

Case Study: Tesco, Supermarket chain



Every little helps with ENER-G

Tesco ensures 'every little helps' by working with ENER-G to downsize its combined heat and power technology.

Tesco is achieving multiple savings on energy and reducing carbon emissions thanks to multiple efficient cogeneration schemes provided by sustainable energy company, ENER-G Combined Power Limited.

ENER-G has built a strong relationship with this major brand and is responsible for their cogeneration systems at over 30 sites across the UK. In recognition of this partnership ENER-G set its New Product Development team the challenge of designing a bespoke range of units specifically adapted to suit the supermarket's needs. The team rose to the challenge and the first bespoke unit was installed in July 2010.

In 2011 ENER-G has provided units for 11 sites across the UK ranging from 70kWe up to 150kWe located either externally in a bespoke enclosure, or internally within a store's energy centre. In addition to this ENER-G also supplied a micro cogeneration 25kWe unit with a full 10 year maintenance package.

Each site received a full feasibility study to ensure that the unit would perform to its optimum capacity and that it would be entirely suited to the stores in question.

With the partnership continuing to grow, ENER-G took a further step to develop a custom maintenance contract specifically designed to ensure optimum running of all the ENER-G units across the UK for the supermarket. ENER-G currently have a further 20 Combined Heat and Power systems installed under this maintenance contract, covering units ranging from 70kWe to 230kWe.

By monitoring and maintaining these units ENER-G can also ensure that the agreed carbon savings are met. In the past 12 months the installed units at the various supermarket sites across the UK cumulatively have saved over 8100 tonnes of carbon, the equivalent of taking 2705 cars off the road every year.

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The benefits of CHP in the retail sector:

- 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 Carbon Reduction Commitment
- Greater security of supply and plentiful hot water
- Flexible procurement options
- Zero CAPEX required
- VAT savings
- Possible grant funding

Bespoke unit designed by ENER-G

Financial savings vary according to the project and the running hours. Most sites see payback within 3 to 5 years and on average each unit provides financial savings of £19,000 per annum inclusive of all maintenance costs. Overall this saves the supermarket upwards of £589,000 every year with no additional outlay.

The CHP system generates electricity and recovers the majority of the heat created in the process. In conventional power stations this heat is simply wasted into the atmosphere through power station cooling towers, energy is also lost along the electrical distribution cables needed to bring the power to site. By using CHP to generate electricity onsite the heat is used to provide heating and hot water.

ENER-G delivers CHP solutions from 10kWe to 10MW to customers around the world. We offer the broadest product range on the market, which incorporates more than 1,400 installed cogeneration systems across the globe.

ENER-G's cogeneration experience in the market to 1984 when we began designing, financing, manufacturing, installing and maintaining cogeneration systems.

Our systems can be powered by a variety of different fuels including; natural gas, biogas or propane.

The applied CHP technology enables the organisation to generate its own electricity, radically reducing carbon emissions. This method is highly energy efficient (85 per cent) as it recovers heat created in the electricity generation process and avoids transmission losses because the energy is used locally.

Combined heat and power (CHP) 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. The typical payback period on CHP technology varies between two to four years.

About ENER-G

ENER-G develops, delivers and finances sustainable energy solutions and technologies on a business to business basis worldwide. We offer a "one-stop-shop" for all commercial and industrial energy requirements, from combined heat and power (CHP), renewable electricity generation from biogas, heat pump technologies, efficient lighting, controls, metering and data solutions and energy from waste.

For further details contact us:

ENER-G Combined Power Ltd
Edison House
2 Daniel Adamson Road
Manchester
M50 1DT

Tel: +44 (0)161 745 7450
Fax: +44 (0)161 745 7457
chp@energ.co.uk
www.energ.co.uk

