

Case Study: Tangerine



Sweet energy savings for UK's largest independent sugar confectionery manufacturer

Confectionery manufacturer Tangerine will achieve sweet savings on energy thanks to cogeneration and trigeneration technologies from sustainable engineering group ENER-G.

Tangerine is installing energy efficient combined heat and power (CHP) systems at its Pontefract production site in West Yorkshire – where famous brands such as Wilkinson's Pontefract cakes and Butterkist Popcorn are made.

Each year, Tangerine will achieve cost savings of almost £200,000 and save 630 tonnes of carbon, equivalent to the environmental benefit of 63,000 trees.

The two-phase project will involve the installation of an ENER-G 500kWe cogeneration unit in September, followed by a 230kWe trigeneration system at the end of 2010, which will provide electricity, heating and cooling to supply a second production facility. Tangerine has utilised ENER-G's discount energy purchase scheme which entails no capital outlay for the business. The contract is structured to deliver low-cost, low-carbon energy onsite thus reducing the facility's carbon footprint whilst improving profitability.

UK-based ENER-G is also working with Tangerine to develop CHP solutions on a number of other sites. A multi-site roll-out will facilitate a significant carbon reduction which is increasingly important given the advent of the government's Energy Efficiency Carbon Reduction Commitment scheme.

Tangerine is the largest independent sugar confectionery manufacturer in the UK, owner of brands such as Barratt, Lion, Mojo, Wilkinson's and Butterkist. Its seven UK production sites employ approximately 1500 people and in three years, turnover has increased from £40 million to £150 million.

Its factory in Ferrybridge Road, Pontefract, comprises two production units - one manufacturing liquorice, gums and nougat - and the other making popcorn, chocolate and sugar panned products.

Combined heat and power (CHP) – the simultaneous generation of electricity and useful heat – is almost twice as efficient as conventional power generation as the majority of heat is recovered and used on site, rather than wasted into the atmosphere. There is also no transmission lost through transporting electricity along many miles of electrical distribution cables.



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The Typical payback period on CHP technology varies between two to four years.

Peter Sanders, Operations Director for Tangerine, said: "We are continually seeking ways to raise our environmental performance and this move to on-site generation of power is a key element of our carboncutting strategy. We are very pleased to be partnering with ENER-G which is able to provide us with a total service, from initial design to long term care of the systems. This has required no capital investment by the company as the technology is being supplied by ENER-G in return for us purchasing the generated electricity at a very favourable rate."

Anthony Mayall, Sales Manager for ENER-G Combined Power, commented: "The challenge of this project was to design a high quality system before the contract was placed, which involved working with the client to understand activity on site, shifts in energy demand patterns and future trends.

This is the key to a successful project that will deliver substantial carbon and cost saving, with no capital outlay from the client." He continued: "We offer customers a flexible aftercare solution, including a variety of service packages to meet precise requirements.

Our CHP on-board computer systems provide a two-way communication channel to the ENER-G 24/7 remote monitoring centre. Such intelligence means we can diagnose and resolve issues before they become problems – providing proactive, predictive maintenance that enables customers to minimise downtime and prolong system life."



About ENER-G

ENER-G delivers small-scale 10kW to 10MW CHP solutions to customers around the world and it offers the broadest product range on the market, incorporating more than 1,400 installed cogeneration systems across the globe – powered by natural gas, biogas, diesel, biogas or propane.

Its UK-designed and manufactured systems are used in hospitals, hotels, leisure centres, supermarkets and factories worldwide, and among its high-profile customers is the British Royal family at Buckingham Palace and Windsor Castle.

In the range up to 2MWe capacity; units can be delivered and packaged as a single unit with the controls, heat recovery units and engine within neat, compact, acoustically insulated enclosures suitable for either internal or external installation. Above 1MWe, each one of ENER-G's cogeneration units is bespoke, with the engine and system carefully designed to meet each specific application.



Customer benefits

- Offers financial savings over conventional energy supply
- Avoids Climate Change Levy
- Primary energy savings deliver lower energy bills
- Higher efficiency offers reduced greenhouse gas emissions, offsetting the impact of the CRC Energy Efficiency Scheme
- Greater security of supply and plentiful hot water
- Flexible procurement options
- No CAPEX required
- VAT savings
- Incorporate Enhanced Capital Allowances
- ENER-G can carry projects that are conceptual, through feasibility to construction and completion
- Live online system monitoring and operational maintenance
- Maximised operational output from the CHP system due to our nationwide network of service staff

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