Best Western Case Study

The Best Western Chilworth Manor demonstrates how SEaB Energy's patented and award-winning FLEXIBUSTER™, is adding value to their food and green waste by converting it into energy.

The need to address hospitality's burgeoning food waste mountain

In November of 2013, Waste Resources Action Programme (WRAP) announced that the hospitality industry faces an annual bill in excess of £2.5 billion for food. This equates to almost 1.3 billion wasted meals per eyar. The report also revealed that 920,000 tonnes of food is wasted each year, with only 46% currently being recycled.

Whilst much can be done to address unavoidable food waste, the catering, hotel and leisure industries are now looking for radical solutions to help address the problem. They aim to turn their waste into a valuable income stream, and eliminate disposal costs.

Best Western Hotel and the University of Southampton Science Park

One such solution that has been successfully in operation for 18 months is employed at the Best Western Chilworth Manor Hotel - a Victorian manor house hotel set on 12 acres on the University of Southampton Science Park (USSP). The hotel comprises 95 bedrooms, a health club and 11 conference rooms, whilst the Science Park supports a wide range of organisations with over 900 individuals employed across 75 organisations.

In a collaboration between the hotel and USSP, an average of 500kg of kitchen food waste, cooking oil, spent alcoholic drinks and garden waste are processed each day through the FLEXIBUSTER™. As a result, the hotel and USSP are now able to take advantage of the energy harvesting potential of food and organic waste produced on the site, which previously had been an untapped resource whilst eliminating costs associated with the collection and disposal of their green wastes.

The Best Western Chilworth Manor Hotel

System Modelling - Best Western Chilworth Manor

Product: Flexibuster™ MB24

Investment: £120,000

Capacity: 500kgs/day of food & green wastes

Electricity Generated: 53,100 kWh per year

Heat Generated: 54,850 kWh per year

Annual Income: £29,000

Waste Disposal Savings per annum: £7,300

Operating Costs per annum: £9,415

Payback: 5 Years

Electricity and heat generated from the biogas production is used within the Science Park offices while the liquid digestate is being used as a nutrient-rich fertiliser at Solent Turf - a local turfing and landscaping company.

A 8kW combined heat and power unit (CHP) processes an average of 105 m³/day of biogas providing approximately 57MW of electricity per annum. Through the generation of energy and the elimination of waste disposal costs, the unit produces net energy revenues of around £20,000 per annum whilst achieving total a payback of just 5 years.

"SEaB Energy's FLEXIBUSTER™ has been a revelation in the way we now manage our food waste. It ticks all our important recycling and sustainability boxes as well as health, safety and cleanliness".

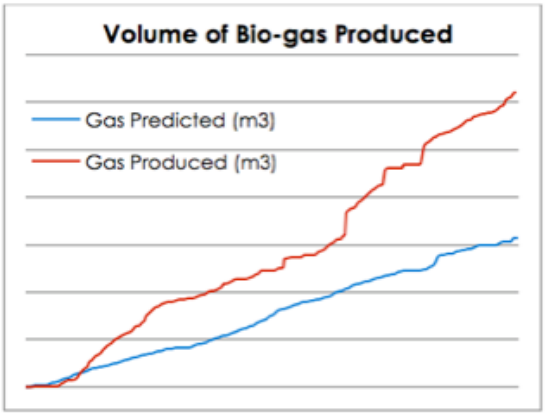
Steve Axton, Maintenance Manager, Best Western Hotel, Chilworth Manor.

MUCKBUSTER® system at USSP Science Park

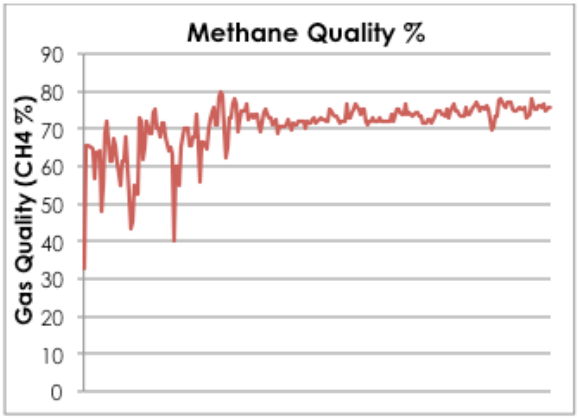
"The results so far indicate the area sprayed with digestate, has grown as well as that treated with our usual chemical fertiliser. Given its performance, and that it's 100% organic, we believe a wide range of growers will place increasing value on this natural feedstock"

Robert Hack, owner and Managing Director of Solent Turf Supplies.

Solent Turf using digestate fertiliser produced from MUCKBUSTER®



Biogas production (m³) November 12 - present



Methane quality stabilisation on start-up - Best Western food waste system