth at the household level can be reduced to zero by 2020. GCC plans to reduce residual waste arisings

in line with the targets set out in the National Waste Strategy for England 2007.

1.2.3 Details of Current Waste Arrangements for Collection and Disposal

1.2.3.1 Gloucestershire's WCAs are responsible for the collection of household waste and recyclable materials. The WCAs also provide recycling facilities for segregated material in the form of bring banks. One WCA (Cheltenham) manages its own HRC.

1.2.3.2 There is some commonality in the way that dry recyclables are collected by the WCAs in Gloucestershire. Each WCA provides a kerbside recycling service for paper, glass and cans, which are manually sorted at the kerbside. Some collect additional materials such as plastic bottles, textiles and batteries. Five WCAs have introduced kerbside garden waste collection schemes, although the service varies: three schemes offer a free service and the remaining two charge for the service.

1.2.3.3 Each WCA provides a weekly collection of residual waste in black bags or in wheeled bins but moves towards the fortnightly collection of residual waste are being considered by some of the WCAs. In parallel, some of the WCAs are introducing kerbside food waste (compostable food) collections in 2008.

1.2.3.4 To manage the current waste arisings within the county, GCC's contractors use a number of existing facilities throughout the county. The waste disposal service currently comprises:

- five Household Recycling Centres;
- four windrow composting sites;
- two transfer stations;
- two landfill sites;
- WEEE (Waste Electrical and Electronic Equipment) and ELFFs (End of Life Fridges and Freezers) storage and recycling; and
- a number of other ancillary facilities.

1.2.3.5 GCC has two waste management contracts in place; a disposal (landfill and composting) contract and a HRC contract.

1.2.4 Performance of Existing Services

1.2.4.1 Recycling performance in Gloucestershire has improved in recent years rising from 16% in 2004/5 to 19% in 2006/7. Better collection services in the districts including widening the range of recyclables collected separately and sorted at the kerbside as well as a good coverage of bring banks has contributed to this improvement. Composting of collected household garden waste has rapidly increased from 8% in 2004/5 to 14% in 2006/7, and has made a major contribution to the total recycling and composting performance in recent years. Combined, the county's recycling and composting rate increased 9% in

three years to 33% in 2006/7. The recycling and composting rate for 2007/8 has increased again, by 3%, to 36%.

1.2.4.2 In the future, other service improvements such as the introduction of alternate weekly collections (to boost recycling rates), food waste collections and a continually improving waste minimisation programme (real nappies, home composting, smart shopping, and promotion of voluntary sector initiatives) will help push up recycling rates further.

1.2.4.3 Reliance on landfill as a method of disposal of MSW has declined in recent years. Through service improvements more waste has been diverted from landfill and hence in turn less Biodegradable Municipal Waste (BMW) has been landfilled

1.3 Strategic Waste Management Objectives

1.3.1 The Joint Municipal Waste Management Strategy

1.3.1.1 The Joint Municipal Waste Management Strategy (JMWMS) has been produced to comply with the Waste and Emissions Trading Act 2003, which requires two-tier authorities to produce a joint strategy for waste management. The JMWMS determines how MSW will be managed in Gloucestershire up to 2020, and replaces the existing strategy published in April 2002.

1.3.1.2 The JMWMS was developed by the Gloucestershire Waste Partnership (GWP), a partnership between the seven Gloucestershire waste authorities. The JMWMS aims to push recycling and composting to a minimum of 60% by 2020, 10% higher than the National Waste Strategy 2007. The JMWMS has been subject to formal public consultation and has been adopted by all seven authorities

1.3.2 Waste Minimisation

1.3.2.1 The JMWMS recognises that further growth in Gloucestershire's MSW arisings is not sustainable; both environmentally and financially. Complementary to the new National Waste Strategy for England 2007 objectives, the JMWMS sets out two key objectives aimed at tackling waste growth ("Reduction First") and consumer behaviour and society's attitude to consumption and disposal ("Changing Behaviour"). To facilitate this, a range of waste minimisation and re-use initiatives are/will be pursued.

1.3.3 Recycling and Composting

1.3.3.1 The JMWMS's overarching objective is to achieve a minimum of 60% recycling and composting in Gloucestershire by 2020. The Local Government Association has also agreed a recycling and composting vision where it is the intention that every householder has the "opportunity" to recycle and compost at least 70% of their waste through the provision of collection services. To

facilitate this, a range of waste minimisation and re-use initiatives are being pursued.

1.3.3.2 Targets have been set through the JMWMS for recycling and composting that coincide with the target years set out in the National Waste Strategy for England 2007 as seen in Table 1.1 below. Under the Local Area Agreement the 2009/10 target has been set at 48%.

Table .1.1 : Comparison of the National Waste Strategy and the JMWMS targets and anticipated Reference Project recycling and composting rates.

Year	National Waste Strategy	Gloucestershire JMWMS 2007	LAA Targets (Based on NIs)	Reference Project
	%	%	%	%
2009/10	40	40	48	42
2014/15	45	50	-	53
2019/20	50	60	-	60

(Source: GCC and Entec)

1.3.4 Landfill Objectives

1.3.4.1 To date, GCC has successfully benefited from recycling and composting initiatives to mitigate its LATS exposure. GCC believes there will be a LATS deficit from 2009/10. GCC is prepared to use a LATS trading strategy if it is a lower cost to the authority, than an interim solution. Table 1.2 below demonstrates the GCC waste arisings, its LATS targets, a forecast of BMW sent to landfill and details whether GCC will meet or exceed its allowance ("+" indicates GCC exceeding its allowance).

Table 1.2 Key Years for LATS allowances, the predicted level of BMW that will be sent to landfill.

Year	LATS allowance	BMW sent to Landfill	Difference (BMW landfilled compared to allowance)
	Tonnes	Tonnes	Tonnes
2009/10	107,428	136,913	+29,485
2012/13	71,555	120,919	+49,364
2019/20	50,069	13,249*	-36,820*

** Based on GCC's residual waste facility becoming operational in 2015*
(Source: GCC)

1.3.5 Appraisal of Technology Options for Residual Waste Treatment

1.3.5.1 As part of the JMWMS process, the GWP carried out a detailed options appraisal for collection and disposal options. It was carried out by external consultants as part of the Local Authority Support Unit programme. A range of collection options were identified and assessed to determine optimal collection systems for Gloucestershire. In addition, five residual waste treatment options were assessed and it was determined that if markets for

products materialised, all options would assist the GWP to meet its LATS targets and divert MSW from landfill.

1.3.6 Environmental Impact

1.3.6.1 As part of the JMWMS, GCC has developed a Strategic Environmental Assessment (SEA) report. The SEA identified a number of objectives to highlight the impact of the JMWMS, including environmental, social and economic. The overwhelming impact of the strategy is positive, taking the county towards a more sustainable way of dealing with waste compared to 'do nothing'/continuing to landfill.

1.3.6.2 Corporately, GCC is developing a Climate Change Strategy. GCC as a whole is committed to reducing its carbon dioxide emissions by 10% by 2012 and by at least 2.5% year on year. Through diverting BMW from landfill, it has been recognised that GCC can make a difference, particularly if such waste is used in a more positive way, such as producing energy.

1.4 Procurement Strategy and Reference Project

1.4.1 Overall Strategy for Procurement

1.4.1.1 To provide the required services and infrastructure needed to deliver the JMWMS for Gloucestershire, GCC has developed and is in the process of delivering its procurement strategy.

1.4.1.2 Following the termination of the PFI project GCC has pursued a disaggregated service procurement strategy and has already successfully let two major contracts.

1.4.1.3 The disposal (landfill and composting) contract was awarded to Cory Environmental (Gloucestershire) Ltd for the bulking, transfer, landfill, and windrow composting of organic waste. This contract expires in 2013 with an option to extend to 2018.

1.4.1.4 The HRC management contract was awarded to Environmental Waste Controls (EWC) in August 2006 and expires in 2016, with an option to extend to 2021. This contract has since been taken over by May Gurney.

1.4.1.5 The future services to be procured by GCC will provide the additional waste management infrastructure within the county to enable the JMWMS objectives to divert BMW from landfill, minimise the landfill of BMW and manage LATS risk to be met.

1.4.1.6 GCC is continuing negotiations with Cory Environmental for the delivery of an in-vessel composting (IVC) service. This will divert an extra 20,000tpa – 30,000tpa of food waste from landfill.

1.4.2 Interim Arrangements to meet LATS

1.4.2.1 If the procurement of the residual waste treatment service commences in October 2008, it is unlikely that a suitable facility will be commissioned prior to April 2015. This will leave about a five year potential LATS gap.

1.4.2.2 GCC has a limited number of options available to it to address this problem. These include LATS trading and export to merchant facilities. GCC has considered a LATS trading scheme as an interim solution and has already acquired some permits for the near future. GCC is prepared to purchase allowances to ensure compliance with the LATS.

1.4.2.3 GCC is in discussion with the West of England Partnership about the potential for partnering to procure an interim residual waste solution.

1.4.3 Rationale for Long Term Residual Treatment Procurement

1.4.3.1 Based on the Reference Project, it is estimated GCC will still generate approximately 175,000 tonnes of residual waste by 2040 even if recycling/composting rates meet the 60% target. Given the pressing LATS demands on GCC, and the strategic aim of moving away from landfill, GCC identified the need to find a way of managing its residual waste that is an acceptable, feasible, flexible, environmentally sustainable solution that ensures Value for Money.

1.4.4 Output Specification for the Project

1.4.4.1 GCC is using the DEFRA Waste Infrastructure Delivery Programme (WIDP) Output Specification (Consultation Draft) as the basis for its Output Specification.

1.4.4.2 The contractor will be required to design, build, finance and operate residual waste treatment capacity that will divert waste from landfill. Specifically, such capacity should provide a solution that is:

- full (rather than partial) and complete;
- deliverable;
- flexible;
- environmentally sustainable;
- optimal in materials and energy recovery; and
- Value for Money ("VfM") over the life for the contract.

1.4.4.3 Gloucestershire will also consider the acceptance of commercial waste from local businesses at the residual waste facility, as part of this contract. This is a sustainable approach and will support the local economy and job creation.

1.4.5 Long Listing of Technology Options

1.4.5.1 In accordance with the JMWMS, GCC has undertaken a detailed options appraisal of residual waste technology solutions. In this appraisal process GCC deliberately assessed 'whole systems' to ensure that the full process including outputs and markets were considered. This was based on GCC's requirement to deliver a complete and guaranteed technology solution.

1.4.5.2 GCC undertook a staged approach to appraising the technology scenarios reducing 34 technology scenarios to five using technology performance assessment and an appraisal of strategic issues.

1.4.5.3 On 10 October 2007, GCC Cabinet approved the five technology scenarios listed below.

- Energy from Waste with Combined Heat & Power (CHP).
- Mechanical Biological Treatment (MBT) producing a biologically stabilised material that is sent to landfill.
- Mechanical Biological Treatment (MBT) producing a fuel sent to a dedicated CHP.
- Autoclave producing recyclates and an active fibre fuel that is sent to a dedicated CHP.
- Advanced Thermal Treatment (ATT) with syngas used to produce electricity and recovery of heat energy (CHP).

1.4.6 Appraisal of Short-listed Options to Identify the Reference Project

1.4.6.1 From the second stage evaluation process it was clear that no single technology scenario was clearly superior to the rest. Indeed, it was found that the order of ranking was very sensitive to a number of technical input assumptions and the relative weightings applied to the various criteria.

1.4.6.2 Based on technical and financial modelling, the two best performing scenarios were MBT producing a Solid Recovered Fuel to feed a dedicated CHP and Energy from Waste (EfW) with Combined Heat & Power (CHP) (termed stand alone CHP). These technology scenarios were identified as having the potential to represent GCC's Reference Project. Further climate change impact modelling was undertaken on the two scenarios, and the stand-alone CHP option was the best performing technology scenario. It was therefore decided that stand alone CHP would be the most appropriate option to take forward as GCC's Reference Project.

1.4.7 Bankability of the Reference Project

1.4.7.1 The Reference Project utilises "conventional" moving grate technology in the Thermal Treatment process. Moving grate technology has a proven, long and comprehensive track record of delivering secure and reliable services over a typical life of a PFI contract. Costs are well understood, as are the durability of plant components and maintenance requirements. Recently closed PFI

Schemes using moving grate technology include the SITA's Cornwall PFI scheme. In addition, the funding structure of the Reference Project is typical of recent PFI funding structures comprising 85% senior debt and 15% equity. As such the project is seen as being bankable.

1.4.8 Conclusion

1.4.8.1 Whilst GCC anticipates the delivery of a suitable heat off-take, it is not clear at present what this might comprise of. Consequently it is conservatively assumed that no income is derived from such heat markets so as not to present an over-optimistic affordability profile of the Reference Project. Therefore, the Reference Project is based on EfW with the ability to convert to CHP when heat markets materialise.

1.4.8.2 As set out in Table 1.3, GCC's Reference Project modelling shows that a facility capacity of approximately 175,000tpa will be required by 2040. This is consistent with GCC meeting a 60% recycling and composting target by 2020. Due to issues such as scale, planning and deliverability risk we have modelled a Reference Project on one site. If however, a bidder chooses to propose dispersed facilities or a multi-technology approach, GCC would consider such an approach, against the criteria in the evaluation framework.

Table 1.3: The proposed Reference Project residual waste facility

Proposed Facility	Number of Proposed Facilities	Nominal Capital Expenditure	Capacity of Facility
Energy from Waste (potential for Combined Heat and Power)*	1	£139million	175,000 tonnes

**This represents GCC's Reference Project for the purpose of the OBC and does not define GCC's preferred approach.*
(Source: GCC)

1.5 Risk Management, Risk Allocation and Contractual Structures

1.5.1 Risk Management

1.5.1.1 Risk management is seen as a fundamental part of GCC's business planning process and GCC recognises the significance of identifying and mitigating risks associated with the delivery of waste management services and in particular the procurement and delivery of the residual waste contract.

1.5.1.2 A risk register has been developed for the Residual Waste Project, which holds a record of all current risks, foreseeable risks and opportunities. These are reviewed and monitored against the activities of the project.

1.5.1.3 GCC has identified and considered key project risks associated with the procurement of a residual waste treatment contract. The risks have been allocated to each party involved in the contract (council, contractor, shared) at

the outset of the procurement. The proposed allocation of risk will be negotiated with bidders during the procurement process.

1.5.1.4 GCC has also identified contractual and physical interfaces that need to be managed when providing the services and infrastructure in line with the JMWMS objectives.

1.5.2 Project Agreement and Other Contractual Documents

1.5.2.1 The procurement will be in accordance with the Public Contract Regulations 2006 using the competitive dialogue procedure and the Environmental Protection Act 1990. The project agreement will comply with the current version of Standardisation of PFI Contracts ("SoPC4") and the current waste sector derogations.

1.5.2.2 In addition to the current waste sector derogations, only derogations which represent value for money or are related to project specific issues will be accepted by GCC in close liaison with WIDP and Defra.

1.5.3 Payment Mechanism

1.5.3.1 The payment mechanism is both a method for payment and a way to incentivise performance. As such, the payment mechanism will be linked to the service outputs defined in the Output Specification and deductions will be applied when Output Specification standards are not achieved.

1.5.3.2 The payment mechanism will be supported by an effective performance-monitoring system to ensure performance meets the required standards.

1.5.3.3 GCC proposes to adopt the WIDP payment mechanism as a basis for its Residual Waste Project. The Core Project Team is planning a number of internal procurement workshops to draft the payment mechanism in detail for the ISDS stage of the Competitive Dialogue, following the published final guidance by Defra. This will be developed in conjunction with the Output Specification, performance management and monitoring system.

1.5.4 Performance Monitoring by the PFI Contractor

1.5.4.1 Unless there is an effective system of monitoring in place, it will not be possible to know how well the PFI contractor is performing or to know if payments and deductions are justified. It is important for the contract to be self-monitoring as far as possible so as to reduce the burden on GCC. It is anticipated GCC will be responsible for confirming the monitoring reports derived by the PFI contractor.

1.5.5 Markets for Process Outputs

1.5.5.1 As the selected Reference Project is a conventional energy from waste facility, the key process outputs are bottom ash, fly ash, electricity, and heat.

This is a proven and banked technology with well-developed and low-risk outlets for all of the above. GCC recognises that in CHP mode, reliable heat markets need to be established. GCC is exploring the viability of current and future heat off-takers within an economic distance from the reference site.

1.5.5.2 Given GCC's previous experience of such procurements GCC will only consider full and guaranteed solutions put forward during the procurement process. By-products will require a credible outlet market for the life of the project.

1.5.6 Balance Sheet Treatment

1.5.6.1 The PFI transaction is intended to be structured such that a sufficient balance of property related risks are transferred to the PFI contractor to enable the transaction to be treated as off balance sheet by the public sector and meet the current criteria for PFI support.

1.6 Project Team and Governance

1.6.1.1 Robust project management and governance arrangements for the Residual Waste Project have been developed and approved by the Project Sponsor, in consultation with the Waste Project Board (WPB).

1.6.1.2 GCC previously undertook a waste PFI procurement which was successfully managed up to Best and Final Offer stage. Lessons learnt from this PFI procurement have been used to develop the current governance arrangements and influenced the improvement of in-house expertise.

1.6.2 Governance Arrangements

1.6.2.1 For the purposes of the Residual Waste Project, the Waste Project Board has been set up and Budget and Performance Scrutiny Committee has been allocated to carry out the overview and scrutiny of the project. GCC also has plans to set up three stakeholders groups; a Key Stakeholder Group, a Customer Focus Group and a Site Specific residents group.

1.6.2.2 On 23 April 2008, Cabinet approved the submission of the OBC in pursuance of PFI credits to support the delivery of the Residual Waste Project. The final version of the OBC was approved by the Group Director Environment in consultation with the Lead Cabinet Member, under her delegated power and the Final Business Case is likely to be approved the same way.

1.6.2.3 Final approval to entering into the contracts with the successful bidder will be decided by Full Council because the implications will be outside the budget already approved by Full Council.

1.6.3 Project Management

1.6.3.1 GCC has established the WPB which is based on good practice of PRINCE2, GCC Project Management methodology and WIDP guidance for PFI and PPP projects and lessons learned from the previous Waste PFI procurement.

1.6.3.2 The overall purpose of the WPB is:

- Responsibility for the overall management of the Residual Waste Project including update reports when necessary to Cabinet, Chief Executive, and members of Gloucestershire Overview Scrutiny Management Committee.
- Engagement with the Budget and Performance Scrutiny Committee and other stakeholders including the Gloucestershire Waste Partnership.
- To oversee monitoring and expenditure and the management of business risks.

1.6.3.3 The Project Sponsor provides overall ownership and leadership for the project. The Project Sponsor is the person who is ultimately responsible for the successful delivery of the project. The Project Lead plays a key role in directing and delivering the Residual Waste Project. The appointment of this full time post is currently underway.

1.6.3.4 GCC has built up a Core Project Team so that during the procurement, GCC can internalise advice (technical/legal/financial), and enhance organisational learning and reduce costs to GCC in the long term. The team now includes legal, financial, technical, and project management expertise, and is supported by external advisors (technical, legal, financial and property).

1.6.3.5 Other interests from the county council and district councils may be brought into the project from time to time as required.

1.6.4 Outline of Partnership Agreements with other WDAs

1.6.4.1 GCC has undertaken discussions with each of its neighbouring authorities regarding the possibility of any joint working opportunities. From the discussions it was clear that the other authorities are either at a different stage in their residual waste projects to us, or other circumstances are prevalent which prevent further consideration of partnership opportunities at the current time.

1.6.4.2 Large-scale waste procurement is a complex undertaking, made more so when a number of stakeholders are involved. Increasing this complexity unnecessarily would not, in Gloucestershire's case, be value for money.

1.6.4.3 GCC is currently in discussion with the West of England Partnership about jointly procuring interim residual waste capacity to assist meeting our LATS targets. GCC and the Partnership are progressing this with the expectation that the procurement will commence in summer 2008.

1.6.5 District Involvement

1.6.5.1 Gloucestershire has a long history of successful partnership working between the seven authorities (the GWP). The GWP has a role for setting the strategic lead for waste management and monitoring performance against actions and targets from the JMWMS and will be a key stakeholder for the Residual Waste Project.

1.7 Sites, Planning and Design

1.7.1 Site Identification

1.7.1.1 An integral part of the Residual Waste Project is the identification and acquisition of a suitable site for a residual waste facility. Land availability is identified as a key risk for the delivery of new waste infrastructure.

1.7.1.2 In February 2007, GCC commissioned consultants to carry out a 'Comparative Site Assessment for a Strategic Waste Management Facility'. This detailed comparative site assessment study reviewed the planning and deliverability of ten sites throughout Gloucestershire. The overall conclusion of the study was that a strategic site, known as Javelin Park, to the south of Gloucester allocated in the Waste Local Plan performed best against the average weighted score for the planning and deliverability criteria.

1.7.2 Securing a Site

1.7.2.1 GCC is negotiating with the owners of Javelin Park for the purchase of 12 acres.

1.7.2.2 Cabinet has agreed in principle that the land could be acquired using its compulsory purchase powers once sufficient preparations have been made. In addition, GCC continues to review other sites identified in the Comparative Site Assessment study.

1.7.3 Planning Health Framework

1.7.3.1 GCC is in the process of completing the planning health framework and is considering how GCC plans to address how the emerging Development Planning Documents will be managed in parallel with the Residual Waste Project.

1.7.4 Design Issues

1.7.4.1 GCC will ensure that the Waste Core Strategy, in particular, the Supplementary Planning Documents, will be taken into account during the development of the Output Specification and subsequent method statements.

1.7.4.2 GCC, in its role as a developer, has adopted a sustainability matrix for construction projects. The matrix is intended to be used as a checklist for building consultants and guides them on how GCC approaches the need to construct buildings sustainably. It can also form the basis by which GCC measures continual improvement: project on project, year on year.

1.7.4.3 In general terms, as well as seeking to optimise GCC's environmental performance in building projects through the Supplementary Planning Document and the sustainability matrix, GCC will also have regard to official guidance such as the OGC's "Achieving Excellence in Construction" and guidance available from CABE and WRAP. GCC will also adhere to emerging Defra guidance specifically aimed at ensuring the highest design quality for waste management facilities.

1.8 Costs, Budget and Finance

1.8.1 Cost of the Reference Project using Private Finance and Status Quo

1.8.1.1 Having defined the Reference Project in section 4, this section considers:

- The estimated cost of the Reference Project utilising private sector finance, calculated through the use of a Shadow Tariff Model (STM);
- The cost associated with the disposal of residual waste (landfill gate fees and landfill tax) and LATS, principally incurred in the period prior to the commencement of operations on 1 April 2015;
- The ongoing waste management disposal costs that are that are incurred by the WDAs, in order to show the total cost of waste disposal service; and
- The costs associated with the 'Status Quo' option.

1.8.1.2 Table 1.4 below sets out the costs associated with the Reference Project and the Status Quo option.

Table 1.4 Cost of Reference Project v Status Quo

Cost Element	Reference Project (£000)	Status Quo (£000)
Unitary Charge	646,057	0
Landfill Costs	187,927	905,643
LATS Costs	12,904	42,540
Non PFI/Landfill Costs*	532,463	496,442
Total Global Reference Project Cost	**1,379,350**	**1,444,625**

(Source: Ernst & Young)
** Note: The "Non PFI/Landfill Cost" is the cost to GCC of operating all waste disposal services such as Household Recycling Centres that do not form part of the PFI contract to treat residual waste)*

1.8.1.3 The table above demonstrates that the cost saving to GCC of implementing the Reference Project, rather than maintaining the Status Quo, is circa £65 million, based on the Low Impact LATS trading profile assumptions (excluding consideration of the PFI Credit Revenue Support Grant). The saving that would be made based on the High Impact LATS profile, is circa £247 million (£1,641 million - £1,394 million, excluding consideration of the PFI Credit Revenue Support Grant).

1.8.2 Value for Money

1.8.2.1 This report assumes that Defra has already undertaken a Stage 1 programme level assessment for waste procurements, concluding that PFI is likely to deliver Value for Money (VfM). The OBC details the Stage 2 project level assessment aimed at verifying whether this initial conclusion to use PFI is valid for Gloucestershire.

1.8.2.2 Following the approach as outlined in the updated HM Treasury VfM Assessment Guidance (the Guidance), as issued in November 2006 and the "Supplementary VfM Guidance for Waste PFI" prepared by Partnerships UK (PUK) for Defra in September 2005, the project level assessment has considered both quantitative and qualitative factors. The quantitative analysis uses a prescribed methodology and electronic spreadsheet provided by Treasury to determine whether PFI represents indicative Value for Money when compared to Conventional Procurement (CP).

1.8.2.3 The qualitative assessment produced a clear indication that, in terms of viability, desirability and achievability GCC is well positioned to deliver a PFI procurement for the Reference Project. The quantitative assessment also produces an indicative PFI VfM percentage of 20.08%. This means that the estimated Net Present Cost (NPC) is estimated to be 20% less under the PFI procurement when compared to the estimated NPC under conventional procurement using the HM Treasury vfm model. These assessments provide the indication that verifies the outcome of the programme level assessment that PFI can deliver VfM for the Reference Project.

1.8.3 Calculation of the PFI Credit and Revenue Support Grant

1.8.3.1 In accordance with the current guidance from the Waste Infrastructure Delivery Programme (WIDP) and Partnerships UK, the calculation of the PFI Credit has been undertaken in accordance with Version 3.1 – January 2008 of the WIDP OBC Template. Specific financing assumptions are required by WIDP for the calculation of the PFI Credit, in order to ensure consistency between projects applying for PFI Credits. These requirements have been used in the Reference Project STM. Under this guidance, the PFI Credit for the Reference Project has been calculated as circa £92 million.

1.8.3.2 The calculation of the Revenue Support Grant (RSG), generated from the PFI Credit has been calculated in accordance with the Local Authority PFI Grant Reform that came into force in April 2005, as updated by "Local Government

PFI Annuity Grant Determination (No.2) 27 September 2005". The RSG equates to annual grant payments over the 25 year operational life of the Reference Project of circa £6.9 million, resulting in total revenue support of circa £171 million over the 25 year operational period commencing in the year ending 31 March 2016.

1.8.4 Affordability Analysis

1.8.4.1 In order to assess GCC's Affordability Gap, the total cost of the waste disposal service (referred to as the Global Reference Project cost) has been compared to GCC's projected budget. Table 1.5 below shows the affordability gap for the Global Reference Project, taking into account the Revenue Support Grant provided by the PFI Credit.

Table 1.5 Affordability Gap analysis – Low Impact LATS profile

Nominal Cost	Year 5 2012/13 (£000)	Year 6 2013/14 (£000)	Year 7 2014/15 (£000)	Year 8 2015/16 (£000)	Year 9 2016/17 (£000)	32 Year Total (£000)
Unitary Charge	0	0	0	21,554	21,847	646,057
Landfill Costs	17,455	20,179	21,470	1,816	1,972	187,927
LATS Costs	4,083	3,461	2,862	0	0	12,904
Non PFI/Landfill Costs	9,583	10,127	10,703	12,219	12,762	532,463
Total Global Reference Project Cost	**31,121**	**33,767**	**35,034**	**35,589**	**36,581**	**1,379,350**
RSG Payment	0	0	0	6,569	6,857	171,419
Total Global Reference Project Cost net of RSG	**31,121**	**33,767**	**35,034**	**29,020**	**29,724**	**1,207,931**
Projected Budget	17,247	17,678	18,120	18,573	19,037	752,342
Affordability Gap	**13,874**	**16,089**	**16,914**	**10,447**	**10,687**	**455,589**

(Source: Ernst & Young)

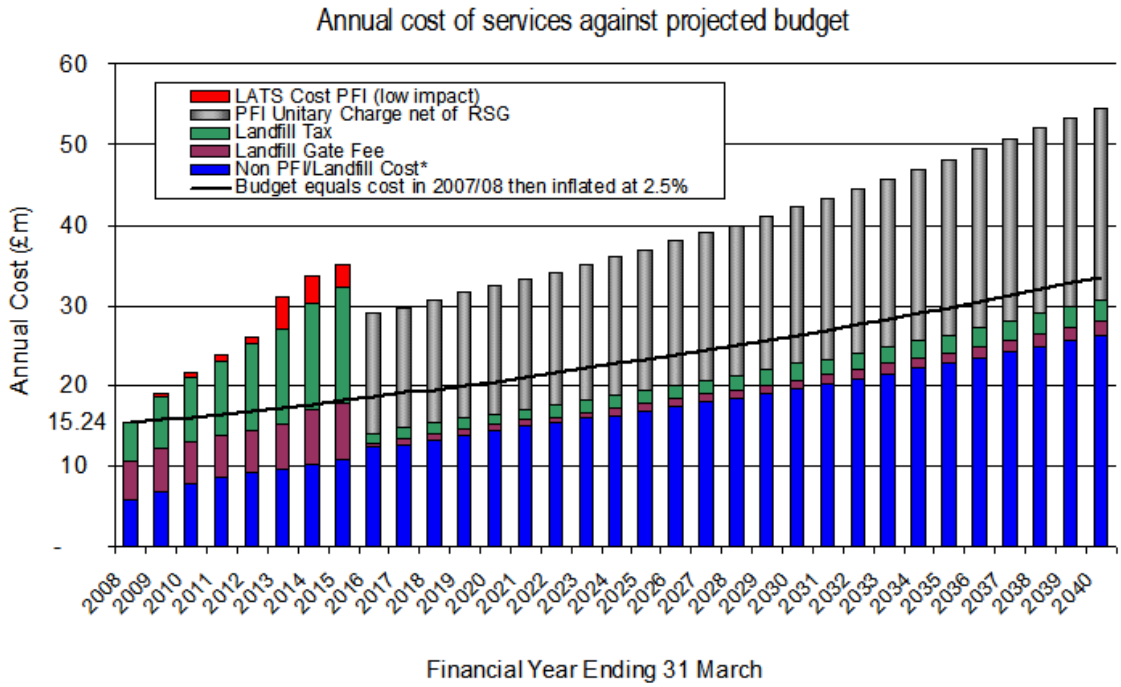
1.8.4.2 The table above shows that GCC is facing an affordability gap for the Reference Project of circa £456 million (in nominal terms) over the 32 year period, using the Low Impact LATS trading profile. The affordability gap in year 5 (1st year of construction in 2012/13) between the Reference Project and the projected council budget is circa £14 million.

1.8.4.3 Under the High Impact LATS profile, GCC would face an affordability gap of circa £470 million (the increase in LATS cost between the low and high profiles, payable only in the period prior to operations, is circa £14 million).

GCC is committed to finding the required additional resources to make the Residual Waste Project affordable over the life of the contract. This has been demonstrated by the approval of this OBC by Cabinet on 23 April 2008 following a detailed assessment of the financial implications of the Reference Project by the Waste Project Board and the Chief Finance Officer.

1.8.4.4 Figure 1.1 below sets out the affordability gap of the Global Reference Project over 32 year period.

Figure 1.1 Affordability Gap over the 32 year period



(Source: Ernst & Young)
*(*The "Non PFI/Landfill Cost" is the cost to GCC of operating all waste disposal services such as Household Recycling Centres that do not form part of the PFI contract to treat residual waste, but is necessary to consider the Global Reference Project cost)*

1.8.5 Affordability Gap Range

1.8.5.1 GCC has an estimated Affordability Gap Range of between circa £456 million and circa £605 million over 32 years. This is based on the Global Reference Project and assumes a waste contract budget of circa £752 million over the 32 year period.

1.8.5.2 Further to being presented with this information on 23 April 2008, the members of GCC approved that GCC proceed with the PFI procurement on the basis of a £456m to £605m affordability range and confirmed it is committed to meeting this affordability gap.

1.9 Stakeholder Communications

1.9.1 Communications & Engagement Strategy

1.9.1.1 In September 2007 the WPB reviewed and endorsed the Residual Waste Procurement Communications and Engagement Strategy designed to assist GCC through the procurement and planning process and to aid delivery of major new waste facilities. This strategy was then used as the basis for a detailed residual waste communications plan. The plan, reviewed by WPB (March 2008), focuses on informing, engaging and consulting with all stakeholders identified in the strategy and additional stakeholders that have been identified since.

1.9.2 Market Interest

1.9.2.1 One of the most significant challenges of such a procurement project is to attract and retain sufficient competition throughout the Residual Waste Project to obtain a higher standard of solution and better value bids to ensure that the GCC provides Best Value for Gloucestershire.

1.9.2.2 GCC needs to promote the Gloucestershire project to prospective bidders, ensuring that it is sufficiently attractive to ensure a highly competitive procurement. GCC decided to consult with the waste industry through a soft market testing exercise. GCC spoke individually with 22 waste management companies to gain a better understanding of the market and what makes an attractive procurement. GCC found the exercise to be very beneficial and came away with clear messages and issues to consider from the waste industry. GCC intends to maintain as much contact as possible with the waste industry over the coming months, in the lead up to procurement.

1.9.3 Other Relevant Authorities

1.9.3.1 All seven Gloucestershire authorities have developed the JMWMS, of which GCC's Residual Waste Project falls within, and includes the delivery of a residual waste treatment solution. District council members and officers have been kept up-to-date with the Residual Waste Project via the GWP. The GWP has also been identified as a key stakeholder for the consultation and engagement element of the residual waste communications plan. District councils have also been engaged individually, as requested.

1.9.3.2 Parish councils in close proximity to the preferred site, district members and officers and county members and officers have also been invited to visit residual waste facilities as part of the engagement process.

1.9.4 Public Consultation

1.9.4.1 Extensive public consultation was carried out as part of the development of the JMWMS. Consultation on the JMWMS included workshops with various stakeholders, the Great Gloucestershire Debate and the formation of a community panel who assisted with the development of the criteria used to evaluate potential residual waste treatment technologies.

1.9.4.2 The Waste Planning Authority has also carried out extensive consultation in the preparation of the Waste Local Plan (which was adopted in 2004). Consultation on emerging GCC's Minerals and Waste Core Strategy Preferred Options has recently finished. Effort was made to ensure that stakeholders identified for both this strategy and the Residual Waste Project, were cross-referenced and consolidated.

1.9.4.3 Moving forward, GCC is planning to carry out further consultation and engagement as part of the forthcoming residual waste communications plan. In May 2008, GCC will begin a two phase consultation process with all stakeholders, using various methods. The consultation will focus on aspects of the Output Specification and the evaluation criteria, building on the work carried out with the community panel (used as part of the JMWMS consultation). As part of the forthcoming communication programme, local stakeholder groups will be invited to take part in workshops to develop the Output Specification and evaluation criteria for the PFI process.

