

Case Study

[T] +44 (0) 870 710 7560 [W] www.catalyst-commercial.co.uk



Case Study: Food & Drink Testing Services (Food Waste)

The Challenge

A leading UK provider of food and drink testing services required an energy efficient and cost effective solution to manage the waste food resulting from their activities. This waste comes from only a tiny proportion of the samples sent for testing being used. However, as the products have been taken out of the food chain they cannot be redistributed or sold. The waste and associated costs are estimated to significantly increase by over 20% going forward in line with projected business growth. The support of Catalyst was requested to develop a solution by providing an opportunity to generate energy from waste by anaerobic digestion (AD) and to complement existing smaller AD plants on site which can only take a small proportion of overall waste output. As such, there remains a considerable food waste disposal issue.

The Solution

Catalyst has worked on a number of automated containerised plants that can operate on a wide range of feed stock with the added benefit of treating effluent at the same time. It is a major advance in the development of robust and effective small-scale AD solutions.

Through existing partners, Catalyst designs and builds AD plants for on-site effluent treatment and renewable energy. Its modular units can be installed on confined sites for businesses with lower effluent flows. Small Anaerobic Treatment Plant (SATP) is based on a proven design and the mobile trials unit, SATP is a commercial treatment plant for sites that produce limited quantities of bio-residues. The SATP unit will optimise digestion performance:

- ✓ Biomass is maintained in a healthy condition
- ✓ The robust system absorbs COD load changes
- ✓ The unit is easy to operate and install on site

This solution will complement existing smaller AD plants on site installed to deal with processing the food waste generated.

The Outcome

Following analysis of existing food and trade effluent waste data and projected growth in line with the composition of the material, an initial feasibility study will determine feedstocks, quantities and return on investment (ROI) followed by a site trial. The success will eliminate most of the food waste as well as reduce effluent costs. Other on-site trials have demonstrated:

- ✓ Excellent biogas yields on a range of feedstocks
- ✓ Effective biomass load reduction (<95% COD removal)
- ✓ Good solids capture and conversion into biogas



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