

Executive Summary

Purpose of this Report

The purpose of this study is to draw on elements from The Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire and the reference project (Waste Flow Model) to attempt to identify the size of the residual waste treatment facility required to deliver the preferred option identified by the Partnership. An independent assessment of the size of the proposed EFW facility was developed, by taking into account historic waste arising data, committed waste collection scheme changes and any required service enhancements. The study provides information on the current and future waste arising in both Counties and their constituent district authorities. It also aims to develop the readers understanding of the key issues arising from alternative plant configurations, and the requirement to re-procure an operating contract when the plant reverts to council ownership at expiry of the existing contract term, maintenance and lifecycle philosophies and potential costs. It concludes by commenting upon the proposals submitted Severn Waste Services.

Background

An earlier procurement exercise has resulted in the appointment of a private sector partner, Severn Waste Services, to manage all the waste arising within the two counties over a 25 year period. The identified technology at the time was deemed to be Energy from Waste (EfW), supported by an array of complementary recycling and composting infrastructure.

Since this exercise, a Joint Municipal Waste Management Strategy (JMWMS) for the Partnership (both Herefordshire and Worcestershire) has been produced and is currently under review. In response to this Strategy, several of the constituent authorities have already altered their collection methods and all have plans to increase the range of materials they collect for recycling. They plan to send these to a new Commingled Materials Reclamation Facility located in Worcestershire.

To ensure the Strategy remained flexible, the recent review was conducted to take account of changes and advances in waste treatment technologies. A residual options appraisal was undertaken that examined a range of options for the introduction of residual waste treatment capacity for both Herefordshire and Worcestershire. These strategic options were appraised against a number of environmental, social and economic criteria in order to identify the option(s) that perform best overall. This strategy has recently been out for consultation.

The Joint Municipal Waste Management Strategy

The JMWMS was developed in 2004. It formed a framework for the management of municipal waste in the counties of Herefordshire and Worcestershire for the next thirty years until 2034. It was prepared jointly by all the Local Authorities (LA) responsible for managing waste across the two counties.



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The Waste Strategy is currently under its first review and will be reviewed periodically at least every five years. The Council felt it necessary to review their JMWMS to enable the document to be adaptive to change and remain as relevant as possible as waste management in the United Kingdom continues to evolve.

The document sets out a series of waste minimisation, recycling and recovery targets aligned to the Waste Strategy for England 2007. It also includes a waste treatment options appraisal with WRATE model outputs, and from this it is concluded that a residual waste treatment solution embracing Energy from Waste with combined heat and power (CHP) is the most attractive.

A link to the full Hereford and Worcestershire JMWMS consultation document is available at:
<http://worcestershire.whub.org.uk/home/wcc-waste-strategy>

Developing a Business Case

It has been recognised that within JMWMS there is need to address the practical aspects of strategy implementation. Entec have been asked to assist in the determination of the scope of any residual waste management and treatment facility that would be required to meet the preferred option in the JMWMS. Entec have independently reviewed the available waste arising data in order to identify the likely capacity of the residual waste treatment facility.

This section reports against the following headings;

- Identification of the quantity of residual waste that will require treatment and/or disposal;
- Assessment of the likely size of any residual waste treatment facility;
- A cost estimate covering capital, operational and lifecycle costs;
- A critical review of plant configuration alternatives (e.g. single vs. twin line);
- An assessment of midlife (expiry of existing contract) to end of life cost considerations;
- Reliability, maintenance downtime and life cycle replacement philosophies;
- An overview of the residual waste treatment supplier market;
- A project programme;
- A project risk register;
- Model outputs from the waste flow and cost model to feed to financial advisors; and
- A technical review of the contractor's outline proposals.



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The Entec Waste Flow Model was used to aid the investigation into the appropriateness of the proposed size of the Energy from Waste (EfW) facility for the Counties of Herefordshire and Worcestershire, giving consideration of both planned and committed enhancements to the existing kerbside dry recyclables collection systems, and the introduction of kerbside household green waste and kitchen waste collection schemes in all constituent areas, to enable the Partnership to meet the targets specified in the JMWMS.

This section also includes an appraisal of different suggest waste growth scenarios in order to attempt to size the EfW facility. It concludes from the four realistic waste growth scenarios examined, that the probable required capacity of the proposed residual waste treatment facility is likely to be to the order of 212,000 tpa. The capital cost for a facility of this size is estimated to be of the order of £166M (Capex estimates are accurate to within a tolerance of 30% - 50% excluding contingency margins) inclusive of an allowance of £21 million for site specific costs. The estimated net operational cost per annum is expected to be around £28 per tonne of waste feed excluding capital and life cycle costs.

Cost data are provided in a format that will facilitate the Authority and their Financial Advisors to develop a nominal cost per tonne and public sector comparator model that may be compared to any figure brought forwards by their waste management contractor, Severn Waste Services. It was understood that the Authority has appointed financial advisors to progress this matter.

A technical review of key issues around the development of projects incorporating EfW technology has been undertaken. This review discusses the key issues arising from alternative plant configurations, the requirement to re-procure an operating contract when the plant reverts to council ownership at expiry of the existing contract term and maintenance and lifecycle philosophies. Consideration of planning, design, reliability, availability, maintenance and cost issues are included. An overview of residual waste treatment suppliers is provided. The report also includes a provisional project programme and an identification of significant project risks.

Contractors Proposals

Following completion of the draft issue of this report the contractor's proposals have been received by the Council. These have been examined and found to be generally in accordance with the conclusions reached within the Entec analysis. The contractor's proposals suggest an EFW facility capacity of 200,000 tonnes per annum. This capacity has been developed on the understanding of a waste growth rate of 1%, and that a recycling rate of 41.3% will be achieved overall. The proposals suggest that the LATS targets will be achieved. However not all of the residual waste will be fed into the EFW facility and some will be directed to landfill for disposal. Sensitivity analysis has suggested that under a number of differing scenarios of waste growth and recycling performance the Authority's LATS requirements can be met.

It has been concluded that the provision of a facility of the order of 200,000 tpa, as proposed by Mercia Waste Management, is likely to provide the flexibility required for the Counties' ongoing waste management needs over a number of differing waste growth scenarios. However there will be an ongoing need for landfill capacity under certain scenarios and a need for the ongoing monitoring of waste growth and recycling performance going



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forwards. This should be combined with a full and complete understanding of how both waste minimisation and recycling performance will be achieved, in order to ensure that the strategic objectives and targets set out in the JMWMS can be met.

