



End products can be reused in building and construction materials

Biffa and Aston Uni team up on pyrolysis

ASTON UNIVERSITY'S Bio-Energy Research Group (BERG) and Biffa have teamed up to focus on pyrolysis technology to investigate converting the organic fraction of various waste streams at Biffa's UK landfill sites into a gaseous or liquid fuel to power the existing engines.

Biffa operates over 30 landfill sites across the UK and most of the company's sites recover landfill gas with more than 50% methane to power reciprocating engines that generate electricity for the national grid.

According to the company, converting the remaining fraction of organic waste into energy onsite is challenging if the government is to meet its target to recover 67% of Britain's waste by 2015.

Pyrolysis heats up biomass to high temperatures in the absence of oxygen. The technology can convert organic waste into gases or liquids for fuel after separating out valuable metals and other

products, which can then be reused in building and construction materials.

But with increasing amounts of biodegradable waste being diverted, the landfill mix is changing. The diminishing organic and moisture content of the waste, coupled with tighter regulations for new landfill sites, mean lower rates of waste decay and a decline in landfill gas production.

Biffa and BERG believe that pyrolysis could provide the answer. Under one of three national Cooperative Awards in Science and Engineering (CASE) studentships awarded by the Mini-Waste Faraday Partnership, BERG will characterise different waste streams, test them in its pyrolysis reactors and evaluate their potential to be used on landfill sites.

"Pyrolysis is a technology with promise," said Stamatios Dacey, the BERG PhD student who has been awarded the CASE studentship.