Annex 1

Project Background

Introduction

1. Continuing to landfill is neither environmentally nor financially sustainable. Landfill space in the county is running out and when residual waste (the waste that is left over after we have reduced, reused, recycled and composted as much as we can) is buried underground, it produces methane. This greenhouse gas is over 20 times more potent than carbon dioxide and is one of the contributing factors of climate change.

2. The need to change has been recognised by central government and the European Union. Policies, legislation and fiscal measures have been introduced. These are intended to transform the way waste is managed under a strategy that is led by the principles of the waste management hierarchy and ultimately reduces dependency on landfill.

3. The following section details the key drivers that have led to the county's waste management strategy.

Legislative and national policy drivers set to divert waste from landfill

4. The EU Landfill Directive (1999) sets strict targets to reduce the amount of active biodegradable municipal waste (BMW), such as garden and food waste, allowed to go to landfill to decrease the levels of greenhouse gases emitted to the atmosphere. In 2003, the Waste and Emissions Trading Act was enacted introducing the Landfill Allowance Trading Scheme (LATS) for England. This scheme aimed to reduce BMW sent to landfill to 35% of 1995 levels by 2020 to ensure that the UK meets the requirements of the EU Landfill Directive. Under this scheme, the council was allocated a fixed number of allowances (tonnage) each year up to 2020.

5. The recent government Waste Review (see below for more detail) announced the end of the LATS in England after the 2012/13 scheme year. Defra has taken this decision after careful analysis of the range of policies needed to enable England to meet landfill diversion targets in 2013 and 2020. This analysis, along with responses to the consultation on meeting landfill diversion targets, in 2010, has shown that the LATS is no longer the major driver for diverting waste. Landfill tax is now more of an incentive for local authorities to reduce the waste they send to landfill.

6. Landfill tax, introduced by the Landfill Tax Regulation (1996), is an environmental tax paid on top of normal landfill gate fees by any company, local authority or other organisation that wishes to dispose of waste in landfill. It is intended to encourage alternative means of waste treatment, such as recycling and recovery, by reflecting the environmental costs of landfill in its price. The tax is imposed on every tonne of waste disposed of to landfill and is currently £64 per tonne; this is planned to rise by £8 per tonne year on year up to at least £80 per tonne by 2014.

7. The Waste Strategy for England (May 2007) (the national waste strategy) emphasised the government's recognition that less waste should be sent to landfill and more needs to be recycled. It set a national target for 50% recycling and

composting by 2020. The government reviewed the national waste strategy in 2010 and as a result published the Waste Policy Review in England 2011 (the Waste Review). This set out their ambition for a *zero waste economy* – not an economy which does not produce waste at all, but one in which material resources are re-used, recycled or recovered wherever possible and disposal is used as the last resort. The waste hierarchy is now enshrined in legislation (Waste (England and Wales) Regulations 2011).

8. The Waste Review also outlined government's support for energy from waste (EfW) for waste which cannot be reused or recycled. It's aim is to get the most energy out of genuine residual waste, not to get the most waste into energy.

9. In addition there is an increasing amount of legislation and guidance on renewable energy, which encourages the use of alternative technologies and sources of energy, such as utilising waste, to replace fossil fuels in the production of energy in the UK. The Renewables Directive (2009/28/EC) promotes the use of energy from renewable sources. Each member state has been allocated a target for energy from renewable sources (based on their existing share of energy from renewable sources and the characteristics of their renewable energy resources). This has been transposed into the UK Renewable Energy Strategy 2009. The legally-binding UK target aims to ensure 15% of our energy comes from renewable sources by 2020. The targets include achieving the following:

    a. generate more than 30% of electricity from renewables;

    b. generate 12% of heat from renewables;

    c. generate 10% of transport energy from renewables.

Local policy drivers

Joint Municipal Waste Management Strategy (JMWMS)

10. The Gloucestershire JMWMS (the long-term plan to deal with Gloucestershire's waste, which was signed up to by the six district councils and the council) aims higher than the national target, pushing recycling and composting to 60% by 2020. In addition, there is an aim to reduce overall waste arisings whilst recognising the lead that industry, for example, the producers of packaging, is required to take via producer responsibility legislation and guidance.