1.9.5 Community Sector/Non-Government Organisations

1.9.5.1 GCC has identified selected parish councils around the reference site and effort has also been made to keep parish councils informed of any forthcoming milestones or Cabinet decisions that relate to the Residual Waste Project.

1.9.5.2 Meetings have already taken place with local environmental groups to discuss their views, and further dialogue will be actively encouraged.

1.10 Timetable

1.10.1 GCC has put in place a robust and deliverable timetable for the Residual Waste Project.

1.10.2 GCC intends to consult external advisors and the bidders prior to and during procurement stages to ensure slippage is mitigated and where possible time is saved. During the competitive dialogue phase GCC also plans to take through a manageable number of bidders at each stage.

1.10.3 Specific processes to manage timetable risk are in place to ensure a smooth and timely procurement process.

2 Background

2.1 Introduction

2.1.1 This section provides a comprehensive summary of the background to the Residual Waste Project including key characteristics of Gloucestershire, analysis of waste arisings, expected waste growth rates, details of the current collection and disposal arrangements, their performance and waste composition analysis results.

2.1.2 For clarification purposes, throughout this document the following definitions of waste are referred to:

- Household waste –waste collected by, or on behalf of, the Waste Collection Authorities (WCAs) but excluding waste originating from commercial premises. It is predominantly waste from private households.
- Municipal Solid Waste (MSW) – predominantly household waste, and some commercial waste that is collected by, or on behalf of, the WCAs. It also includes other wastes such as construction and demolition waste received at the Household Recycling Centres (HRCs) and street sweepings.
- Residual waste – The elements of the waste stream that remains after recycling or compostable materials have been separated or removed.

2.2 Details of Key Characteristics of Area Profile

2.2.1 Gloucestershire is located within the northern extremity of the south west of England. It is bounded by Monmouthshire to the west, Herefordshire, Worcestershire and Warwickshire to the north, Oxfordshire to the east and Wiltshire and South Gloucestershire to the south.

2.2.2 The county is substantially rural in nature with the main urban development in Cheltenham and Gloucester. The River Severn divides the county, focusing east/west journeys to major bridging points. There are good north/south road connections via the M5 and the main east/west road being the A40. The green and rural landscape is a key county asset; Areas of Outstanding Natural Beauty (AONB) account for 51% of the county area.

2.2.3 Gloucestershire is a highly diverse county ranging from the Wye Valley with its ancient ravine woodlands in the west, to the streams of the Cotswold plateau in the east. The county fits into three key natural areas. These are the acid grasslands, bogs, heaths and ancient woodlands in the Forest of Dean and Wye Valley; the Severn Vale and its floodplain habitats that are important for bird-life, especially wintering wildfowl and breeding waders; and the Cotswolds with its limestone grasslands and beech woodlands.

2.2.4 The county supports a population of about 580,000 (mid year estimate for 2007) that has grown by 14,000 since the last census of 2001. It is predicted to grow to around 635,000 by 2029. The population of Gloucestershire has been growing at an average of over 2,000 people per year, mainly based on

net in-migration with more people coming into the county than leaving each year, with the largest increases in Stroud and Gloucester.

2.2.5 Much of the in movement of people to live in Gloucestershire reflects the prosperity and strength of the local economy, bringing with it associated job creation. For many years, unemployment in the county has been only around two-thirds of the national average. Gloucestershire's sound economic performance reflects the balance of manufacturing industry (much of it associated with aerospace) and services, with local headquarters of large companies (such as Cheltenham and Gloucester Building Society) and public sector organisations (such as GCHQ) as well as good representation in growing sectors, such as creative industries.

2.2.6 While the population is growing at a relatively steady rate, the number of households has been growing at twice that rate, reflecting the trend toward smaller household sizes. As shown in Table 2.1, the 2001 Census found there were just under 240,000 households in Gloucestershire. This had risen to approximately 251,600 households in 2007 and the number of households is expected to increase to around 296,000 by 2026 (based on the Office of National Statistics data). This will be an increase in households of 23% between 2001 and 2026.

Table 2.1: Population and Households in Gloucestershire in 2001

	Cheltenham	Forest of Dean	Cotswold	Gloucester City	Stroud	Tewkesbury	Total
Population	110,000	80,400	80,100	109,900	108,100	76,500	**565,000**
Households	48,164	43,424	32,530	45,765	44,617	32,372	**237,872**
Average household size	2.21	2.29	2.41	2.37	2.38	2.33	**2.33**
Dwellings	49,959	36,833	33,645	46,992	45,975	33,428	**246,832**

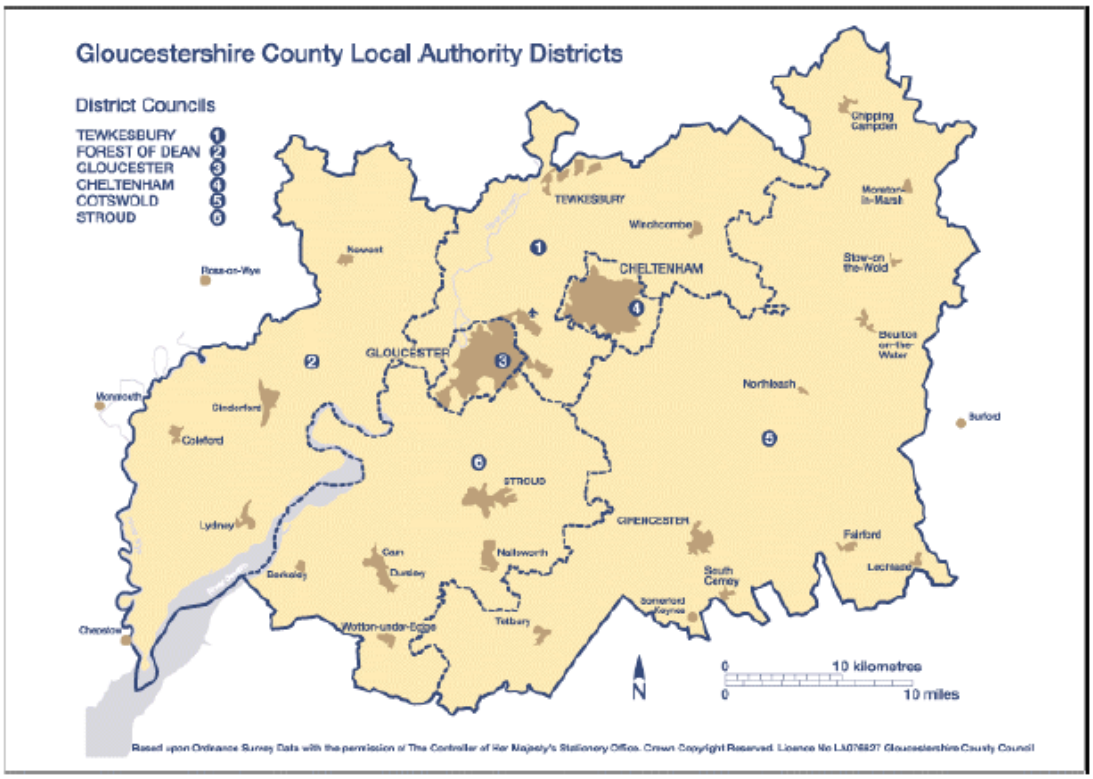
(Source: Census 2001)

2.2.7 Gloucestershire is a county with a two tier system of local authority administration, comprising of Gloucestershire County Council (GCC) and the six district councils listed below:

- Cheltenham Borough Council.
- Cotswold District Council.
- Forest of Dean District Council.
- Gloucester City Council.
- Stroud District Council.
- Tewkesbury Borough Council.

2.2.8 Figure 2.1 shows Gloucestershire and its local district boundaries.

Figure 2.1: Gloucestershire County and its Local Districts Boundaries



2.2.9 GCC is the Waste Disposal Authority (WDA) and is responsible for:

- the disposal and treatment of MSW collected by the district councils (in their capacity as Waste Collection Authorities);
- the provision of Household Recycling Centres (HRCs) for the public to deposit waste and recyclable materials;
- leading the preparation of the Joint Municipal Waste Management Strategy (JMWMS);
- issuing recycling credits to recyclers of household waste; and
- the monitoring of closed landfill sites previously operated by GCC.

2.2.10 GCC is also the Waste Planning Authority and responsible for:

- preparation of the Minerals and Waste Development Framework;
- the determination of planning applications for waste management development proposals; and
- enforcement of planning control over most waste management development proposals.

2.2.11 These planning functions are distinct from and discharged independently of the waste disposal functions listed in Section 2.2.9 above. The planning functions are concerned with the development of waste infrastructure in terms of land use issues and do not involve the delivery of services.

2.2.12 The six districts are the Waste Collection Authorities (WCAs) for Gloucestershire. They are responsible for the collection of household waste; recyclable and compostable materials (and in most cases, commercial waste upon request from the waste producer); and for the transport of this waste to GCC's contracted waste facilities. The WCAs also provide recycling facilities for segregated materials in the form of bring banks. One district (Cheltenham) manages its own household recycling centre (locally known as Swindon Road Recycling Centre) taking in a wider variety of materials for recycling than other bring banks systems.

2.2.13 Further details on the key characteristics and strategic context of GCC may be found in the JMWMS, (JWMWS Baseline Report, Volume 3 available on www.recycleforgloucestershire.com).

2.3 Analysis of Waste Arising

2.3.1 Waste Arisings

2.3.2 Gloucestershire's MSW arisings have risen by approximately 3% per annum over the last ten years. Waste growth has fluctuated over the last three years from 0.85% to 5.66%.

2.3.3 During the same period (the last three years), recycling and composting rates have steadily increased resulting in a reduction in the amount of residual waste being landfilled. Recycling and composting rates have risen from 30% to 36% in 2007/8, an increase of 6%. In 2006/7, the BVPI recycling and composting rate for household waste was 33% (that is 99,676 tonnes out of 300,766 tonnes of household waste produced in that year).

2.3.4 Household waste makes up around 95% of Gloucestershire's MSW arisings. In 2006/7, the county produced 324,122 tonnes of MSW, of which just over 300,000 tonnes was household waste. This equates to 520kg of household waste per head of population per annum, and about 1,195 kg per household per annum. A summary of waste arisings in the county from 2003 to 2007 is shown in Table 2.2.

Table 2.2: Trends in Gloucestershire's Waste Arisings 2003-2007

Year	WCA Collected Household Waste	WCA Collected Commercial Waste	HRC Collected Household Waste	Other MSW	Total MSW Arisings	Percentage change
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	(+)%
2003/4	236,563	8,545	40,528	6,342	291,978	
2004/5	245,364	8,435	44,363	11,225	309,486	5.66%
2005/6	243,592	10,970	43,867	13,713	312,142	0.85%
2006/7	241,826	10,538	58,940	12,818	324,122	3.70%

(*Source: GCC***)**

2.3.5 Expected Waste Growth Rates

2.3.5.1 As a nation the UK has become a throwaway society and lives beyond its environmental means. Year on year, as previously observed, the continued growth in population and number of households would directly impact on the quantity of waste generated. Over the last ten years, Gloucestershire's MSW arisings have grown on average by 3%. If waste continues to grow at this rate the amount of waste produced in the next 25 years would double; this would have huge environmental and cost implications.

2.3.5.2 In developing its expected waste growth forecasts, GCC has used current information, its JMWMS waste projections modelling and the National Waste Strategy for England 2007. Calculations show that in the period from 2003/04 to 2006/07 the MSW arisings per head of population has increased by 9% from 515 to 559 kg per head, but in the same period the MSW landfilled has decreased by 7% from 403 to 374 Kg per head.

2.3.5.3 Gloucestershire recognises the importance waste minimisation initiatives can have on MSW arisings. Gloucestershire will encourage residents to reduce the amount of waste produced through the implementation of local waste minimisation schemes, working in conjunction with regional and national initiatives to assist the successful decoupling of waste growth from that of the economy.

2.3.5.4 It is expected that these initiatives will reduce the growth rate in waste arising per household. It has therefore been assumed that by 2020, the growth rate at a household level has reduced to zero. GCC plans to reduce residual waste arisings in line with the targets set out in the National Waste Strategy for England 2007. Waste arisings have been modelled using a growth profile that is a function of increases at the household level,[explain meaning] and increases in household numbers.

2.3.5.5 However, population growth and the requirement for new housing within the county, together with increases in other waste streams will have an impact on total MSW arisings. Table 2.3 presents the modelled increases in the various waste streams and the percentage increase for total MSW arisings. All modelling assumptions pertaining to waste growth rates are detailed in Appendix A2.

2.3.5.6 A further trend that has an affect on MSW arisings is the impact of decreasing household size (number of persons per household). The number of households within Gloucestershire has increased at a faster rate than the population and mirrors the national trend of smaller household size. The size of the average Gloucestershire household is predicted to decrease from 2.31 persons in 2004 to 2.1 persons by 2026. It is recognised that smaller households produce more waste per capita than larger households.

2.3.5.7 Commercial waste accounts for only a small percentage of total MSW arisings (3% of 07/08 arisings), and within the model, it is assumed that commercial waste arising remain constant, with no increases in the period modelled. It is possible that tonnages from commercial waste collections may fall, however, it was not considered pragmatic to model any such reduction.

2.3.5.8 Waste growth projections will continue to be reviewed as collection services change and waste minimisation schemes are implemented. In addition, the current JMWMS aims to meet new residual waste per head targets and reach recycling and composting targets of 60% by 2020. Please refer to Section 3 for further details.

Table 2.3: Expected Waste Growth Rates in Gloucestershire (from 2007/8 to 2039/40))

Year	WCA Household Collected Waste	WCA Collected Commercial Waste	HRC Collected Household Waste	Other MSW	Total MSW Arising	Percentage change
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	(+)%
2007/08	248,370	10,538	61,784	12,249	332,941	
2008/09	254,571	10,538	63,673	12,635	341,417	2.48%
2009/10	260,393	10,538	65,557	13,021	349,508	2.32%
2010/11	265,806	10,538	67,429	13,408	357,181	2.15%
2011/12	270,775	10,538	69,288	13,794	364,395	1.98%
2012/13	275,544	10,538	71,128	14,180	371,390	1.88%
2013/14	280,099	10,538	72,945	14,563	378,146	1.79%
2014/15	284,427	10,538	74,736	14,944	384,645	1.69%
2015/16	288,515	10,538	76,495	15,321	390,869	1.59%
2016/17	292,353	10,538	78,219	15,694	396,804	1.50%
2017/18	295,927	10,538	79,904	16,061	402,429	1.40%
2018/19	299,222	10,538	81,544	16,422	407,725	1.30%
2019/20	302,232	10,538	83,610	16,302	412,682	1.20%
2020/21	304,948	10,538	85,199	16,599	417,284	1.10%
2021/22	307,362	10,538	86,732	16,886	421,518	1.00%
2022/23	309,776	10,538	88,207	17,162	425,682	0.98%
2023/24	312,190	10,538	89,618	17,426	429,772	0.95%
2024/25	314,604	10,538	90,962	17,678	433,782	0.92%
2025/26	317,018	10,538	92,236	17,916	437,707	0.90%
2026/27	319,432	10,538	93,435	18,140	441,545	0.87%
2027/28	321,846	10,538	94,556	18,350	445,290	0.84%
2028/29	324,260	10,538	95,596	18,545	448,938	0.81%
2029/30	326,674	10,538	96,552	18,724	452,487	0.78%
2030/31	329,088	10,538	97,421	18,886	455,933	0.76%
2031/32	331,502	10,538	98,201	19,032	459,272	0.73%
2032/33	333,916	10,538	98,945	19,171	462,570	0.71%
2033/34	336,330	10,538	99,690	19,311	465,868	0.71%
2034/35	338,744	10,538	100,434	19,450	469,166	0.70%
2035/36	341,158	10,538	101,179	19,589	472,464	0.70%
2036/37	343,572	10,538	101,924	19,729	475,761	0.69%
2037/38	345,986	10,538	102,668	19,868	479,059	0.69%
2038/39	348,400	10,538	103,413	20,007	482,357	0.68%
2039/40	350,814	10,538	104,168	20,148	485,667	0.68%

(Source: Entec)

2.3.5.9 Based on the projected modelling, Gloucestershire is projected to produce 258kg of residual waste per head by 2020 (with 60% recycled or composted). This indicates that Gloucestershire will exceed its JMWMS target by 30kg per head, therefore also missing the national residual waste per head target.

However Gloucestershire as a whole is performing in a manner that is consistent with the waste hierarchy and other Shire counties. GCC will also ensure that any residual waste contract allows flexibility to ensure waste minimisation is a priority (See Section 4).

2.4 Details of Current Arrangements for Collection and Disposal

2.4.1 Current Waste Collection Arrangements.

2.4.1.1 Table 2.4 summarises the kerbside collections and bring banks available in the individual districts in Gloucestershire.

2.4.2 Kerbside Collection

2.4.2.1 There is some commonality in the way that dry recyclables are collected by the WCAs in Gloucestershire. Each WCA provides a kerbside recycling service for paper, glass and cans, which are manually sorted at the kerbside and loaded on to vehicles. Some collect additional materials such as plastic bottles, textiles and batteries. Five WCAs have also introduced kerbside garden waste collection schemes, although the services vary: three districts offer a free service and the remaining two charge for the service.

2.4.2.2 Each WCA provides a weekly collection of residual waste in black bags or in wheeled bins, but moves towards the fortnightly collection of residual waste are being considered.

2.4.2.3 Stroud District Council began trialing a food waste collection in October 2007 in two local parishes in the District (as part of the developing IVC contract, detailed in Section 4). The trial consists of:

- weekly food waste collection;
- weekly dry recycling collections; and
- fortnightly residual waste collection.

2.4.2.4 Stroud is considering rolling out the service across the district from 2009 (depending on the success of the trial which is currently showing encouraging results, reaching recycling rates of 56%).

2.4.2.5 Cotswold District Council commenced its new service on 21st April 08. The service has been redesigned to include a:

- weekly food waste collection – either using a 10litre food caddy or by food waste being included in with garden waste which is collected in wheeled bin only; and
- weekly garden waste collection – either in wheeled bin (food waste can be included) or paper sack (no food waste included). This service is through subscription only.

2.4.2.6 From summer 2008, Cotswold District Council will undertake a second phase of service changes including:

- a fortnightly collection of cardboard collected in a sack.
- a fortnightly residual waste collection using either wheeled bin or beige refuse sacks.

Table 2.4: WCA (District) waste collections and bring bank systems in Gloucestershire *(Source: GCC)*

WCA (District)	Dry Kerbside Recyclables Frequency, receptacle and materials	Bring Banks Materials Materials shown not necessarily collected at all sites.	Garden Waste Collections Type of Scheme	Food Waste Collections Type of Scheme	Bulky waste Collections	Residual waste Collection
Cheltenham	Fortnightly 55 litre box paper, glass and cans	glass, paper, cans, foil, textiles, shoes, plastic bottles, card and oil	• Fortnightly sack collection • First sack free then £2 a sack (reusable sack) Opt out (41,000 households using the scheme (85%))		Charged collection. £13.40 per unit	Wheeled bin, weekly
Cotswold	Fortnightly 44 litre box and lid paper, cardboard (April '08), glass, aerosols and cans	books, card, cans, foil, glass, paper, plastic bottles, shoes, textiles, tetra-pak, videos	• Weekly charged collection (£30/annum) 240 litre wheeled bin (paper sack where requested) Opt out (34,500 households provided the scheme (100%))	Weekly food waste, (from April 2008) 10 litre caddy – or can add to garden waste	Charged collection. £14 for up to three items (additional items charged on a *pro rata* basis)	Sacks, weekly. Wheeled bins – fortnightly from summer 08
Forest of Dean	Fortnightly 55 litre box paper, glass and cans	Glass, paper, cans, textiles, tetra-pak, foil and plastic bottles	• Fortnightly 240 litre wheeled bin • New bins purchased for £20 Opt in (25,000 households using the scheme (66%))		Charged collection £15 for up to 3 items £30 for 4 - 6 items	Sacks, weekly
Gloucester City	Weekly 55 litre box paper, glass, cans, plastic milk bottles, textiles	books/videos, glass, paper, cans, shoes, textiles, plastic bottles and cardboard	• No charge • 240 l wheeled bin Opt out (44,000 households using the scheme (most households))	Fortnightly food + garden mixed, (anticipated starting autumn 2008). Containment to be decided	Free	Wheeled bin, weekly. (fortnightly being considered for year ending March '09)
Stroud	Fortnightly 55 litre box paper, glass, cans, foil, batteries and plastic bottles	glass, paper, cans, textiles, cardboard, books/videos and shoes	(Opt–in bags for garden waste; NOT composted; 60p per bag)	Current trial of 1700 properties, Intending district-wide weekly food waste collection (from April 2009) using 25 litre bin	Free	Sacks, weekly. (fortnightly being considered for April '09)
Tewkesbury	Fortnightly 55 litre box and lid paper, glass and cans	glass, paper, textiles, foil, cardboard, plastic bottles, tetra-pak and books/videos	• Fortnightly charged collection (£27.50/annum) introduced March 06 • 240 litre wheeled bin Opt in (10,500 households signed up to the scheme (30%) September 2007)		Charged collection. Three items for £15	Wheeled bin, weekly

2.4.2.7 To limit the disruption in the change of waste collection service, Cotswold District Council has undertaken intensive communications including a series of road shows over the district to raise awareness of the changes, with support from GCC. In the long term the food and garden waste will be delivered to In-vessel Composting (IVC) facilities at Rosehill, Dymock and Bioganix at Sharpness. In the interim, until these facilities are available to GCC in early May 2008, the waste is being taken to a Bioganix in Leominster.

2.4.3 Special Collections

2.4.3.1 All the WCAs provide a special collection service for 'bulky' household waste enabling residents to dispose of large household items e.g. mattresses, fridges and freezers. Four of the six WCAs charge users for this service.

2.4.3.2 The WCAs offer a residual waste collection service for commercial waste. In addition, Gloucester City Council currently offers a commercial recycling collection for cardboard and mixed glass, and Cheltenham Borough Council has begun trialling a commercial mixed glass recycling scheme to businesses in Cheltenham.

2.4.4 Bring Sites and HRCs

2.4.4.1 In addition to a kerbside service, each WCA provides a network of bring banks for various dry recyclables. GCC provides five Household Recycling Centres (HRCs) for the receipt of recyclables, garden waste, hazardous waste and residual waste. Cheltenham Borough Council also operates a HRC. Details of the HRCs and bring banks in the county can be found at www.recycleforgloucestershire.com

2.4.5 Markets/End Points

2.4.5.1 Recyclable materials are currently sorted within the county and materials such as glass, paper and magazines are sent elsewhere in the UK or overseas for reprocessing or onward transfer. (Further information is available in JMWMS Volume 3 Baseline Report, available on www.recycleforgloucestershire.com).

2.4.5.2 Garden waste collected at the HRCs and at the kerbside is windrow composted at four composting sites located in Gloucestershire (see figure 2.6).

2.4.5.3 All residual waste is landfilled at two sites within Gloucestershire (see Section 2.4.9). Hazardous waste from GCC's HRCs is taken for safe disposal in the West Midlands.

2.4.5.4 All the districts have distinct/separate collection contracts and providers and contract lengths are shown in Table 2.5 below. There is currently no indication that these contracts will change.

Table 2.5: Summary of District Contracts

District	Expiry Date	Provider	Other Details
Residual Waste Collection Contract			
Forest of Dean District Council	2018	Biffa	
Tewkesbury Borough Council	N/A	DSO*	
Gloucester City Council	2022	Enterprise – Gloucester	15 year contract
Cheltenham Borough Council	N/A	DSO*	
Cotswold District Council	2009	Sita	Contract currently under negotiation – option to extend for up to 7 years to 2016
Stroud District Council	2016	Veolia	2009 mid point of contract with services being evaluated
Recycling Collection Contract			
Forest of Dean District Council	2009	Biffa	
Tewkesbury Borough Council	N/A	DSO*	
Gloucester City Council	2022	Enterprise – Gloucester	15 year contract
Cheltenham Borough Council	N/A	DSO*	
Cotswold District Council	2009	Sita	Contract currently under negotiation – option to extend for up to 7 years to 2016. this will include the collection of garden and food waste
Stroud District Council	2016	Veolia	2009 mid point of contract with services being evaluated in ligt if the recent food waste pilot scheme

** Direct Service Organisation*
(Source: GCC)

2.4.6 Current Disposal Arrangements.

2.4.6.1 To manage the current waste arisings within the county, GCC's contractors use a number of existing facilities throughout the county. GCC's waste management service currently comprises of:

- five Household Recycling Centres;
- four windrow composting sites;
- two transfer stations;
- two landfill sites;
- WEEE (Waste Electrical and Electronic Equipment) and ELFFs (End of Life Fridges and Freezers) storage and recycling; and
- a number of other ancillary facilities.

2.4.6.2 The details of the facilities used to deliver the existing waste service and their ownership are found in Table 2.6.

Table 2.6: GCC's existing waste facilities, their ownership and accepted wastes

Waste Facility	Accepted wastes	Ownership
Hempsted Landfill, Gloucester	Household and commercial wastes	Cory Environmental
Wingmoor Farm Landfill, Stoke Orchard, Tewkesbury	Household and commercial wastes	Cory Environmental
Lydney Transfer Station, Lydney	Non hazardous household, commercial and industrial waste, garden waste	SITA
Cirencester Transfer Station, Cirencester	Non hazardous household, commercial and industrial waste, garden waste	Cory Environmental
Hempsted Garden Waste Composting Facility, Gloucester	Garden wastes being defined as biodegradable wastes consisting of tree branches, grass cuttings, bushes and other vegetation	Cory Environmental
Wingmoor Garden Waste Composting Facility,Tewkesbury	Garden wastes being defined as biodegradable wastes consisting of tree branches, grass cuttings, bushes and other vegetation	Cory Environmental
Sunhill Composting Facility	Garden wastes being defined as biodegradable wastes consisting of tree branches, grass cuttings, bushes and other vegetation	Agricultural Supplies (ASC)
Rosehill Farm Windrow Composting Facility, Nr. Dymock	Garden wastes being defined as biodegradable wastes consisting of tree branches, grass cuttings, bushes and other vegetation	M Bennion
Smiths, Moreton Valance Asbestos Delivery Point	Household asbestos, delivered by the public and District Councils if fly-tipped	Smiths
Fosse Cross Household Recycling Centre, Calmsden	Household waste only, materials for recycling, no asbestos	GCC
Gloucester Household Recycling Centre, Hempsted, Gloucester	Household waste only, materials for recycling, no asbestos	Cory Environmental
Oak Quarry Household Recycling Centre, Broadwell, Coleford	Household waste only, materials for recycling, no asbestos	Forest Enterprise
Pyke Quarry Household Recycling Centre, Horsley, Nailsworth	Household waste only, materials for recycling, no asbestos	Mrs Thorogood
Wingmoor Farm Household Recycling Centre, Stoke Orchard, Tewkesbury	Household waste only, materials for recycling, no asbestos	Cory Environmental

(Source: GCC)

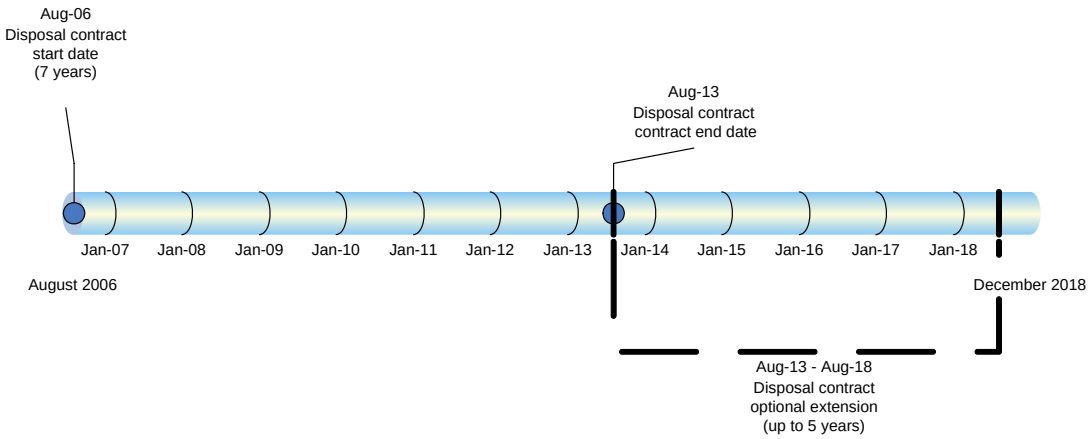
2.4.6.3 GCC has two waste management contracts in place (a disposal and composting contract and a HRC contract) and is currently developing a third contract for IVC capacity in the county (see Section 4). Each of the existing contracts is discussed in more detail below.

2.4.6.4 Disposal (Landfill and Composting) Contract (Cory Environmental (Gloucestershire) Ltd)

2.4.6.5 The disposal (landfill and composting) contract includes the bulking, haulage and transfer of MSW to landfill and the treatment of organic waste through windrow composting. Cory Environmental (Gloucestershire) Ltd was awarded the contract on 7 August 2006 and the contract expires in August 2013. Subject to agreement on price, there is an option to extend the contract in annual increments for up to five years – to August 2018. This is designed to accommodate any future residual waste treatment.

2.4.6.6 If GCC decides against, or is unable to buy LATS permits, GCC may have to divert this waste to another facility, this will ensure GCC does not landfill active BMW, over its allocated tonnage. Figure 2.2 shows the disposal (landfill and composting) contract timeline.

Figure 2.2: The Disposal (Landfill and composting) Contract Timeline

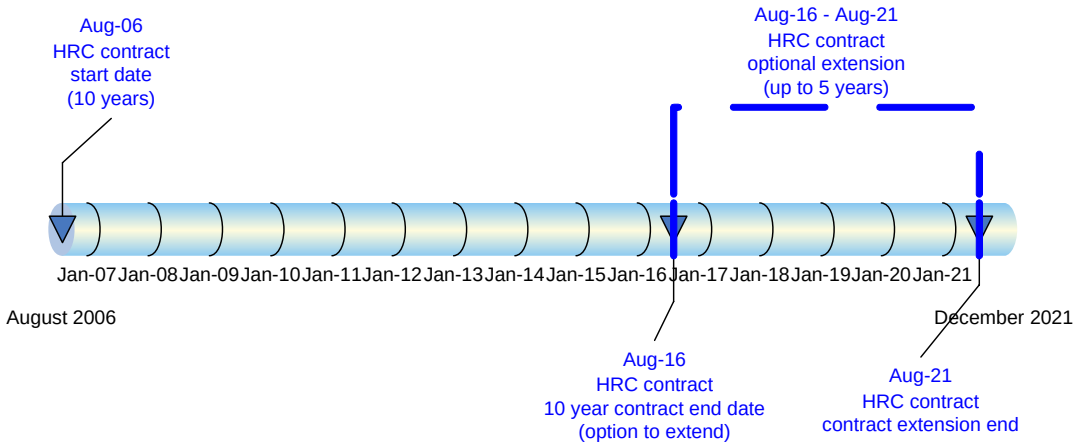


2.4.6.7 As part of the haulage arrangement, Cory Environmental provides two transfer stations at Cirencester and Lydney (see Table 2.6). Cory Environmental also monitors three closed landfills in the county.

2.4.6.8 Household Recycling Centre Contract (May Gurney)

2.4.6.9 The HRC contract includes the operation and management of the five HRC sites in Gloucestershire. The contract was awarded to Environmental Waste Controls (EWC) on 7 August 2006 and is due to expire on 6 August 2016 (there is an option to extend the contract in annual increments for up to five years – to 2021). The contract sets recycling targets of over 65% recycling and composting by 2009 with continuous improvement thereafter. The HRC contract has recently been taken over by May Gurney. Figure 2.3 shows the HRC contract timeline.

Figure 2.3: HRC Contract Timeline



2.4.7 Correlation with PFI contract and Existing Contract Termination Dates

2.4.7.1 In drawing up the residual waste contract GCC will consider the existing contracts expiry dates and will ensure a smooth transfer (where there are changes to the existing contracts) to ensure there is minimal disruption to the contractors or to the public. GCC will be developing a strategy over the next few months to ensure it manages the interface risks of the contracts, particularly focusing on the transfer, haulage and landfill contract elements. This will also require consideration if GCC pursues an interim residual solution with the West of England Partnership (see Section 4).

2.4.7.2 GCC is also developing an in-vessel composting contract to treat food and garden waste collected by the district councils (discussed further in Section 4). The main purpose of the IVC contract is to increase recycling and composting rates and reduce waste to landfill. In addition, it will also help to reduce the amount of biodegradable waste sent to landfill until residual waste treatment is available.

2.4.7.3 GCC has also put in place the necessary arrangements to buy LATS permits from other authorities if this is required and is making financial provision for potential trades.

2.4.8 Household Recycling Centres

2.4.8.1 GCC is responsible for the county's five HRCs, which are listed below, the locations of which are shown below in Figure 2.4.

- Oak Quarry HRC, Broadwell, Coleford (Forest of Dean).
- Fosse Cross HRC, Calmsden (Cotswold).
- Hempsted HRC, Gloucester (Gloucester).
- Pyke Quarry HRC, Horsley, Nailsworth (Cotswold).
- Wingmoor Farm HRC, Stoke Orchard (Tewkesbury).

2.4.8.2 GCC also offers a mechanism for the acceptance of asbestos; this is an arrangement through GCC's contracts with both Cory Environmental and May Gurney, where members of the public and WCAs can deliver asbestos to Smiths facility at Moreton Valence (Stroud).

2.4.9 Haulage, Transfer and Landfill Arrangements

2.4.9.1 Current transfer facilities and landfill capacity (Figure 2.5) available to GCC are:

- Lydney Transfer Station, Lydney (Forest of Dean).
- Cirencester Transfer Station, Love Lane, Cirencester (Cotswold).
- Hempsted Landfill Site, Hempsted (Gloucester).
- Wingmoor Landfill Site, Stoke Orchard, (Tewkesbury).

