

CABINET – 24TH JULY 2007

**PROCUREMENT OF LONG TERM WASTE MANAGEMENT
TREATMENT FACILITIES**

**REPORT OF THE DIRECTOR OF HIGHWAYS,
TRANSPORTATION AND WASTE MANAGEMENT**

PART A

Purpose of Report

1. This report sets out the process being followed to procure new waste management infrastructure to ensure the long-term delivery of the revised Leicestershire Municipal Waste Management Strategy (LMWMS) and seeks approval to take the process forward with a preferred technology and funding route.

Recommendations

2. It is recommended that :
 - (a) the Authority pursues the approach of funding the procurement of new waste management infrastructure through the Private Finance Initiative (PFI) subject to sufficient PFI credits being available and the conditions imposed by the Department of the Environment, Food and Rural Affairs (Defra) being acceptable and that, in order to achieve that end:
 - i) an Expression of Interest (EoI) document is prepared and submitted to Defra by the end of September 2007, and that
 - ii) subject to approval of the EoI by Defra, an Outline Business Case (OBC) is developed, and that
 - iii) approval be given in principle to the establishment of a "Reference Project" in order to provide an evaluation of alternative options for treating and managing waste to support the PFI funding application based on the work already undertaken.
 - (b) That the initial evaluated option of energy from waste with the potential for combined heat and power be selected as the preferred option for dealing with waste which is not composted or recycled.

Reason for Recommendations

3. In order to satisfy the requirements of the national, regional and Leicestershire waste management strategies together with the European Landfill Directive, it is essential that new waste management facilities are delivered to provide an alternative to landfill disposal. PFI provides an opportunity for the County Council to apply to the Government for credits to assist with capital costs of implementing the strategy. Following evaluation by external consultants, energy from waste (EFW) with potential for combined heat and power has been identified as the most appropriate option at this stage.

Timetable for Decisions (including Scrutiny)

4. The following gives an indication of the timetable for the procurement process. This timetable is based on the minimum period to complete the procurement process. It is evident from the risk assessment process carried out to date, and referred to later in this report, that there are a number of key risks that could impact adversely on the project and lead to delays. Any delay could have a significant adverse financial impact through failure to meet the Landfill Directive targets. Some of the risks can be planned for and mitigation taken to reduce their likelihood. However, some remain outside the direct control of the authority.

Task	Target Date
Procure and appoint external advisors to support the long term procurement process	30th July 2007
Present report to Environment Scrutiny Committee	6th September 2007
Report comments from Scrutiny Committee back to Cabinet	11th September 2007
Obtain "Agreement in Principle" to procurement process from District Councils	14th September 2007
Produce and submit the Expression of Interest document to Defra	30th September 2007
Produce the Outline Business Case for submission to Defra	28th February 2008
Start Procurement Process for new contract	May 2008
Pre-Qualification stage	July 2008
Competitive Dialogue	September 2008
Selection of Preferred Bidder	May 2009
Award Contract	Summer 2009

5. The County Council, as the waste planning authority are required to prepare a Minerals and Waste Development Framework. This work is progressing in parallel with the waste procurement process and the timetable for production is presented below.

Planning Timetable

Task	Target Date
Consultation on Core Strategy	October – November 2007
Preparation of Core Strategy submission documents	December 2007 – May 2008
Submission of Core Strategy published	June - July 2008
Pre-Hearing Meeting on Core Strategy	October 2008
Public Hearing into Core Strategy	January 2009
<i>Consultation on site preferred options</i>	<i>April – May 2009</i>
<i>Preparation of Site Allocation submission documents</i>	<i>June – October 2009</i>
Inspector's Report on Core Strategy	July 2009
Check and consider Inspector's report on Core Strategy	August – September 2009
Adoption of Core Strategy	October 2009
<i>Submission of Site Allocations published</i>	<i>November - December 2009</i>
<i>Pre-Hearing Meeting on Site Allocations</i>	<i>February 2010</i>
<i>Public Hearing into Site Allocations</i>	<i>May 2010</i>
<i>Inspector's Report on Site Allocations</i>	<i>November 2010</i>
<i>Check and consider Inspector's report on Site Allocations</i>	<i>December 2010 – January 2011</i>
<i>Adoption of Site Allocations</i>	<i>February 2011</i>

Note: Italics refers to the site allocations document.

Policy Framework and Previous Decisions

- This procurement stems from implementation of the Leicestershire Municipal Waste Management Strategy adopted in 2006. The revised Leicestershire Municipal Waste Management Strategy (LMWMS) was adopted by all the partnership local authorities including the County Council in July 2006.

Resource Implications

- The Government's approach to ensuring local authority compliance with the Landfill Directive has been through financial penalties and the introduction of the Landfill Allowance Trading Scheme (LATS). Failure to comply with the scheme could mean penalties of at least £150 per tonne, together with a share of any European fines. In addition, it was announced at the last budget that the landfill tax will increase by £8 per tonne from April 2008 until it reaches £48 per tonne in 2010. Further increases are expected in future years to levels of up to £80.
- The County Council already pays over £5m each year in landfill tax. This will rise by a further £2m in 2009/10 as a result of this increase. As part of the options evaluation for alternative treatment technologies to divert waste away from landfill (in line with European and Government

legislation), the relative costs have been evaluated based on the predicated impact of landfill tax and potential penalties for non compliance.