11. In accordance with the hierarchy of waste management, the JMWMS established the requirement to treat residual waste as a resource, and the need to develop infrastructure to recover further value from residual waste[1]. The JMWMS estimated that even if the county achieves it's recycling and composting targets through the implementation of waste minimisation schemes and enhanced recycling and composting collection schemes, as a county, we will still generate approximately 150,000 tonnes of residual waste by 2020.

[1] Objective 5, **"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)*

Residual Waste Procurement Strategy: Strategic Aims for Gloucestershire

12. In the JMWMS, the council outlined its commitment to undertake an extensive appraisal of residual waste treatment solutions as part of developing a residual waste procurement strategy. The council 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 (VfM).

13. In 2007, the council undertook an appraisal of potential residual waste technology scenarios. Residual waste treatment includes a number of technologies and techniques that enable the recovery of additional materials for recycling and gains further value from waste, including energy. In October 2007, the Cabinet approved five technology scenarios that were recognised as being potential solutions for Gloucestershire:

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

14. In November 2007 the Cabinet approved that the procurement for a residual waste solution would be technology-neutral meaning that any company bidding for the residual waste contract would be able to bring forward any technology or combination of technologies, as long as the solution met a number of objectives (which were set out in the draft specification for the residual waste project). Specifically, such capacity should provide a solution that is:

    - full (rather than partial) and complete ‘closed loop’ solution;
    - deliverable;
    - flexible;
    - environmentally sustainable;
    - optimal in materials and energy recovery; and
    - VfM over the life for the contract.

15. The Cabinet decision also included the approval to develop and submit a business case to government for Private Finance Initiatives (PFI) credits to help finance the residual waste project. The council subsequently submitted its outline business case to Defra in April 2008 and in November 2008, Defra awarded the council £92 million of PFI credits.

16. As part of the conditions for the award of PFI credits the council acquired 12 acres of the site, Javelin Park, near Haresfield, Gloucestershire. However the council stated it had no preferred site or sites that bidders should use to deliver residual waste infrastructure for this project.

17. The procurement commenced in January 2009 following Defra approval of £92m of PFI credits.

18. Under the draft specification issued to bidders as part of the procurement, the contractor would be required to design, build, finance and operate residual waste treatment capacity that will divert residual waste from landfill.

Planning Policy Framework: Draft Gloucestershire Waste Core Strategy

19. Gloucestershire County Council is currently finalising its Waste Core Strategy (WCS). This document will set out Gloucestershire's infrastructure plan for waste management facilities until 2027/28. It will be used by the council to make decisions about planning applications for waste management facilities. Gloucestershire's district councils will also use the strategy to make decisions about other types of planning applications that could have waste implications. The strategy will also inform developers about the type of development that will be acceptable and at what location within the county.

20. The draft WCS was submitted to the Secretary of State on 5th September 2011. The Strategy was also subject to an Independent Examination in Public early in 2012. As a result of evidence provided during the examination the council proposed a number of changes (called Main Modifications) to the WCS. The inspector has now considered the Main Modifications, associated comments and observations on the National Planning Policy Framework (a new planning framework published by government which sets planning policies for England) all of which helped the inspector to determine whether the WCS was sound (to be sound, a local plan should be positively prepared; justified; effective and consistent with national policy). The WCS inspector's report has been received by the Waste Planning Authority and was published on 3rd September 2012.

21. The WCS details not only the policies that will need to be taken into consideration when assessing sites for waste management, but also identifies sites for strategic waste facilities in Gloucestershire.

22. To determine the number and types of sites the county requires to manage waste, it is important to understand the potential tonnage of waste (household waste, recyclables, garden, commercial, industrial and hazardous) produced and managed in the county now and in the future, and also the infrastructure such a tonnage requires, such as transfer stations and treatment facilities. With regard to residual waste, the draft WCS originally estimated that it will require tonnage capacity within the county for approximately 143,000 tonnes of residual waste by 2027/28. Based on the WCS inspector's report, a lower limit has been set at 108,000 tonnes with an upper limit of 145,000 tonnes by 2027/28. This figure is determined by considering a number of factors, such as the population and the number of potential households in the future and the county achieving its recycling and composting targets. This was thoroughly scrutinised during the WCS examination in public and is discussed in the next section of this annex.

23. The draft WCS identifies four sites within the county, one of which is Javelin Park, which are considered suitable for residual waste treatment facilities.