Figure 2.4: Household Recycling Centres (HRCs) in Gloucestershire

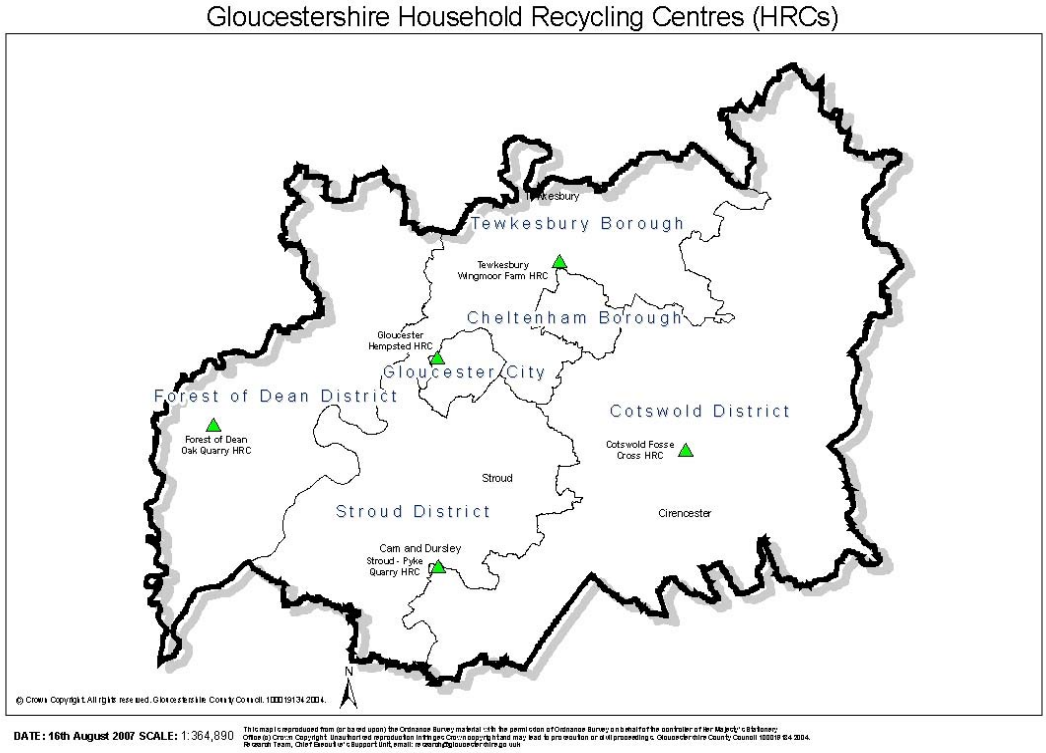
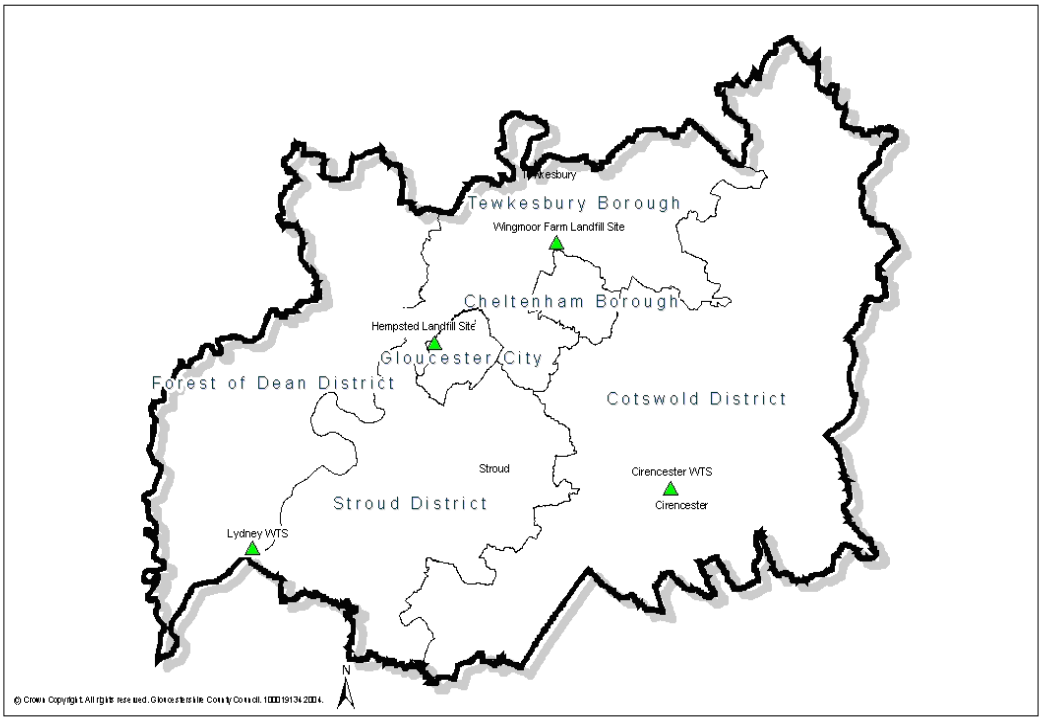


Figure 2.5: Gloucestershire's transfer and disposal facilities



2.4.9.2 Waste derived from Cotswold District Council is currently transferred to Wingmoor Farm landfill site via Cirencester transfer station, and waste from the Forest of Dean District Council is transferred via Lydney transfer station to Hempsted landfill site.

2.4.9.3 Both landfill sites are owned and operated by Cory Environmental (Gloucestershire) Ltd. Hempsted landfill site is likely to close by 2013, meaning that in the longer-term, only transfer facilities (as well as a HRC) will be available at this site.

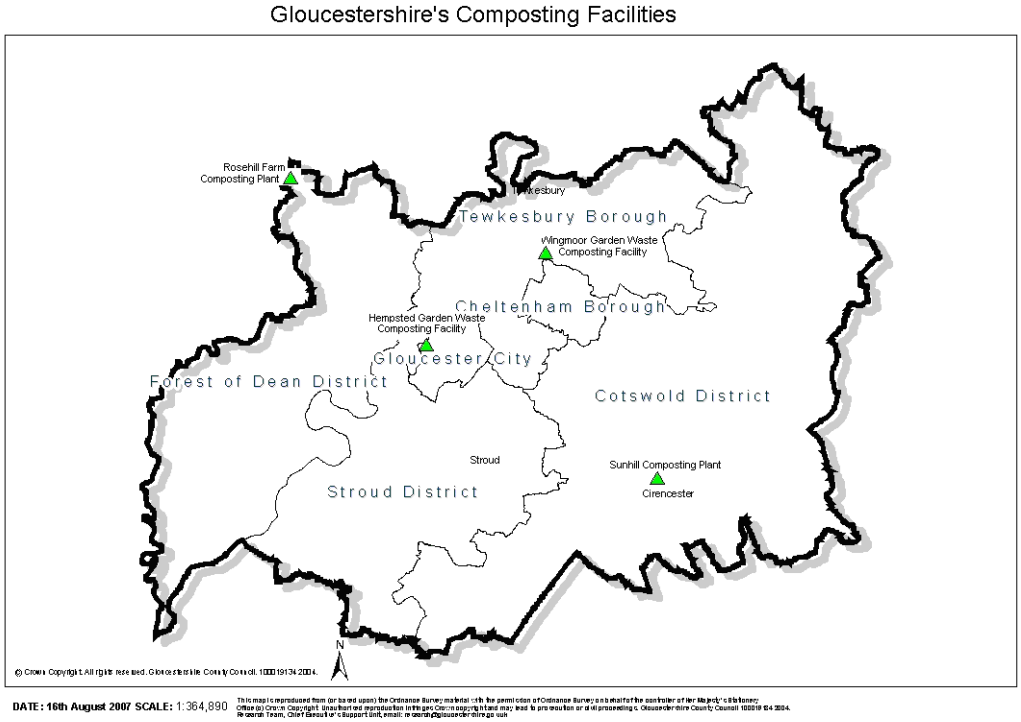
2.4.10 Composting Facilities

2.4.10.1 GCC has procured windrow composting capacity through its contract with Cory Environmental to compost garden waste collected at the kerbside and from the HRCs. This is currently being composted at four facilities (shown in Figure 2.6):

- Rosehill Farm Composting Plant, Dymock, owned and operated by Mr. M. Bennion.
- Wingmoor Composting Plant, Bishops Cleeve, Tewkesbury, owned and operated by Cory Environmental.
- Sunhill Composting Plant, Poulton, Cirencester, owned and operated by Agricultural Supplies.
- Hempsted Garden Waste Composting Facility owned and operated by Cory Environmental.

2.4.10.2 There are also a small number of community composting sites within Gloucestershire. Details can be found at www.gcwp.org.uk.

Figure 2.6: Gloucestershire's composting facilities



2.5 Performance of Existing Services

2.5.1 Recycling and Composting Performance

2.5.1.1 Table 2.7 below shows how recycling performance in Gloucestershire has improved in recent years from 16% in 2004/5 to 19% in 2006/7. Better collection services including widening the range of recyclables collected and sorted at the kerbside as well as a good coverage of bring banks has contributed to this improvement. Composting of collected household garden waste has rapidly increased from 8% in 2004/5 to 14% in 2006/7 and has also made a major contribution to the recycling performance in recent years.

Table 2.7: – Recycling performance in Gloucestershire 2004-2007

Year	Recycling	Recycling (BVPI)	Composting	Composting (BVPI)
	Tonnage	% of HHW*	Tonnage	% of HHW*
2004/5	47,713	16.44	22,774	7.84
2005/6	53,720	18.64	32,276	11.20
2006/7	58,129	19.33	41,547	13.81

*Household waste
(Source: GCC)

2.5.1.2 Combined, GCC's recycling and composting rate increased by 9% in three years to 33%. The recycling and composting rate has increased again for 2007/8 by 3% to 36%.

2.5.1.3 In the future, other service improvements such as the introduction of alternate weekly collections (to boost recycling rates), food waste collections, additional recycling streams from the HRCs and a continually improving waste minimisation programme (real nappies, home composting, promotion of voluntary sector initiatives) will help drive up recycling and composting rates further.

2.5.1.4 The WCAs and GCC have been working with Recycling and Organics Technical Advisory Team (ROTATE) whilst developing collection services. For example, GCC has recently been working with ROTATE in the production of a technical specification for a monitoring plan for the food waste trial being carried out in Stroud. GCC has also provided financial assistance with the monitoring of the food waste trial (more details can be found in Section 2.4.2.3).

2.5.1.5 More detail on recycling initiatives is available in Section 3.4.

2.5.2 Residual Waste Treatment

2.5.2.1 GCC has historically disposed of its residual MSW to landfill within Gloucestershire. Table 2.8 below shows GCC's reliance on landfill as a method of disposal of MSW has declined in recent years. Through the service improvements outlined above, more waste has been diverted from landfill and hence in turn less BMW has been landfilled.

2.5.2.2 GCC does not utilise any thermal treatment to divert waste from landfill at present.

Table 2.8 Treatment of MSW, Landfill and Diversion Rate in Gloucestershire 2004-2007

Year	Thermal Treatment	MSW Landfilled	Diversion Rate	BMW Landfilled	Landfill Allowance Permits held by GCC
	Tonnage	Tonnage	%	Tonnage	Tonnage
2004/5	0	228,467	26	184,798	-
2005/6	0	213,332	32	150,033	158,634
2006/7	0	214,363	34	148,149	150,100

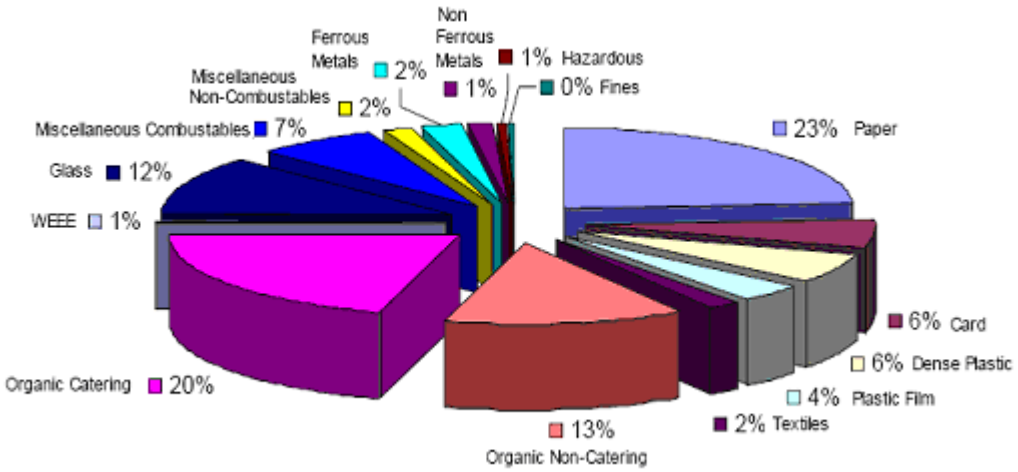
(Source: GCC)

2.5.2.3 In 2006/7, GCC landfilled more BMW than its allocated LATS allowance, however GCC brought sufficient allowances from other WDAs in 2005/6 to cover every shortfall.

2.5.3 Waste Composition

2.5.3.1 GCC commissioned a household waste composition study during 2004/5. A breakdown of an average household bin (including separately collected recyclables and compostables) is shown in Figure 2.7.

Figure 2.7: Average breakdown of household waste arising in Gloucestershire (2004/5)



2.5.3.2 The study identified that approximately 70% of the materials produced by a household can be re-used, recycled or composted. Sixty eight percent of the waste stream was also found to be biodegradable and of that 34% was organic (food and garden waste). GCC has commissioned a second waste composition study, comprising of two audits across all WCAs (one in February 2008, the second in July 2008), targeting all kerbside collected waste streams and the HRCs.

2.5.3.3 The results of this analysis will be used to assist GCC in the future provision of waste services and provide information to all parties in the Gloucestershire Waste Partnership (GWP) and also as information during the procurement for the residual waste facility. This will help GCC understand the characteristics of its waste arisings, and the impact of service changes and shopping habits as GCC moves forward into procurement.

2.5.3.4 The aims of the analysis are:

- to provide evidence to inform future household waste reduction and recycling initiatives/improvements in the county by;
    - mapping waste and recycling profiles/performance across different socio-economic groups in relation to material types; and
    - mapping waste and recycling differences across the six districts;
- to understand the characteristics of the above by weight;
- to determine seasonal variations in waste arisings; and
- to determine the characteristics of residual waste in relation to potential treatment and energy recovery options.

3 Strategic Waste Management Objectives

3.1 Introduction

3.1.1 This section sets out GCC's and the Gloucestershire Waste Partnership's (GWP) strategic objectives and sets the context for the Residual Waste Project.

3.2 The Joint Municipal Waste Management Strategy (JMWMS)

3.2.1 The JMWMS was developed by the Gloucestershire Waste Partnership (GWP), a partnership between the seven Gloucestershire waste authorities. The GWP is a voluntary body with constituent authorities that are highly committed to working together. The partnership was initially realised through the development of a Memorandum of Understanding and is responsible for the delivery and implementation of the JMWMS.

3.2.2 The Joint Municipal Waste Management Strategy (JMWMS) has been produced to comply with the Waste and Emissions Trading Act 2003, which requires two-tier authorities to produce a joint strategy for waste management. The JMWMS determines how MSW will be managed in Gloucestershire up to 2020, and replaces the existing strategy published in April 2002.

3.2.3 The new JMWMS takes account of recent legislative policy, plans and best practice developments at national, regional and local level. The National Waste Strategy for England 2007 sets a national target for 50% recycling and composting by 2020. The Gloucestershire JMWMS aims higher, pushing recycling and composting to a minimum of 60% by 2020. (Waste compositional analysis has established that about 70% of total household waste is recyclable or compostable). The JMWMS has been developed by the GWP (see Section 6).

3.2.4 One of GCC's highest priorities is the diversion of biodegradable waste from landfill. The EU Landfill Directive (1999) set targets to reduce the amount of active biodegradable municipal waste such as paper, card, garden and food waste allowed to go to landfill to decrease the levels of greenhouse gases emitted into the atmosphere. In 2003, the Waste and Emissions Trading Act (WET) was enacted introducing a Landfill Allowance Trading Scheme (LATS) for England. This scheme aims to implement the requirements of the Landfill Directive: reducing biodegradable municipal waste (BMW) sent to landfill to 35% of 1995 levels by 2020 to ensure that the UK meets the requirements of the EU Landfill Directive.

3.2.5 Under this scheme, GCC has been allocated a fixed number of allowances (tonnages) each year up to 2020. These reduce in number year on year. The allowances can be traded with other Waste Disposal Authorities and can be 'banked' over each year (except during those years that are EU target years – 2010, 2013 and 2020). If an authority does not hold sufficient allowances to cover the BMW landfilled, the government can fine the Waste Disposal Authority £150 for every tonne of waste it landfills above the permits it holds.

3.2.6 The government has also introduced Local Area Agreements (LAAs), which are being used to co-ordinate local activities to meet the challenges facing the area and acheive targets. LAAs are a three year agreement between central

government and a local area that sets out priorities to deliver 'genuinely sustainable communities through better outcomes for local people'.

3.2.7 In addition, the principals of the waste hierarchy govern the decisions the GWP and GCC make with regards to the waste management service in the county and this is reflected in the JMWMS. The JMWMS aims to minimise waste generation and views residual waste materials as a resource. Waste should be prevented from being produced, ensure they are reused where possible, then recycled or composted. Any residual waste that cannot be reused, recycled or composted should be treated to recover any potential value (such as energy). Disposal should be the last resort.

3.2.8 Locally, available landfill space in Gloucestershire is running out and GCC's two operational landfill sites are running out of capacity. It is anticipated that Hempsted will close in 2013 and Wingmoor Farm will close in 2024.

3.2.9 The GWP is aware that public opinion is changing. From previous consultation work in the county, it is recognised by the public at large, that landfill is unsustainable and that the county has to find other alternatives to treat its residual waste.

3.2.10 All seven authorities have adopted the final version of the JMWMS and its accompanying documents and it can be found at www.recycleforgloucestershire.com

3.2.11 The JMWMS (through it's nine objectives) aims to drive the management of MSW up the waste hierarchy and sets minimum composting and recycling targets at 60% by 2020. The nine core objectives are listed below:

- Objective 1: Changing behaviour
- Objective 2: Reduction first
- Objective 3: Segregation at source
- Objective 4: Compost hierarchy
- Objective 5: Residual waste as a resource
- Objective 6: Delivering the JMWMS
- Objective 7: Working in partnership
- Objective 8: Closing the resource loop
- Objective 9: Depollution of the waste stream

3.2.12 Objective 5, in particular, focuses on residual waste and where residual waste is created, it is treated as a resource:

"Residual Waste as a Resource
To provide residual waste treatment capacity to divert waste from landfill, and find or develop markets for recovered materials. Our preferred treatment processes will optimise recovery of recyclables and gain further value from residual waste before disposal." (Source: JMWMS)

3.2.13 Residual waste treatment includes a number of technologies and techniques that enables the recovery of additional materials for recycling and gains further value.

3.2.14 Consultation on the JMWMS

3.2.15 An initial draft of the JMWMS was submitted for public consultation for a twelve-week period between November 2006 and January 2007. The public consultation was undertaken using a number of methods, including community panel workshops, stakeholder workshops (separate focus sessions with council members, non government organisations representatives and industry representatives) and self-completion questionnaires aimed at parish councils and the wider Gloucestershire population.

3.2.16 The consultation on the JMWMS was aimed at discussing waste management as a whole for the county. During the workshops, participants were asked to focus on the objectives of the JMWMS.

3.2.17 In all, over 1700 questionnaire responses were received and 113 people attended the workshops. The consultation was also timed to coincide with the Great Gloucestershire Debate on waste1, which served to raise the profile of the consultation exercise and air some of the issues surrounding the future of waste management.

3.2.18 A high level of consistency in responses was received, giving confidence that the consultation results were robust and sufficiently representative. There was little disagreement about the importance of any of the JMWMS' core objectives. The objectives that were viewed as least important still received over 90% support. The consultation did however result in some minor changes to the strategy in terms of presentation, emphasis, clarity and the subsequent strengthening of some objectives.

3.2.19 A revised draft JMWMS was prepared for final consultation prior to adoption. This was subjected to a statutory Strategic Environmental Assessment (SEA) (also referred to as the Environmental Report) and submitted for final public consultation alongside the Environmental Report for eight weeks between July and September 2007.

3.2.20 A number of further minor amendments were made to the strategy as a result of this final consultation phase, and a final adoption draft produced. Further details on the consultation process can be found in the associated documents with the JMWMS on www.recycleforgloucestershire.com

3.2.21 Consultation on the Residual Waste Technologies

3.2.22 The nature of the decision as to what type of residual waste treatment process is appropriate for the county is not a straightforward one. It was unlikely to be the case that a questionnaire sent to large numbers of people could extract information of the desired quality which allowed consultees to feel informed and

[1] [1]The **Great Gloucestershire Debate (GGD) is a consultation and promotional campaign to get people living and working in Gloucestershire talking about the issues that matter most to them. The initiative has been developed on behalf of the Gloucestershire Strategic Partnership (GSP), which was formed in 2002 to enable organisations to better work together for the benefit of the county. members include Gloucestershire County Council, the six district councils, Gloucestershire Constabulary, the health community, business sector and voluntary and community groups. The GGD utilises a variety of mainstream media channels to connect with the public**

able to make reasoned responses. Therefore in order to gain higher quality information, based on deliberation, a community panel was set up, and tasked to develop a series of criteria against which the selection of residual waste treatment options could be assessed, thus assisting in both strategic decision-making and eventual procurement of the technologies. These criteria were used during the residual waste technologies appraisal (detailed further in Section 4).

3.2.23 In addition the community panel were also consulted upon the broader aims and objectives contained within the draft MWMS.

3.2.24 The panel were given the remit of:

- providing broad views as to the wording and nature of the objectives within the current draft MWMS;
- providing views on specific issues of interest within the draft MWMS;
- identifying key criteria deemed to be of significance in making decisions concerning the nature of residual waste treatments for use in the county;
- giving weightings to those criteria to be used in options appraisal; and
- devising relevant questions associated with these criteria so as to set out clearly the intentions of the panel.

3.2.25 The community panel engaged in discussions and was provided with presentations around the technologies identified in the JMWMS. This included briefing sheets on the potential technologies such as energy from waste, mechanical biological treatment, autoclave and advanced thermal treatment.

3.2.26 The community panel developed are series of criteria and questions to appraise residual waste technologies. These are detailed in Appendix A3.

3.2.27 The panel process proved to be a valuable way of providing criteria and weightings from the perspective of ordinary citizens. The technical consultant who coordinated the community panel workshops were impressed by the interest shown in the subject by the panel and the level of engagement in the criteria development process.

3.3 Waste Minimisation

3.3.1 The JMWMS recognises that further growth in Gloucestershire's MSW arisings is not sustainable both environmentally and financially. Complementary to the new National Waste Strategy for England 2007 objectives, the JMWMS sets out two key objectives aimed at addressing consumer behaviour and society's attitude to consumption and disposal (Objective 1: 'Changing Behaviour') and tackling waste growth (Objective 2: 'Reduction First').

3.3.2 The GWP aims to reduce Gloucestershire's MSW by addressing waste generation at the household level and further up the supply chain. A target to reduce the growth of waste arisings at the household level to zero by 2020 has been set. Analysis has demonstrated that with good waste minimisation schemes

waste growth can be reduced to at least 1% by 2020[2]. However it is believed that Government's Producer Responsibility regulations can reduce waste growth further.

3.3.3 In addition, the GWP has set minimum county-wide improvement targets (JMWMS) to reduce household residual waste per capita to 228kg by 2019/20. This is supported by waste minimisation initiatives such as:

- home and community composting;
- smart shopping;
- junk mail and packaging;
- reusable nappies;
- educational waste minimisation and recycling initiatives for schools including activities and workshops;
- improving recovery of materials at HRCs to increase re-use of waste materials;
- working with charities to collect furniture and WEEE; and
- support for the Gloucestershire Community Waste Partnership including possible grant funding and promotion of a swap site.
- promotion of commercial sector initiatives (through BREW funding, GCC was able to let a temporary contract (up to July 2008) for a commercial waste minimisation officer to work with Gloucestershire First. After July, a social enterprise group called Parklife will take over and continue the commercial waste minimisation officer's work.
- improvements in collection and treatment infrastructure; and
- promotion of the initiatives through communications and education programmes**.**

3.3.4 Plans are in development for 2008 and GCC is also planning to promote a 'zero waste' week and GCC has also made contact with large local retailers, such as supermarkets to discuss waste issues. GCC has also voted for a boycott on plastic bags and wants communities across the county to follow suit. The GWP intend to write to major retailers in the county to explore ways of partnership working.

3.3.5 GCC currently, ran a Real Nappy Week between 21st and 25th April 2008, where GCC and its contracted real nappy partner Resource Futures worked together during that week to put on a series of road show events in every district. GCC also offers money off vouchers for the purchase of real nappies.

3.3.6 Further details can be found in the JMWMS Volume 2 (High Level Action Plans) at www.recycleforgloucestershire.com

[2] GCC developed a Municipal Waste Prevention Strategy in 2006 that identifies a robust business case, based on cost benefit, for an intensive 'top-of-the-hierarchy' element for Gloucestershire's Waste Management Strategy

3.4 Recycling and Composting

3.4.1 The JMWMS's overarching objective is to achieve a minimum of 60% recycling and composting in Gloucestershire by 2020 (which is 10% higher than the national targets set out in National Waste Strategy for England 207). In support of our efforts to recycle and compost more, the Gloucestershire Local Government Association has also agreed a recycling and composting vision which states:

"…all households in Gloucestershire will have convenient and easy-to-use collection services, enabling them to recycle and compost at least 70% of their rubbish by April 2010."

3.4.2 This means, it is the intention that every householder has the "opportunity" to recycle and compost at least 70% of their waste through the provision of collection services.

3.4.3 There are specific projects that the JMWMS is currently working towards, which should significantly assist the county in achieving its 60% target. The GWP has formulated a series of Action Plans to compliment the JMWMS Headline Strategy; these can be viewed at www.recycleforgloucestershire.com. As described in the JMWMS, the GWP intends to increase the collection of dry recyclables from the kerbside, bring sites and HRCs. Continuous improvement is a feature of the HRC contract and this includes the contractor (May Gurney) trialling new materials that could be collected for recycling at GCC's HRCs facilities.

3.4.4 The GWP want to maximise diversion of biodegradable materials by the following measures:

- introduction of food waste collection (with food waste collected separately or co-mingled with garden waste) (see Section 2) for delivery to in-vessel composting capacity (see Section 4);
- continuation of the composting of garden waste using windrow composting where collected separately; and
- reduction of residual waste collection capacity once recycling and composting collection schemes are in place.
- consideration of enforcement policies such as a no side waste ban and compulsory recycling measures;
- increase the re-use of appropriate materials collected via bulky collection services;
- development of kerbside collection schemes for hazardous materials such as batteries where these can be cost effective;
- increase of reuse, recycling, and composting at HRCs through the provision of separate containers for materials that can be reused, recycled or composted;
- provision of bring bank and household recycling centre banks to compliment those materials collected from the home and provision of reception facilities for a broader range of recyclables; and

- provision of on-going, targeted and measurable communication campaigns to support collection schemes.

3.4.5 There is a strong emphasis on working with schools. The work involves liaising with head teachers, developing activities and visiting schools to deliver activities. There are a series of activities already prepared for schools covering a range of waste related issues, which are delivered to children across the national curriculum. Current work with schools can be divided in to two broad components:

- Education and curriculum support; and
- provision of recycling facilities for school premises.

3.4.6 In addition, the GWP promote the Recycle for Gloucestershire campaign (www.recycleforgloucestershire.com). The campaign has been in existence since 2004 and uses high-level advertising and consistent branding to raise awareness of waste minimisation and recycling issues. As well as the website, other campaign methods include direct mail, outdoor media (adshels, billboards and on public transport), press advertising, road shows and doorstep canvassing.

3.4.7 GCC is currently developing a proposal for Gloucestershire Rural Community Council involving village agents. The village agents help ensure people in rural parishes who may require additional help, such as the elderly, have access to council services. GCC's proposal will focus on providing help for individuals who need assistance with waste collection, such as assisted collections, smaller recycling boxes (easier to carry) and wheeled boxes.

3.4.8 GCC is working with its current waste disposal (landfill and composting) contractor, Cory Environmental, to deliver in-vessel composting contract that will allow the composting of garden waste and food waste in the county. Further details on the IVC contract can be found in Section 4

3.4.9 Provision of in-vessel composting capacity is only a partial solution. Close partnership working across the two tiers with good co-ordination of new collection systems (separate food waste or co-mingled food and garden waste) is required. Most importantly, high participation and capture of materials is required to achieve these high capacity recycling targets. The Recycle for Gloucestershire campaign will assist in meeting this target. Recent Reference Project modelling indicates 60% is achievable on this basis.

3.4.10 Based on the initiatives above, targets have been set through the JMWMS for recycling and composting that coincide with the target years set out in the National Waste Strategy for England 2007. In addition, the Local Area Agreement has set Gloucestershire a target for recycling and composting for 2009/10. This is based on DCLG's national indicator – NI192 – the percentage of household waste recycled and composted. The new national indicators come into effect from April 2008) (further information can be found in Section 6).

3.4.11 Table 3.1 below shows the National Waste Strategy targets, JMWMS targets, the LAA target for 2009/10 compared to the recycling/composting rate modelled as part of the Reference Project. The Reference Project is discussed in more detail in Section 4.

Table 3.1: Recycling and Composting Targets (National Waste Strategy, JMWMS, LAA and Reference Project)

Year	National Waste Strategy	Gloucestershire JMWMS 2007	LAA Targets (Based on NIs)	Reference Project
	%	%	%	%
2009/10	40	40	48	42
2014/15	45	50	-	53
2019/20	50	60	-	60

(Source: GCC and Entec)

3.4.12 Further details can be found in the JMWMS Volume 2 (High Level Action Plans) at www.recycleforgloucestershire.com

3.5 Landfill Objectives

3.5.1 To date, GCC has successfully benefited from reduction, reuse, recycling and composting initiatives to mitigate its LATS exposure.

3.5.2 Although GWP plans to introduce further recycling and composting initiatives (including the introduction of the IVC contract) GCC believes there will still be a LATS deficit from 2009/10. GCC is prepared to use a LATS trading strategy if it is a lower cost to the authority than an interim residual waste solution. Table 3.2 below demonstrates the GCC waste arisings, its LATS targets, a forecast of BMW sent to landfill and details whether GCC will meet or exceed its allowance ('+' indicates GCC exceeding its allowance).

Table 3.2: Key Years for LATS Allowances and the Estimate of BMW sent to Landfill

Year	LATS allowance	BMW sent to Landfill	Difference (BMW landfilled compared to allowance)
	Tonnes	Tonnes	Tonnes
2009/10	107,428	136,913	+29,485
2012/13	71,555	120,919	+49,364
2019/20	50,069	13,249*	-36,820*

** Based on GCC's residual waste facility becoming operational in 2015*
(Source: GCC)

3.5.3 Since the development of the JMWMS, GCC's Cabinet approved the Residual Waste Procurement Plan on 28th November 2007, which recommended that there may be other interim opportunities including sending waste to existing facilities (subject to a number of criteria including but not limited to trading price, transport distance and cost, contract duration), procuring an interim technology and working with existing partners on innovative solutions. GCC have evaluated these interim options that are discussed further in Section 4.

3.5.4 GCC has used the M-Beam tool when assessing GCC's LATS strategy for the future. Further information on GCC's LATS strategy is detailed in Section 8.

3.6 Appraisal of Technology Options for Residual Waste Treatment

3.6.1 As part of the JMWMS process, the GWP carried out a detailed options appraisal for collection and disposal options. It was carried out by external consultants as part of the Local Authority Support Unit programme.

3.6.2 A range of collection options were identified and assessed to determine optimal collection systems for Gloucestershire. In addition, five residual waste treatment options were then assessed and it was determined that if markets for products materialised, all options would assist the GWP to meet its LATS targets and divert municipal waste from landfill. The residual waste management technologies options were as follows:

- Mechanical Biological Treatment
- Autoclave
- Energy from Waste
- Advanced Thermal Treatment (sequential pyrolysis and gasification)

3.6.3 Further details can in the Strategic Environmental Assessment Report at www.recycleforgloucestershire.com

3.6.4 Please see Section 4 for GCC's most recent appraisal of technology options for a residual waste treatment solution.

3.7 Environmental Impact

3.7.1 Strategic Environmental Assessment

3.7.1.1 As part of the JMWMS, GCC has also developed a Strategic Environmental Assessment (SEA) report. The report was finalised in September 2007, but was written and consulted upon prior to the publication of the National Waste Strategy for England 2007. Although the SEA addresses the issue of climate change, and discusses the impact of carbon, the emphasis on carbon efficiency was not directly discussed.

3.7.1.2 The SEA identified a number of objectives to highlight the impact of the JMWMS, including environmental, social and economic. The full SEA report can be found at www.recycleforgloucestershire.com. The environmental objectives ENV 5 and 6[3], in particular, address climate change and emission issues.

3.7.1.3 The objectives (environmental, social and economic) of the SEA were used to assess the viability of the JMWMS's nine core objectives for waste management in the county up until 2020.

[3] Strategic Environmental Assessment Report, the Joint Municipal Waste Management Strategy (www.recycleforgloucestershire.com)

3.7.1.4 Generally, the overwhelming impact of the strategy is positive, taking the county towards a more sustainable way of dealing with waste. This is particularly borne out through measures to move waste up the waste management hierarchy since minimising waste will eliminate difficulties before they arise, and waste recycling has many more positive impacts than waste disposal (e.g. through reduced need for virgin materials that has knock-on impacts for energy use, biodiversity and greenhouse gas emissions). In summary, all collection and disposal options considered have a positive impact on the environment compared to 'do nothing'/continuing to landfill.

3.7.1.5 GCC's assessment of the long list of technologies did cover Combined Heat and Power (CHP). This is discussed in more detail in Section 4. In addition, the life cycle impacts of the residual waste options were assessed using carbon dioxide as an indicator. WRATE analysis has also been carried out and is discussed further in Section 4).

3.7.2 GCC Climate Change Strategy

3.7.2.1 Corporately, GCC is currently developing a Climate Change Strategy and Action Plan. GCC as a whole is committed to reducing its carbon dioxide emissions by 10% by 2012 and by at least 2.5% year on year. GCC's draft climate change objectives are:

- To provide strong leadership to prepare the county for the effects of climate change and to reduce emissions of greenhouse gases by helping other organisations and citizens of Gloucestershire to understand what they can do and encourage them to change their behaviour.
- To put the GCC's own house in order by reducing the contribution of our day to day business (our buildings, land and transport) to climate change and ensuring that we can adapt to the impacts of climate change.
- To understand the impact that a changing climate will have on the delivery of council services and ensure that and help Gloucestershire's communities become more resilient to climate change, and reduce emissions of greenhouse gases, for example through transport and waste collections.
- To monitor and report on our progress in delivering our climate change objectives on an annual basis, and review and revise our action plan accordingly.

3.7.2.2 As part of GCC's Climate Change Strategy and Action Plan, GCC is in the process of signing up to a series of national indicators on climate change. The following national indicators in particular have relevance to the Residual Waste Project:

- NI 186 – per capita reduction in CO2 emissions in the LA area (including emissions from housing, local business and public sector organisations, community organisations and local transport).