9. The outcomes of this financial evaluation are that Energy from Waste with potential for combined heat and power is likely to be the most cost effective solution in the long term. Current estimates are that the relative cost per tonne of EfW will become less than landfill disposal by 2013/14. This cost will be reduced even further if the authority is successful in obtaining PFI credits.
10. The total capital expenditure involved in developing an EfW facility would be approximately £100m, of which up to 50% could be obtained via a PFI grant.
11. The results of the financial modelling indicate that the County Council should make an application for PFI funding as it is believed to represent best value for money for Leicestershire, based on current information. The suitability of PFI for waste projects had historically been questionable, but recent developments have made the approach much more attractive, for the following reasons:
 - The credits which are likely to be available have increased to 50% of the capital value, outweighing the cheaper funding accessible through prudential borrowing.
 - The contract guidance is viewed as best practice and would be used to a great extent regardless of funding route.
 - Active support from the Government is offered to councils through the procurement.
 - Spending approval process has been revised to significantly reduce delays.
12. Depending upon the final mix of Capital and Revenue costs PFI credits could offset treatment costs by approximately £20/tonne. The net cost will undoubtedly be much lower than landfill by the time the facility comes on stream.
13. The MTFs (Medium Term Financial Strategy) agreed for 2007/08 – 2009/10 provides for an increase of 48% over 2006/07, to allow investment to be made to divert waste from landfill in line with the waste strategy. To stabilise increases at a sustainable level the County Council needs investment in a long term solution, as not procuring facilities will subject the County Council to higher costs and greater financial uncertainty. More detailed financial analysis will be undertaken prior to the OBC being submitted to assess the affordability of the treatment facility. The granting of PFI credits will make a substantial contribution towards bridging any affordability gap.
14. The Director of Corporate Resources has been consulted on the resource implications section of this report.

Circulation under Sensitive Issues Procedure

To be circulated to all Members under the Members Information Service.

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PART B

Background

15. The revised Leicestershire Municipal Waste Management Strategy (LMWMS) was adopted by all the partnership local authorities including the County Council in July 2006. The LMWMS sets out four key areas for action to deliver the core strategy:
 - Waste Prevention and Re-use
 - Recycling and Composting
 - Residual Waste Management
 - Partnership working
16. The LMWMS includes proposals to meet the short, medium-term and long-term residual waste treatment requirements of the Council and a separate procurement process is already in progress to secure interim treatment capacity from existing or planned waste management facilities to meet the 2009/10 and 2012/13 landfill directive targets. Tender documents are due to be evaluated in September 2007 and it is envisaged that a further report will be presented to Cabinet in October 2007 prior to award of the contract(s).
17. The main aim of the project is to procure a long-term waste management contract to deliver an affordable and sustainable solution that will allow the authority to meet and exceed the statutory targets for Leicestershire for landfill diversion.

The successful delivery of this project is dependent on a number of factors:

- a solution must be delivered in a timely manner to ensure that the authority's long-term LATS requirements are achieved
 - a solution must be identified that is affordable and delivers value for money
 - an appropriate funding route must be identified and pursued
 - an integrated solution is found that involves working in partnership with the District Councils and takes account of future recycling and composting activities
 - a solution is proposed that is attractive to potential bidders and that ensures a competitive process
 - a solution is proposed that receives support from Defra and the Policy Review Group (PRG) – HM Treasury.
18. The new treatment infrastructure necessary to ensure compliance with the Landfill Directive and therefore avoid significant financial penalties will require the Council to make a very substantial investment over a long time frame.

19. Current best practice is that for the longer term this can be achieved through a 25 year Private Finance Initiative or Public Private Partnership (PPP). The PFI provides the opportunity for the Council to apply for credits from the Government to assist with the capital costs of the new infrastructure. An evaluation of the alternative funding options is presented in Appendix 3 of this report.
20. In February 2007 Defra introduced a revised formal bidding process for PFI/PPP for waste management procurement to regularise the flow of funding applications and construction projects to the market place. Local authorities who wish to apply for PFI credits must now submit a detailed Expression of Interest (EoI) followed by an Outline Business Case (OBC) to a specified timetable, in one of several "bidding rounds".

Waste Development Framework

21. The County Council, as the waste planning authority, is required to prepare a Minerals and Waste Development Framework. The Waste Development Framework is being prepared jointly with Leicester City Council and also needs to cater for commercial, industrial, construction, excavation and demolition waste, and not just municipal waste.

Work on preparing the framework documents was carried out last year and the documents were subject to public consultation. Whilst a waste core strategy and a waste site allocations document was prepared advice from Government Office for the East Midlands (GOEM) and more recent national planning advice has meant that the County Council needs to revisit the documentation.