Residual waste tonnage requirement.

Background

24. The JMWMS commits the seven waste authorities (the council and the six districts councils) to reducing the amount of waste produced within the county by supporting waste minimisation and recycling initiatives to slow down waste growth and achieve zero growth at a household level by 2020 (see below for further detail). This includes reaching the 60% recycling and composting target by 2020 across the county. The council, but as yet not the district councils, also has an aspiration to reach 70% recycling by 2030. This still requires 30 to 40% of 'residual waste' to be diverted from landfill using EfW.

25. The JMWMS aims to achieve zero waste growth at the household level, but it recognises waste arisings in the county will increase overall because:

    - the population will increase;
    - the number of homes in Gloucestershire will increase; and,
    - the number of smaller households in the county will increase, with smaller households creating more waste per person than larger ones.

Waste Disposal Authority Requirement

26. The council as the Waste Disposal Authority (WDA) has the statutory responsibility to dispose of the residual waste collected by the district councils under their statutory duties as Waste Collection Authorities. In 2011/12 Gloucestershire produced 280,205 tonnes of municipal waste of which 154,630 tonnes was landfilled.

27. In 2008, the council developed an outline business case for the residual waste project. As part of this, a waste forecast was produced for Gloucestershire's residual waste arisings based on a number of assumptions including achieving 60% recycling by 2020 and reducing waste growth to zero by 2020 at the household level. This forecast residual waste arisings reaching 176,000 tonnes by 2040.

28. The tonnage forecast has been reviewed regularly as part of the procurement process to ensure it is realistic. A contract base case tonnage forecast was issued for reference to the bidders at the commencement of the procurement process (Invitation to Submit Outline Solutions stage) forecasting a nominal 150,000 tonnes of residual waste by 2040 and this has been re-visited at each stage of the Project. (N.B. As noted in the main report the contract end date will be 25 years from service commencement, i.e. 2040).

29. The WCS process has been running in parallel to the procurement since 2009. As described in paragraphs 19-23, the WCS sets the requirement for waste infrastructure based on the amount of waste within Gloucestershire that requires management. The WCS covers the period of up to 2027/28 and it is estimated that the county would require treatment capacity for 143,000 tonnes of residual waste by 2027/28 (published as part of the draft WCS and the main modifications document).

30. Table 1 provides a summary of the OBC tonnage forecast, the more recently provided contract base case tonnage and the core model submitted as part of the WCS.

Table 1: Recap of tonnages used in the procurement, and the WCS process (pre independent examination of the WCS).

Scenario	2027/28*	2039/40*	25 Year Tonnage	Notes
OBC Tonnage	163,222	176,741	4,265,560	As per OBC (2008)
"Core Model" based on the JMWMS found in the draft WCS.	143,000	154,372	3,563,886	60% recycling by 2020. Growth at household level. Used in the Outline Solutions stage of procurement, 12/2010.
Contract "base case tonnage"	127,770	155,967	3,398,468	60/70% recycling Used in the Refined Solutions stage of procurement, 12/2011.

*(*Note: For clarity, 2039/40 represents the end of the residual waste contract and 2027/28 the end date of the WCS period).*

31. During the WCS Independent Examination the inspector asked the council, in its capacity as the WDA, to consider what upper tonnage limit of forecast residual waste tonnage should guide policies of the WCS. Therefore, further waste forecast models were submitted to the WCS process by the WDA as shown in Table 2. For the purpose of the WCS only the 2027/28 tonnage is required but the projected 2039/40 tonnage is shown so that it can be compared with the procurement. Depending on the assumptions made, the tonnage forecast can vary between 108,000 and 154,000 tonnes in 2027/27 and 112,000 tonnes to 170,000 tonnes in 2039/40.

Table 2: Range of residual waste tonnages provided to the WCS process.