- NI – 188 – planning to adapt to climate change (progress towards a climate-resilient local area. This will be based on the approach within the Nottingham Declaration Action Pack).

3.7.2.3 The two indicators will also be incorporated into GCC's Business Plan for Gloucestershire's Environment Partnership.

3.7.2.4 The proposed priorities in GCC's Council Plan for 2008/9 include 'managing our environment and economy'. Under this banner GCC's procurement for a residual waste solution is identified and the added value of this project with regards to climate change has been identified as:

"Residents and communities will understand better the need for new waste management facilities which are less damaging to our climate."

3.7.2.5 Through diverting BMW from landfill, it has been recognised that GCC can make a difference, particularly if such waste is used in a more positive way, such as producing energy.

3.7.2.6 In addition, to the Residual Waste Project, GCC's OHIO project (Own House in Order) is also recognised corporately as an effective method to change staff behaviour with regards to climate change.

3.7.2.7 Gloucestershire also has an Sustainable Energy Strategy 2007–2017 that recognises that the county as a whole needs to find alternatives ways of producing energy and that using waste as a resource is one of those options, in particular the strategy recognises CHP as part of the potential solution for the future.

3.7.2.8 GCC recognises the importance of climate change issues and that the county as a whole has a responsibility to act more responsibly towards climate change. Therefore the Output Specification for the residual waste treatment facility will include requirements for the contractor to help the county work towards GCC's climate change and sustainability initiatives.

4 Procurement Strategy and Reference Project

4.1 Introduction

4.1.1 This section sets out the rationale underpinning GCC's procurement strategy. This includes an overview of the procurement strategy, GCC plans to manage the short to medium term LATS exposure, a summary of the options appraisal used to determine the short list of residual waste treatment technologies, and the process followed by GCC to select the Reference Project. The Section also sets out the Output Specification for the Residual Waste Project.

4.1.2 The Reference Project refers to the reference technology and reference site identified as a potential solution that could treat Gloucestershire's MSW. The Reference Project also assumes that the County achieves its recycling and composting target of 60% by 2020, and that all of GCC's and the WCAs' planned changes to services (IVC, waste minimisation initiatives) are fully implemented.

4.2 Overall Strategy for Procurement

4.2.1 To provide the required services and infrastructure needed to deliver the JMWMS for Gloucestershire, GCC has developed and is in the process of delivering the procurement strategy described below and summarised in Figure 4.1.

4.2.2 In 2005 GCC took the decision not to continue with its PFI procurement process for the delivery of integrated waste management services. GCC terminated this process at the Best and Final Offer (BaFO) stage because of the deliverability risks associated with the solutions proposed by the bidders and the impact of those risks on the affordability of the bids.

4.2.3 Since 2005 GCC has adopted a disaggregated service procurement strategy and has successfully let two major contracts; one for the management of HRCs and a second "disposal contract" for haulage, transfer, landfill, and the composting of garden waste (discussed in Section 2).

4.2.4 The HRC contract ends in 2016 and includes an optional 5 year extension to 2021. The disposal contract ends in 2013 and includes an optional 5 year extension to 2018. Both of the existing contracts can be procured separately to the Residual Waste Project.

4.2.5 By adopting the JMWMS, the Gloucestershire WCAs have expressed their commitment to deliver enhanced waste collection and recycling services. These services will complement the services and facilities procured by GCC to deliver the objectives of the JMWMS. GCC is proposing to introduce a performance reward scheme (see Section 6) to encourage the WCAs to introduce services that help GCC to meet its LATS targets.

4.2.6 GCC will also provide the additional waste management infrastructure to divert waste from landfill and minimise the landfill of BMW. This includes procuring a service contract for the long term treatment of residual waste, a service contract for in vessel composting of food and co-collected food and garden waste, and

possibly an interim service contract to treat residual waste until the long term residual waste treatment facility is commissioned.

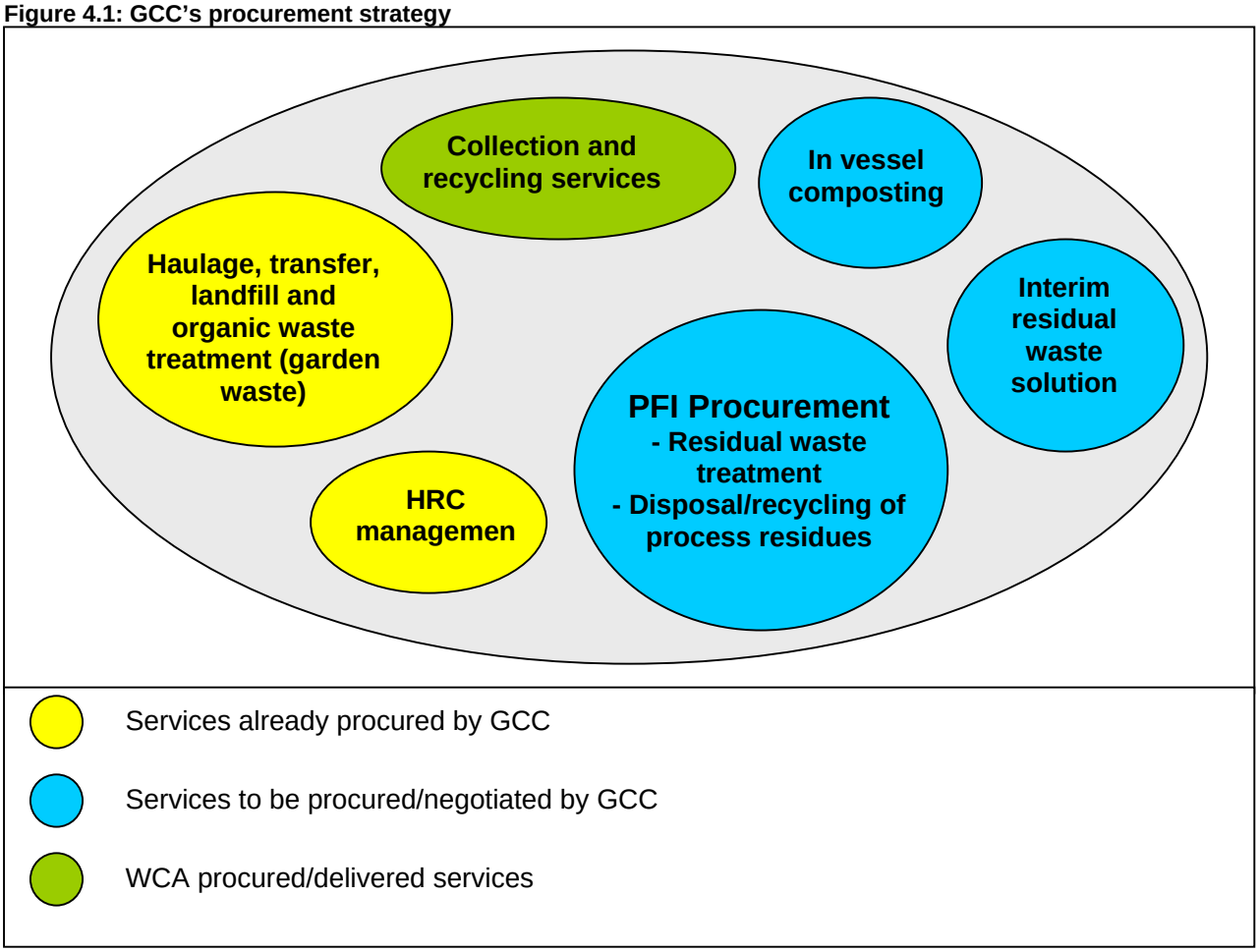
4.2.7 GCC seeks PFI credit support to procure a long term residual treatment contract. The Reference Project for this contract includes the following services:

- Provision of Residual Waste Treatment Capacity; and
- Disposal/recycling of process end products and by-products at secure markets (including landfill)

4.2.8 The Reference Project includes the transfer, haulage and landfill of process outputs. It is likely that additional service requirements for transfer, haulage and landfill of residual waste will be procured separately in order to maximise competition and value for money. This approach will be reviewed prior to the commencement of the procurement.

4.2.9 In addition, GCC is considering options for the procurement of an interim residual waste treatment solution and is currently in discussions with the West of England Partnership. Such an interim solution would assist with the diversion of BMW from landfill in the early years.

Figure 4.1: GCC's procurement strategy



4.2.10 The HRC contract, the disposal contract and collection and recycling services are discussed in Section 2. The other key elements of the procurement strategy are discussed below.

4.2.11 Provision of In-Vessel Composting

4.2.11.1 GCC is currently procuring an in-vessel composting (IVC) contract for the receipt, treatment and disposal of food and garden waste delivered by the WCAs. The procurement is possible via an option in the disposal contract that provides GCC with the ability to negotiate the provision of IVC with the contractor, Cory Environmental, provided that GCC considers this to be the most economically advantageous route for the provision of this service.

4.2.11.2 By April 2010 GCC aims to deliver IVC capacity of up to 60,000 tonnes of food and garden waste to be treated annually. It is estimated that this will divert an additional 20,000-30,000 tonnes per annum of food waste from landfill. Modelling has indicated that over 10 years, the cost of treating food and garden waste in an IVC system is significantly less than the cost of landfilling food waste (including landfill tax) and windrow composting garden waste.

4.2.11.3 The impact of the IVC contract on the cumulative tonnages of BMW and recyclables diverted from landfill up until 2020 are shown below in Table 4.1. The table shows the cumulative tonnage of BMW and recyclable material diverted from landfill if IVC capacity is introduced compared to if services remain the same. This indicates that IVC provision will divert an additional 292,205 tonnes BMW from landfill over a 10 year period.

Table 4.1: Impact of IVC provision on cumulative recycling performance and BMW diversion up to 2020.

	Tonnes of recyclable material diverted from landfill	Tonnes of BMW diverted from landfill
Current recycling and composting schemes only	1,770,346	1,133,865
New recycling and composting schemes including IVC	2,161,396	1,426,070
Variance	391,050	292,205

(Source: GCC)

4.2.11.4 GCC has received a number of proposals from Cory Environmental that utilise existing planning consents within the county for the provision of composting capacity. GCC is currently in the process of negotiating the commercial terms of the IVC contract.

4.2.11.5 The development of the IVC contract has three stages:

- Stage 1- Service commencement for Cotswold (co-mingled food and garden waste) and Stroud District Councils (food waste only) (services already underway).
- Stage 2 - Securing longer term access to IVC capacity and transfer infrastructure via Cory Environmental and development of contracts between GCC and the WCAs for the delivery of food/garden waste.

[redacted]Stage 3 – *[withheld under exception 12 (4) (d)]*

4.2.11.6 As part of stage 1, GCC has confirmed the availability of transfer capacity and two sites for IVC facilities within the County and development of these sites is already underway. These are:

- Transfer capacity at Wingmoor Farm, Cheltenham, provided by Cory Environmental from May 2008 for onward transfer to IVC treatment.
- IVC capacity at Sharpness in Stroud and at Leominster in Herefordshire provided by Bioganix is available from May 2008 and April 2008 respectively.
- IVC capacity at Rosehill Farm, Dymock which is available from May 2008.

4.2.11.7 In parallel with the IVC contract negotiations with Cory Environmental, GCC has been working closely with the WCAs (through the GWP), to negotiate and finalise contracts to deliver food waste (and where required by the WCA, co-mingled with garden waste) for treatment. This includes a performance reward of up to £100,000 per annum premium as revenue per WCA. This is underpinned by commitments made in the JMWMS and the sign-up to mandatory LAA targets by all seven authorities.

4.2.11.8 GCC has signed a short term contract, initially 12 months, to facilitate Stroud and Cotswold Districts to access IVC treatment capacity. Stroud District Council began a trial food waste collection in October 2007. Cotswold District Council commenced a district-wide service on 21st April 2008 and it is anticipated that Gloucester City Council will commence its service in autumn 2009.

4.2.11.9 GCC continues to negotiate to deliver best value for Stages 2 & 3. The compost from the mixed organic waste will be utilised on agricultural land or used for landfill restoration within Gloucestershire and once PAS100 is achieved will be made available for public sale.

4.2.12 Interim Arrangements to meet LATS

4.2.12.1 GCC is likely to incur a LATS deficit from 2009/10, even after increasing the recycling and composting rate to 45%. If the procurement of the residual waste service commences in October 2008, it is unlikely that a suitable facility or network of facilities will be commissioned prior to April 2015. This could result in GCC landfilling BMW in excess of its LATS allowance for the five years preceding the commission of the facility.

4.2.12.2 There are a limited number of options available to GCC to address the interim LATS position. GCC is considering the following two options:

- LATS trading (buying additional allowances); and
- Treatment of residual waste using merchant facilities.

4.2.12.3 GCC is prepared to purchase LATS permits to ensure compliance if this is considered to be the most cost effective option. GCC has already brought allowances for 2005/6 and up to 2008/9 (34,000 tonnes worth of allowances and has spent £600,000, paying an average of £17 per tonne allowance). LATS is discussed in more detail in Section 8.

4.2.12.4 GCC recently explored the potential for a market-based interim solution through a soft market testing exercise conducted with the waste industry. GCC received responses to the soft market testing indicating interest in the development of merchant facilities in the South West.

4.2.12.5 Since the completion of the soft market testing exercise, GCC has been in discussion with the West of England Partnership (WoEP) regarding the potential for GCC to participate as a partner in the WoEP interim residual waste treatment procurement. WoEP plans to procure a cost effective and flexible interim solution and it is possible that GCC could participate in this project in order to meet its interim LATS targets.

4.2.12.6 The WoEP, led by Bristol City Council, will commence procurement of their "Phase 2" interim solution in summer 2008 and initial feedback from the WoEP (12 March 2008) indicates support for developing opportunities for a joint procurement with GCC. *[withheld under exception 12 (4) (d)]*.

4.2.12.7 GCC is confident that it can manage its interim LATS position effectively. GCC recognises that its interim LATS position will be affected by both the success of the procurement process for the long term residual waste contract and GCC's commitment to divert more waste from landfill by achieving its recycling and composting targets.

4.2.13 Rationale for the Long Term Residual Treatment Procurement

4.2.13.1 GCC recognises that the solutions discussed for the interim above, will not meet GCC's long term landfill diversion targets. It is estimated that even with the implementation of waste minimisation schemes, enhanced recycling and composting collection schemes and a good communication programme, GCC will still generate approximately circa 175,000 tonnes of residual waste by 2040.

4.2.13.2 To achieve GCC's strategic aim to reduce reliance on landfill and to mitigate its exposure to LATS penalties, GCC has identified the need to treat its residual waste in a way that is acceptable, feasible, flexible, environmentally sustainable and Value for Money. Do nothing, continuing to send residual waste to landfill and paying significant LATS penalties is not considered an option; this could cost GCC up to £80 million in 2020.

4.2.13.3 GCC intends to procure a long term residual waste contract to divert residual MSW away from landfill and to comply with LATS. The Reference Project for this residual waste contract forms the basis of this application for PFI credits.

4.3 Output Specification for the Residual Waste Project

4.3.1 GCC is using the Defra Waste Infrastructure Delivery Programme (WIDP) Output Specification (Consultation Draft) as the basis for the Output Specification. The current draft will be developed to reflect GCC's specific circumstances and requirements. The scope of service and high levels outputs required as part of the Reference Project are set out below:

- the acceptance of residual waste for treatment;
- the provision of residual waste treatment capacity; and
- disposal/recycling of all process end and by-products.

4.3.2 It may also include transfer, haulage and landfill services, but this is more likely to be procured separately or as a separate lot. This approach will be reviewed over the coming months.

4.3.3 The contractor will be required to design, build, finance and operate residual waste treatment capacity that will divert residual waste from landfill. Specifically, such capacity should:

- divert MSW from landfill;
- be a full (rather than partial) solution with guaranteed agreements for the management of all process products and by-products;
- be deliverable; there will be no obvious technological, legal, financial, planning or logistical obstacles to providing the operating capacity;
- be a flexible solution able to deliver the required outputs over the economic life of the facility(ies) in response to changing circumstances (including changing waste volumes and composition);
- be an environmentally sustainable solution; delivering, as part of a holistic waste management solution, continually improving net environmental benefits (specifically in terms of its potential impact on climate change);;
- optimise materials and energy recovery – so treating waste as a resource; and
- represent value for money (“VfM”) over the life for the contract.

4.3.4 GCC will also be taking account of the results from the soft market testing exercise, when several companies provided comments to GCC on the content of the Output Specification. In addition, GCC plan to use the results of its forthcoming public consultation to help inform the development of the Output Specification (further details can be found in Section 9).

4.3.5 *[withheld under exception 12 (5)(e)]*

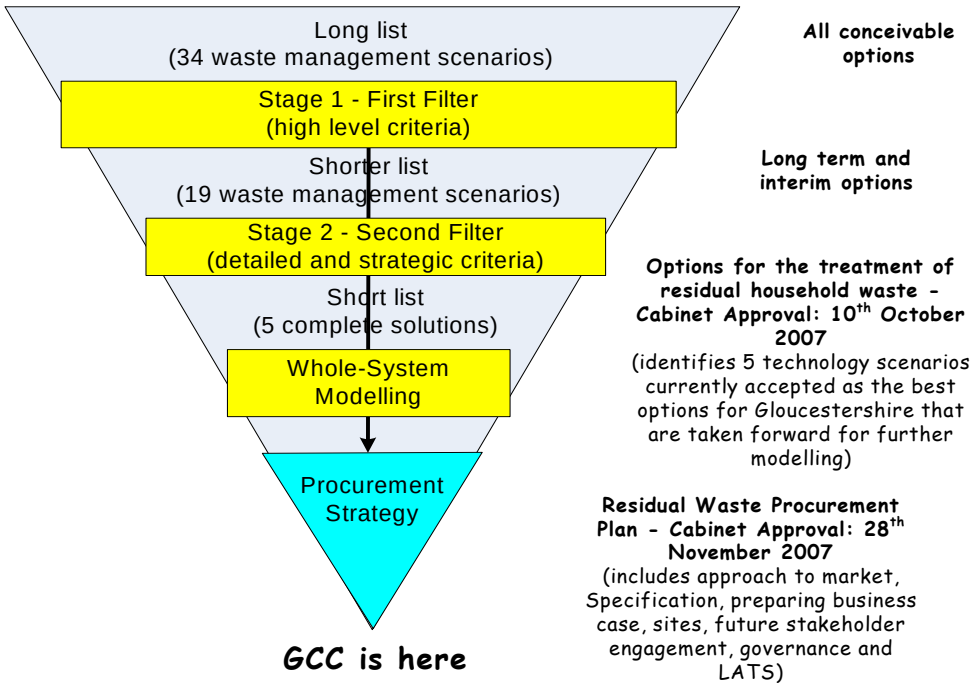
4.3.6 With regard to improved economics of scale, a transparent costing model will be required to ensure equity and that Value for Money is maintained.

4.4 Long Listing of Technology Options

4.4.1 In the JMWMS GCC outlines its commitment to undertake an extensive appraisal of residual waste treatment solutions. GCC identified the need to find a way of managing its residual waste that is an acceptable, feasible, flexible, environmentally sustainable solution that ensures Value for Money.

4.4.2 GCC undertook a staged approach to appraising a long list of 34 potential residual waste technology scenarios. The scenarios were taken through a two stage selection process (including the Status Quo (landfill)) (see Figure 4.2) designed to help determine flexible, acceptable, feasible, and environmentally sustainable solutions that could potentially provide value for money for Gloucestershire. The process applied an increasing level of scrutiny and rigour as technology options were screened out, eventually reducing the number of technology scenarios from 34 to five. The process and the criteria used are summarised below with the detailed reports appended in Appendix A4.

Figure 4.2: The Technology Appraisal 'Funnel' process



4.4.3 Identification of Options

4.4.3.1 GCC identified an initial long list of 34 potential technology scenarios that could conceivably be employed to treat and manage residual waste in Gloucestershire (see Appendix A4). This list included new and emerging technologies potentially capable of treating MSW. The technology scenarios, although based on core treatment technologies, encompassed 'whole systems" including end points/markets and/or secondary treatment processes.

4.4.3.2 The 34 technology scenarios were initially appraised against five high-level criteria used to de-select options that were not considered to be viable. The criteria used were; compatibility with national policy/legislation; product marketability; efficacy (proven technology); compliance with Landfill Allowance

Trading Scheme; and excessive cost, with the criteria applied on a pass or fail basis. The detailed evaluation and criteria are appended (Appendix A4).

4.4.3.3 This initial appraisal process removed a number of novel and unproven (on MSW) technologies (e.g. ethanol production), highly expensive (e.g. plasma arc) and undeliverable options, reducing the long-list to a shorter list of 19 technology scenarios. These 19 technology scenarios were then subjected to Stage 2 of the appraisal process.

4.4.3.4 In addition, a Research and Development watch list was created for failed technology scenarios where it was recognised that developments in markets and technologies may impact on their viability in the near future. For example autoclave producing a fibre board material.

4.4.3.5 Prior to the Stage 2 appraisal the 19 scenarios were divided in to two groups. Those considered to offer potential for long term solution and those considered to offer potential to provide an interim solution to reduce GCC's potential LATS exposure. These were groups classified as follows:

Long Term Solutions - those which due to deliverability factors would not be available to divert MSW from landfill in the short term. Reasons included probable timetable associated with key activities such as planning, and construction, and/or the security of markets.

Interim Solutions - those scenarios that could potentially be implemented during the earlier years, helping the local authority to bridge the LATS gap. This included scenarios that maybe perceived to have a reduced planning risk, and technologies that produce outputs that in the short term may be dealt with in a 'less' sustainable way, such as use of compost on non-agricultural land, or sent to landfill.

4.4.3.6 After consultation with GCC's technical consultants, seven interim technology scenarios were identified which could meet GCC's potential LATS gap and twelve were identified as capable of delivering a long term solution. These are shown in Table 4.2.

Table 4.2: Final Long List of Possible Interim and Long-term Technology Solutions

Technology Reference No.	GCC Scenario No.	Description
Possible Interim Solutions		
AUT1	8	Autoclave technology with floc, residue to contaminated land application
AUT2	9	Autoclave technology with floc to anaerobic digestion to biogas and digestate production
AUT3	10	Autoclave technology with floc to partially stabilised material for landfill
MBT1	17	MBT (aerobic) with stabilised material to contaminated land
MBT2	18	MBT (aerobic) with partially stabilised material to landfill
MAD1	20	MBT (anaerobic) with biogas, and digestate to aerobic treatment to produce partially stabilised material for landfill
MAD2	24	MBT (anaerobic) with biogas, and digestate to composting for application to contaminated land
Possible Long-Term Solutions		
AUT4	1	Autoclave technology with floc to dedicated combustion (MTT/ATT (CHP))
AUT5	3	Autoclave technology with floc to industrial combustion plant(s)

Technology Reference No.	GCC Scenario No.	Description
AUT6	4	Autoclave technology with floc to merchant combustion plant(s) (MTT/ATT (CHP))
MBT3	12	Biodrying with RDF to dedicated MTT/ATT (CHP)
MBT4	14	Biodrying with RDF to merchant plant facilities (MTT/ATT (CHP))
MBT5	15	Biodrying with RDF to an industrial power plant (Cement kiln, power plant etc.)
MTT1	28	Modern Thermal Treatment with electricity production only
MTT2	29	Modern Thermal Treatment with electricity production and recovery of heat energy (CHP plant)
ATT1a	31	ATT with syngas used for electricity production only, via steam turbine
ATT1b	31	ATT with syngas used for electricity production only, via gas engine
ATT2a	32	ATT with syngas used for electricity production, via steam turbine, and recovery of heat energy (CHP plant)
ATT2b	32	ATT with syngas used for electricity production, via gas engine, and recovery of heat energy (CHP plant)

(Source: Eunomia)

4.4.4 Details of Evaluation criteria

4.4.4.1 The Stage 2 evaluation of the long list (Stage two) was split into two groups of tests:

- A: detailed technical modelling of the technology scenarios, which led to a ranking of the scenarios based on their technical performance. This used weighted evaluation criteria (scored using a pre-defined scoring system) developed during consultation with a community panel, as part of the JMWMS consultation phase and which are summarised in Table 4.3 (see also Section 3).

- B: consideration of strategic issues that were important to GCC.

4.4.4.2 GCC commissioned a technical consultant to support Stage 2 of the appraisal process.

4.4.4.3 At the time of evaluation the WRATE software was not available. Climate change impact, health impacts, materials balance and energy balance for each technology scenario were modelled using the technical consultants own propriety technical model. GCC is currently undertaking WRATE analysis on technology scenarios (see Section 4.4.7.3).

Table 4.3 – Evaluation criteria applied to 19 technology scenarios (Normalised and Split Criteria Weightings)

High-level criteria	Criteria	Sub-criteria	Measure	Nominal Weighting	Normalised
Feasibility	Planning Risk		What is the public perception and political position?	6.8	7.58
	Track Records		Does the technology have a proven track record for reliability?	6.2	6.91
Flexibility	Adaptability	Input composition Output configuration	How readily can the technology adapt to changes in composition/waste volume?	6.2	6.92
Environm-ental Sustaina-bility	Climate Change		What are the net Greenhouse gas (GHG) emissions arising per tonne of waste treated (excluding transport) measured by CO2 equivalent?	10	11.15
	Health		What are the health effects of emissions of pollutants with a localised impact?	10	11.15
	Materials Balance	Materials Recycled	What demand on primary materials extraction does the technology make? What is the technology's contribution to recycling/composting.	9.3	10.37
	Energy Balance		What is the net energy generation/use associated with the technology (including energy benefits derived from any recycling/energy generation).	7.1	7.92

(Source: Eunomia)

4.4.4.4 The second test (B) of the Stage 2 appraisal process involved a qualitative assessment of issues considered to be of strategic importance to GCC. These are listed below:

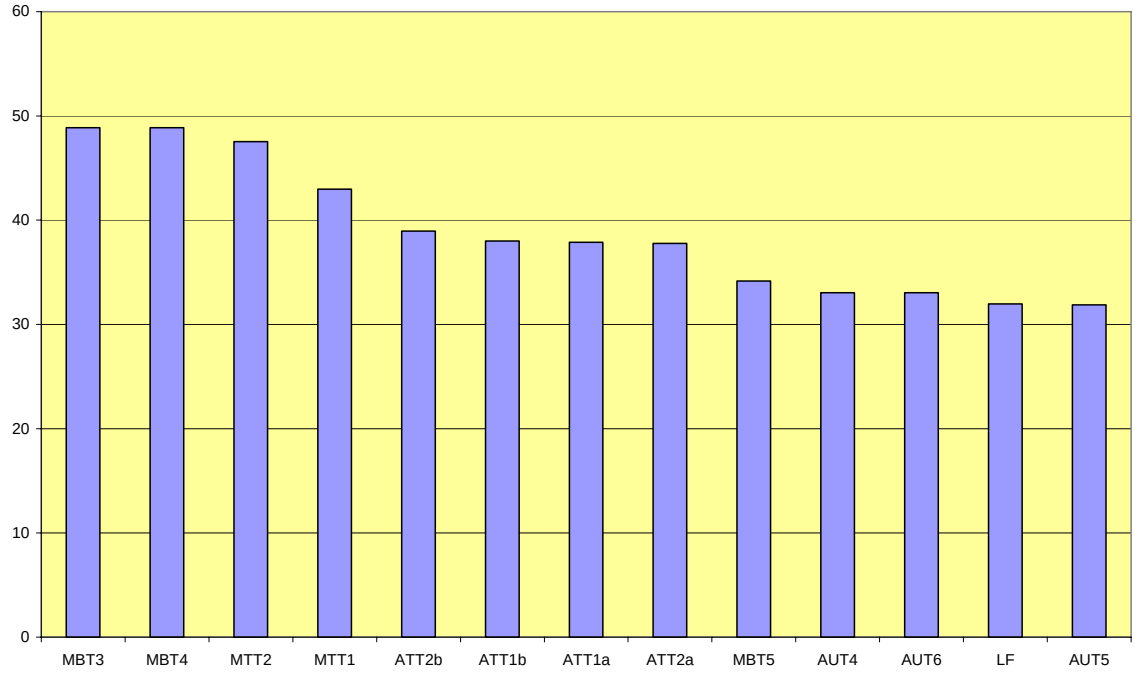
- Affordability
- Diversion of BMW from landfill (LATs performance)
- Diversion of waste from landfill
- Compatibility with specific procurement rules
- Bankability
- Fit with JMWMS
- Site Availability
- Performance in respect of self sufficiency
- Council attitude to specific technologies
- Alignment with consultation
- Third party agreements
- Co-treatment of wastes.

4.4.4.5 The second set of tests were applied as a pass or fail to filter the technology scenarios to ensure that the top ranking technology scenarios were compatible with GCC's strategic considerations. For example, GCC aims to use "residual waste as a resource", as a consequence technologies that generate waste destined for landfill were not considered to be compatible and were therefore screened out.

4.4.5 Appraisal of Long List

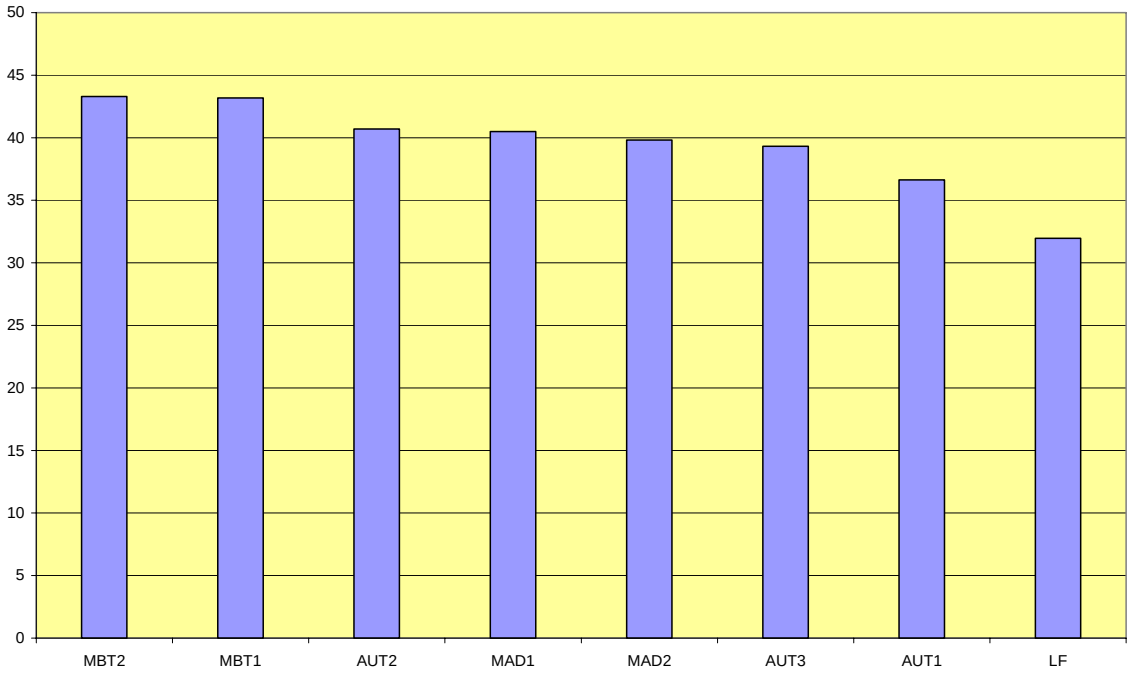
4.4.5.1 The summarised results of stage 2 appraisal using the part A group of tests is shown figures 4.3 and 4.4 respectively. Detailed raw and weighted scores for each scenario can be found in Appendix A4.

Figure 4.3: Ranked Performance - Technology performance of Long-Term Solutions



(Source: Eunomia)

Figure 4.4: Ranked Performance –Technology performance of Interim Solutions



(Source: Eunomia)

4.4.5.2 The top ranking long-term solutions are MBT3, MBT4, and MTT2 (Figure 4.3). These options have comparatively low climate change impacts and high net energy balance. AUT5 is the lowest ranking option due to extremely poor performance under Air Pollution (a strongly weighted criterion), Climate Change, and Track Record. Of the stand-alone thermal options, MTT2 (EfW with CHP) ranks highest – this is largely a result of a high net energy balance.

4.4.5.3 Of the interim solutions, MBT2 and MBT1 ranked the highest. MBT to landfill (MBT2) was only considered an interim solution as GCC does not consider MBT to landfill as sustainable in the long term. This is based on future landfill capacity requirements and the unknown financial and legislative implications. In addition, this solution is reliant on landfill, meaning overall waste was not being diverted from landfill which conflicts with the principles of the waste hierarchy and JMWMS objective 5 (residual waste as a resource). However, as this option performed well environmentally during the Stage 2 technical appraisal, GCC considered it beneficial to examine further the financial implications of procuring MBT to landfill as a potential long-term solution (see section4.4.8).

4.4.5.4 The completion of the Stage 2 appraisal resulted in a recommendation from GCC's technical consultants to take forward three potential long term technology scenarios plus Business as Usual for comparative purposes. These were

- Energy from Waste (Incineration) with Combined Heat & Power (CHP).
- Mechanical Biological Treatment (MBT) producing a biologically stabilised material that is sent to landfill.
- Mechanical Biological Treatment (MBT) producing a fuel sent to a dedicated CHP.

- Business as usual (landfill) continuing to landfill – all untreated residual waste.

4.4.5.5 GCC also reintroduced two previously discounted technology scenarios to the final short list, namely ATT (ATT2b) and autoclave (AUT4). The reasons for this were;

- the soft market testing exercise convinced GCC of recent developments in the market for the technologies;
- GCC's members required a fuller understanding of the technologies;
- the technologies appear to be more bankable;
- GCC had visited examples of the facilities; and
- GCC was committed to reintroducing technology scenarios back into the technology appraisal, if there were developments that GCC felt made the technologies more technically proven.

4.4.5.6 Based on the above, GCC's Cabinet approved (10th October 2007) a shortlist of five waste technology scenarios, which would be taken forward for financial modelling. These were:

- Energy from Waste (EfW) with Combined Heat & Power (CHP).
- Mechanical Biological Treatment (MBT) producing a biologically stabilised material that is sent to landfill.
- Mechanical Biological Treatment (MBT) producing a fuel sent to a dedicated CHP.
- Autoclave producing recyclates and an active fibre fuel that is sent to a dedicated CHP.
- Advanced Thermal Treatment (ATT) with syngas used to produce electricity and recovery of heat energy (CHP).

4.4.5.7 The Cabinet paper is attached in Appendix A4. In addition to this Cabinet also approved a Residual Waste Procurement Plan (November 2007), which approved the development of a detailed business case for the delivery of a residual waste solution. It also approved a high level Output Specification.