22. Government advice states that a waste development framework will comprise of a core strategy and site specific allocations of land. These two elements are to be set out in two separate documents (known as development plan documents (DPDs)). The principal document is the core strategy. The core strategy should set out policies and proposals for waste management in line with the Regional Spatial Strategy (RSS) and ensure sufficient opportunities for the provision of waste management facilities in appropriate locations including for waste disposal. The core strategy should both inform and in turn be informed by any relevant municipal waste management strategy.
23. Any development plan document needs to be found sound by an independent inspector. Tests of soundness have been applied across the country in what appears to be in an inconsistent way which has created difficulties for many local authorities trying to prepare these frameworks, in particular waste planning authorities.

24. Having taken into account Government advice, a revised programme was approved by Cabinet in March 2007. This sets out the timetable by which the County Council has committed itself to produce the relevant documents.
25. Based on work already carried out, the next key step is to publish for consultation a more clearly defined spatial vision and options for delivering the vision for the provision of waste management facilities. The main reason for this is to ensure that these important and difficult strategic decisions are made in a way that reduces the risk of them being found unsound when examined by an independent planning inspector. Government advice states that difficult decisions should be taken in the core strategy.
26. The core strategy will consider what realistic spatial options are available. The most recent government advice states that core strategies can include strategic sites and areas (previously the advice was that they could not). These are strategic sites and areas that are critical to the delivery of the strategy's vision including sites to support the pattern of waste management facilities set out in the RSS in accordance with the broad locations identified in the RSS. At a strategic level, "sites" will probably mean locations rather than precisely defined areas on a map given the nature of core strategies.
27. It is anticipated that a report to Cabinet on 11th September 2007 will set out the documentation and consultation arrangements.

Risk Management

28. Risk is the chance of an event happening and leading to unintended effects, which will affect the achievement of objectives. Risk management is not just about trying to eliminate or avoid risk but about understanding and managing risks more effectively. Risks need to be identified therefore based upon how they will impact on the delivery of the project objectives.
29. Having developed the objectives for the project, an initial risk workshop was undertaken in June 2007 to identify, evaluate and develop response plans to risk events that have the potential to threaten the achievement of the project success. The propensity for risk events to materialise and their potential impact on the project objectives was assessed in order to permit comparison and prioritisation of the risks and their response action plans. The resultant risk register has been integrated into the overall project plan. A total of 40 risks were identified and analysed with 18 being scored as high risk to the delivery of the project.
30. A key risk associated with the project is finding suitable sites for the new waste treatment facilities within the County. The possible location of sites is being addressed through the planning system and the production of

the Waste Development Framework (WDF). Other key risks that have been identified relate to finance and affordability; planning and permissions; delays in project delivery; stakeholder involvement and support.

Procurement Process

31. The authority has established internal governance arrangements based on the PRINCE 2 project management methodology to implement the revised Strategy.
32. The preparation process for the procurement of new waste management infrastructure can be divided into three stages as follows:
 - Production of the Expression of Interest Document
 - Procurement of Legal, Financial and Technical Advisors
 - Production of the Outline Business Case
32. The procurement of the final Waste Management Contract will also involve a number of processes as follows:
 - Pre-Qualification – to identify a select list of contractors
 - Competitive Dialogue – to reduce bidders to a short list
 - Selection of Preferred Bidder
 - Contract award – design, construction, commissioning of new facilities

The estimated time period to complete the procurement processes is likely to be approximately two years.

33. If a PFI funding route is selected the contract would be structured to deliver outcomes rather than to specify a particular type of technology. A limited amount of flexibility exists within the procurement process although this reduces during the various stages.

Expression of Interest

34. Work is currently in progress to produce an EOI for submission to Defra by the end of September. This work will be necessary irrespective of the funding route adopted by the authority. If this deadline is missed, the next opportunity will be in another six months time at the end of March 2008.
35. The content of the EOI is specified by Defra and includes submission of documentary evidence that a number of key processes have been completed, the most important of which is that a detailed evaluation of the technical options for treating and managing waste in future has been undertaken and a preferred scenario agreed. This is known as the “Reference Project” which will form the basis for any application for PFI funding. It will be developed in more detail at the OBC stage and

will ultimately form the foundation of the tender process for the final contract.

36. Defra will also require the County Council to demonstrate that the choice of Reference Project and procurement process is supported by the District Councils. This could be achieved through an “in principle” agreement at the EOI stage but will require a Memorandum of Understanding when the OBC is submitted.

