



## Project 3.1.2

Finding new methods of reducing, reusing and recycling waste meat

**Researchers at Sheffield Hallam University were asked by a UK food manufacturer to explore possible options for disposal of their waste meat stream.**

The uses for waste meat as a by-product, when manufacturing other products, is a common issue. Many food companies produce some meat waste as part of their waste stream which can be difficult to dispose of in a legal, economical and environmentally friendly way.

Traditionally, manufacturers have generally been encouraged to base their waste planning around the 'Reduce, Reuse and Recycle' policy approach. These concepts have mixed results when applied to meat waste.

Manufacturers, especially smaller operators, are encouraged to buy in their meat requirements ready trimmed. Any trimmings which would normally go to waste, could be reused to make other products such as gravies and sauces.

Recycling meat waste is more difficult as it is a highly perishable material, attracting insects and rodents as it perishes which in turn may cause contamination of food products.

### Solutions

When considering solutions for the client, the research team took into consideration drivers which affect current waste management including:

- restrictions on the landfill of meat related waste under the Animal By-products Regulations
- restrictions on the landfill of any bio-degradable waste under Landfill Regulations
- the increasing cost of disposal of all waste to landfill sites
- rising recovery and recycling targets under various pieces of legislation

A range of technologies and solutions were explored to deal with



**Above:** Reducing, reusing and recycling meat trimmings and waste is preferred to disposal.

the specific client requirements. These included conversion technologies, such as incineration, rendering and composting. Bio-fuel and bio-gas could also be created from meat waste (depending on the amount available).

An additional method of utilisation, which forms a specific research interest at Sheffield Hallam



University, is the use of microbial fuel cells. These can directly use organic matter (in this case meat waste) to generate electricity using bacteria.

### **A tailored approach**

No one solution will fit every business as the best approach is dependent on the volume and consistency of waste produced. However, with increasing costs of disposal, it is becoming vital to consider innovative methods of utilising meat waste. Sheffield Hallam University, with its expertise in a range of appropriate technologies, can help your company solve its specific problems.

### **The Food Innovation programme**

This project is part of the University's £1.3m Food Innovation programme. Funded by the Higher Education Funding Council for England (HEFCE), the food innovation programme is designed to help companies respond to the business growth opportunities created by the healthy eating agenda.

### **For more information, contact:**

David Johnson  
Food Innovation Project Manager  
Sheffield Hallam University  
**T:** 0114 225 5000  
**E:** [d.johnson@shu.ac.uk](mailto:d.johnson@shu.ac.uk)

**[www.foodinnovation.org.uk](http://www.foodinnovation.org.uk)**  
**[www.shu.ac.uk/foodinnovation](http://www.shu.ac.uk/foodinnovation)**