4.4.6 Appraisal of Short-listed Options to Identify Reference Project

4.4.6.1 To enable GCC to identify the Reference Project, GCC carried out further analyses starting with the five technology scenarios approved by Cabinet. Variants to these starting scenarios were also examined and reasons for this are explained below. As part of this further work GCC critically assessed:

- the projected cost;.
- the funding and procurement options available, reviewing the attributes of the different core technologies and how the type of technology is likely to affect the viability, deliverability and achievability of the different procurement and funding options; and
- the whole system climate change impact (including more recently WRATE analyses)

4.4.6.2 Cost of each Option

4.4.6.2.1 GCC commissioned technical and financial advisors to undertake a financial assessment in order to derive an indication of the estimated financial cost associated with each of the technology scenarios. GCC's technical advisors provided waste flow models for each of the technology scenarios examined (see Table 4.5) together with the underlying capital and operating cost assumptions.

4.4.6.2.2 GCC's financial advisors used a shadow tariff financial model to calculate an estimated Unitary Charge for providing the service over a contract period of 25 years. The financial modelling assumed a Design, Build, Finance and Operate (DBFO) structure whereby financing for the project would be sourced through private sector funding, a similar structure to that adopted typically under a PFI procurement. The financing terms were based on those readily available in the market place at the time, benchmarked with other projects that had recently achieved financial close or were in the latter stages of procurement.

4.4.6.2.3 The size and performance of the facilities used for each solution was determined by the technical advisors in consultation with GCC with a primary aim of achieving waste strategy recycling targets (60% by 2020) and meeting the projected LATS exposure based on the waste strategy growth forecasts.

Table 4.4: Summary of the technology scenarios taken forward for financial modelling

Option	Summary of facilities	Description
MTT 1 (variant)	Single facility – 130k tonnes pa Electricity generation 500 kWh per tonne	Modern Thermal Treatment as a complete solution.
MTT 2	Single facility 130k tonnes pa Electricity generation 270 kWh per tonne Steam generation 1,681 kWh per tonne	Modern Thermal Treatment as a complete solution using Combined Heat and Power (CHP).
MBT 2	Two MBT facilities – 70k and 60k tonnes pa Landfill 56% of throughput with 75%	Mechanical Biological Treatment as a partial solution to stabilise residual waste before disposal to landfill.

Option	Summary of facilities	Description
	reduction in BMW content	
MBT2- MTT1 (variant)	Two MBT facilities – 70k and 60k tonnes pa One MTT1 facility – 80k tonnes pa Electricity generation 500 kWh per tonne	MBT (70k tonnes) to meet early LATS targets followed by additional MBT and MTT1 to provide a complete solution.
MBT2- MTT2	Two MBT facilities – 70k and 60k tonnes pa One MTT2 facility – 80k tonnes pa Electricity generation 220 kWh per tonne Steam generation 1,400 kWh per tonne	MBT (70k tonnes) to meet early LATS targets followed by additional MBT and MTT2 to provide a complete solution with CHP.
AUT4a(variant)	AUT with MTT facility – 130k tonnes p.a. Electricity generation 500 kWh per tonne.	Autoclave treatment with RDF to Modern Thermal Treatment (MTT) as a complete solution.
AUT4b	AUT with ATT facility – 130k tonnes p.a. Electricity generation 380 kWh per tonne and heat generation 1,013 kWh per tonne	Autoclave treatment with RDF to Advanced Thermal Treatment (CHP) as a complete solution.
ATT2b (variant)	One ATT facility – 130k tonnes p.a. Electricity generation 380 kWh per tonne Heat generation – 1,013 kWh per tonne	Advanced thermal treatment as a complete solution.

(Source: Ernst and Young)

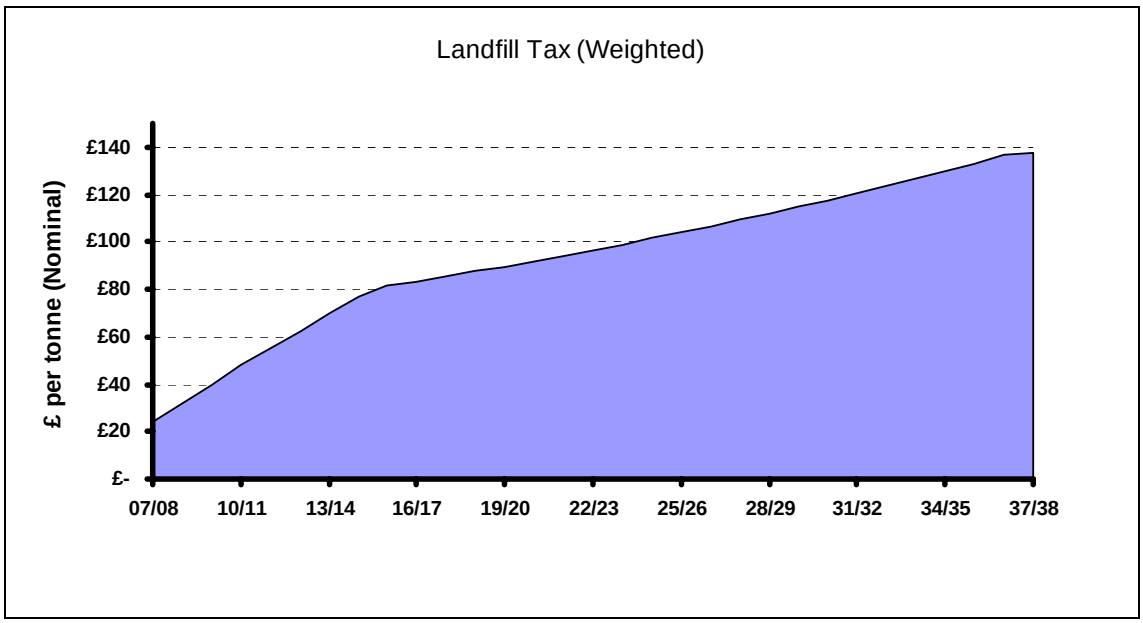
4.4.6.2.4 GCC also tested the sensitivity of the estimated costs for all technology options that include CHP to understand the financial impact if heat markets did not materialise. The importance of this issue was also highlighted in the results of the soft market testing exercise where it was recognised that the success of CHP will rely heavily on the availability of appropriate heat markets.

4.4.6.2.5 The sizing of the model facilities at this stage was based on reducing GCC's LATS exposure and assumed that GCC could exceed the forecast waste growth and recycling target of 60% by 2020. It was recommended that GCC consider providing marginal "headroom" in the facilities in the event that the JMWMS targets are not achieved and waste growth is higher than anticipated. This was taken in to account when sizing the Reference Project.

4.4.6.2.6 The estimated costs of the technology scenarios are provided below in Table 4.5. It should be noted that the financial modelling exercise assumed an average facility capacity of approximately 130,000 tonnes per annum. This capacity was later revised to 175,000 tonnes per annum for the definition of the Reference Project. This change was introduced in response to a number of factors, including a review of waste growth assumptions and re-focussing of the Reference Project to maximise the diversion of waste from landfill (exceeding LATS targets) as opposed to simply meeting the Authority LATS targets.

4.4.6.2.7 The financial model only considered the direct costs associated with a DBFO contract, including the landfilling of residues from the treatment facilities. Financial model inputs and assumptions were agreed, including financing costs, tax and accounting assumptions. In addition the cost of future landfill tax was estimated in nominal terms based on a weighted average landfill tax rate projection and is presented in Figure 4.5 below.

Figure 4.5: Landfill tax rate assumptions used for financial modelling



(Source: Ernst and Young)

4.4.6.2.8 The potential cost of LATS penalties that could be incurred is not included in the financial model for the DBFO contract but is included in the overall analysis of the results. Whilst GCC considered a number of LATS scenarios to reflect the potential for reduced LATS costs due to trading, the results of the financial assessment presented in Table 4.5 assume that the maximum penalty of £150 per tonne of BMW applies.

4.4.6.2.9 The costs presented in Table 4.5 include the continuing cost of residual waste disposal to landfill during the construction phase of the facilities.

Table 4.5: Estimated cost of technology options

	Base Case/ BaU	Option 1 MTT1 (MTT with electricity production)	Option 2 MTT2 MTT (CHP)	Option 3 MBT2 MBT to landfill	Option 4 MBT-MTT1 MBT (MTT with electricity production)	Option 5 MBT-MTT MBT to MTT (CHP)	Option 6 AUT 4 Autoclave to ATT	Option 7 AUT 4b Autoclave to MTT	Option 7 ATT
Net Present Cost*	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**
Capital Costs	N/A	68.2	68.2	27.7	68.0	68.0	76.9	79.4	71.0
Land Acquisition	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Life Cycle Costs	N/A	In Opex cost	In Opex cost	In Opex cost	In Opex cost	In Opex cost	In Opex cost	In Opex cost	In Opex cost
Operating Costs (per annum)**	N/A	70.3	70.3	69.5	94.4	94.4	94.7	101.3	70.3
Revenue	N/A	(30.4)	(61.4)	(4.0)	(21.7)	(33.9)	(52.1)	(34.1)	(57.5)
Landfill Costs***	60.8	34.3	34.3	37.6	31.9	31.9	36.3	36.3	34.4
Landfill Tax***	134.6	29.4	29.4	79.6	30.3	30.3	36.3	36.3	29.9
LATS costs (£150 per tonne)	71.5	12.3	12.3	6.6	5.9	5.9	5.9	5.9	12.3
Total	**266.9**	**184.1**	**153.1**	**217.0**	**208.8**	**196.6**	**198.0**	**225.1**	**160.4**
Ranking	**9**	**3**	**1**	**7**	**6**	**4**	**5**	**8**	**2**

*Net Present Cost terms at 31 March 2008 (Nominal discount rate 6.0875%)
**Includes SPV operating costs
***Includes landfill cost and landfill tax during the construction period

(Source: Ernst & Young)

4.4.6.2.10 The results show that all of the technology options perform better in net present cost (NPC) terms than business as usual (continuing to landfill). The results of the financial assessment undertaken in 2007 indicate that all of the technology options being considered had the potential to deliver GCC's strategic aims of diverting residual waste away from landfill and meeting LATS targets, at a lower overall cost than continuing business as usual.

4.4.6.2.11 The MBT to landfill option (option 3) has the lowest capital costs and Autoclave to MTT (option 7) has the highest capital cost. With the exception of the MBT option 3, all of the technology scenarios require capital expenditure of approximately £70-80 million in NPC terms.

4.4.6.2.12 The highest operational costs are associated with the MBT and autoclave technologies. With regard to the MBT solutions, there are significant costs associated with the landfill of significant volumes of treated waste incurring landfill tax and gate fee costs, while the plant operating costs are relatively low. In contrast, the other technology scenarios have relatively low landfill disposal costs but their plant operating costs are higher, particularly where there is more than one component facility (ie, options 4, 5, 6 and 7).

4.4.6.2.13 The MTT options have the lowest operating costs, but the lower annual operating costs will be off-set to an extent by the higher annual repayments of debt associated with the higher capex investment required for these options.

4.4.6.2.14 The options that include CHP generate a renewable portion of electricity that is likely to be eligible for Renewable Obligation Certificates (ROCs) and this significantly increases the revenue received. For example, in nominal terms over the life of the project, an additional £100m revenue for Option 2 compared to Option 1, and £40m revenue for Option 5 compared to Option 4. A key consideration for any CHP option is whether the steam produced can be utilised by a third party user and whether an income can be assumed. The steam produced requires an off-take for CHP in order to become eligible for ROCs. In the absence of a heat market for the steam the ROCs revenue would be lost.

4.4.6.2.15 The lowest cost option is MTT2 CHP (Option 2) with ATT (Option 7) ranking second, and MTT1 (EfW producing electricity only) ranking third.

4.4.7 Other Evaluation Issues

4.4.7.1 Bankability

4.4.7.1.1 In the appraisal of the short-listed options GCC also considered the likely procurement and funding implications for the different technology options. The availability of private finance for different technologies is significantly affected by the following factors:

- The degree to which a technology is “proven” in the market place and has a track record in terms of its use at a similar scale and for a similar purpose;
- Performance risks associated with the technology and whether it will be reliable in terms of delivery; and
- Whether there are a number of different suppliers or the technology is a novel solution reliant on one supplier or an economically insignificant supply chain.

4.4.7.1.2 GCC also considered the use of Prudential Borrowing (PB) to fund the different technology options, and whether GCC’s appetite to assume the role of funder for a residual waste project using a specific technology option would be different to that of a commercial lender. In addition, the use of PB to fund the project would depend on the availability of PB funds to GCC and competition for funds in other areas of the Council.

4.4.7.1.3 The bankability of the Reference Project is discussed in the conclusion section 4.4.8.10.

4.4.7.2 Climate Change Modelling

4.4.7.2.1 The contribution of the different processes to climate change impacts was chosen as the indicator of the environmental impact of the processes. This is due to:

- Impacts include the emissions from:
  - Energy use;
  - Other process-related emissions;
  - Offsetting emissions from energy generation; and
  - Offsetting emissions from the recovery of recycled materials;
- Some (though not all) of the other air pollutants generated by, or offset by, different processes are closely associated with energy generation or use;
- The Waste Strategy for England 2007 places great emphasis on climate change as an indicator of environmental performance; and
- Abatement techniques for air pollutants can be addressed – up to a point – through investment in improved air pollution control equipment. The emissions of greenhouse gases are less amenable to control, albeit that for some greenhouse gases – notably N_2O – there may be links between the emissions and the nature of abatement technology used.

4.4.7.2.2 Climate change, as represented by total GHG emissions (tonnes of CO2 equivalent) generated by each of the short-listed options), provides a proxy for overall environmental performance.

4.4.7.2.3 GHG emissions were calculated for the period 2007/08 to 2034/35 (i.e. assuming a 20-year operating life for each technology solution, (assuming

operational commencement in 2014/15). The calculations of CO_2 equivalent per tonne of waste took into account direct emissions from treatment processes, offset emissions associated with energy generation, and offset emissions related to recycled material.

Table 4.6: Total GHG Emissions (Tonnes CO_2 Eq) for Short-Listed Options

Option	Total t CO_2 eq (2007/08 - 2034/35)
MBT2 - sequential facilities (130,000 tpa)	3,842,695
MBT2 evolving to MBT3 (MTT2)	4,393,222
MTT2	4,061,485
AUT4	4,018,868
ATT2b	3,763,516
Landfill (Business As Usual)	6,250,689

(Source: Eunomia)

4.4.7.2.4 All options perform better than the 'Business As Usual' case; landfill performs the worst with the highest climate change impact.

4.4.7.3 WRATE analysis

4.4.7.3.1 Although the above had been performed, GCC is using the Waste Resources Assessment Tool for the Environment (WRATE) model to assess the environmental impact of the same options. The full modelling report will be available once completed in Appendix A4.

4.4.7.3.2 Significant savings can be realised in terms of the environmental impacts associated with the management of residual wastes within Gloucestershire by moving away from the reliance on landfill for the disposal of wastes. The use of an EfW (also referred to above as MTT options) will provide reductions, which are increased and realised as benefits through the operation and improved management of more modern facilities. These benefits are greatly enhanced where this incorporates a CHP element, particularly in terms of Abiotic Resource Depletion and Global Warming Potential. Other impacts are also improved for options with EfWs compared to Landfill, and this is further enhanced in the alternative EfW facility and the EfW with CHP, which may be due in part to the fact that the facility modelled is more modern and has less of an impact in terms of emissions.

4.4.7.3.3 Pre-treating the waste stream, through either an MBT or Autoclave process provide significant benefits due to the levels of recyclate that may be recovered from the residual waste stream. These benefits will be significantly affected by the availability of recyclate within the residual waste stream as calculated through the mass flow exercise and the availability of facilities to reprocess recovered materials. There has been no attempt by Entec to include transportation assumptions within this modelling exercise, but it should be of note that the transport impacts that may be associated with the movement of recovered materials to suitable reprocessing facilities may be significant and may impact on the overall performance of the options modelled. Where no suitable facilities exist for

the reprocessing of recovered waste streams these materials could continue to be sent to landfill in the short term.

4.4.7.3.4 The treatment of the fibre output from MBT and Autoclave processes provides benefits that are associated with the thermal efficiency of the treatment process. The potential for fibre output to be disposed of to landfill has been explored. This shows a significant reduction in the benefits that may be realised, with particular reference to the Global Warming Potential indicator.

4.4.7.3.5 The options which incorporate the ATT process demonstrate that these types of facilities provide increased benefits compared to EfW (power only) facilities, but do not perform as strongly as the EfW (with CHP) facilities. This is due to the thermal efficiency of the ATT facility, which is assumed to produce electricity for local use but not heat.

4.4.8 The Reference Project

4.4.8.1 The Reference Project is a model, which has been selected following the detailed technical, environmental and financial options appraisal. It demonstrates a viable solution capable of providing an acceptable, affordable, deliverable and environmentally sustainable solution that will meet Gloucestershire's requirements.

4.4.8.2 In selecting a Reference Project GCC is not selecting its preferred solution. Indeed GCC does not see the OBC stage as the point at which it should select a preferred technology consistent with an output based approach to the specification. (GCC understands this is in-line with the WIDP advice on the Reference Project). The selection of the preferred technology is the objective of the procurement process whereby bidders will submit competitive proposals to meet the requirements of the Output Specification with a clear understanding of the GCC evaluation criteria.

4.4.8.3 Although GCC considers ATT and Autoclave may be capable of diverting MSW from landfill, they cannot be considered reliably deliverable for the purposes of this Reference Project at this present time.

4.4.8.4 The appraisal process has shown that MBT and EfW options are capable of delivering the required output if the potential risks can be mitigated or overcome. It was found that the order of ranking was very sensitive to a number of technical input assumptions and the relative weightings applied to the various different criteria.

4.4.8.5 Based on the above financial, technology, strategic and environmental analyses performed, two scenarios have been identified that have the potential to represent GCC's Reference Project. These are:

- MBT producing an SRF to feed a dedicated CHP; and
- EfW producing energy with CHP (referred to as stand alone CHP).

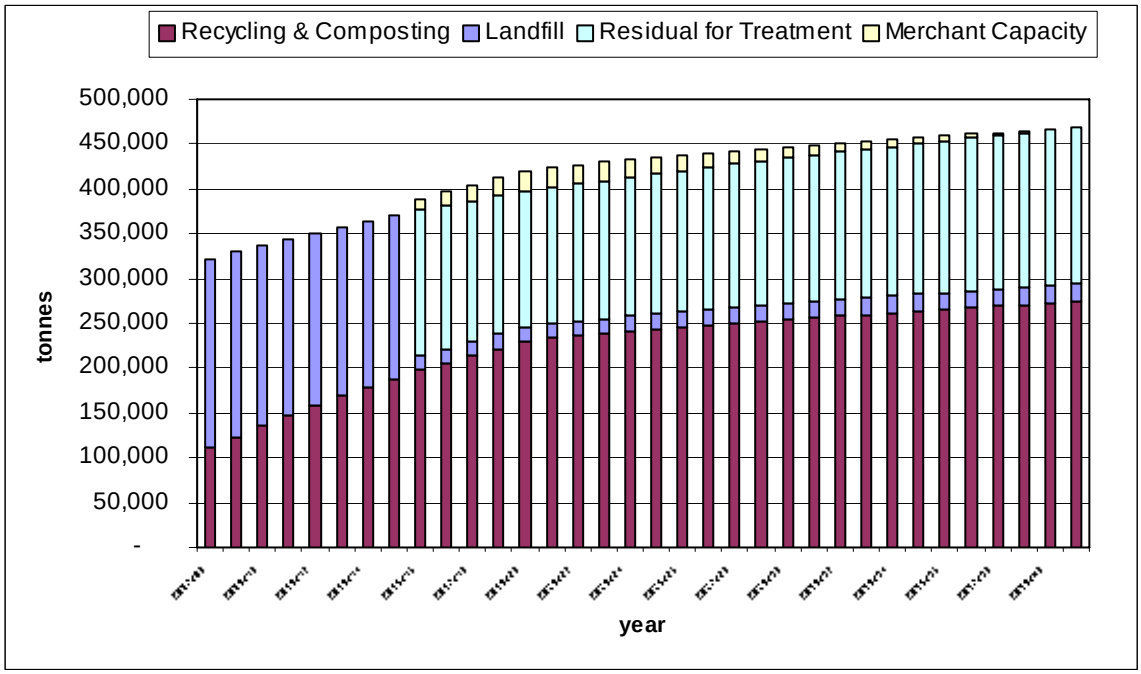
4.4.8.6 For both the climate change impact and the high level financial modelling, the EfW with stand alone CHP option (MTT2) was the best performing technology scenario. It was therefore decided the EfW with CHP would be the most appropriate option to take forward as GCC's Reference Project for detailed technical and financial modelling.

4.4.8.7 GCC recognises that the practical availability of a suitable heat off-take market represents a significant project risk. Given this, and so as not to present an over-optimistic affordability profile, the Reference Project assumes the plant does not export heat and runs in the maximum efficiency power-only mode. Therefore the Reference Project will be based on EfW with electricity production (but with provision for 2km of heating pipework in place to enable the facility to of be switched into CHP mode as heat markets develop). Full CHP mode is one of the key sensitivities modelled.

4.4.8.8 The waste flow model for the Reference Project is in Appendix A2. The M-Beam modelling tool is integrated into the current reference project model.

4.4.8.9 The impact of the Reference Project on Gloucestershire's waste up until 2040 is demonstrated in Figure 4.6 below.

Figure 4.6: Waste Flow for GCC's Waste up until 2040 demonstrating the impact of the Reference Project



(Source: GCC)

4.4.8.10 Facilities

4.4.8.10.1 The Reference Project has been modelled on one reference site and as a one reference facility solution to be located at Javelin Park, Gloucestershire. This is due to issues such as scale, planning and deliverability risk.

4.4.8.10.2 GCC is actively investigating current and future options for heat off-take in Gloucestershire within the vicinity of the reference site, at Javelin Park. GCC will encourage the maximisation of carbon efficiency throughout the procurement via the descriptive document, the Output Specification, the evaluation framework and during competitive dialogue.

4.4.8.10.3 The Reference Project modelling shows that a facility capacity of approximately 175,000tpa will be required by 2040. This is consistent with GCC meeting a 60% recycling and composting target by 2020. The results of the modelling indicate a nominal capital expenditure of £139 million.

4.4.8.10.4 If however, a bidder chooses to propose dispersed facilities or a multi-technology approach, GCC would consider such an approach, against the criteria in the evaluation framework.

4.4.8.10.5 GCC has considered the potential to treat other waste streams such as local business waste. This would ensure that GCC can encourage further waste reduction, recycling and composting.

4.4.8.11 Bankability of the Reference Project

4.4.8.11.1 The Reference Project utilises "conventional" moving grate technology in the Thermal Treatment process. Moving grate technology has a proven, long and comprehensive track record of delivering secure and reliable services over a typical life of a PFI contract. Costs are well understood, as are the durability of plant components and maintenance requirements. Recently closed PFI Schemes using moving grate technology include the SITA's Cornwall PFI scheme. In addition, the funding structure of the Reference Project is typical or recent PFI funding structures comprising 85% senior debt and 15% equity. As such the project is seen as being bankable.

4.4.8.11.2 Some of the active funders in this sector are listed below:

- Dexia
- NIB Capital
- Bank of Ireland
- Societe Generale
- Royal Bank of Scotland
- Barclays
- Lloyds TSB
- Caylon - Credit Agricole Group
- Nord LB

4.4.9 Conclusion

4.4.9.1 The options appraisal process did not clearly identify a single technology scenario that was superior to all other technology scenarios evaluated. The process has not therefore been used to pre-determine a 'preferred' solution for GCC. The selection of the preferred solution will be subject to the outcome of the proposed procurement process.

4.4.9.2 GCC took the top two performing technology scenarios (MBT with CHP and EfW with stand alone CHP) forward for further evaluation and the selection of the Reference Project. This further analysis based on carbon modelling and financial analysis showed EfW with stand alone CHP came out most favourably. However GCC recognises the key to successful CHP is the availability of suitable heat off-take. Given this risk, GCC has ensured that the viability of the Reference Project does not rely on the export of steam. To encompass this issue the Reference Project assumes that the EfW facility does not export heat and runs in the maximum efficiency power-only mode but does include provision for the necessary CHP infrastructure. The deliverability of CHP is one of the key sensitivities modelled and will be critically examined and encouraged (subject to practicality and value for money) through the procurement process.

4.4.9.3 GCC's Reference Project modelling (EfW with stand alone CHP) shows a facility capacity of about 175,000tpa (with GCC obtaining its 60% recycling and composting target by 2020). The key features of the Reference Project are shown below in Table 4.7.

Table 4.7: Key features of the reference project

Proposed Facility	Number of Proposed Facilities	Nominal Capital Expenditure	Capacity of Facility
Energy from Waste (potential for Combined Heat and Power)	1	£139 million	175,000 tonnes

(Source: GCC)

5 Risk Management, Risk Allocation and Contractual Structures

5.1 Introduction

5.1.1 This section provides an overview of how GCC manages risks corporately and at a project specific level; GCC's approach to identifying and assessing risks during the procurement of the residual waste contract and risks in relation to successful delivery of the services. It also provides an outline of the proposed payment and performance arrangements; and an initial view of the balance sheet treatment of the Reference Project.

5.2 Risk Management

5.2.1 Risk management is seen as a fundamental part of GCC's Business Planning process and GCC recognises the significance of identifying and mitigating risks associated with the delivery of waste management services and in particular the procurement and delivery of the residual waste treatment solution. Corporately GCC has a Risk Manager who has developed a Practical Guide to Risk Management. The Corporate Governance and Risk Management Framework is shown in Appendix A5. This approach is used by the Waste Management Unit to establish, monitor and review risks and opportunities.

5.2.2 The Waste Management Unit (which includes the residual waste project team) has a risk register which holds a record of all current risks and opportunities. These are reviewed and monitored against the activities of the Unit that are detailed in the Waste Management Unit's Business Plan. The process used is detailed in Appendix A5.

5.2.3 Each month the Project Manager responsible for the Residual Waste Project produces a highlight report, which sets out a summary of work undertaken and planned for a particular theme or project, this includes a review of risks. An extract from the latest highlight report for the Residual Waste Project can be seen in Appendix A5. This details the status of, and mitigation in place for the current risks.

5.2.4 The most significant risks within the Waste Management Unit risk register are recorded on the Environment Directorate risk register, which in turn is consolidated onto a corporate risk register on a quarterly basis. Currently, the risks associated with LATS and delivery of a residual waste treatment solution are seen as two significant risks for the Directorate.

5.2.5 Specific Project Risks

5.2.5.1 An initial high level review of key risks for the Residual Waste Project are: -

- Failure to align the residual waste contract with existing/future waste contracts;
- Failure to deliver a signed contract by December 2010;
- Failure to achieve planning approval and control of a suitable site; and

- Partnership opportunities with the West of England Partnership.

5.2.5.2 Two of the above risks are also held on the Corporate Risk Register and are described as: -

- Failure to deliver a signed contract by December 2010, due to unaffordable contract proposals, lack of political support or other reasons.
- Failure to achieve planning approval and control of suitable site

5.2.5.3 The Core Project Team and the Wider Project Team have identified current, emerging and future risks, and these are documented on the Residual Waste Project's risk log and are classified by their likelihood, impact, owner and timescale for review. Inherent risks and, once control measures have been implemented, residual risks are assessed. (The process for risk identification used within GCC is shown at Appendix A5). The risks are reviewed on a monthly basis by the Core Project Team and shared with the Waste Project Board. Moving forward, the Budget and Performance Scrutiny Committee will be responsible for challenging risk mitigation for the project.

5.3 Risk Allocation Matrix

5.3.1 The Procurement Process Risk Matrix

5.3.1.1 GCC has identified and considered risks associated with the procurement of a residual waste treatment solution and have developed a risk matrix (see Appendix A5). It identifies four key risks under which fall a number of 'risk trends/scenarios'. Learning from previous experience of a PFI process, the Core Project Team has grouped the risks to improve the efficiency of the monitoring and review process.

5.3.2 The Residual Waste Contract Risk Allocation Matrix

5.3.2.1 The Core Project Team which includes internal and external technical, financial and legal advisors has developed a risk identification and allocation matrix. The matrix sets out the key project risks, their allocation to each party involved in the contract (council, contractor, shared) at the outset of the procurement (Appendix A5). The contract terms and risk allocation will correspond with HM Treasury's Standardisation of PFI Contracts Version 4.

5.3.2.2 The proposed allocation of risk will be negotiated with bidders during the procurement process. This may lead to new risks arising and allocations changing depending on the technology solution.

5.3.3 Waste Service Interfaces

5.3.3.1 GCC has identified contractual and physical interfaces that need to be managed when providing the services and infrastructure in line with the JMWMS objectives. It lists the authority, public and contractor(s) interfaces and provides information in respect of management approaches and

mitigation measures proposed to deal with the potential risks introduced by each interface. A draft paper in appended (Appendix A5). GCC intends to develop a more detailed strategy of how to manage these risks over the coming months.

5.4 Project Agreement and Other Contractual Documents

5.4.1 The procurement will be in accordance with the Public Contract Regulations 2006 using the competitive dialogue procedure and the Environmental Protection Act 1990. The Project Agreement will comply with the then current version of Standardisation of PFI Contracts ("SoPC4") and the then current waste sector derogations.

5.4.2 In addition to the current waste sector derogations, only derogations which represent value for money or are related to project specific issues will be accepted by GCC in close liaison with WIDP and Defra.

5.4.3 The terms of appointment of technical, legal and financial advisors are based upon the Office of Government Commerce Catalist terms.

5.5 Payment Mechanism

5.5.1 The payment mechanism is both a method for payment and a way to incentivise performance. As such, the payment mechanism will be linked to the service outputs defined in the Output Specification and deductions will be applied when Output Specification standards are not achieved. As discussed in greater detail below, the payment mechanism will be supported by an effective performance-monitoring system to ensure performance meets the required standards.

5.5.2 Payment will be made monthly in arrears and reflect the performance for the previous month. The broad principles of the payment mechanism are such that:

- GCC only pays for services when they are delivered. Payment will be matched to increasing rates of recycling, recovery and diversion associated with construction and operation of the contract infrastructure;
- Risk is transferred to the PFI contractor in accordance with its performance obligations. Financial incentives, both positive and negative, are created to perform in accordance with the Output Specification and waste hierarchy; and
- Incentives exist for the PFI contractor to exceed contractually underwritten recycling, recovery and diversion targets where it is to the advantage of GCC to do so.

5.5.3 WIDP Payment Mechanism

5.5.3.1 GCC proposes to adopt the WIDP payment mechanism as a basis for the Residual Waste Project. GCC is aware that WIDP has developed an update of the 4Ps Procurement Pack, (issued as a Consultation Draft in December 2007) and is likely to incorporate any revised best practice guidance in

relation to the payment mechanism within the project's contract documentation once the mechanism is published in its final form.

5.5.3.2 The Core Project Team is planning a number of internal procurement workshops to draft the payment mechanism in detail for the ISDS stage of the Competitive Dialogue, following the published final guidance by Defra. This will be developed in conjunction with the Output Specification, performance management and monitoring system.

5.5.3.3 The rest of this section summarises the main elements of the payment mechanism in line with the WIDP guidance, which will form the core of GCC's approach.

5.5.4 Calculation of Unitary Charge

5.5.4.1 The Unitary Charge (UC) will be made up of a number of elements. The majority of costs will be contained within the main element: the Base Payment. It is not possible to include all elements in a unified whole without either reducing value for money as bidders have to price in uncertainties, or creating perverse incentives conflicting with the requirements of the Output Specification. The elements of the payment mechanism are set out below in Table 5.1.

Table 5.1: Elements of the Payment Mechanism UC = B - D - P - M - N - T + R + PT

Symbol	Description	Comments
B	Base Payment	The Base Payment is calculated based on a rate per tonne which is applied to all tonnages of Contract Waste accepted by the contractor in a contract year. The relevant rate per tonne steps up as the Facility(s) are commissioned. The Base Payment is subject to a minimum tonnage provision, below which the Base Payment shall be calculated as though the tonnage of Contract Waste was equal to the minimum tonnage provision.
D	Diversion Performance Adjustment	The Diversion Performance Adjustment reflects the difference between: ▪ the tonnages of Contract Waste the contractor sends to landfill; and ▪ The target landfill tonnage in a contract year which the contractor is permitted to send to landfill.
P	Performance Deductions	The main purpose of the Performance Deduction component is to incentivise the contractor to meet the performance standards which are set out in the Output Specification.
M	Mileage Deduction	The Mileage Deduction is intended to compensate GCC for additional haulage costs incurred in the event that GCC has to deliver Contract Waste to the

Symbol	Description	Comments
		contingency delivery point.
N	Non Acceptance Deduction	Intended to compensate GCC for tonnage not accepted by the contractor
T	Third Party Income	The purpose of the Third Party Income deduction is to allow GCC to share in the financial benefit that arises if actual income is in excess of that anticipated. The intention is to leave the contractor with the risks and rewards relating to operational efficiencies.
R	Recycling Payment	The purpose of the Recycling Payment is to provide a mechanism to incentivise the contractor to recycle.
PT	Pass Through Costs	There may be a need for other components of the Unitary Charge to allow for miscellaneous payments that may arise for various reasons, including project specific reasons. The components will therefore vary from project to project. However, it is likely that in most projects there will be a need to allow for some "pass through" payments.

(Source: Ernst and Young)

5.5.4.2 It is recognised that the PFI contractor will wish to protect itself against inflation over the life of the project, and to prevent operating cost increasing through inflation that can undermine the bankability of the project. It is therefore proposed that the Unitary Charge will, in part, be subject to indexation.

5.5.4.3 Whilst it is anticipated that it will be for bidders to propose the proportion of the Unitary Charge subject to indexation, GCC expects that the proportion will reflect the underlying cost structure of the project. The Reference Project assumes that 50% of the unitary charge is indexed. Considering GCC's affordability constraint, it is likely that RPI will be used, but GCC will consider alternative proposals from bidders through the Competitive Dialogue stages where improved value for money and affordability can be demonstrated.

5.5.5 Performance Monitoring by the PFI Contractor

5.5.5.1 Unless there is an effective system of monitoring in place, it will not be possible to know how well the PFI contractor is performing or to know if payments and deductions are justified. It is important for the residual waste contract to be self-monitoring as far as possible so as to reduce the burden on GCC. It is anticipated that GCC will be responsible for confirming the monitoring reports derived by the PFI contractor. This will include incidents of failure, which the PFI contractor should be obligated to highlight against itself, including incidents that relate to deductions.

5.6 Markets for Process Outputs

5.6.1 As the selected Reference Project is an energy from waste, the key process outputs are:

- bottom ash;
- fly ash;
- electricity; and
- heat.