Options Evaluation

37. It is recognised as good practice and is also a Defra requirement that a baseline scenario is used as the starting point for evaluation of different treatment technologies. Extensive data relating to the County and District existing and future, waste treatment and collection activities including projected waste growth, projected population and household numbers, have been provided to the consultants undertaking this work on behalf of the authority.
38. The evaluation process consists of two stages, a long list of treatment options that are evaluated against a series of criteria to produce a short list that are then modelled in detail, before the final selection process for the preferred option.
39. A total of 19 technical options were considered at the long list stage against a comprehensive set of criteria.
40. That evaluation process resulted in the following preferred options. A summary of the treatment technologies referred to below is presented in Appendix 1:
 - “do minimum” – 50% recycling/composting and continue to send the residual waste to landfill (baseline scenario)
 - 50% recycling/composting + Energy from Waste (EfW) – majority of the residual waste goes to EfW with a minimum to landfill.
 - 50% recycling/composting + Mechanical Biological Treatment (MBT) used to sort the waste with the biodegradable materials sent to an Anaerobic Digestion Plant (AD) and the Refuse Derived Fuel (RDF) sent to EfW.
 - 50% recycling/composting + MBT with Biostabilisation and the residual waste sent to landfill for disposal.
 - 50% recycling/composting + MBT Biodrying to form a high calorific RDF to be sent to EfW
41. Each of these options was also modelled at a 58% rate of recycling and composting. The 50% and 58% recycling/composting rates are derived from the LMWMS and are based on the national indicators for household waste. The achievement of 58% recycling/composting

would be dependent on the roll out of a kitchen waste collection service across the County.

42. The short list of options has been evaluated based on a range of technical , economic and environmental/social criteria. The latter criteria have used WRATE (Waste and Resource Assessment Tool for the Environment) which is the latest Defra approved modelling approach to compare environmental impact/burdens of waste management scenarios.
43. The results of the detailed evaluation were that the second option listed in paragraph 40 above with 50% recycling/composting and the residual waste processed at an Energy from Waste facility was the highest scoring option. All the options with EfW scored consistently higher from the technology and economic criteria as this technology is proven with a long track record. From the WRATE analysis EfW with combined heat and power delivered the best environmental impact performance, in respect of carbon impact. Most of the other technologies would require additional energy from waste facilities but on a smaller scale to deal with the outputs from the process and therefore involve additional costs. A summary of the options evaluation process is included in Appendix 2.

External Advisors

44. The procurement of new waste management infrastructure will require considerable external support from financial, legal and technical consultants, (irrespective of the funding route chosen). A procurement process for external advisors is currently in progress and the Director of Highways, Transportation and Waste Management was given delegated authority by Cabinet on 5th March 2007 to award the contracts to successful tenderers. It is intended that the advisors will be appointed by the end of July 2007.

In addition, Defra have already allocated a “transactor” to the project through their Waste Infrastructure Delivery Programme (WIDP). This is an independent advisor who will provide support and advice during the procurement process.

Outline Business Case

45. Work has not yet started on this as the EOI is still in preparation. The timescale for submission of the OBC will be dependent on the evaluation of the EOI by Defra, but is estimated to be by the end of February 2008, at the latest.

Funding Options

46. The main funding options for the procurement of new waste management facilities are as follows:

- Private Finance Initiative (PFI)
- Public Private Partnership (PPP)
- Prudential Borrowing (PB)

The broad principles of each are:

- PFI – a private sector provider would design, build, finance and operate (DBFO) the treatment facility with the authority paying a gate fee in relation to waste treated. Financial support from government, by way of an annual grant towards the capital cost, would be received.
- PPP – this is very similar to PFI but without the central government support and hence without the specific requirements imposed by Defra (the contract would still potentially be a DBFO).
- PB – a private sector partner would design, build and operate (DBO) the facility but the authority would provide the capital investment via prudential borrowing.

As PPP is essentially the same as PFI but without the advantage of a significant amount of government grant it is therefore considered that the main choice lies between PFI and PB.

A detailed description of these funding options is given in Appendix 3.

Equal Opportunities Implications

47. There are no discernible equal opportunities implications.

Conclusion

48. It will not be possible to meet the Landfill Directive targets through increased recycling and composting alone, and it is therefore essential that new infrastructure is developed within Leicestershire to provide alternative treatment facilities prior to disposal to landfill. Whichever form of treatment technology is considered there is always a requirement to use, treat or dispose of the materials that are produced from the initial process. So, for example, most forms of MBT will require an industrial user or Energy from Waste facility to deal with the RDF, or if AD is used, suitable land on which to spread the sludge. There will always be a need for some form of landfill disposal for the residues from these treatment processes, although the overall aim is to reduce these to a minimum.

49. Results from the options analysis show that Energy from Waste is likely to be the best way forward as it is a proven technology, has potential to deliver a low carbon footprint and represents a cost effective solution given the increases in landfill tax and potential Landfill Allowance Trading Scheme (LATS) fines. It is therefore proposed to develop a “reference project” for inclusion in the Expression of Interest, based on Energy from Waste. This is the initial stage of a procurement process that will last several years. PFI is the preferred funding option as it could provide the authority with up to 50% of the funding for the capital expenditure of the scheme.

Background Papers

The Leicestershire Municipal Waste Management Strategy

Appendix 1 – Technology Options

This appendix sets out an explanation of the technology options referred to in Part B of the report.

Mechanical Biological Treatment (MBT)

MBT is a generic term for an integration of several processes. Mechanical processes are used for physical segregation of the waste while biological processes are used to facilitate the decomposition of the organic materials. MBT plants can incorporate a number of different processes in a variety of combinations and can be built for a range of purposes.