Scenario	2027/28	2039/40	Key assumption
"Core Model" based on the JMWMS.	143,000	154,372	60% recycling by 2020. Growth at 0.8%.
Medium Recycling (Upper Limit)	153,875	169,514	55% recycling by 2017/18. Growth at 0.8%.
Medium Recycling (Requested by Inspector)	145,000	168,000	60% recycling by 2020 and remaining. Growth at 0.8%.
Medium to High Recycling	111,983	122,795	Growth at 1.3% all years. 60% recycling by 2019/20, 70% recycling by 2029/30.
High Recycling (Lower Limit)	107,945	111,974	60% recycling from 2019/20 and 70% recycling by 2029/30. Growth at 0.8%

Constructing a Flexible Contract for the WDA Requirement

32. As described in paragraph 28 the council provided bidders with an estimate of the amount of residual waste up to 2039/40 (the contract base case tonnage). It should be borne in mind that the council is not committed to the contract base case tonnage, nor does it warrant that it is correct. The bidders then undertook their own calculations of waste tonnages and decided on the capacity of their solution based on their view of the contract base case tonnage.

33. Given that forecasting is over a period of twenty five years any contract must be capable of allowing the WDA to manage its residual waste between the range (the Upper and Lower Limits levels) shown in Table 2. The range given is somewhat complicated by the fact that Gloucestershire has a 60% recycling target which is committed to in the JMWMS and the council alone has an aspiration for a 70% recycling level by 2030. Consequently any contract needs to straddle these two objectives. Using too low a tonnage for the contract base case tonnage could potentially mean the council having to pay additional costs as it tries to access capacity which has been sold to the private sector. Setting too high a tonnage could mean capacity being built which is not required.
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34. The key council aim is to ensure the contract provides a broad range of forecast tonnages to give flexibility to the WDA and this has successfully been achieved..

Project Chronology

2007

The council undertook a series of detailed studies which informed the residual waste procurement plan (approved November 2007, see below). These studies included:

- technology review
- soft market testing
- procurement and financial review

18th July 2007 – the Cabinet approve the acquisition of 12 acres of Javelin Park through negotiation.

30th September 2007 – the council submits an Expression of Interest to Defra for PFI credits.

10th October 2007 – the Cabinet approve five technology scenarios that are recognised as being potential solutions for Gloucestershire:

- 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).

28th November 2007 – the Cabinet approve the residual waste procurement plan to procure a long term residual waste solution to manage Gloucestershire's residual waste up to 2040. This included the decision to develop and submit a business case to government for PFI credits.

2008

23rd April 2008 – the Cabinet approve the submission of an outline business case (OBC) to Defra. The reference project is an EfW facility based at Javelin Park, but the council is clear within the OBC that this is not its preferred option and that the council is both site and technology neutral.

Summer of 2008 - the council undertakes a public consultation to understand stakeholder priorities when developing the evaluation framework to evaluate solutions against. The results help shape the weighting of criteria (the Cabinet approve the evaluation framework 19th November 2008).

12th November 2008 - Defra award the council £92 million of PFI credits.

19th November 2008 – the Cabinet approve the evaluation framework, which will be used to award the residual waste contract.

2009

January 2009 – the council completes the purchase of part of Javelin Park.

30th January 2009 - the council commences the procurement for a residual waste solution. The council submits its OJEU notice, and the Pre-Qualification stage commences.

17th February 2009 – the council holds an industry day for prospective bidders.

3rd September 2009 – eight bidders submitted their outline solutions (ISOS).

16th December 2009 – the Cabinet approve the short list of four bidders to be invited to submit detailed solutions (ISDS).

2010

20th October 2010 – Defra withdraw PFI funding from the council's residual waste project.

October 2010 – March 2011 (Strategic Review). The council decides to pause the project to review whether there is still a valid need for the project and that it is still affordable.

2011

16th March 2011 – the Cabinet approve the continuation of the project and to short list two bidders to be invited to submit refined solutions (ISRS). Both solutions include EfW at Javelin Park.

16th July 2011 – Bidders commence pre-application consultation to begin the planning process for their application to build, construct and operate an EfW facility at Javelin Park.

16th – 19th July 2011– first public exhibition held at Javelin Park.

12th – 14th November 2011 – second public exhibition held at Javelin Park.

14th December 2011 – the Cabinet approve the selection of Urbaser Balfour Beatty (UBB) as preferred bidder.

2012

31st January 2012 –UBB submits its planning application to the Waste Planning Authority (WPA).

5th March 2012 – the WPA validates the planning application (consultation on the application commences).

24th February 2012 – UBB submits its environmental permit to the Environment Agency.

12th April 2012 – the Environment Agency confirms the environmental permit is duly made (consultation on the application commences).