5.6.2 This is a proven and banked technology with well-developed and low-risk outlets for all of the above. For CHP to be a commercial reality reliable heat markets need to be identified. GCC has commissioned a study to evaluate the viability of current and future heat off-takers within an economic distance from our preferred site.

5.6.3 Whilst landfill has been the most common destination for both bottom ash and fly ash, it is now common practice to recycle the material. GCC will ensure the Output Specification and evaluation framework will require bidders who propose such technologies to explore more sustainable solutions. Landfill alone, will not be considered a satisfactory response to dealing with bottom ash.

5.6.4 Given GCC's previous experience of such procurements GCC will only consider full and guaranteed solutions put forward during the procurement process. By-products will require a credible outlet market for the life of the project. GCC has spoken with a number of suppliers of treatment technologies (through the soft market testing exercise) and challenged their claims of guaranteed recycling markets for their process outputs. GCC has had discussions with end users including the cement industry and also has a report which was commissioned and carried out by a technical consultant to review potential Solid Recovered Fuel markets. These discussions and the report findings conclude that markets are still uncertain. This is a very dynamic part of the waste industry. GCC is staying in-touch with market developments and will be keen to hear from fully guaranteed solutions when GCC moves into the procurement phase.

5.7 Balance Sheet Treatment

5.7.1 The PFI transaction is intended to be structured such that a sufficient balance of property related risks are transferred to the PFI contractor to enable the transaction to be treated as off balance sheet by the public sector and meet the current criteria for PFI support.

5.7.2 The UK Government announced in March 2007 that government departments and other entities in the public sector will be required to prepare their financial statements using International Financial Reporting Standards (IFRS), as adapted as necessary for the public sector. This requirement is currently expected to be effective for local authorities from 1 April 2010. In December 2007 HM Treasury published a consultation paper relating to accounting for PPP arrangements, including PFI, under IFRS.

As this consultation is still in progress, it is not possible at present to clearly set out the accounting required for the transaction under IFRS by GCC. This current analysis has therefore been performed using the existing Treasury guidance for PFI transactions and does not discuss the potential accounting for the transaction under IFRS.

5.7.3 A clear view on the accounting treatment will not be possible until the transaction proceeds to the latter stages of the procurement process and the residual waste contract terms are finalised, and quantitative analysis is undertaken. However, the basis of the proposals, in terms of the Output Specification, risk transfer and payment mechanism, are designed to ensure sufficient risk transfer to meet the accounting requirements. GCC and its legal and financial advisors will work closely together during the development and procurement of the residual waste contract to ensure that this is the case. However, the final decision on the accounting treatment is the responsibility of the relevant Accounting Officer, in conjunction with the auditors. Accordingly, GCC will arrange a discussion of the accounting arrangements with its external auditors at an early stage.

5.7.4 The method of accounting is prescribed in Application Note F to FRS 5 – “Reporting the Substance of Transactions: Private Finance Initiative” (the "Application Note"), as supplemented by Treasury Taskforce Technical Note number 1 (Revised) “How to Account for PFI Transactions” (“the Technical Note”). An initial assessment of the balance sheet treatment following this existing guidance has been prepared by GCC’s financial advisors. This assessment indicates that the transaction could achieve off balance sheet treatment for the public sector under the Technical Note, in that the limited qualitative analysis and preliminary consideration of risks carried out provides indicative evidence that an off balance sheet treatment from GCC’s perspective is achievable.

5.7.5 The initial assessment was undertaken based on the Technical Note. It is possible that use of other technical guidance, including the Application Note and FRS 5, may result in a differing view to that given using the Technical Note.

6 Project Team and Governance

6.1 Introduction

6.1.1 As noted previously, in September 2005, GCC aborted an integrated waste management PFI procurement. The Project Manager for the previous Waste PFI then managed, to a successful conclusion, procurement of a disposal (landfill and composting) and HRC contracts. Lessons learned from the Waste PFI and these two procurements have been carried through to the current Residual Waste Project. GCC is also using the 4Ps procurement guidance to assist in delivering an efficient and effective procurement process.

6.1.2 It is important to note that two key lessons learned have been carried forward into this project. The first is an increase in the in-house resources to help address the recognition that this project will be very resource intensive. The second has been to ensure in-house specialist legal, technical and financial roles to limit exposure to external advisor costs and also ensure transfer of skills and learning.

6.1.3 The importance of the project is fully recognised by GCC and is seen as one of the key priorities for the authority in the current Gloucestershire Council Plan 2008/9.

6.1.4 Financial support has been guaranteed to the project to cover the cost of internal posts and this has been secured in the Medium Term Financial Strategy (MTFS) for external advisor support and other expenses (see Section 8).

6.1.5 The following sections outline GCC's approach to management and governance of the project and identifies its experience and commitment to the delivery of this major infrastructure project.

6.2 Legal Context

6.2.1 GCC is the Waste Disposal Authority for Gloucestershire. Under section 51 of the Environment Act 1995 GCC has a duty "to arrange …. for the disposal of the controlled waste collected in its area by the waste collection authorities" and this procurement is being carried pursuant to that duty.

6.2.2 This procurement will be in accordance with competitive dialogue procedure under the Public Contracts Regulations 2006 and the Environmental Protection 1990.

6.3 Project Governance

6.3.1 The current governance arrangements are set out in the Project Initiation Document which was approved by the Project Sponsor, in consultation with the Waste Project Board on 6th February 2008, for the procurement process and ongoing support to apply for PFI credits. These are reproduced below (see Figure 6.1).

6.3.2 The key decision making body for the project will be Cabinet and the Project Initiation Document details when Cabinet will be required to make key decisions through the procurement process. The governance arrangements are in line with 4Ps guidance (see Project Initiation Document for further details in Appendix A6).

6.3.3 Other decisions will be taken by the appropriate Lead Cabinet Member or senior council officer in accordance with the delegated powers set out in GCC's constitution.

6.3.4 For the purposes of the Residual Waste Project, a Waste Project Board has been set up (see Section 6.3.7) and Budget and Performance Scrutiny Committee (see Section 6.3.5) has been allocated to carry out the overview and scrutiny of the project. GCC also has plans to set up a Key Stakeholder Group that will be engaged throughout the procurement process.

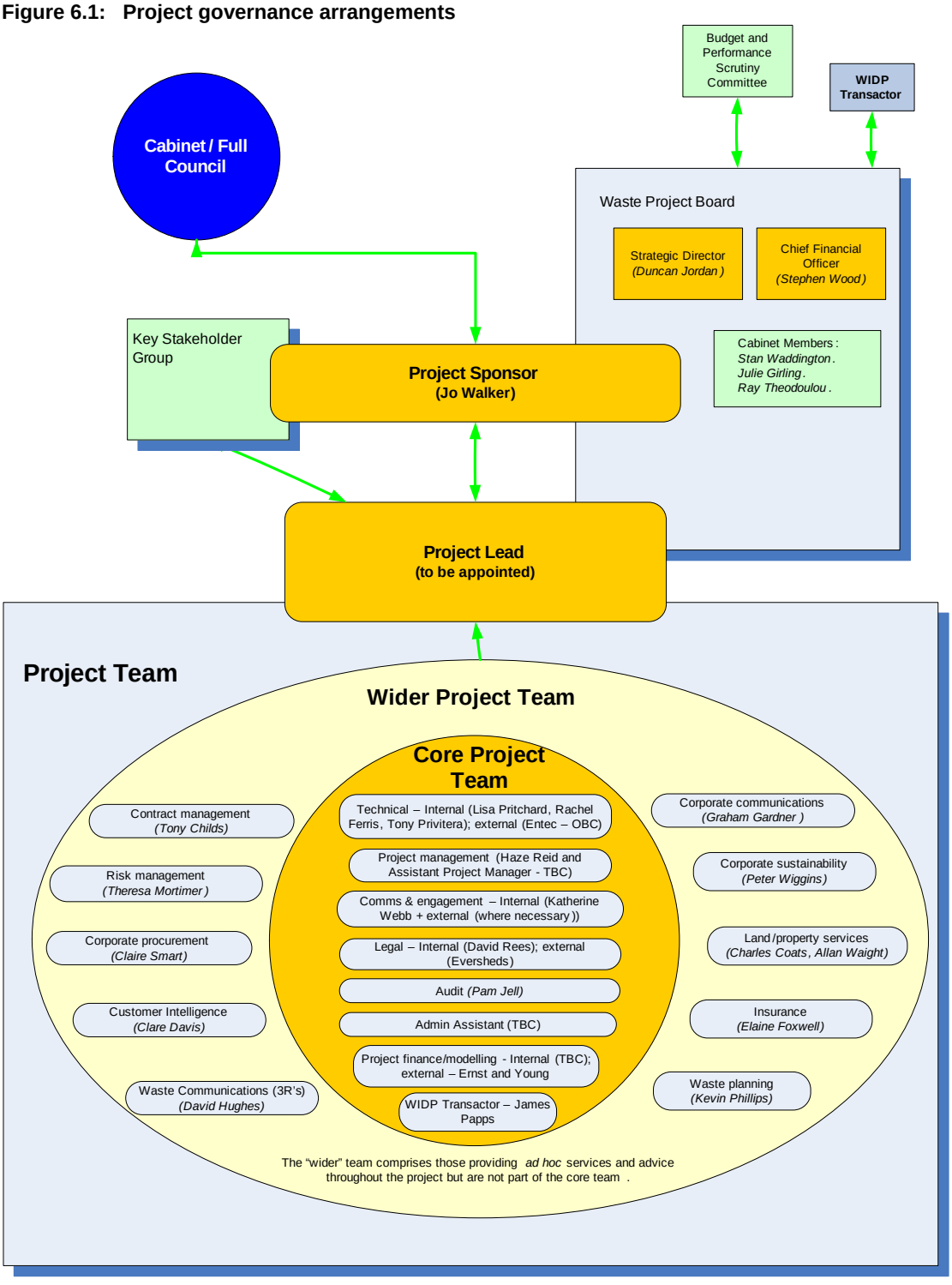
6.3.5 Budget and Performance Scrutiny Committee

6.3.5.1 The Budget and Performance Scrutiny Committee carry out the overview and scrutiny functions in the context of all budget and performance related matters for all GCC's functions.

6.3.5.2 The roles of the Budget and Performance Scrutiny Committee is to:

- help to hold the executive to account for the decisions that it makes;
- review, constructively challenge and monitor the Cabinet's policies and programmes to ensure that community and corporate priorities are achieved within budget;
- review, constructively challenge and monitor other decisions made or actions taken in connection with the discharge of any of GCC's functions and consider any matter affecting the area or its inhabitants;
- engage in policy review;
- focus on improvement and how it can be achieved cost effectively;
- engage with the community;
- look outwards and show community leadership by providing constructive challenge to other public bodies particularly those with whom GCC delivers services in partnership;
- liaise with external organisations operating in the area, whether national, regional or local to ensure that the interests of the people of Gloucestershire are enhanced by collaborative working; and
- raise the profile of GCC.

Figure 6.1: Project governance arrangements

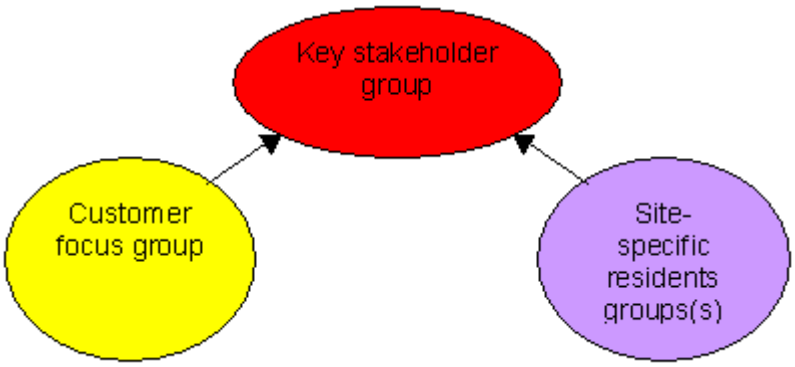


6.3.5.3 Within this context the committee will have involvement to ensure the project is robustly progressed taking account of relevant factors.

6.3.6 Stakeholder Groups

6.3.6.1 As part of engaging with stakeholders regarding the Residual Waste Project and in line with the WIDP guidance, three stakeholders groups are currently being created, as shown in Figure 6.2 below. This is in addition to facilitated workshops with individual interest groups and wider high-level consultation with the general public.

Figure 6.2: Three stakeholder groups to be involved during the procurement



6.3.6.2 Key Stakeholder Group

6.3.6.3 This group will be made up of selected stakeholders representatives from a cross section of interests groups, plus representatives from the customer focus group and site-specific residents group. It will take part in workshops and briefings throughout the procurement project to ensure that engagement is consistent. This is the key stakeholder group featured in Figure 6.2.

6.3.6.4 Customer Focus Group

6.3.6.5 This group will be made up of a representative cross section of local household waste service users in Gloucestershire. It will be invited to take part in facilitated workshops as part of the consultation on the Residual Waste Project and will help to ensure that service user issues are properly considered as part of the procurement project and feed into the decision-making process. A representative(s) from this group will also be invited to become a member of the key stakeholder group.

6.3.6.6 Site-Specific Residents Group

6.3.6.7 Once a site or sites have been finalised for any new facility or facilities, then residents from the local community will be invited to form a site-specific residents group(s). This will help to ensure that site-specific issues to be properly considered as part of the procurement project and feed into the decision-making process. Representatives from this group will also be invited to become a member of the key stakeholder group.

6.3.7 Approval of the OBC

6.3.7.1 On 23 April 2008, Cabinet approved the submission of the OBC in pursuance of PFI credits to support the delivery of the Residual Waste Project (See Cabinet Report in Appendix A6). In particular, it recommended that GCC should pursue PFI in preference to prudential borrowing on the basis that this provides better Value for Money. It also confirmed its commitment to meeting the affordability gap range of £465m to £605m over the life of the project. (see Section 8 for further details)

6.3.7.2 The final version was approved by the Group Director Environment in consultation with the Lead Cabinet Member, under her delegated powers. The Final Business case is likely to be approved in the same way. Throughout the procurement, depending on their nature and implications, decisions will be taken by the cabinet or, under delegated powers, by a lead cabinet member or an officer.

6.3.7.3 Final approval to entering into the contracts with the successful bidder will be decided by Full Council because the implications will be outside the budget already approved by Full Council and so this decision will not be within the powers of the cabinet.

6.3.7.4 This decision to pursue PFI credits has also been endorsed by the Budget and Performance Scrutiny Committee.

6.4 Project Management

6.4.1 The next section sets out the roles and responsibilities of GCC's Waste Project Board and the Project Team, as highlighted in Figure 6.1.

6.4.2 Waste Project Board (WPB)

6.4.2.1 This is based on good practice of PRINCE2, GCC's Project Management methodology and the WIDP guidance for PFI and PPP projects and lessons learned from the previous Waste PFI procurement. The overall purpose of the WPB is:

- Responsibility for the overall management of the Residual Waste Project including update reports when necessary to Cabinet, Chief Executive, and members of Gloucestershire Overview Scrutiny Management Committee.

- To engage with the Budget and Performance Scrutiny Committee and other stakeholders including the Gloucestershire Waste Partnership; and
- To oversee monitoring and expenditure and the management of business risks.

6.4.2.2 The Project decisions in which the WPB will be involved include:

- Approval of an accurate and comprehensive Project Initiation Document;
- Agreement of the project deliverables and desired outcomes;
- Agreement of the proposed options, recommendations, selected options and the way forward;
- Ensuring that the Project remains within the agreed tolerance limits of the Project Plan (detailed in the PID);
- Agreement to the provision of resources external to the services, such as funding for consultants, to deliver the required solutions;
- Ensuring the Core Project Team is working effectively;
- Review of each completed stage and approval to procedure to the next; and
- Approval of any changes.

6.4.2.3 At the end of the Residual Waste Project the WPB will:

- Provide assurance that all stages and products have been delivered satisfactorily;
- Approve the End Project Report and Cabinet Report;
- Approve the Lessons Learned Report; and
- Make decisions on the recommendations for follow-on actions.

6.4.2.4 During the Project, the WPB will seek to embed learning from other organisations including 4Ps WIDP, Partnerships UK, Defra, and DCLG. In addition the WPB will take consider the views and priorities of the stakeholder groups.

6.4.2.5 In addition, each member of the WPB has the following specific responsibilities (see Table 6.1 below). There is a direct balance between members and senior officers. This is detailed in Table 6.1 below.

Table 6.1: Specific Responsibilities of the WPB

WPB Member and Position at GCC	Role on the WPB
Cllr. Julie Girling, Lead Cabinet Member for Environment and Community	**Chair of the Waste Project Board**. Provides a Cabinet/member project assurance view.
Cllr. Stan Waddington, Cabinet Member, Environment	Provides a Cabinet/member project assurance view.
Cllr Ray Theodoulou, Lead Cabinet Member Resources	Provides a Cabinet/member project assurance view, from a resources perspective
Jo Walker, Acting Interim Director, Environment.	**Project Sponsor**. Overall accountability for the delivery of Cabinet Reports on residual waste management and delegated decision making powers.
Duncan Jordan, Group Director for Environment	Provides challenge and seek assurance on strategic issues.
To be appointed	**Project Lead**. Overall responsibility for project delivery and to represent the needs of GCC, District Councils and public. Oversee the project management arrangements and delegated decision making power.
Stephen Wood, Executive Director for Resources and Chief Finance Officer	Represents legal and financial views including provision of internal resource to support the needs of the project in these areas and delegated decision making powers.

6.4.3 Project Sponsor

6.4.3.1 The Project Sponsor, Jo Walker, provides overall ownership and leadership for the project. The Project Sponsor is the person who is ultimately responsible for the successful delivery of the project, and is required to:

- Ensure cross-functional/departmental interaction and support;
- Identify and secure a properly resourced team for the delivery of the Project, including appropriate budgets for external support;
- Manage issues that affect the 'stability' of the project;
- Promote the Project and liaise with members, stakeholders, including the Key Stakeholder Group, government departments and external bodies;
- Obtain cabinet approval at key milestones in the process;
- Ensure the project provides Best Value and is affordable;
- Support the Project Lead on key negotiating issues.

6.4.4 Project Lead

6.4.4.1 The Project Lead plays a key role in directing and delivering the Residual Waste Project, and is therefore considered the most critical appointment to the Core Project Team. The Project Lead is required to:

- Be empowered to make important decisions to 'do the deal';
- Be a full-time appointment;
- Understand his/her role, and the level of delegated powers;
- Have the requisite seniority and experience to reflect the level of delegated authority, and complexity of the project;
- Have the appropriate skills and experience, procurement and project management;
- Have the ability to lead the Core Project Team;
- Communicate effectively with all members of the Core and Wider Project Teams, Waste Project Board, stakeholders, users and wider community;
- Appoint and manage advisors;
- In conjunction with the Project Sponsor, identify and secure sufficient resources to deliver the project effectively;
- Lead competitive dialogue and negotiations with the bidders;
- Manage the vital success factors for project delivery;
- Report regularly and at key stages to the Waste Project Board;
- Manage competing interests;
- Provide Quality Assurance (QA) and sign-off to all project documentation;
- Put in place an appropriate project management methodology and risk register;
- Network with other local authorities, and the wider market to understand and share best practice;
- Help the Core and Wider Project Teams maintain a work/life balance; and
- Celebrate success;
- Engage with the Key Stakeholder Group.

6.4.5 Interim Arrangements for the Project Sponsor and the Project Lead

6.4.5.1 GCC recognises that this project is a high risk and high corporate priority and therefore it is committed to ensuring adequate resources are available in the absence of a permanent Project Sponsor and Project Lead. With both the Project Sponsor (Paul Galland) as determined as the start of the project and the Project Lead (Mike Williams) both leaving GCC, it has been

necessary to establish interim arrangements until replacements are appointed. Jo Walker, Haze Reid and Lisa Pritchard are covering the responsibility and role of the Project Lead.

6.4.5.2 Interim arrangements are in place with Jo Walker appointed as Interim Director (replacing Paul Galland) (in close liaison with Duncan Jordan (Group Director, Environment). She is also covering some of the interim Project Lead's role. Jo Walker, the Interim Director has taken on the Project Sponsor role.

6.4.5.3 GCC has engaged a specialist recruitment consultant (Solace) to help permanently recruit the Director and the Project Lead. Interviews for both roles are planned for June 2008, aiming to have both posts in place by September 2008, in advance of the OJEU. GCC will work to ensure the new personnel will be in place before the commencement of the procurement OJEU.

6.4.5.4 The Core Project Team is strong, specifically the existing Project Manager and the Waste Technical Manager, who were both part of the team in GCC's previous PFI project. GCC works closely with external advisors, when necessary, to seek advice and guidance from external advisors in the interim.

6.4.6 Project Team

6.4.6.1 The Project Team, set up to support the Project Lead through the development and procurement process, has the relevant technical, financial, PFI/PPP and legal skills, expertise and experience to deliver the project. The Project Team is split into two groups – the Core Project Team and the Wider Project Team.

6.4.7 Core Project Team

6.4.7.1 GCC has built up the waste management team so that during the procurement GCC can internalise advice (technical/legal/financial), and enhance organisational learning and reduce costs to GCC in the long term. (See section 6.4 for more detail.) Figure 6.1 shows the Core Project Team and the Wider Project Team, however, Figure 8.1 in Section 8 Shows the dedicated internal Core Project Team, where 100% of their time is dedicated to the delivery of the Residual Waste Project.

6.4.7.2 The Project Lead reports to the Waste Project Board and has overall responsibility for the delivery of the project and the subsequent procurement process. The Project Lead also manages the Core Project Team and the Wider Project Team, as detailed in Appendix A6. As such, the appointment is full-time and will take account of the GCC's decision-making structure, and the risk and complexity of the project. A deputy Project Lead position has been developed to support the Project Lead throughout the Residual Waste Project, which is recognised to be demanding.

6.4.7.3 The Core Project Team is responsible for:

- Assisting the Project Lead to deliver the project's objectives;
- Within their technical expertise carrying out the elements of the project they are tasked with;
- Advising the Project Lead if any risks or issues arise that are likely to affect delivery of the project's objectives and be part of the risk and issue mitigation process; and
- Delivering high quality and specific products as part of the procurement process.

6.4.7.4 The Core Project Team represents a dedicated internal resource for the Residual Waste Project. Key team officers are experienced in the procurement of waste management facilities and will be supported by specialist professional advice and the Wider Project Team.

6.4.7.5 Other officers within GCC (the Wider Project Team) have been and will continue to be involved in the procurement process (detailed in Appendix A6).

6.4.7.6 Other interests from the GCC and district councils may be brought into the project from time to time as required.

6.4.7.7 Part of this project is designed to go beyond the residual waste contract award and enable a seamless handover to contract monitoring; ensuring that during construction and commissioning adequate and relevant resources are deployed throughout that period.

6.4.8 External Specialist Advisors

6.4.8.1 GCC has appointed technical (Entec UK Ltd) for the development of the OBC, and legal (Eversheds), financial (Ernst & Young), property advisors (Bruton Knowles) and insurance (Marsh) to support the delivery of the OBC and the following procurement process. The Core Project Team is currently procuring technical advisors to support the procurement process and it is expected that specialist technical advisors will be appointed by June 2008. Below are further details on the specialists supporting the project.

6.4.8.2 Entec UK Limited (Entec)

6.4.8.3 Entec is the external specialist technical consultancy that was appointed to provide technical input to the Outline Business Case. Entec has worked with GCC since the start of the previous PFI contract.

6.4.8.4 Entec is one of the UK's largest multi-disciplinary environmental and engineering consultancies that draws upon comprehensive engineering and environmental in-house expertise. Entec is working on a wide range of waste procurement projects. These range from small civic amenity site management contracts through to some of the largest PFI/PPP projects in

the UK. As a result of this work, they are widely recognised as one of the leading technical consultancies in the field of waste services procurement. With a staff complement in excess of 700, Entec professional services range from the assessment of operational problems, and project design through to high level policy analysis for local and central governments - covering all aspects of the environment, i.e. water, land and air.

6.4.8.5 The main advisors are Phil Scott, (Project Director) and Alison Leavens (Project Manager).

6.4.8.6 Continued Specialist Technical Support

6.4.8.7 As mentioned, GCC is currently going through a further procurement process for technical advisors to support the procurement process. The Public Contracts Regulations 2006 restricted procedure procurement process for this appointment is currently under way and contract start is to be 27 May 2008.

6.4.8.8 The timeline for delivering specialist technical support is detailed below in Table 6.2.

Table 6.2: Timeline for delivery of specialist technical support for GCC

Milestone	Key Date
ITT dispatch	Friday 29 February 2008
Requests for clarifications by	Midday Friday 14 March 2008
Reply to clarifications requests	Friday 21 March 2008
Tenders by	Midday Wednesday 23 April 2008
Interviews	6 and 7 May 2008
Notify advisers of intention to award contract	By Monday 12 May 2008
Contract start	By (after 10 day standstill) Tuesday 27 May 2008

(Source: GCC)

6.4.8.9 Eversheds

6.4.8.10 Eversheds (Cardiff office) are GCC's specialist legal advisors and were appointed to provide legal input to support the OBC PFI application and the procurement process. Eversheds are also advising GCC on in-vessel composting and were engaged on the previous waste procurement. The main advisers in their team are Bridgette Wilcox (partner), Michael Grimes (partner), Jean-Pascal Boutin (senior associate) and Clare Mapstone (Junior Assistant). They all have extensive waste project experience including being the main advisers on major waste projects for Gloucestershire (and therefore already have special knowledge of our circumstances), Somerset, Wiltshire and East Sussex County Councils and Brighton City Council.

6.4.8.11 Eversheds is the leading legal adviser to local government and local authorities addressing the problems and challenges of managing MSW.

The team has a deep understanding of the challenges facing local authorities and the waste market, which has been developed over many years experience of procuring major waste partnership deals for the local government sector.

6.4.8.12 Ernst and Young LLP

6.4.8.13 Ernst and Young, specialist financial advisors, were appointed to provide financial input to support the PFI OBC application and the procurement process. Ernst and Young have worked with GCC since the start of the previous PFI contract. The main advisers in their team are Justin Smallman (Assistant Director), John Bromley (Senior Executive) and Michael Volkmer. (Executive)

6.4.8.14 Ernst & Young is one of the largest professional services firms in the UK. The firm employs 10,000 people, with 6,000 staff and partners in the London office – making it the largest Ernst & Young office globally. Its dedicated Infrastructure Advisory team comprises a network of over 125 specialists throughout the UK, focusing on Public Private Partnership (PPP) projects including the Private Finance Initiative (PFI).

6.4.8.15 Ernst & Young have been involved in more than 700 such projects, over 230 of which have reached financial close. They have expertise in key infrastructure sectors from energy to transport enabling them to provide specialist independent advice to both private and public sector clients. In terms of waste management, Ernst & Young have significant experience of advising waste management PFI projects in the UK. Their team, comprising over 25 qualified finance and industry professionals has advised the public or private sector on no less than 16 out of the 18 waste PFI deals approved by Government since the enactment of the EU Landfill Directive (1999).

6.4.8.16 Bruton Knowles

6.4.8.17 External surveying advisors, to supplement, as required, the dedicated in-house surveying resource, is to be provided by Bruton Knowles (Birmingham/Gloucester offices) following their selection after a mini competition among approved advisers from the Office of Governnment Catalist for Estates Professional Services (Specific Estate Services).

6.4.8.18 Bruton Knowles are a well known national practice. The main advisers are Nigel Billingsley (Partner & member of Institute of Waste Management since 1995), Kurt Wyman (Senior Agency Surveyor) and Nicholas Buxton (Associate Valuer). The firm acts for many local authorities and statutory companies and specifically acted on the North Yorkshire PFI, for Surrey County Council and Ballast Phoenix in respect of their waste requirements.

6.4.8.19 Resourcing, Terms of Appointment and Periodic Review

6.4.8.20 Provision has been made in the medium term financial strategy for about £500,000 each year for the next three years for external advisor support and other expenses.

6.4.8.21 The terms of appointments of advisors for legal, financial and property are based upon the Office of Government Commerce Catalist terms which include provisions for intellectual property rights in work produced by advisers to vest in GCC. Consequently there are no external confidentiality and/or copyright constraints in sharing this work. The procurement of technical advisors is following EU procurement rules and was advertised in the Official Journal of the European Union (2008/S 8-008804). The terms of the appointment will be based on the Office of Government Commerce Catalist framework agreement.

6.4.8.22 Periodic review and monitoring of advisors will be on a continuous basis. Quality and delivery of all work packages and ad-hoc pieces of work are evaluated for their quality, cost and timely delivery. Annual reviews will be programmed into the timetable moving forward. At the end of each stage lessons learned will be considered and for each work package and any ad hoc piece of work there is always a project reviewer. In addition, there will be an annual review between the Project Lead and the advisors.

6.5 Outline of Partnership Arrangements with Other WDAs

6.5.1 GCC has undertaken discussions with each of its neighbouring authorities regarding the possibility of any joint working opportunities. GCC has spoken to the following authorities:

- Herefordshire Council and Worcestershire County Council
- Swindon Borough Council
- Wiltshire County Council
- Warwickshire County Council
- Oxfordshire County Council
- West of England Partnership
- Monmouthshire County Council

6.5.2 Each of the authorities answered a series of questions regarding their own residual waste projects and about opportunities for potential partnerships. From the discussions it was clear that the other authorities are either at a different stage in their residual waste project to GCC, or other circumstances are prevalent which prevent further consideration of partnership opportunities at the current time.

6.5.3 Six of GCC's neighbouring authorities are already in partnerships, (as listed below) and it seemed unanimous that dealing with current partners was a considerable commitment in itself and an additional partner would be beyond the capacity of the authorities:

- Herefordshire Council are partnering with Worcestershire County Council;
- Swindon Borough Council are partnering with Wiltshire County Council;
- Warwickshire County Council are partnering with Staffordshire County Council, Coventry City Council and Solihull Metropolitan Borough Council;
- West of England Partnership - partnership of Bristol City Council, Bath and North East Somerset Council, South Gloucestershire Council and North Somerset Council; and
- Monmouthshire County Council are a partner in the South East Wales Regional Waste Group

6.5.4 The last remaining local authority, Oxfordshire County Council, is already in procurement and is at the submission of detailed solutions stage of procurement for a residual waste solution. Meaning there are no potential partnership opportunities with Oxfordshire County Council in the near future.

6.5.5 The West of England Partnership confirmed that there is no opportunity for Gloucestershire to be involved in a joint long term residual waste solution with the Partnership, mainly due to facility location and capacity and also due to political complexity.

6.5.6 *[withheld under exception 12 (1) (b)]*

6.5.7 GCC met with the West of England Partnership, as a follow on from the discussions prior to the submission of GCC's Expression of Interest. GCC is currently in discussion with the Partnership about the potential for a joint interim residual waste solution. GCC has formally confirmed its interest and has begun working in partnership who plan to commence a joint procurement by summer 2008 (as discussed in Section 4).

6.5.8 More detail about the discussions with GCC's neighbouring authorities, including the current position of each local authority with regards to their residual waste project and if there are any opportunities for joint working can be found in Appendix A6. GCC will continue to talk with neighbouring authorities to identify any potential opportunities that may arise.

6.5.9 *[withheld under exception 12 (1) (b)]*

6.5.10 During GCC's soft market testing exercise (discussed further in Section 9), it was clear from several of the companies we spoke to that Gloucestershire's 150,000tpa - 180,000tpa facility (estimated prior to Reference Project modelling for the OBC) is an attractive enough residual waste tonnage to participate in a procurement exercise. GCC asked the waste industry (through its soft market testing exercise) whether GCC joining with, for example, the West of England Partnership, would be more attractive to them, than GCC alone? Most felt that partnerships added extra complications, politically, and often increased the procurement timeline and the risk in the project.

6.5.11 From discussions with neighbouring authorities and also the waste industry, GCC is confident that it alone can offer a procurement package that is attractive enough to ensure the waste industry's participation in a procurement exercise that would deliver an economic solution and value for money.

6.5.12 GCC intends to remain in contact with its neighbouring WDAs to ensure GCC is aware of any partnership opportunities arise in the future.

6.6 District involvement

6.6.1 The Gloucestershire Waste Partnership

6.6.1.1 Gloucestershire has a long history of successful partnership working between the seven authorities. The Gloucestershire Waste Partnership (GWP) is made up of the seven waste authorities within the county of Gloucestershire. The partnership meets quarterly and is a mix of waste officers, senior officers and county/district councillors (see http://www.recycleforgloucestershire.com). The GWP is member-led, with GCC's Cabinet Member, Environment (Cllr Stan Waddington) as chair. The GWP has a role for setting the strategic lead for waste management and monitoring performance against actions and targets from the JMWMS.

6.6.1.2 The GWP is supported at officer level by the Joint Working Group that meets monthly to discuss practical issues of significance. The two main areas for discussion are the delivery of the JMWMS objectives and the IVC project. Through the GWP, GCC is developing a waste supply agreement with respect to the delivery of an In-Vessel Composting facility for food/garden waste (see the Section 6.6.4 (Service Level Agreements) below).

6.6.1.3 GCC has also set up the Joint Improvement Board (JIB). This is a high-level strategic board including Chief Executives and Leaders of all seven local authorities in Gloucestershire. Its purpose is to seek improved ways of working together and a project to improve waste management in the county has been established that is looking towards the potential to form a joint waste authority. Two tier working, even under partnership with a Joint Waste Municipal Waste Management Strategy is challenging and a joint waste authority would help deliver strategic and operational benefits. This is a new initiative that will periodically report on progress.

6.6.1.4 Members of the GWP have participated in GCC's Residual Waste Project seminars and have been invited to attend our site visits to different types of residual waste facilities. In addition, the GWP is a key stakeholder for the Residual Waste Project and their engagement is set out in the Residual Waste Communications Plan (See Section 9).

6.6.2 Adoption of the JMWMS 2007

6.6.2.1 The adoption of the JMWMS has been described in Section 3.2 of this OBC. The JMWMS was adopted by all seven authorities prior to the end of April 2008. The JMWMS describes in detail how GCC and its partners aim to jointly meet our recycling and other waste targets. A summary of the JMWMS is given in Section 3.

6.6.3 Local Area Agreements

6.6.3.1 During the preparation of the Local Area Agreement for 2008 to 2011, GCC and it's District partners discussed the level of recycling and composting which could be achieved through partnership working. In particular it was agreed that the JMWMS was the key to delivering this change. Through a combination of reconfigured collection systems, marketing and promotional activities the partners have agreed the following recycling and composting levels for the National Indicator (NI) 192 (percentage of household waste recycled and composted) (Table 6.3).