The most common aims of MBT plant include:

- Pre-treatment of waste going to landfill
- Mechanical sorting of non-biodegradable waste into materials for recycling and/or energy recovery as refuse derived fuel (RDF).
- Diversion of the biodegradable waste going into landfill by
 - Reducing the dry mass of biodegradable municipal waste (BMW) prior to landfill
 - Reducing the biodegradability of BMW prior to landfill
 - Stabilisation of the waste into a compost-like output for use on land
 - Conversion into a biogas for energy recovery
 - Drying materials to produce a high calorific organic fraction for use as a refuse derived fuel

MBT plants can therefore be configured in a variety of ways to achieve the required recycling, recovery and biodegradable municipal waste diversion performance levels.

MBT Options considered were:

1. MBT with mechanical separation to produce a Refuse Derived Fuel (RDF) and the biodegradable fraction of the waste processed through Anaerobic Digestion (AD).

- Within this process the waste requires mechanical preparation before biological treatment can be achieved.
- Initial preparation would take place through removal of large objects followed by bag splitting, shredding and homogenising of the waste.
- Next, magnetic separation followed by physical separation on the basis of size and density through screens would take place.
- This separation allows the segregation of materials for different end use purposes with the larger size items including plastics, card and paper forming the basis of an RDF, while the smaller size fraction containing mainly biodegradable waste would go to biological AD treatment.
- AD is a process where biodegradable waste is broken down by the action of microbes in the absence of oxygen. Material is placed in an enclosed vessel and in controlled conditions the waste breaks down

into sludge (digestate). In addition, a combustible gas known as biogas is produced which can be used for heat and/or electricity generation.

2. MBT with bio-stabilisation and the residual waste sent to landfill.

- Again, initial preparation would take place through removal of large objects followed by bag splitting, shredding and homogenising of the waste.
- Magnetic separation to remove metals then takes place
- All the residual waste is then treated through a composting process by turning and aerating, to dry the waste and reduce its volume. This process is linked to an air quality control system to reduce escape of odours.
- The final composted material is sent to landfill with a reduced biodegradable content.

3. MBT with bio-drying to form a high calorific value RDF to be sent to an Energy from Waste plant or industrial user.

- Again, initial preparation would take place through removal of large objects followed by bag splitting, shredding and homogenising of the waste.
- Magnetic separation to remove metals then takes place
- All residual waste is then treated through a composting process by turning and aerating to dry the waste and reduce its volume. This process is linked to an air quality control system to reduce escape of odours.
- On completion of composting the residual material is mechanically sorted with the larger fraction going to form a refuse derived fuel and the smaller fraction going to landfill with a reduced biodegradable content

Conventional Thermal Treatment/Incineration/Energy from Waste

Conventional thermal treatment of waste is a mature and well-established technology. Terminology includes incineration or 'energy from waste'. Incineration involves the combustion of typically unprepared municipal waste. However, plants can be constructed to accept prepared waste in the form of refuse derived fuel (RDF).

To allow combustion to take place a sufficient quantity of oxygen is required to fully oxidise the fuel as the waste is passed into and through the furnace on a moving grate. Incineration plant combustion temperatures are typically in excess of 850 degrees Centigrade. The waste is converted into carbon dioxide and water and any non-combustible materials remain as a solid

known as bottom ash. Incinerators are designed to burn the waste as efficiently as possible usually recovering energy. Heat released is recovered and used to generate electricity and to provide steam or hot water. The volume of waste needing treatment following combustion is reduced by approximately 90%. The biodegradable content of the outputs is zero. The residues from the air pollution control system, which maintains the very low emissions combined with the collected loose particles from the combustion process, termed 'fly ash', are disposed to a hazardous waste landfill. The bottom ash can either be recycled for use in the construction industry or disposed of to landfill.

Appendix 2 – Summary of Options Evaluation Process

The long term-waste procurement project requires the development of a single reference project that will go forward to Defra within the Council's Expression of Interest document. In order to develop the reference project, the Council is required to carry out an options appraisal for a range of waste technologies.

Initially, the following long list of 19 technical options for long-term waste treatment facilities was considered in order to develop a short list of options that would go forward for further technical and financial evaluation.

50% Recycling Level - Landfill - Landfill
50% Recycling - RDF/SRF MBT - RDF to 3rd party burner
50% Recycling - Bio-stabilise MBT - Residue to landfill
50% Recycling - MBT AD - RDF Energy Recovery
50% Recycling - Autoclave - Thermal treatment
50% Recycling - EfW - Meets LATS allowance
50% Recycling - EfW - Max Residual to EfW to minimise landfill
50% Recycling - ATT (Advanced Thermal Treatment) - Meets LATS allowance
50% Recycling - ATT - Max Residual to facility to minimise landfill

58% Recycling – Landfill - Landfill
58% Recycling - RDF/SRF MBT - RDF to 3rd party burner
58% Recycling - RDF/SRF MBT - RDF to purpose built burner
58% Recycling - Bio-stabilise MBT - Residue to landfill
58% Recycling - MBT AD - RDF Energy Recovery
58% Recycling - Autoclave - Thermal treatment
58% Recycling - EfW - Meets LATS allowance
58% Recycling - EfW - Max Residual to EfW to minimise landfill
58% Recycling - ATT - Meets LATS allowance
58% Recycling - ATT - Max Residual to facility to minimise landfill

