

## Swindon & Wiltshire Small Scale Energy from Waste Review Wiltshire County Council and Swindon Borough Council

The Waste Planning Authorities in Swindon and Wiltshire combined in order to develop a joint Waste Local Plan. Following an initial round of consultation the authorities identified a need to inform the locally developing debate on the characteristics and commercial availability of established, and emerging energy from waste technologies.

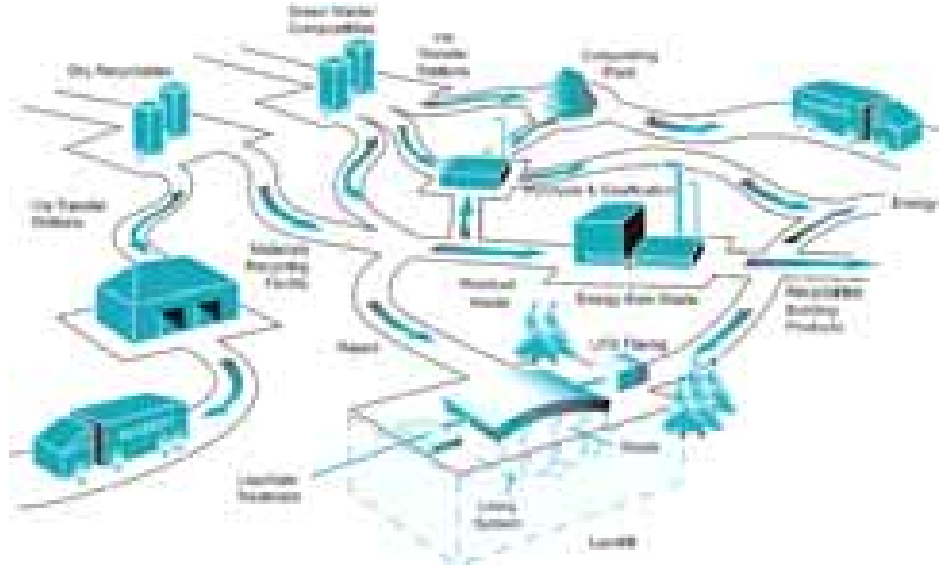
This study reviewed the main waste to energy technologies currently available for the treatment of municipal solid waste. In addition, an assessment was made of the scale of the facilities which would be appropriate for Wiltshire and Swindon.

The technologies reviewed included incineration with energy recovery, anaerobic digestion, gasification / pyrolysis and the production of refuse derived fuel (RDF).

All the options reviewed were technically proven, although some were more established than others. Incineration, for example, is a well established technology with a number of major installations in the UK. Anaerobic Digestion (AD) is also well established with approximately 50 plants currently operating within Europe, but no track record of full scale plants in the UK. Gasification/pyrolysis technology is currently in transition between the research and demonstration phases, with very few full-scale plants operating, none of which are in the UK. The RDF (refuse derived fuel) process is also a commercial technology and four plants currently operate in the UK.

The four options reviewed are not ideally suited to the same raw waste feedstock. Therefore consideration was given to the characteristics and volumes of waste produced within the region and the impact of technology selection on transport requirements within a predominantly rural area.

The report described how the mass burn and fluidised bed incineration plants can process mixed waste, but with a resultant impact on efficiency. Removing certain



### *Reviewing the appropriateness of waste to energy technologies in the treatment of municipal solid waste*

fractions of the waste stream can result in improved efficiencies and this was linked to the impact of increased recycling, a waste processing activity likely to arise through the adoption of integrated waste management practices. This contrasted with Anaerobic Digestion which was identified as being ideally suited to the treatment of the biodegradable putrescible (organic material) and paper fractions of the waste stream, but which requires a significant pre-sorting process or separate collection if they are to operate efficiently. The study also highlighted that the emerging Gasification and Pyrolysis technologies currently require a consistent feedstock and therefore considerable pre-treatment of the waste is needed. The production of refuse derived fuel (RDF) is also a form of pre-treatment involving the removal of the combustible components out of municipal wastes and the preparation of fuel from these components.

The study concluded with a review of the relative environmental impacts of the alternatives and the projected costs likely to be incurred if development to a scale suited to the Swindon and Wiltshire area were adopted. These issues were linked to other issues around the implementation of an integrated approach to waste management and that it was unlikely that any one technology would be used to the exclusion of other technologies or options.

Entec also produced a short information leaflet detailing the key aspects of the project's findings as part of a public information exercise in raising awareness about the Waste Local Plan and the issues under consideration. Entec also provided speakers and facilitators at a number of public meetings and workshops held at various locations in the area covered by the joint Waste Local Plan.