Table 6.3: Breakdown of Annual Targets for NI 192 (Household waste recycled and composted (%))

Council	Target (%) (2008/09)	Target (%) (2009/10)	Target (%) (2010/11)
Cheltenham Borough Council	31	40	42
Cotswold District Council	48	50	52
Forest of Dean District Council	38	40	42
Gloucester City Council	22	50	50
Stroud District Council	26	40	40
Tewkesbury Borough Council	29	40	42
GCC's Household Recycling Centres	60	65	65
Gloucestershire County Council	**39**	**48**	**49**

(Source: GCC)

6.6.3.2 Key to delivering these targets will be the introduction of food waste collections and a reduction in the frequency of collecting residual waste. A high level of recycling and composting is also required at the HRCs and this will be facilitated by the introduction of more recycling waste streams and

the “meet and greet” philosophy to promote recycling opportunities. Once these recycling and composting levels have been achieved this will reduce our residual waste to the following levels (the basis for National Indicator 191 – kg of residual household waste per household) (see Table 6.4 below). These targets have been agreed internally and with partners prior to negotiations with GOSW.

Table 6.4: Breakdown of Annual Targets for NI191 (Residual household waste per household (kg))

Council	Target (kg) (2008/09)	Target (kg) (2009/10)	Target (kg) (2010/11)
Cheltenham Borough	687	597	584
Cotswold District	473	464	452
Forest of Dean District	648	643	642
Gloucester City	708	475	460
Stroud District	590	470	470
Tewkesbury Borough	690	581	572
Household Recycling Centres	81	84	85
Gloucestershire County Council	**718**	**618**	**610**

(Source: GCC)

6.6.3.3 In addition, GCC is also adopting National Indicators focusing on Climate Change, as discussed in Section 4.

6.6.4 Service Level Agreements

6.6.4.1 Achieving step changes will require significant investment by the WCAs and GCC and it was agreed that this investment would come from each individual authority. However, GCC has agreed to make £600k revenue (up to £100k per WCA) available per annum to help and incentivise the WCAs change

6.6.4.2 This incentive payment will be made available based on the following principles: -

- a commitment to achieve the agreed landfill reduction;
- annual review;
- fairness to all parties; and
- development of a legal agreement (between the parties) to facilitate payment.

7 Sites, Planning and Design

7.1 Introduction

7.1.1 This section outlines GCC's approach to secure an appropriate site for a strategic waste facility. It demonstrates the process of site selection to select a strategic site suitable for waste management activities from a planning perspective. GCC has appended a completed WIDP Planning Health Framework as an integral part of the OBC (See Appendix A7).

7.2 Site Identification

7.2.1 An integral part of the Residual Waste Project is the identification and acquisition of a suitable site for a residual waste facility. Land availability is identified as a key risk for the delivery of new waste infrastructure and as such considerable mitigation work has been on-going. In February 2007, GCC commissioned Entec UK to carry out a 'Comparative Site Assessment for a Strategic Waste Management Facility'. This report was commissioned by the WDA and is separate and distinct from the Minerals and Waste Development Framework, which is being prepared by GCC as part of its Waste Planning Authority (WPA) function. The report is found in Appendix A7.

7.2.2 The aim of report was to provide a comparative assessment of potential sites for a strategic waste management facility for residual waste treatment within Gloucestershire. The report was prepared within the context of GCC's preparation to procure a long term contract for the treatment of residual waste to meet statutory targets requiring more waste to be diverted away from landfill; and in particular to assist in the development of a land strategy to support that process. The report draws on a number of previous reports prepared by GCC or its consultants.

7.2.3 The sites considered as part of this study were selected and agreed with GCC. The starting point was Schedule 1 of the Gloucestershire Waste Local Plan 2002-2012 (WLP) that sets out 'Areas of Search' and 'Preferred Sites' for strategic waste facilities. Additionally, two WLP Schedule 2 sites (i.e. local sites), which are adjacent to Schedule 1 sites, were also included due to their close proximity to strategic sites. In addition, another site identified by the WDA during the previous PFI process was taken forward and included in the study. The full list of sites, which are included in the study are in Table 7.1 below.

Table 7.1: Sites subject to the Comparative Site Assessment for a Strategic Waste Management Facility Study

Site	Area (ha)	District	Waste Local Plan Status
Site 1A- Wingmoor Farm West A	61.9	Tewkesbury	Schedule 1 Area of Search
Site 1B – Wingmoor Farm West B (The Park)	4.8	Tewkesbury	Schedule 1 Preferred Site

Site	Area (ha)	District	Waste Local Plan Status
Site 2A – Wingmoor Farm East A	48.7	Tewkesbury	Schedule 1 Area of Search
Site 2B – Wingmoor Farm East B	22.3	Tewkesbury	Schedule 2 Preferred Site
Site 3A – Sudmeadow, Hempsted A	142	Gloucester City	Schedule 1 Area of Search
Site 3B - Sudmeadow, Hempsted B	9.2	Gloucester City	Schedule 2 Preferred Site/ Schedule 1 Area of Search
Site 4 – Former Moreton Valence Airfield (Javelin Park)	11.2	Stroud	Schedule 1 Preferred Site
Site 5A – Sharpness Docks Site A	17.2	Stroud	Schedule 1 Preferred Site
Site 5B – Sharpness Docks Site B	8.4	Stroud	Schedule 1 Preferred Site
Site 6 – Quedgeley East (MoD Hardwicke Site 6)	9.7	Stroud	None

(Source: Entec)

7.2.4 The comparison was undertaken using multi-criteria analysis (MCA) techniques. This allows potential sites to be assessed against a wide range of different appraisal criteria covering environmental, economic and social aspects of the development, as well as deliverability criteria. A key objective of the study, as defined by GCC, was to identify the most suitable site or sites for developing a strategic waste management facility.

7.2.5 The overall conclusion of the study was that the Javelin Park site (Site 4 – former Moreton Valence Airfield) performed best against the average weighted score for the planning and deliverability criteria.

7.2.6 Javelin Park is a commercial development site for which planning consent for B8 warehousing development exists notwithstanding that the site was designated for waste management activities in the Waste Local Plan (WLP) 2004.

7.2.7 The key advantages of Javelin Park can be summarised as:

- Proximity to the M5 Motorway, which forms part of the advisory freight route.
- Well located in relation to main source of waste arisings in Cheltenham and Gloucester;
- Unaffected by key environmental constraints including green belt, floodplain, landscape, ecological or historic designations and groundwater protection zone;
- Not close to residential properties;

- Allocated as a Preferred Site in the Waste Local Plan ("WLP") without any restrictions on the type of waste technology, which may be developed;
- Located on previously developed land; and
- Commercially independent of waste contractors.

7.2.8 GCC has selected Javelin Park as the reference site for the OBC.

7.3 Securing the Site

[redacted] GCC is actively negotiating with the owners of Javelin Park and GCC Property Services have completed headline negotiations for the purchase of 12 acres on the south part of the above 27 acre site. *[withheld under exception 12 (5) (e)]*

7.3.2 *[withheld under exception 12 (5) (e)]*

7.3.3 Cabinet has agreed in principle that the land could be acquired using its compulsory purchase powers once sufficient preparations have been made. However, GCC may prefer to look at alternative sites before pursing CPO.

7.4 Planning Health Framework

7.4.1 GCC is in the process of completing the Planning Health Framework which will be appended (Appendix A7). GCC addresses the issues required, including:

- how GCC plans to address how the emerging DPD process is planned to be managed in parallel with the procurement of the residual waste project;
- that the JMWMS was fully consulted on and has been adopted by the seven Gloucestershire authorities;
- Javelin Park, the reference site, and other WLP strategic sites were subject to extensive consultation; and
- GCC has engaged in the preparation of the RSS.

7.5 Design Issues

7.5.1 This section provides GCC's approach to how design issues will be addressed during the procurement process, particularly through the use of planning policies and corporate council measures.

7.5.2 Waste Planning Policy

7.5.2.1 The emerging Waste Core Strategy (WCS) seeks to implement the indicative direction proposed in Waste Strategy for England 2007 of halving the amount of commercial and demolition (C&D) waste going to landfill by 2012 by considering this as a specific approach to be followed. Stakeholders are currently being consulted on this option as part of the Regulation 26 Preferred Options consultation for the WCS.

7.5.2.2 GCC has been pro-active in seeking to minimise the amount of construction and demolition (C&D) waste being sent to landfill by preparing a Supplementary Planning Document (SPD) 'Minimising Waste in Development Projects' (adopted September 2006). A partnership approach was adopted with the district councils of Gloucestershire in the preparation of the SPD as they are the key decision-maker through which the policy is to be implemented. Extensive stakeholder engagement was undertaken when preparing the SPD, full details of which can be found in the document 'Statement of Public Consultation undertaken prior to adoption' (July 2006).

7.5.2.3 The SPD is based on the premise that, firstly, waste should be prevented from being produced, and secondly, if it is produced (for example construction waste on building sites) it should where possible be re-used on that site in place of primary materials. The key requirement of the SPD is that developers of schemes above a threshold size (the equivalent of the Government's definition of 'major development') are required to submit a waste statement alongside their planning application. To assist in achieving this developers are directed to the WRAP (Waste Resources Action Programme) toolkit, which is explicitly referred to in section 3 of the SPD.

7.5.2.4 GCC will ensure that the above will be taken into account during the development of the Output Specification and subsequent method statements.

7.5.3 Corporate Sustainable Design Matrix

7.5.3.1 Additionally, GCC, in its role as a developer, has adopted a sustainability matrix for construction projects. The matrix is intended to be used as a checklist for building consultants and guides them on how GCC approaches the need to construct buildings sustainably. It can also form the basis by which GCC measures continual improvement: project on project; year on year.

7.5.3.2 For GCC construction projects, this matrix has been applied using the following process format covering inception, feasibility, outline design, detailed design, procurement and completion. For each stage, there are a number of sustainability themes that are applied throughout the lifecycle of construction projects. These are:

- Re-use/ new-build
- Minimum waste
- Minimum use of energy in construction

- Minimum use of energy in use
- Sustainable materials and resources
- Transport Issues
- Pollution
- Biodiversity
- Water conservation and services
- Respect for people
- Set targets
- Design for climate change.

7.5.3.3 For each theme there are a number of practical actions that are expected, for example under “Sustainable materials and resources”; in the inception phase, the actions include “priority consideration of using sustainable materials”, “design with potential of reuse of existing buildings and materials” and “commitment and budget for sustainable materials”.

7.5.3.4 In general terms, as well seeking to optimise GCC’s environmental performance in building projects through the SPD and the sustainability matrix, GCC will also have regard to official guidance such as the OGC’s “Achieving Excellence in Construction” and guidance available from CABE and WRAP. GCC will also adhere to emerging Defra guidance specifically aimed at ensuring the highest design quality for waste management facilities.

7.5.3.5 GCC will seek to attain the highest quality of civil engineering in the project and will insist on the CEEQUAL (the Civil Engineering Environmental Quality Assessment and Award Scheme) standard being applied to all relevant aspects of the Output Specification. CEEQUAL is being promoted by ICE (Institute of Civil Engineers), BRE (Building Research Establishment) and CIRIA (Construction Industry Research and Information Association). Its objective is to encourage the attainment of environmental excellence in civil engineering projects and uses a rigorous points-scoring-based assessment. It includes environmental aspects such as the use of water, energy and land as well as ecology, landscape, nuisance to neighbours, archaeology, waste minimisation and management, and community amenity. More information is available at: http://www.ceequal.com/index.asp

7.5.3.6 It is envisaged that the CEEQUAL scheme will be the environmental standard “umbrella”, under which specific construction and operational guidance standards will be applied. These will include (but not necessarily be limited to) specific areas including:

- WRAP (Recycled Content toolkit);
- OGC (Achieving Excellence in Construction; How to achieve Design Quality in PFI Projects);

- NAO (Getting value for money from construction projects through design: How auditors can help);
- BREEAM (BRE Environmental Assessment Method) and
- ISO 14001 (Environmental management system)

7.5.3.7 Please refer to Appendix A7 for GCC's Design Quality & Sustainable Dev Checklist and further information on design quality issues.

8 Cost, Budgets and Finance

8.1 Introduction

8.1.1 This section demonstrates GCC's understanding of the cost of the procurement exercise, and through the analysis of the Reference Project realises a deliverable route that represents value for money. The section also details how member approval for the affordability implications has been secured and overall awareness of the budgetary implications for GCC.

8.1.2 For reference throughout this section, the Reference Project, the Global Reference Project and the Status Quo are defined as:

The Reference Project - The Reference Project is the technical solution selected from a range of options, in order to estimate a potential cost to GCC of procuring a long-term residual waste treatment project, based on the technology in the Reference Project. The Reference Project is intended to treat only "Residual Waste" that is currently sent to landfill. GCC's Reference Project is Energy from Waste facility (capacity of 175,000 tonnes per annum that will be operational on 1 April 2015) with a 2km pipeline to supply steam to heat markets.

Global Reference Project - The Global Reference Project comprises the total waste management service. This will include the "Reference Project", Household Recycling Centres, Composting (windrow & In-vessel) and closed landfill sites. For the avoidance of doubt the Global Reference Project costs do not include the costs of waste collection incurred by the Waste Collection Authorities. It is based on maximum diversion of waste (exceeding LATS targets) meeting 60% recycling and composting by 2020. All waste not recycled or treated will be sent to the Reference Project from 1 April 2015 (average 16,000k tonnes per annum, equating to a capacity of 175,000 tonnes per annum).

Status Quo Option - The Status Quo option continues with proposed improvements to the waste management services (e.g. roll out of county wide organic waste collection) to meet Gloucestershire County Council's commitment to 60% "Recycling" by the year 2020. However, all residual waste not recycled or treated will continue to be sent to landfill (average 175,000 tonnes per annum).

8.2 Procurement Costs

8.2.1 The budgetary provision for internal resources, external consultancy support and any other expenditure required to complete the procurement are detailed below.

8.2.2 Internal Resources

8.2.2.1 In February 2007, an internal resources plan was approved for the waste unit to gear up for future increasing demands on the Waste Service and specifically for the potential Residual Waste Project. Key learning from our

previous PFI experience led GCC to the conclusion that it should develop a stronger procurement team in-house. GCC believe that investing in staff across technical, legal and financial disciplines, GCC would minimise expenditure on external consultants' advice and be able to transfer skills into GCC with wider Authority benefits.

8.2.2.2 GCC has now developed the in-house procurement team and has made sufficient provision in the Medium Term Financial Strategy (MTFS) for at least the following three years. The core project team includes ten full time employees, which has an approved budget of just under £400,000 (this includes payment for employees and all overheads). GCC has a technical team with Project Lead (to be appointed), a technical manager, two technical waste officers and a communications officer. In addition, a senior GCC lawyer has been seconded full time into the waste team (as of July 2007) and the recruitment process for a dedicated finance officer has commenced and should also be in post by late summer 2008. The team also has a project manager (with administrative support) to keep tight control of the procurement process.

8.2.2.3 Across GCC there is experience of major procurements and PFI in particular. GCC has previously completed a PFI transaction in connection with a Fire and Rescue Service joint training centre near Bristol. Also, bids for PFI credits have been submitted in respect of schools although credits were not approved.

8.2.2.4 In particular, the waste management team gained relevant PFI experience during the previous procurement for an integrated waste management contract. The team were awarded £30.5 million in PFI credits and also proficiently reached the Best and Final Offer stage of the procurement process. During this time, the waste management unit were rated as excellent by Best Value inspectors and it was noted that the way GCC was managing the PFI process was an example of good practice. The current waste technical manager, project manager and solicitor were all part of the team for that project and therefore have detailed very relevant experience for this project.

8.2.2.5 The dedicated procurement structure is illustrated in the diagram below (Figure 8.1).

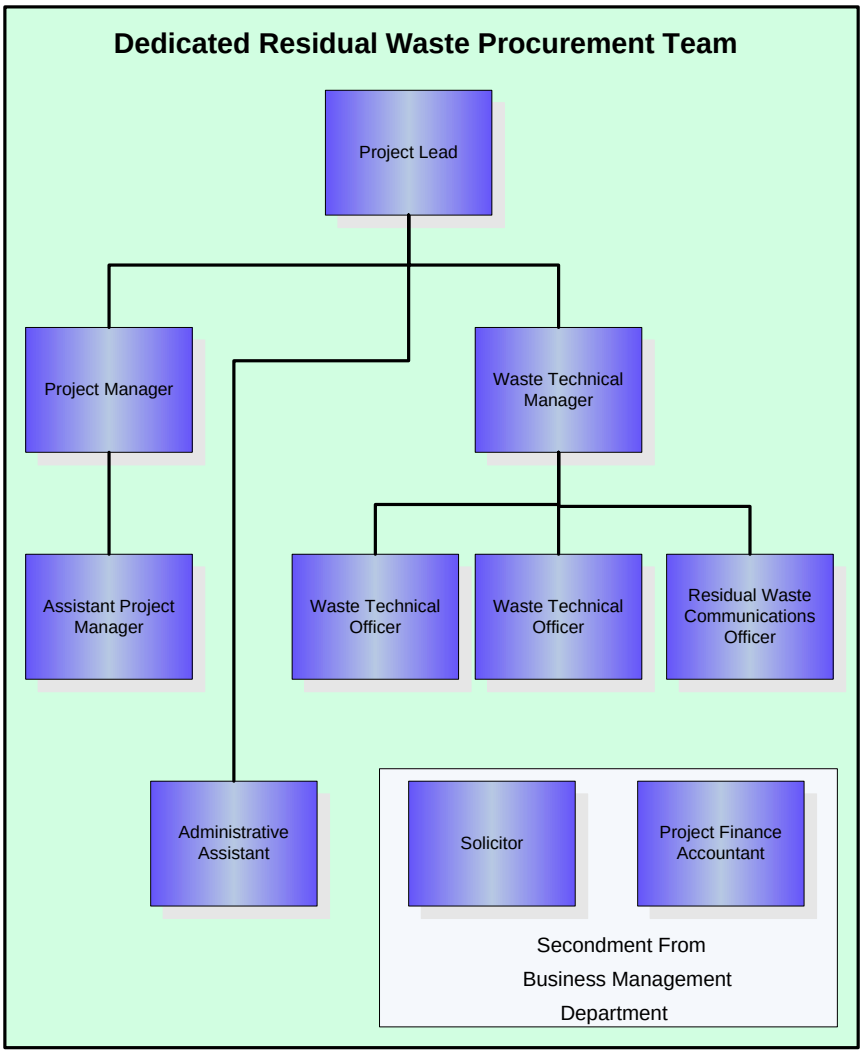
8.2.3 External Advisors and additional expenses

8.2.3.1 Approximately £1.5 million has been identified in the MTFS for external advisors including technical, financial, legal, communications, land and planning. The breakdown over the following three years is as follows:

- 2008/09 £505,000
- 2009/10 £505,000
- 2010/11 £505,000

8.2.3.2 In additional to the above, GCC holds a reserve of £300,000, which is set aside for any unexpected costs during the process.

Figure 8.1: Structure of dedicated waste procurement team



8.2.4 Financial Provision for Land

8.2.4.1 GCC is currently in negotiation for the purchase of 12 acres at Javelin Park, a site allocated in the Waste Local Plan for waste management operations. *[withheld under exception 12 (5) (e)]*

8.3 Cost of the Reference Project Using Private Finance

8.3.1 Having defined the Reference Project in Section 4, this section considers:

- The estimated cost of the Reference Project utilising private sector finance, calculated through the use of a Shadow Tariff Model (STM);
- The cost associated with the disposal of residual waste (landfill gate fees and landfill tax) and LATS, principally incurred in the period prior to the commencement of operations on 1 April 2015;

- The ongoing waste management disposal costs that are that are incurred by the WDAs, in order to show the total cost of waste disposal system; and
- The costs associated with the 'Status Quo' option.

8.3.2 The analysis considers the 32 financial year period from 1 April 2008 through to the end of PFI contract operations on 31 March 2040. This includes a 25 year operational period of operation from 1 April 2015.

8.3.3 Cost of the Reference Project, Landfill and LATS

8.3.3.1 In order to estimate the cost of the PFI Reference Project, an STM has been developed which includes estimated capital and operating costs of the solution over the duration of the contract period. The STM also includes the cost of financing the infrastructure through the use of non-recourse project finance. The financing assumptions used in developing the STM are included in the Model Assumptions Databook in Appendix A8. The STM is included in Appendix A8.

8.3.3.2 The estimated costs of the Reference Project (Unitary Charge), landfill costs (including Gate Fee and landfill tax) and LATS[4] incurred in the period up to 1 April 2015 are set out in Table 8.1 below.

Table 8.1: Cost of Reference Project, Landfill and LATS (1 April 2008 to 31 March 2040)

Cost Element	Nominal Cost (£000)
Unitary Charge	646,057
Landfill (Gate Fee and Tax)	187,927
LATS Costs	12,904
Total	**846,888**

(Source: Ernst & Young)

8.3.3.3 The above analysis does not include the Revenue Support Grant (RSG) which would be payable to GCC in the event it is successful in their application for PFI Credits.

8.3.4 Services outside the scope of the Reference Project, Landfill and LATS cost ("Non-PFI/Landfill costs")

8.3.4.1 The cost of the Reference Project, Landfill and LATS costs described in Section 8.3.1 above relate to the costs of treating and disposing of GCC's residual waste in order for GCC to meet and exceed its LATS targets.

[4] (estimated using the "low impact" LATS trading profile (refer to Section 8.6.3.4))

8.3.4.2 The WIDP OBC Template Version 3.1 – January 2008 specifies that in assessing project affordability, recognition should be given to the "total cost of the reference project", in the context of GCC's waste management service. For GCC this relates to the total cost of the Waste Disposal Service only excluding collection activities, the cost of which is met by the WCAs and therefore need not be included in the affordability analysis. The collection infrastructure that is required to support the performance levels projected in the Reference Project is, or will be, in place, with the WCAs meeting the JMWMS 60% recycling target by 2020, which is a necessary condition of obtaining PFI Credit support for the Reference Project. These "additional costs" are referred to as "Non-PFI/Landfill costs".

8.3.4.3 Table 8.2 below sets out the Non-PFI/Landfill costs for the financial year ending on 31 March 2008.

Table 8.2: Non-PFI/Landfill costs (2007/08)

Service Element	Nominal Cost (£000)
[withheld under exception 12 (5) (e)]	
Total Non PFI/Landfill costs	**5,822**

(Source: GCC)

8.3.4.4 *[withheld under exception 12 (5) (e)]*

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8.3.4.5 The "total cost" of providing waste management services including the Reference Project (PFI Contract), Landfill and LATS costs and the Non PFI/Landfill costs is, for the purpose of this OBC, collectively known as the "Global Reference Project Cost". The Global Reference Project Cost is set out in Table 8.3 below.

Table 8.3: Global Reference Project Cost years 5 to 9, and 32 year total[5]

Nominal Cost	Year 5 2012/13 (£0)	Year 6 2013/14 (£0)	Year 7 2014/15 (£0)	Year 8 2015/16 (£0)	Year 9 2016/17 (£0)	32 Year Cost (£0)
Unitary Charge	0	0	0	21,554	21,847	646,057
Landfill Costs	17,455	20,179	21,470	1,816	1,972	187,927
LATS Costs	4,083	3,461	2,862	0	0	12,904
Non PFI-Landfill Costs	9,583	10,127	10,703	12,219	12,762	532,463
Total Global Reference Project	31,121	33,767	35,034	35,589	36,581	1,379,350

[5] Years 1 to 4 relate to years leading up to the start of construction period. Years 5 to 7 relate to the construction period. Operations commence in year 8 .

Costs						

(Source: Ernst and Young)

8.3.5 Projected 'Status Quo' Cost

8.3.5.1 The Status Quo Option assesses the cost to GCC of continuing with existing landfill service provision while introducing planned service improvements (such as facilities to treat food and garden waste collected by the WCAs). It also assumes that GCC will continue to dispose of all residual waste to landfill throughout the 32 year period, incurring transport to landfill costs, landfill gate fees, landfill tax and LATS costs. The Status Quo Option includes the same assumptions for recycling and waste collection as the modelling for the Global Reference Project. In order to establish the justification for undertaking the Reference Project, it is necessary to compare it to the cost of continuing with current landfill provision, referred to as the "Status Quo" option.

8.3.5.2 Outlined in Table 8.4 below are the estimated costs of maintaining the Status Quo. This assumes that GCC achieves its longer term recycling and composting targets and disposes of residual waste to landfill which in turn results in LATS trading costs due to failing to achieve GCC's BMW diversion targets.

Table 8.4: Projected Status Quo Cost from years 5 to 9, and 32 year total[6]

Nominal Cost	Year 5 2012/13 (£000)	Year 6 2013/14 (£000)	Year 7 2014/15 (£000)	Year 8 2015/16 (£000)	Year 9 2016/17 (£000)	32 Year Total (£000)
Landfill Costs	17,455	20,179	21,470	21,704	22,216	905,643
LATS Costs	4,083	3,461	2,862	1,857	1,410	42,540
Non PFI/Landfill Costs	9,583	10,127	10,703	11,249	11,758	496,442
Total Status Quo Cost	**31,121**	**33,767**	**35,034**	**34,810**	**35,384**	**1,444,625**

(Source: Ernst & Young)

8.3.5.3 Comparing Tables 8.3 and 8.4 above, it can be seen that the estimated total cost of the Global Reference Project is lower than the estimated total cost of the Status Quo Option, prior to the receipt of the Revenue Support Grant from Defra (circa £1,379 million and £1,445 million respectively).

[6] Years 1 to 4 relate to years leading up to the start of construction period. Years 5 to 7 relate to the construction period. Operations commence in year 8, when the RSG receipt commences.

8.4 VfM Assessment

8.4.1 The next step is to assess whether the use of PFI to fund the Reference Project offers potential VfM over conventional procurement by the public sector, in accordance with HM Treasury's requirements.

8.4.2 This report assumes that Defra has already undertaken a Stage 1 programme level assessment for waste procurements as part of the Comprehensive Spending Review completed in 2004, demonstrating that waste, as an investment programme, is likely to achieve VfM under PFI. This OBC details the Stage 2 project level assessment aimed at verifying whether this initial decision to use PFI to fund the Reference Project is valid for GCC.

8.4.3 Set out below are three stages of the process under which the VfM of PFI is assessed in relation to alternative funding options:

- **Stage 1:** Programme Level Assessment (undertaken at a Government department level), to ensure that PFI is only considered for those programmes where PFI is likely to represent VfM;
- **Stage 2:** Project Level Assessment (undertaken by councils as part of an Outline Business Case), comprising both qualitative and quantitative elements; and
- **Stage 3**: Procurement Level Assessment, which is an ongoing assessment during the procurement phase of the project to ensure that the desired project can be delivered.

8.4.4 In order to verify the Stage 1 assessment, GCC has considered the use of PFI as an alternative to the Public Sector Comparator (which estimates the cost of the public sector undertaking the project), referred to as Conventional Procurement (CP).

8.4.5 The CP and PFI procurement methods are defined as follows:

- **The CP Option:** Procurement through conventional approaches that use public funding. This can include letting a Design and Build (D&B) contract for the plant (using either conventional council budget funding or potentially using Prudential Borrowing (PB) and letting an Operating and Maintenance (O&M) contract for the 25 year operating period of the project. This method of procurement may use a different contractual structure, and therefore risk profile, to GCC than using the "conventional" PFI contractual structure; and
- **The PFI Option:** Procurement under the PFI which is a specific procurement methodology through which the public sector lets a Design, Build, Finance and Operate (DBFO) contract to the private sector for the construction and operation of the plant and/or associated service.

8.4.6 **VfM assessment of PFI and CP**

8.4.6.1 The approach used in this OBC is consistent with that outlined in the updated HM Treasury VfM Assessment Guidance (the Guidance) as issued in November 2006 and the "Supplementary VfM Guidance for Waste PFI" prepared by Partnerships UK (PUK) for DEFRA in September 2005.

8.4.6.2 This project level assessment of VfM below considers both qualitative and quantitative factors. The qualitative appraisal considers the viability, desirability and achievability of PFI. The quantitative analysis uses a prescribed methodology and spreadsheet provided by HM Treasury to determine whether PFI represents indicative VfM when compared to CP. The following sections outline the results of the qualitative and quantitative assessments.

8.4.7 Qualitative assessment

8.4.7.1 PFI projects commit the procuring authority(ies) to a particular provider for a number of years, and whether the projects are successful or not will depend on cost and a number of qualitative and quantitative considerations, relevant to deciding the most appropriate procurement route. The three qualitative factors identified by the Guidance are as follows:

- **Viability**: Confirmation that the investment objectives and all desired project outcomes can be translated into outputs that are measurable, 'contractable' and can be agreed. This factor also involves assessing whether there are efficiency or accountability issues which demand that the project is provided by the public sector directly rather than through the PFI procurement route.

- **Desirability**: Involves assessing the relative merits of different procurement routes. Considerations include incentivisation; risk transfer in PFI; the Government's lower cost of borrowing; and the relative advantages and disadvantages associated with a long-term contractual relationship between the public and private sectors.

- **Achievability**: Involves gauging the expected level of market interest and whether the public sector client would have sufficient capability to manage the complex processes involved. This is integral to both the procurement of the services and their ongoing management and performance.

8.4.7.2 Table 8.5 below provides a summary of GCC's response for each of the three qualitative factors described above (GCC's detailed response can be found in Appendix A8).

Table 8.5: Qualitative assessment summary

Qualitative Factor	Summary Question from the Guidance	Response
Viability	Overall, in considering PFI, is the department satisfied that sustainable long term contracts can be constructed, and that strategic and regulatory issues	There is a growing body of evidence that PFI contracts are suitable for the provision of residual waste treatment facilities for local

Qualitative Factor	Summary Question from the Guidance	Response
	can be overcome?	authorities. GCC is satisfied that a contract structure for a residual waste procurement project can be arrived at which will: - Meet the GCC's strategic aims and objectives for waste management; - Deliver the project to the Output Specification; and - Satisfy all regulatory or accountability requirements including FRS 5.
Desirability	Overall, is the accounting officer satisfied that PFI would bring sufficient benefits that would outweigh the expected higher cost of capital and other disadvantages?	GCC is satisfied this PFI contract will bring sufficient benefits to outweigh an expected higher cost of capital through: - The risk transfer of future costs which could be subject to fluctuation; - Certainty of service delivery during the contract term; and - The use of a DBFO contract, which will ensure the construction and subsequent operating cost benefits are linked.
Achievability	Overall, is the accounting officer satisfied that a PFI procurement programme is achievable, given an assessment of the market, Council resources and the attractiveness of the proposal to the market?	In consideration of the points set out above, GCC is satisfied that the procurement programme is achievable, given that: - The right level of internal and external resource and expertise has been committed to the project; - The management will be based on Prince 2 with staff being appropriately trained; - Soft market testing has provided positive feedback; and - The project seeks a product and a risk sharing framework with which the private sector is familiar.

(Source: GCC)

8.4.7.3 Based on the qualitative project level assessment, the Reference Project appears to meet the viability, desirability and achievability requirements of the Guidance.

8.4.8 Quantitative Assessment

8.4.8.1 The quantitative assessment considers how the quantifiable costs and benefits of using PFI as a procurement route are likely to compare with CP. This involves estimating values for the capital and operating costs attached to the projects and adjusting these for any inherent Optimism Bias (see Appendix A8).and/or specific risks, as well as expected transaction costs.

For the PFI option, the projected cost of the Reference Project is calculated using an assumption of private financing and adjusting relevant factors accordingly. A generic spreadsheet has been developed by Treasury ("the Treasury spreadsheet") to capture the values and enable sensitivity testing that, according to the Guidance, must be used as part of the project level assessment.

8.4.8.2 The next four sections outline:

- The key input assumptions that have been made in using the Treasury spreadsheet;
- Optimism Bias;
- The indicative quantitative VfM results; and
- The outcome of sensitivity analysis performed on this analysis.

8.4.8.3 Key Input assumptions

8.4.8.3.1 The Treasury spreadsheet contains a number of assumptions that have been 'hard coded' and therefore cannot be altered. For example, employment cost per employee for the CP option is fixed to equal the amount input for the PFI option. There are, however, many project specific input assumptions to be made when using the Treasury spreadsheet.

8.4.8.3.2 The Shadow Tariff Model, used to estimate the cost of the Unitary Charge for the Reference Project, assumes that financial close occurs on 1 April 2012, followed by a three year construction period which completes on 31 March 2015. The model assumes that full operation commences from 1 April 2015, with the operations period lasting 25 years and ending on 31 March 2040. Table 8.6 below summarises the key input assumptions used for the Treasury spreadsheet.

Table 8.6: Summary of key input assumptions
[withheld under exception 12 (5) (e)]
(Source: Ernst & Young)

8.4.8.4 Optimism Bias

8.4.8.4.1 The Treasury Optimism Bias spreadsheet accounts for the impact of uncertainty over project costs through input assumptions for Optimism Bias. Optimism Bias relates to the demonstrated and systematic tendency for project appraisers to be overly optimistic when considering project benefits and costs.

8.4.8.4.2 The guidance states that there is currently little, if any, evidence to suggest that either conventional or PFI-style procurement methods deal any more or less efficiently with Optimism Bias. However, there is evidence that the allocation of risks achieved under a PFI contract reduces the impact of any

Optimism Bias on the procuring council as compared to the contractual arrangements typically resulting from the CP option.

8.4.8.4.3 The Guidance explains that, in accounting for Optimism Bias, the Treasury spreadsheet differentiates between two key stages of the investment decision process, namely pre-Final Business Case (FBC) and post-FBC. FBC in this instance represents the date of contract award. The pre-FBC Optimism Bias factor represents the increase in estimated costs or shortfall in estimated income between the OBC and the FBC stage. Post-FBC Optimism Bias factor represents the increase in costs or the shortfall in income between the date of contract award and the completion of the associated asset(s).

8.4.8.4.4 [withheld under exception 12 (5) (e)]

8.4.8.4.5 [withheld under exception 12 (5) (e)]

Table 8.7: Optimism Bias input assumptions

[withheld under exception 12 (5) (e)]

8.4.8.4.6 [withheld under exception 12 (5) (e)]

8.5 Indicative Results

8.5.1 Indicative PFI VfM results for the Reference Project

8.5.1.1 The key outputs from the Treasury spreadsheet are the CP Net Present Cost (NPC) of the projects, the PFI equivalent and the indicative PFI VfM percentage, representing the percentage difference between the two. If the indicative PFI VfM percentage is positive, then this indicates that the project supports the programme level assessment that VfM can be achieved through PFI. If negative, CP is deemed to offer better VfM.