The above list of options was assessed against the following weighted criteria:

- Recycling/Composting Targets
- Landfill Allowance Trading Scheme Performance
- Bankability
- Deliverability and 'track record' of technology
- Regional Strategic Fit
- Environmental Impact (Carbon footprint)
- Environmental Impact (Land take of facility/facilities)
- Public Acceptability
- Self Sufficiency
- Availability of suitable sites
- Risk Transfer

- Access / Location
- Flexibility and adaptability of solution

This initial evaluation process concluded on the following preferred options:

- 50% - 58% recycling – EfW – maximum residual waste to EfW to minimise landfill
- 50% - 58% recycling – MBT to separate; biodegradable fraction to AD and RDF to EfW
- 50% - 58% recycling – MBT Biostabilise – residual to landfill
- 50% - 58% recycling – MBT Biodrying to form high calorific value RDF/SRF – to EfW
- The option of “do minimum” i.e. 50% level of recycling and continue to send the residual waste to landfill, was also taken forward and modelled as a baseline position.

Note – 50% and 58% recycling/composting rates relate to those set out in the Leicestershire Municipal Waste Management Strategy (LMWMS) based on BVPI targets for household waste not municipal waste.

A summary of the above technology processes is given in Appendix 1.

1. Reference Project Option Appraisal

The first part of the options appraisal process set out to agree weightings for each of the three major criteria of Technical, Economic and Environmental/Social.

Beneath each of these main criteria the following sub-criteria were formulated together with appropriate weightings:

- Technical:
 - Deliverability
 - Track record of technology
 - Planning (risks)
 - Size of sites, landtake
 - Flexibility, scale and adaptability
 - LATS position/certainty
 - Operational fit (WCA interface)
 - Strategic fit
 - Availability of markets/outlets for products
 - Materials recycled/composted
- Economic:
 - Cost of solution
 - Risk transfer
 - Exposure to financial risk (LATS; Landfill Tax)

- Environmental/Social:
 - Local amenity (impact of odour, noise; visual impact)
 - Public opposition/support
 - WRATE criteria – Human toxicity; Global warming potential impact; Abiotic resource depletion; Freshwater aquatic ecotoxicity; Acidification; Eutrophication

Note – WRATE (Waste and Resource Assessment Tool for the Environment) is the latest Defra approved modelling approach to compare the environmental impact/burdens of waste management scenarios.

2. Waste Flow Modelling

A summary of the agreed modelling assumptions behind the evaluation of the options is as follows:

- Waste Growth based on three factors:
 - Waste growth at household level – consumer habits, changes in household size
 - Waste growth at Recycling and Household Waste Sites (RHWS)
 - Projected household growth figures – numbers of projected new houses in each district (Leicestershire Structure Plan)
- Recycling/Composting Performance
 - Recycling/composting achieves 50% by 2009/10 based on LAA targets for Districts average of 42% and RHWS achieving 60%.
 - Recycling/composting achieves 58% based on a countywide Kitchen Waste collection being rolled out from 2010.
- New Facilities coming on line
 - MBT – commissioned 2013/14
 - EfW – commissioned 2014/15
- LATS
 - LATS prices have been assumed to increase in value to a peak in 2013 and then fall away in value to zero beyond 2018.
- Landfill Tax
 - Landfill Tax prices have been assumed to rise in agreement with the current legislation i.e. to a maximum of £48/tonne and estimated thereafter to continue rising year on year to a maximum of £78/tonne.

3. Summary of Outcomes

The following table gives a percentage score based on a detailed technical, financial and environmental/social appraisal of each of the above options.

Option	Technical Score	Environmental Social Score	Economic Score	Overall Score
1. Do Minimum	20.8	8.4	16.0	45.2
2. EfW	34.6	13.8	40.0	88.4
3. MBT AD/RDF	31.6	14.8	26.0	72.4
4. MBT Bio-dry RDF	31.6	14	30.0	75.6
5. MBT Biostabilise	21.2	8.8	14.0	44.0
6. EfW with kitchen waste	32.2	14.6	32.0	78.8
7. MBT AD/RDF with kitchen waste	29.2	17	24.0	70.2
8. MBT Bio-dry RDF with kitchen waste	30.0	15.6	24.0	69.6
9. MBT Biostabilise with kitchen waste	20.4	9.8	10.0	40.2

- In summarising the above table, the economic criteria which when combined with the LATS and landfill tax implications contributed to the poor scores for options 1, 5 and 9.
- Options 6,7,8 and 9 which include for kitchen waste, all scored marginally worse than their counterpart option without kitchen waste as there are significant costs associated with the collection of kitchen waste.
- The EfW options scored consistently better than the other options particularly from the technology and economic criteria. They were marginally poorer scoring on environmental/social criteria than MBT options.

