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Press Release

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New analysis techniques to measure the Energy content of Biogenic waste

A total of 12.5 million tonnes household waste was collected in England in 2009, an estimated average of 475 kg per person, 12.5 million tonnes of which making its way straight to landfill.[i]

Man's effects on climate change touch all areas of life. It is becoming increasingly important for businesses to face today's environmental problems and take the necessary measures to reduce harmful emissions, as well as address the issue of raw material scarcity. One of the areas that can contribute to the preservation of our finite resources is energy recovery from waste.

C-Tech Innovation is leading the way in researching potential advances in the area of energy from waste, and has been involved in a study in to the creation of a new analysis methodology for the measurement of the energy content of waste using a novel calorimetry system.

The project, funded by Department of Energy and Climate Change (DECC) through the Technology Strategy Board (TSB) SBRI programme, is now entering the final part of the preliminary feasibility stage. Through the quantification of fossil fuel derived polymers; individually and as components of both idealised and real waste samples, C-Tech has been able to ascertain the biogenic content embodied in a municipal/domestic solid waste stream.

In the future C-Tech Innovation is planning to lead a consortium in the further development and exploitation of the novel analysis technique already proven during the feasibility study. In particular the aim will be to exploit a process that can be based at Energy from Waste facilities and plants, in which a waste stream can be homogenised using an in-line shredder allowing uniform samples to be extracted for analysis. Furthermore with limited modification it is envisaged that the pre-commercial equipment could be usable in a broad range of waste sectors.

Although existing methods such as Carbon 14 analysis, selective dissolution, balance method and even manual sorting are available to accurately determine the biogenic fraction in waste, none of the current techniques can monitor in-line and before energy generation; in fact in most cases analysis has to be completed off site.

However this pioneering research from C-Tech Innovation illustrates the application of the innovative calorimeter method in this field is unique whilst at the same time allowing for both accurate and continuous processing.

The procedure will be applicable across the waste management industry allowing for a much greater uptake of monitoring renewable energy from waste sources.

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Note to Editors: C-Tech Innovation (www.ctechinnovation.com) is an internationally renowned, independent consultancy, research and technology development company with more than 40 years' experience in providing innovation and business support to companies, universities and government bodies.

Activities range from research to commercialisation of innovative new products and multi-disciplinary consultancy. The company's worldwide customer base ranges from small start-up companies to large multi-nationals. C-Tech Innovation's facilities and experienced staff provide a complete, flexible service to customers. Fully equipped laboratories and workshops enable experimental and prototype equipment to be designed, constructed and fully proven in complete confidence. We also offer an end-to-end innovation management service designed to support your business through every step of the innovation journey. It helps you to develop sustainably, supports growth and develops new ways of working. It can equip managers with skills necessary to lead, inspire, ensure long term success and develop a clear competitive advantage.

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[i] www.defra.gov.uk/statistics/environment/waste/wrfg23-wrmsannual