8.5.1.2 For the base case scenario (this is the Reference Project modelled using a certain selection "Base Case" assumptions, for example a given waste growth scenario) for the Reference Project, the indicative PFI VfM percentage is generated using a pre-tax Internal Rate of Return (IRR) for the private sector of 15%[7]. This produces an indicative PFI VfM percentage of 20.08%[8], confirming PFI as offering the potential to deliver VfM for the project. The base case scenario results are summarised thus:

[7] Base case scenario assumes that the private contractor will target a pre tax return of 15%. This broadly equates to the STM blended shareholders return rate of 15%.

[8] The Treasury spreadsheet allows alternative rates of 13% and 18% to be utilised. The use of these will either increase or decrease the extent to which PFI is seen to offer value for money over traditional procurement. For example, a blended equity return of 18% will yield an indicative value for money result of 17.20% whereas a 13% rate would yield a value for money result of 21.92%.

Table 8.8: Indicative PFI VfM results (figures rounded to nearest £000)

	CP NPC (£m)	PFI NPC (£m)
Reference Project - Base Case Scenario (15% pre-tax IRR)	374	299
Reference Project -Indicative PFI VfM %		20.08%

(Source: Ernst & Young)

8.5.2 VfM Sensitivity Analysis

8.5.2.1 The Treasury spreadsheet uses "Indifference Points" to demonstrate the level of change required in the value of individual inputs to erode the difference between the CP and PFI NPCs to zero, thus making GCC indifferent between the two procurement routes. Table 8.9 sets out Indifference Points for capital and operating expenditure for the CP option and for the unitary charge for the PFI option.

Table 8.9: Indifference Analysis

Procurement Option	Variable	Indifference Points (%)
CP	CapEx	(26)%
CP	Non-employment OpEx	(323)%
CP	Employment-related OpEx	(112)%
PFI	Unitary Charge	35%

(Source: Ernst & Young)

8.5.2.2 The analysis demonstrates that, with all other things remaining equal, the capital expenditure under the CP Reference Project would have to decrease by 26% in order for GCC to be indifferent between the two options. Similarly, non-employment operating expenditure would have to decrease by 323% under the CP route. All of the above sensitivities are comfortably within the Guidance benchmark requirement of 5%.

8.5.2.3 Affordability constraints aside, the PFI Unitary Charge would have to increase by 35% for GCC to be indifferent between the two procurement options. Again, this is within the requirement benchmark of 3%.

8.5.3 PFI vs CP Project level assessment - Conclusion

8.5.3.1 The qualitative assessment produced a clear indication that, in terms of viability, desirability and achievability GCC is well positioned to deliver a PFI procurement for the Reference Project. The quantitative assessment also produces a high indicative PFI VfM percentage of 20.08%. These assessments provide the clear indication that verifies the outcome of the

programme level assessment that PFI can deliver VfM for the Reference Project.

8.6 Affordability Analysis

8.6.1 Projected Budgets

8.6.1.1 In order to determine the affordability to GCC of the Global Reference Project Cost, the council's "committed" budget for the year 2007/08 has been used as the starting point.

8.6.1.2 Table 8.10 below illustrates the budget for waste disposal for GCC for the financial year 207/08:

Table 8.10: GCC waste disposal budget for the financial year 2007/8

Budget Element	2007/8 Budget (£000)
Total Non PFI/Landfill (from table 8.4)	**5,822**
Landfill	4,774
Landfill Tax	4,647
Total PFI /Landfill budget	**9,422**
Total 2007/08 Waste Disposal Budget	**15,244**

(Source: GCC)

8.6.2 Council budget projection until 31 March 2040

8.6.2.1 In accordance with the requirements of the OBC template, GCC has confirmed its historic annual waste disposal budgets for the three previous years prior to 2007/08 as follows:

Financial year 2004/05 waste disposal budget £12,098 million
Financial year 2005/06 waste disposal budget £11,759 million
Financial year 2006/07 waste disposal budget £13,115 million

8.6.2.2 In order to estimate the future waste disposal budget for GCC until the end of the operation period of the contract, the "committed" 2007/08 budget of £15.244 million has been extrapolated using inflation rates for specific elements of the budget. Table 8.11 below sets out the budget inflation rates used to project the council's budget until 31 March 2040.

Table 8.11: Budget inflation rates

[withheld under exception 12 (5) (e)]

8.6.2.3 Using the inflation rates set out in Table 8.11 above, the projected budget for GCC is set out in Table 8.12 below.

Table 8.12: Projected Council budget

Budget year	Year 5 2012/13 (£000)	Year 6 2013/14 (£000)	Year 7 2014/15 (£000)	Year 8 2015/16 (£000)	Year 9 2016/17 (£000)	32 Year Total (£000)
Total projected budget	17,247	17,678	18,120	18,573	19,037	752,342

(Source: Ernst & Young)

8.6.2.4 It is noted that although the council's Medium Term Financial Strategy (MTFS) shows a significant planned rise in annual waste disposal budget over the next three years (broadly in line with the anticipated increase in waste disposal costs due principally to the landfill tax escalator of £8 per tonne per year until 2010/11 when landfill tax will reach £48 per tonne and potential LATS costs or fines payable by GCC), the MTFS has not been ratified by GCC and therefore on the basis of prudence cannot be considered a "committed" budget.

8.6.3 Projected Global Reference Project Cost

8.6.3.1 In assessing the projected cost to GCC of the undertaking the Global Reference Project, GCC considers the following:

- the estimated Global Reference Project Cost;
- the estimated council budget; and
- the estimated Revenue Support Grant.

8.6.3.2 Calculation of the PFI credit and Revenue Support Grant

8.6.3.2.1 In accordance with the current guidance from the Waste Infrastructure Delivery Programme (WIDP) and Partnerships UK, the calculation of the PFI Credit has been undertaken in accordance with Version 3.1 – January 2008 of the WIDP OBC Template. Specific financing assumptions are required by WIDP for the calculation of the PFI Credit, in order to ensure consistency between projects applying for PFI Credits. These requirements have been used in the Reference Project STM.

8.6.3.2.2 The PFI Credit calculation spreadsheet calculates the Net Present Cost of the element of the Unitary Charge payments that relate to senior debt repayments and then applies a percentage to this value to determine the PFI credits to award.

8.6.3.2.3 The financing assumptions required by WIDP are set out in Table 8.13 below.

Table 8.13: WIDP Financing Assumptions used in Calculation of PFI Credit

[withheld under exception 12 (5) (e)]

8.6.3.2.4 Using the WIDP financing assumptions shown in Table 8.2 above, the PFI Credit for the Reference Project has been calculated at £92 million. Appendix 8 provides the STM used in the calculation of the PFI Credit. Appendix 8.x provides the calculation for the PFI credits.

8.6.3.2.5 The calculation of the Revenue Support Grant (RSG), generated from the PFI Credit has been calculated in accordance with the Local Authority PFI Grant Reform that came into force in April 2005, as updated by "Local Government PFI Annuity Grant Determination (No.2) 27 September 2005". The guidance prescribes that the RSG should be paid on an annuity basis using an interest rate which is fixed for the term of the support. The rate is 5.5% for projects that are approved in the financial year 2008/9. Grant payments should commence to GCC when the relevant permanent assets specified in the PFI contract become available (following the completion of the construction period) and be payable over the remaining term of the contract.

8.6.3.2.6 Under this guidance, the RSG equates to annual grant payments over the 25 year operational life of the Reference Project of circa £6.9 million, resulting in total revenue support of circa £171 million over the 25 year operational period commencing in the year ending 31 March 2008.

8.6.3.2.7 The calculation of the RSG using the DCLG spreadsheet can be found at Appendix A8.

8.6.3.3 Projected Global Reference Project Cost

8.6.3.3.1 Table 8.14 below illustrates the projected Global Reference Project Cost taking into account the receipt of the PFI Credit Revenue Support Grant.

Table 8.14: Global Reference Project Cost from years 5 to 9, and 32 year total[9] net of RSG [10]

Nominal Cost	Year 5 2012/13 (£000)	Year 6 2013/14 (£000)	Year 7 2014/15 (£000)	Year 8 2015/16 (£000)	Year 9 2016/17 (£000)	32 Year Total (£000)
Unitary Charge	0	0	0	21,554	21,847	646,057

[9] Years 1 to 4 relate to years leading up to the start of construction period. Years 5 to 7 relate to the construction period. Operations commence in year 8, when the RSG receipt commences.

[10] Years 1 to 4 relate to years leading up to the start of construction period. Years 5 to 7 relate to the construction period. Operations commence in year 8, when the RSG receipt commences.

Landfill Costs	17,455	20,179	21,470	1,816	1,972	187,927
LATS Costs	4,083	3,461	2,862	0	0	12,904
Non PFI/Landfill Costs	9,583	10,127	10,703	12,219	12,762	532,463
Total Global Reference Project Cost	**31,121**	**33,767**	**35,034**	**35,589**	**36,581**	**1,379,350**
RSG Payment	0	0	0	6,569	6,857	171,419
Total Global Reference Project Cost net of RSG	**31,121**	**33,767**	**35,034**	**29,020**	**29,724**	**1,207,931**

(Source: Ernst & Young)

8.6.3.3.2 When the Revenue Support Grant of circa £171 million is considered, this further reduces the estimated cost of the Reference Project cost to circa £1,208 million.

8.6.3.4 LATS Sensitivity Analysis

8.6.3.4.1 So far in this analysis, the LATS costs have been estimated based on a LATS trading profile which GCC considers most likely. This is referred to as "Low Impact" profile and is one of three profiles described below (Table 8.15): All profiles estimate the cost for GCC to buy LATS permits for each year from now until 31 March 2040, when operations under the PFI would end.

Table 8.15: Description of three LATS profiles used to estimate LATS costs to GCC

[withheld under exception 12 (5) (e)]

8.6.3.4.2 The LATS profiles are detailed in Appendix A8.

8.6.3.4.3 In order to assess the sensitivity of the LATS cost on the Total Global Reference Project cost, or maintaining the Status Quo, set out below is the analysis using all three LATS trading profiles to enable a direct comparison of the effect of LATS costs on the outcome of the cost analysis. The three LATS trading profiles comprise.

8.6.4 Comparison of the Projected Reference Project cost against the 'Status Quo' Option – All three LATS profiles

8.6.4.1.1 In evaluating the cost of the Reference Project against maintaining the Status Quo, the analysis below uses all three LATS profile scenarios. This provides an assessment of the sensitivity of the cost for the Reference Project and the Status Quo to the uncertain potential cost of LATS.

8.6.4.1.2 Under the Reference Project LATS costs are anticipated to be incurred in the years leading up to the commencement of operations on 1 April 2015,

as residual waste continues to be sent to landfill and GCC does not meet its BMW diversion targets and as such needs to purchase LATS to make up the shortfall. For the Status Quo option, in addition to those costs outlined above for the Reference Project, LATS costs are anticipated to be incurred throughout the 25 year period from 1 April 2015 to 31 March 2040 when the PFI Contract would have been operational.

8.6.4.1.3 The analysis assumes that GCC is able to purchase LATS in accordance with either the “low impact”, “medium impact” or “high impact” trading profiles (set out in Appendix A8) for any deficit in LATS diversion tonnages in any given year. No income is assumed from the sale of surplus LATS generated in the operation period of the PFI Reference Project.

8.6.4.1.4 Table 8.16 below sets out the Cost of the Reference Project against the Status Quo option with LATS purchased at all trading profiles.

Table 8.16: Projected Reference Project cost v Status Quo – All LATS trading profile scenarios (figures rounded to nearest £ million)

[withheld under exception 12 (5) (e)]

8.6.4.1.5 From the table above it can be seen that for all LATS trading profile scenarios, the estimated cost of the Global Reference Project is lower than the estimated cost of the Status Quo option prior to the receipt of the Revenue Support Grant. When the Revenue Support Grant is taken into account, this further reduces the estimated cost of the Reference Project compared to the Status Quo option.

8.7 Sensitivity Analysis

8.7.1 GCC is of the view that it has adopted prudent assumptions in determining the costs of the Reference Project, resulting in a robust affordability projection. However, in order to further assess the sensitivity of the affordability analysis performed above, the following sensitivity analysis has been undertaken on a number of the key cost and revenue assumptions for the Reference Project. These standard “downside” sensitivities result in a worse affordability position for GCC and comprise:

- Capital Expenditure costs are 25% higher than estimated;
- Operational Expenditure costs are 25% higher than estimated;
- Third party income is 5% lower than estimated; and
- Combination of all three sensitivities (as shown above).

8.7.2 The impact the sensitivities set out above have on the affordability of the Reference Project is set out in table 8.17 below.

Table 8.17: Sensitivity Analysis (Using the "low impact" LATS profile)
[withheld under exception 12 (5) (e)]

8.8 Members' approval of affordability

8.8.1 On 23 April 2008, Cabinet approved the submission of the OBC to Defra for PFI credits to support the delivery of the residual waste project. In particular, it recommended that GCC should pursue PFI in preference to prudential borrowing on the basis that this provides better Value for Money. It also confirmed its commitment to meeting the affordability gap range of £456 million to £605 million over the life of the project. The Cabinet Paper and minutes of the meeting are appended (Appendix A6).

8.8.2 Previous to this meeting on 20 March 2008, the Business and Performance Scrutiny Committee were presented with a summary of the risks, advantages and disadvantages of the PFI and prudential borrowing route. The members of the committee agreed that, given the information received and the response to members' questions; the PFI route was the better option for the council.

8.8.3 In addition to the above, reports have been taken to Cabinet over the last two years alerting Members to the potential cost implications associated with future waste management. For example, the report to Cabinet on 10 October 2007 highlights the budgetary implications of the increasing costs of waste management if GCC does nothing.

8.8.4 During the lead up to the approval of GCC's residual waste procurement plan in November 2007, officers engaged with Members (county council and district) to raise awareness of future budgetary implications. This included a series of awareness seminars to all GCC members and the GWP.

8.9 The Authority's LATS Strategy

8.9.1 GCC has recognised that it will not be able to meet it's LATS obligations without trading between 2009 and 2015 (as shown in Table 8.18 below). The amount of LATS permits required varies depending on a number of factors;

- the introduction of food waste collections by the WCAs,
- the success of the food waste collection schemes,
- the introduction of alternate weekly residual waste collections,
- the rate of waste growth,
- the ability to source BMW treatment capacity

Table 8.18.: GCC's Forecast LATS Trading Requirements

[withheld under exception 12 (5) (e)]

8.9.2 Although the level of LATS permits required to meet GCC's obligations will vary and be dependant on the factors above that GCC has put in place. This includes the necessary "in-house" systems to enable it to make LATS trades as and when required. This includes;

- Cabinet approval to trade as required,
- the necessary auditable system to establish the need to trade,
- the budget approval process (via MTFS);and
- the mechanisms for delivering best value through the market.

8.9.3 With these systems in place, GCC has positioned itself well to meet its LATS obligations until the residual solution is in place.

8.9.4 GCC has spoken to a number of local authorities regarding the availability of LATS permits. GCC has established early prices for permits in 2009/10 and 2010/11 and is considering our LATS trading strategy. In line with Cabinet's approval, GCC will trade where this offers best value for GCC, allowing it to react rapidly to advantageous market conditions.

8.10 Budgets

8.10.1 Table 8.19 below sets out the affordability analysis for GCC based on the "low impact" LATS profile.

Table 8.19: Affordability Gap analysis using low impact LATS profile

Nominal Cost	Year 5 2012/13 (£000)	Year 6 2013/14 (£000)	Year 7 2014/15 (£000)	Year 8 2015/16 (£000)	Year 9 2016/17 (£000)	32 Year Total (£000)
Unitary Charge	0	0	0	21,554	21,847	646,057
Landfill Costs	17,455	20,179	21,470	1,816	1,972	187,927
LATS Costs	4,083	3,461	2,862	0	0	12,904
Non PFI/Landfill Costs	9,583	10,127	10,703	12,219	12,762	532,463
Total Global Reference Project Cost	**31,121**	**33,767**	**35,034**	**35,589**	**36,581**	**1,379,350**
RSG Payment	0	0	0	6,569	6,857	171,419

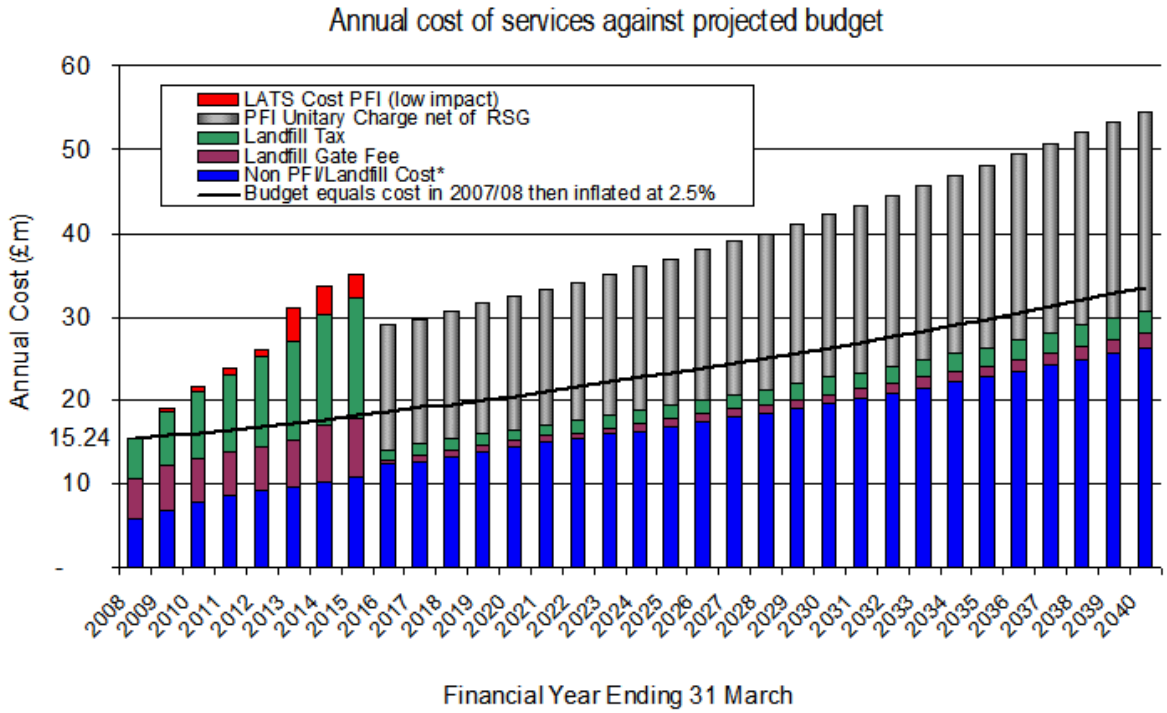
Nominal Cost	Year 5 2012/13 (£000)	Year 6 2013/14 (£000)	Year 7 2014/15 (£000)	Year 8 2015/16 (£000)	Year 9 2016/17 (£000)	32 Year Total (£000)
Total Global Reference Project Cost net of RSG	**31,121**	**33,767**	**35,034**	**29,020**	**29,724**	**1,207,931**
Projected Budget	17,247	17,678	18,120	18,573	19,037	752,342
Affordability Gap	**13,874**	**16,089**	**16,914**	**10,447**	**10,687**	**455,589**

(Source: Ernst & Young)

8.10.2 The table above shows that GCC is facing an affordability gap of circa £456million (in nominal terms) over the 32 year period, using the "low impact" LATS profile.

8.10.3 Figure 8.2 below sets out the annual cost of services against the projected council budget over the 32 year period. The annual affordability gap can be seen as the area of the bar above GCC's budget line.

Figure 8.2: Affordability Gap over the 32 year period



*The "Non PFI/Landfill Cost" is the cost to GCC of operating all waste disposal services such as Household Recycling Centres that do not form part of the PFI contract to treat residual waste.
(Source: Ernst & Young)

8.10.4 Figure 8.2 above shows the significantly increasing cost of landfill tax and LATS prior to the commencement of operations on 1 April 2015, followed by

a reduction in total cost as the PFI contract replaces a significant part of the landfill and landfill tax cost with the Unitary Charge. In addition, no LATS costs are incurred following the start of operation on 1 April 2015 as the PFI project diverts maximum BMW away from landfill, in excess of the council's LATS target.

8.11 Affordability Gap Range

8.11.1 From the analysis set out above, it can be seen that the minimum estimated affordability gap of circa £456 million is derived from using the base case PFI cost with no increase in CapEx, OpEx and Revenue in conjunction with the "low impact" LATS profile scenario.

8.11.2 The maximum estimated affordability gap is a combination of the "high impact" LATS profile scenario combined with the CapEx and OpEx up 25% and Revenue down 5% sensitivity. The calculation of the maximum estimated affordability gap is set out in Table 8.20 below.

Table 8.20: Maximum Affordability Gap

Scenario	Affordability Gap (£000)
"high impact" LATS scenario affordability gap	469,785
Increase in Unitary Charge from combined Sensitivity - CapEx and OpEx increase 25% and Revenue down 5%	134,945
Maximum Affordability Gap	**604,730**

(Source: Ernst & Young)

8.11.3 From the analysis set out above it can been seen that GCC has an estimated "Affordability Gap Range" of between circa £456 million and £605 million.

8.11.4 On 23 April 2008 the Cabinet approved that GCC proceed with the PFI procurement on the basis of a circa £456 million to £605 million affordability range and confirmed it's commitment to meeting this affordability gap. (Cabinet Paper attached at Appendix A6)

8.12 Sinking Fund

8.12.1 Based on the affordability analysis above, GCC has estimated that an annual sinking fund is not required as the cost of the Status Quo in the year ending 31 March 2015 is greater than the Global Reference Project cost in the year ending 31 March 2016.

9 Stakeholder Communications

9.1 Introduction

9.1.1 GCC recognises that consulting, engaging and taking its stakeholders with GCC is vital to achieving the delivery of a residual waste solution for the county. In order to effectively achieve this in September 2007 the Residual Waste Procurement Communications and Engagement Strategy was developed and endorsed by WPB (Appendix A9).

9.1.2 This document sets out a communications and engagement strategy designed to assist GCC through the procurement and planning process and to aid delivery of major new waste facilities. In developing this strategy, there have been two discussion workshops with senior councillors and officers from the waste unit and corporate communications and consultation team.

9.1.3 This strategy was used as the basis for a detailed Residual Waste Communications Plan (Appendix A9). The plan focuses on informing, engaging and consulting with all stakeholders identified in the strategy and additional stakeholders that have been identified since. The plan was approved by the Project Sponsor in consultation with the WPB in March 2008, however it is likely to be updated as the project progresses.

9.2 Strategy

9.2.1 The Residual Waste Communications Plan has two streams:

- Keeping all stakeholders up-to-date on the project via project newsletters, the GCC website, site visits, special briefings, plus local and trade media.
- A comprehensive programme of community consultation and engagement that feeds into the development of the Output Specification and evaluation criteria elements of the PFI process, using stakeholder workshops, website, local and trade media, consultation leaflets and questionnaires.

9.2.2 The key messages for all stakeholders are:

9.2.2.1 Context and need

- GCC's priorities are to reduce, reuse and recycle. But there will always be some material left over that cannot be recycled.
- GCC is meeting, and in some cases exceeding, all local and national recycling targets.
- Dealing with this left over rubbish will be in addition to increasing recycling in the county, not instead of.
- GCC aims to find a local solution to a local problem.

9.2.2.2 Sustainability and environmental issues

- GCC must find a more sustainable and environmentally friendly way to deal with left over rubbish than landfill.
- Landfill releases harmful green house gases that damage the environment.
- The government is imposing taxes and penalties on councils who carry-on using landfill for people's left over rubbish.
- Any new facility used must be safe, efficient, realistic, value for money and solve the problem.

9.2.2.3 Process

- GCC has to go through a complex procurement process over the next two/three years to identify the best type of facility(ies), location(s) and provider.
- GCC will ensure that local people and groups have various opportunities throughout the project to share and discuss their views.

9.2.3 In addition to these key messages, GCC must also clearly explain the generic technologies, so discussions within the local community are informed and understanding is based on accurate information.

9.3 TUPE and Code of Practice on Workforce Matters

9.3.1 The future impact of the contract has been reviewed and no transfer of an economic entity or service provision change (within the meaning of the Transfer of Undertakings (Protection of Employment) Regulations 2006) has been identified. Consequently, there is no need for a communications strategy in this respect.

9.3.2 However, should there be any changes which could affect workforce matters, then all relevant legal requirements and codes of practice will be fully observed by GCC including preparing a detailed communications strategy to fully involve those affected.

9.4 Market Interest

9.4.1 One of the most significant challenges of such a procurement project is to attract and retain sufficient competition throughout the project to obtain a high standard of solution and better value bids to ensure that the GCC provides Value for Money for Gloucestershire.

9.4.2 There are a number of factors in waste procurement that make this difficult, including:

- There is a small market (only about eight waste companies in the UK that have sufficient experience, know-how and standing to bid for such a contract).
- There are high costs involved in the bidding process for the waste companies (bidding for such contracts is very expensive – companies will only bid for those they believe are good projects that they have a fair chance of winning).
- There is an increasing choice of local authority procurement projects to bid for (many other authorities are at a similar stage to GCC. This allows bidders to pick and choose which procurements they invest in and which they don't).

9.4.3 In summary, it is a bidders market. GCC needs to 'sell' the Gloucestershire project to prospective bidders, ensuring that it is sufficiently attractive to ensure a highly competitive procurement project.

9.4.4 As a result GCC decided to consult with the waste industry through a soft market testing exercise. GCC spoke individually with 22 waste management companies to gain a better understanding of the market and what makes an attractive procurement. GCC found the exercise to be very beneficial and came away with clear messages from the market, these are detailed below. The soft market testing report is in Appendix A9.

9.4.5 Bidders want assurance that the procurement they enter into is well prepared, professional, low risk (as far as possible) and fair. To maximise bidder interest, GCC needs to ensure:

- Project commitment (i.e. Cabinet approved project);
- a well resourced project with professional project team and good project governance;
- positive member support by continuing to engage cross party members via Overview and Scrutiny and on-going communications with all members;
- a level playing field to ensure no contractor has a key advantage (achieved through procurement structure and an independent waste site controlled by GCC);
- a clear output specification; and
- good communications with the industry (starting with soft market testing, and an industry day).

9.4.6 GCC intends to maintain as much contact as possible with the waste industry over the coming months, in the lead up to procurement and is committed to achieving the above bidder requirements.

9.5 Other Relevant Authorities

9.5.1 All seven Gloucestershire authorities have developed the Joint Municipal Waste Management Strategy (JMWMS), of which the GCC's Residual Waste Project falls within, and includes the delivery of a residual waste solution by GCC. Extensive consultation on the JMWMS also included a county and district member workshop with representatives from all seven authorities contributing.

9.5.2 Specific to the Residual Waste Project, GCC has carried out a series of seminars, the first on 24th May 2007 and the second on 4th July 2007 with GCC and district council members and officers, outlining the project and the implications of doing nothing. In addition, GCC has also taken members and officers, district council members and officer, and parish council members (from parish councils located in close proximity to the preferred site) to visit some of the types of technologies being considered. This is ongoing and further visits are planned as part of the forthcoming communications plan.

9.5.3 GCC members and officers and district council members and officers have also been kept up-to-date via the Gloucestershire Waste Partnership (GWP) that meets on a regular basis. The GWP has also been identified as a key stakeholder for the consultation and engagement element of the communications plan. District councils have also been engaged individually, as requested.

9.5.4 On-going communications puts a strong emphasis on continuing to develop the positive dialogue within GCC and with the six district councils. GCC will also continue to communicate with other WDAs to ensure any lessons learnt are transferred and that any opportunities that arise are not missed.

9.6 Public Engagement

9.6.1 Consultation on the JMWMS included workshops with of the general public. Further information can be found on the results of the consultation in Section 3. There were several workshops which included a general overview and feedback on the JMWMS. GCC also held the Great Gloucestershire Debate (a media led debate that focussed on waste from November 2006 until May 2007). In addition, a focused community panel was set up with the aim of refining the criteria to evaluate potential residual waste technologies (for the technology appraisal); this took several workshop sessions. More information can be found on this in Section 3.

9.6.2 Extensive consultation was carried out in the preparation of the Waste Local Plan (which was adopted in 2004). Over a five-year period (between 1999 and 2004) there were five rounds of consultation, where stakeholders were

consulted on potential waste sites. The Waste Local Plan was also subject to a formal Public Inquiry with an independent Government Inspector from November 2001 to January 2002.

9.6.3 Consultation on GCC's Minerals and Waste Core Strategy Preferred Options has recently finished. Effort was made to ensure that stakeholders identified for both this strategy and the Residual Waste Project were cross-referenced and consolidated.

9.6.4 Moving forward, GCC is planning to carry out further consultation and engagement as part of the forthcoming residual waste communications plan. In May 2008, GCC will begin a two phase consultation process with all stakeholders, using various methods. The consultation will focus on aspects of the Output Specification and the evaluation criteria, building on the work carried out with the community panel (used as part of the JMWMS consultation). In addition local stakeholder groups will be invited to take part in workshops to help develop the Output Specification and evaluation criteria for the PFI process. The phases are described below.

Phase one: Consultation with the general public via a consultation leaflet and questionnaire, available in hard copy in key locations and online. This focuses on high level priorities for GCC to consider when developing the output specification and evaluation criteria.

Phase two: independently facilitated consultation workshops with specially formed stakeholder groups and special interest groups. Focused on priorities for GCC to consider when developing the Output Specification and evaluation criteria. Workshop set-up will allow more detailed discussion on the various issues consulted upon in phase one.

9.6.5 During phase one, a broad range of stakeholders will be consulted with the opportunity to have an input at a high level. For those stakeholders with a keen interest in GCC's Residual Waste Project (in addition to the stakeholder groups identified in Section 6), phase two will provide the opportunity for a more detailed input into the process.

9.7 Community Sector/Non Government Organisations (NGOs)

9.7.1 GCC has identified selected parish councils around the reference site and has been in dialogue with them at key points in the Residual Waste Project to date. Parish council members have been invited on site visits, had one-to-one meetings with project officers and their MPs as requested. Effort has also been made to keep parish councils informed of any forthcoming milestones or Cabinet decisions that relate to the Residual Waste Project.

9.7.2 Meetings have already taken place with local environmental groups to discuss their views, and further dialogue will be actively encouraged. As part of the forthcoming communication plan, local stakeholder groups, including those with site-specific interests, will be invited to take part in workshops to help develop the Output Specification and evaluation criteria for the PFI process.

9.7.3 Once a site has been secured, GCC will invite members of the local community to be involved in a site-specific residents group to input to the procurement at key stages. This group will also link into the governance arrangements for the Project as one of several stakeholder groups. See Section 6 for further details on the governance arrangements and Appendix A6 for further details.

10 Timetable

10.1 Introduction

10.1.1 The following section outlines GCC's proposed timetable for the residual waste PFI procurement.

10.2 Timetable

10.2.1 The main project stages have been considered and are detailed in the Project Initiation Document (Appendix A6). This is based on WIDP guidance and previous PFI procurement lessons learnt. The procurement process is based on competitive dialogue with the submission of the planning application being made by the preferred bidder. The planning application would be submitted once the pre-application consultation work, the planning application and the Environmental Impact Assessment has been completed by the bidder.

10.2.2 The acquisition for the reference site is assumed to be complete prior to the issue of the OJEU notice.

10.2.3 Contract award is anticipated in December 2010. It is expected that this will be prior to the submission of the planning application but this is still being explored as this decision is linked to how GCC will manage the inter-relationship between this project and the DPD process (see section below). It is however expected that Financial Close will not take place until planning permission is granted.

10.2.4 The timetable of the pre-procurement and the procurement stages has been designed to avoid slippage. The PID provides the stages of the procurement process in greater detail. GCC has allowed approximately six months for the preparation of the documentation including the evaluation framework. During the summer of 2008, GCC is also consulting the community of Gloucestershire on aspects of the Output Specification and the evaluation criteria. Further details about GCC's planned consultation can be found in Section 9), but importantly, the documentation and the consultation process are aligned to ensure GCC can present the evaluation framework to Cabinet for approval in September 2008.

Table 10.1: Procurement Timetable

Procurement stage	Date
Submission of EoI	**September 2007**
Approval of EoI	**December 2007**
Business Case Approved by GCC	**April 2008**
Submission of OBC	**April 2008**
Defra Approval of OBC	**July 2008**
PRG Approval of OBC	**September 2008**
OJEU Published	**October 2008**
Descriptive Document Issued	**October 2008**
Call For Final Tenders	**June 2010**

Procurement stage	Date
Preferred Bidder Selected	**July 2010**
Submission of FBC	**September 2010**
Defra Approval of FBC	**November 2010**
Contract Awarded	**December 2010**
Financial Close	**As planning is granted**
Planning application submitted	**September 2010 – June 2011**
Operational Commencement (subject to planning, technology type, scale and complexity)	**April 2015**

10.2.5 The procurement process is expected to last approximately 26 months. GCC has built in contingency for internal decision-making processes, and holiday periods. GCC intends to consult external advisors and the bidders prior to and during procurement stages to ensure slippage is mitigated and where possible time is saved. During the competitive dialogue phase GCC also plans to take through a manageable number of bidders at each stage. This is in response to concerns raised during the soft market testing exercise by the waste industry regarding other authorities taking too many bidders through at each stage.

10.2.6 GCC has included a time buffer should the planning application for the facility be called in by the Secretary of State. Soft market testing confirmed that an EfW had the longest lead in time and would take approximately 36 months to build and commission. The procurement timetable is shown above in Table 10.1.

10.3 Managing Timetable Risks

10.3.1 Risks relating to the timetable come under our overarching risk of "WR78 – Failure to deliver a signed contract by December 2010". GCC has a robust project management methodology based on PRINCE2 which seeks to ensure that this risk will be mitigated as far as possible throughout the procurement.

10.3.2 Specific processes GCC has in place to ensure a smooth and timely procurement process include:

- an approved PID which sets out the initial project plan and decision making routes;
- monthly Core Project Team meetings which include risk and timetable review;
- stage plan approach to procurement, each stage having a stage planning meeting prior to it commencing and end stage reports with lessons learned;

- presentation of stage plans (and, should tolerances be exceeded, exception reports) and end of stage reports to the Waste Project Board;
- monthly highlight reports where key milestones are reported against;
- work packages for the production of each product and checkpoint reports to flag up any issues during the execution of the work package.

10.3.3 GCC recognises the interrelationship between the Residual Waste Project procurement timetable and the WPA's programme for the emerging Development Plan Documents (DPDs). The waste Core Project Team and the waste planning team are currently co-ordinating their efforts to address this project timetable risk. It has identified a critical path and is in the process of finalising the DPD timeline since receiving guidance from the Secretary of State (Government of the South West) in spring to include sites in its Waste Core Strategy. GCC will inform Defra and PRG as soon as possible as to how GCC will ensure this risk is mitigated.