Appendix 3 – Funding Options

Introduction

This appendix provides a summary of the three major options available to the County Council regarding funding of future long-term residual waste management infrastructure. The three funding options are:

- Private Finance Initiative (PFI),
- Public Private Partnership (PPP)
- Prudential Borrowing (PB)

The broad principles of each are:

- PFI – a private sector provider would design, build, finance and operate (DBFO) the treatment facility with the authority paying a gate fee in relation to waste treated. Financial support from government, by way of an annual grant towards the capital cost, would be received
- PPP – this is very similar to PFI but without the central government support and hence without the specific requirements imposed by DEFRA (the contract would still potentially be a DBFO)
- PB – a private sector partner would design, build and operate (DBO) the facility but the authority would provide the capital investment via prudential borrowing

As PPP is essentially the same as PFI but without the advantage of a significant amount of government grant it is therefore considered that the main choice lies between PFI and PB.

The following sections provide more detail on each of these funding options.

Public Private Partnerships (PPP)

In a conventional PPP contract for modern waste management services the contractor will be expected to develop and deliver the infrastructure required to enable the delivery of the services. In return for the delivery of the services the Local Authority will pay a monthly/annual fee (unitary charge), a proportion of which relates to the capital investment made by the contractor. Such PPP contracts (e.g. DBFO) are similar in content and structure to PFI contracts.

However, PPP contracts can be quicker to award and potentially offer greater negotiating flexibility to Local Authorities. These advantages are at the expense of a project for which no revenue support is provided by Central Government. One part of the financial assessment for the choice between PPP and PFI would be an evaluation of whether the PFI credits received are greater than any delay in the procurement process caused by the PFI

process. However, experience in recent projects shows that PPP procurement process is not significantly shorter than the PFI process, and the 2 year delay that has previously been cited is no longer applicable. The formation of the Waste Infrastructure Delivery Programme (WIDP) and the new Investment Pipeline Delivery Strategy for waste projects should speed up the PFI process.

Private Finance Initiative (PFI)

The Private Finance Initiative (PFI) was introduced in 1992 as one of a range of initiatives aimed at increasing private sector involvement in the provision of public services.

Under PFI, private companies may design, build, finance and operate assets such as a new waste management facility. The public sector client will pay a monthly or annual fee (the unitary charge) to the private company under a long-term operating contract for the services. However the Authority receives revenue support from central Government as a contribution towards the proportion of the unitary charge that relates to the capital expenditure by the private company on the project.

Since the introduction of PFI amendments have been introduced to improve the contract for LA's. The private sector contractor takes on the risk for the performance of an asset for a significant proportion of its useful life, so that efficiencies from long term asset management can be realised. In addition, the amendments enabled Local Authorities to benefit from the efficiencies and revenues generated from third parties or "non core" opportunities, for example by using any excess capacity in the assets on a commercial basis.

Evaluation of PFI Applications

Government funding for PFI schemes is limited and consequently not all schemes can be afforded therefore, central government and DEFRA have produced criteria by which schemes will be prioritised and funding allocated. Where schemes are in the process of development, local authorities are required to develop Expression's of Interest (EoI's) and Outline Business Case's (OBC's) that should provide details of the project and an initial estimate of the amount of credit approvals required.

Central Government have issued the following criteria by which schemes will be prioritised:

- Overall investment strategy - projects should demonstrate that they contribute to the achievement of public service and public sector investment objectives
- Projects should promote sustainable development, demonstrating an integrated approach to the social, environmental and economic well-being of the area served, they should also reflect the objectives of any Community Strategy for the area
- Projects will be assessed taking into account the benefits they offer, including those relating to local cultural, social, health safety, regeneration,

or education objectives, to the reduction in crime or to the agenda for modernising local government

- Projects should demonstrate a link between the investment strategy of the local authority, asset management plans, local performance plans and similar material
- The cost benefit analysis demonstrating the viability of the scheme
- The level of support from the Authority for the project
- Demonstration that the scheme can satisfy the Capital Finance Regulations
- The willingness of the Authority to follow good practice in procurement and the development of the scheme and in sharing information with other Authorities
- The contribution of the scheme to the further development of PFI/PPP in the local authority sector.

In addition to the central government prioritisation criteria DEFRA has the following criteria:

- Schemes must demonstrate clear links to the objectives of the national Waste Strategy. In two-tier areas, proposals should demonstrate how the two tiers of local authority would work together to deliver the targets. The authorities' draft or complete Municipal Waste Management Strategies will contribute towards this;
- Recycling and composting are central to the National Waste Strategy and should be part of waste PFI schemes. Proposals should demonstrate how the schemes:
 - Match or exceed local performance standards for recycling set under Best Value;
 - Contribute to longer term national targets for recycling in Waste Strategy;
 - Support the authorities' plans for recycling set out in their Recycling Plans or Municipal Waste Management Strategies.
 - Proposals should show how schemes would take into account the obligations under the Landfill Directive;
 - Proposals should make clear how schemes would cut waste as required under Best Value
- The use of residual waste treatment options involving recovery should be considered and their use justified in line with the waste hierarchy and should demonstrate that there is no future barrier to reduction, reuse and recycling efforts;
- Proposals should demonstrate that other relevant authorities, the public, and interested parties have been consulted; and
- Previously limits were set on the amount of financial support central government would consider for a single PFI application. Recent indications suggest that the Treasury will now offer up to 50% of the capital value of the project in PFI credits.

Leicestershire is in a position to meet DEFRA criteria more easily than other LA's , for example 50% recycling. The support received from the 4P's also assists in ensuring Leicestershire's procurement process will be successful in meeting government and private sector requirements.

Prudential Borrowing

One area where new options have opened for Local Authorities is in the Prudential Borrowing Regulations. The Treasury have amended the rules to allow a Local Authority to borrow directly from the Public Works Loan Board, or from a private lender. This can be done without specific permission from Central Government so long as the Local Authority can prove that it has the capacity to make repayments. This might have particular attractions for some smaller scale contracts, and provides an option for Local Authorities to act as the sponsor and owner to a project, and tender simply for a turnkey construction contract and then for an operator.

This option would require careful attention to detail from the Local Authority in negotiating the Engineering Procurement Contract (EPC) contract as well as managing the interface between the EPC and operations and management contractors and would inevitably lead to the Authority taking on some risk. It would, however, remove the requirement to negotiate bank financing (saving significantly on contract negotiations, and removing the need to fund a private sponsor's required return on equity).

Another issue to consider is that under the traditional PFI arrangements a council can take some comfort from the senior lender performing due diligence on the project and satisfying themselves of its bankability. This would not be the case under a structure featuring prudential borrowing, which would place greater importance on the role of the council's finance officers supported by an advisory team. Risk mitigation will depend heavily on the contracting structure selected to embrace the ownership, construction and operational functions essential to a successful project.

Co-funded projects

In many instances it is possible that a Local Authority will not be able to borrow sufficient funds to finance a waste project fully under the prudential borrowing framework, and will still require private sector capital for at least some of the up-front expenditure. In this scenario there are a number of ways in which a council could still make use of prudential borrowing, such as expenditure on purchasing a site, restoration, planning, related civils and infrastructure works, etc. In addition there is the option to be a partial shareholder or partner in a project. Such structures need to be arranged carefully, as complications often arise as a result of divergent objectives in cases of divided responsibility - and in joint ventures.

Timetable

The procurement process for waste management contracts involving the delivery of major plant and infrastructure as part of a DBFO contract secured under the PFI or PPP regime generally will take a minimum of 12 months from issue of the OJEU notice. PFI based projects require additional activity prior to the issue of the OJEU (related to the preparation and submission of the EoI/OBC and PFI credit application) which may add 6 months or more on to the project timetable, compared to PPP.

After contract signature, the full implementation of the contract will depend on the infrastructure to be developed but a period of up to 5 years may be required for major developments (including securing planning permission) such as the construction of EfW plant.

Summary

The relative advantages/disadvantages of each method are illustrated below:

	Advantages	Disadvantages
PFI	<ul style="list-style-type: none"> • Attracts revenue support from central government (potentially 50% of project capital value) • Standardised contract conditions likely to apply • Private sector management expertise to help achieve efficiency and value for money • Significant transfer of risk to private sector • Risk of financing transferred to private sector • Due diligence/scrutiny of an external funder • A design, build, finance and operate contract (DBFO) will incorporate whole life costs in the design and build, therefore reducing lifecycle and operational costs • DBFO contracts are output driven and therefore allow for contractor innovation 	<ul style="list-style-type: none"> • Would need DEFRA approval, therefore could potentially to take longer to Procure (although recent changes should reduce delays) • Must comply with DEFRA criteria • Relatively complex procurement process, however SoPC3/4 (Standardisation of PFI Contracts) set to smooth process • Direct financing costs likely to be higher as private sector borrowing costs are higher than those for the public sector, particularly for waste projects • Contractor will charge LA for transfer of risk

PPP	<ul style="list-style-type: none"> • Could benefit from contract standardisation with added flexibility • Similar level of risk transferred to the private sector as PFI • Not necessary to adhere to DEFRA criteria, therefore reducing potential delays • A design, build, finance and operate contract (DBFO) will incorporate whole life costs in the design and build, therefore reducing lifecycle and operational costs • DBFO contracts are output driven and therefore allow for contractor innovation 	<ul style="list-style-type: none"> • No revenue support from central government • Direct financing costs likely to be higher as private sector borrowing costs are higher than those for the public sector, particularly for waste projects (same as PFI) • Contractor will charge LA for transfer of risk
PB	<ul style="list-style-type: none"> • Could benefit from contract standardisation with added flexibility • DEFRA approval not needed, reducing risk of delays • Borrowing costs significantly lower than private sector • Slightly less complex and shorter procurement process 	<ul style="list-style-type: none"> • Less risk transferred to private sector • LA takes financing risk • Competition with other service requirements within the LA • LA required to complete its own due diligence • No revenue support from central government

Conclusion

For Leicestershire PFI credits amounting to 50% of the capital cost would be significantly more valuable than the lower funding costs available under Prudential borrowing. The credits would also offset additional Landfill Tax and LATS costs that the expected delay in procurement could cause. The choice of the funding route will be evaluated through the procurement to allow for changes in the project and government support/regulation.