

Combined Heat and Power in action

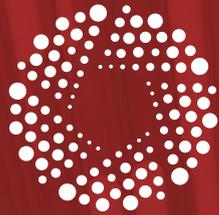
Have power over your energy supply

Product series
September 2017



centrica
Business Solutions

The Power of Cogeneration



Powering Resilience

ENER-G Combined Heat and Power (CHP) will help you take control of your energy, lowering the risk of business disruption and ensuring continuity of your operations



Powering Performance

ENER-G Combined Heat and Power (CHP) will help you improve operational efficiency and lower costs



Powering Growth

ENER-G Combined Heat and Power (CHP) will help you unlock value for your business

Power in your hands

What if you could generate your own energy, capture the generated heat and use it to offset your energy bills – and your carbon emissions?

£500k

Liverpool Museum does – reducing CO₂ emissions by 884 tonnes a year and saving £500,000 in energy costs.

390T

Newcastle United Football Club does – reducing CO₂ emissions by 390 tonnes a year without capital outlay.

92%

Royal Stoke University Hospital does – reducing CO₂ emissions by 2,792 tonnes a year with 92% guaranteed operational availability.

How do they do it?
With ENER-G Combined Heat and Power (CHP) from Centrica.

What is ENER-G CHP?

ENER-G CHP is a sustainable, efficient, cost-effective, low carbon and, above all, resilient source of energy. It converts a single fuel into power and heat simultaneously, right on your own site. It is ideal for businesses who want to reduce energy costs and carbon emissions – whether you're a small to medium enterprise or a large-scale industrial user. And it's a proven technology, recognised globally as a viable alternative to traditional centralised generation.

1

Secure your energy supply

2

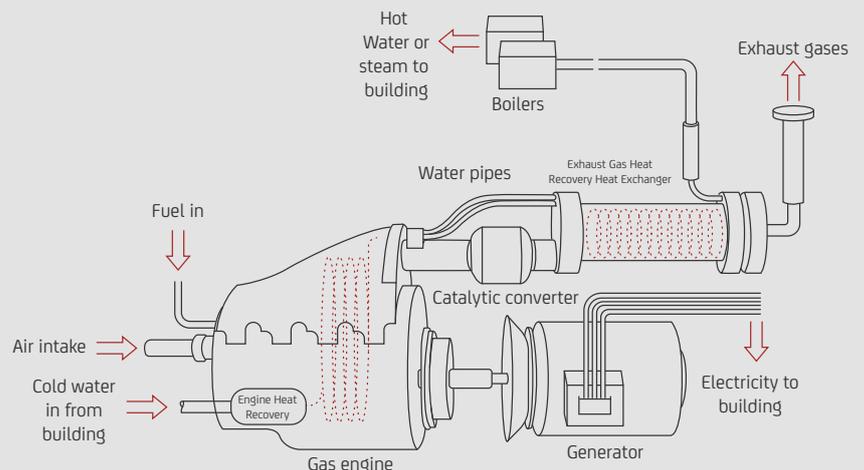
Reduce your running costs

3

Lower your CO₂ emissions

How ENER-G CHP works

ENER-G CHP is an engine, normally fuelled by low-priced and widely available natural gas, that is linked to a generator to produce electricity. CHP maximises the fuel, converting it to electricity at around 33% efficiency and heat at 52% efficiency. The heat is recovered from the exhaust, jacket, water and oil cooling circuits and can be used to heat your facilities.



Is CHP right for you?

CHP has been successfully used in many sectors including:

- Manufacturing and production facilities
- Leisure centres and hotels
- Supermarkets, warehouses and distribution centres
- Hospitals, universities and schools
- Commercial real estate

Determining whether ENER-G CHP could be right for you is very simple. If you can answer yes to any of the questions below, then ENER-G CHP is worth exploring further for your business.

- 1 Do you use heat and power?
- 2 Is the cost of your energy rising?
- 3 Do you want to reduce your carbon emissions?
- 4 Are you looking for a stable on-site energy resource?



The journey to energy efficiency

We start the ENER-G CHP journey by carrying out a site assessment to determine feasibility and help you decide whether it really is right for you. There are generally 3 stages:



Data collection

We collect data on the utility consumption of your site, along with site conditions like energy distribution and boiler efficiency.



Initial feasibility study

We conduct a simple feasibility evaluation, using the data on energy consumption from your site. From this analysis, we calculate the size of the ENER-G CHP unit needed and how much energy it will save.



On-site review

We conduct a site review to determine the best installation options and then talk you through the various finance packages available, from zero capital outlay to a complete turnkey solution.



ENER-G CHP in action

Liverpool Museum

Exhibiting model energy savings and emissions reduction

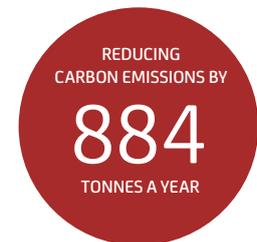
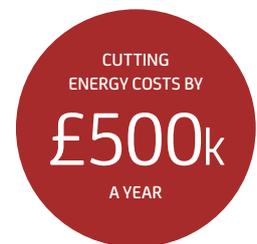
State-of-the-art building

The £72 million Museum of Liverpool needed to reduce their carbon emissions and costs through better energy management and optimisation. To do this they wanted to install an ENER-G CHP system at its Mann Island site, part of the Pier Head at the centre of the World Heritage site on Liverpool's iconic waterfront.

State-of-the-art solution

We designed and manufactured two 385kWe bio-diesel CHP units, two 768kWe natural gas CHP systems and installed two 850kWe boilers, a 1000kWe absorption chiller and a 998kWe compression chiller – a complex combination, but one that would be able to serve the museum's total energy needs.

This trigeneration project creates electricity and then recovers the majority of heat created to provide heat and hot water for the museum in winter, and air conditioning and chilled water in the summer.





ENER-G CHP in action

Newcastle United Fielding a premier league carbon footprint

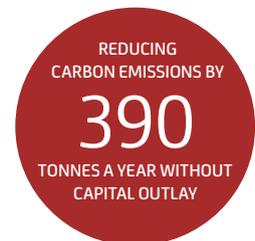
Better performance

The club were already offsetting more carbon than they emitted through boiler optimisation, burner management, lighting upgrades, smart building and energy monitoring. But to take their carbon saving to the next level, they needed a permanent, cost-effective solution.

Due to the space constraints of the stadium, we delivered their new CHP system in parts and rebuilt it in situ.

Right result

The ENER-G CHP unit is now helping the club reduce their CO₂ emissions by an additional 390 tonnes per year. And thanks to the cloud-based monitoring system which provides a two-way communication channel between the unit and service centre, we can monitor the energy levels in real time to make sure the club are always getting the best performance.





ENER-G CHP in action

Royal Stoke University Hospital Cutting costs and emissions with surgical precision

A major operation

As Europe's biggest employer, the NHS contributes about 8% of England's total CO₂ emissions and the government's Carbon Reduction Strategy has committed them to reducing emissions by 60% by 2050. So there's a compelling need to implement carbon reduction technologies.

Royal Stoke University Hospital (RSUH) wanted to lower their emissions and cut energy costs at their main site, which provides acute services for about 500,000 people. They received a share of the £50 million fund to cut NHS energy consumption to install a new ENER-G CHP unit on the site.

Ongoing treatment

The unit will reduce the hospital's carbon footprint by 95 tonnes a year – almost 8% of the Trust's entire current output. RSUH have also taken out a fully comprehensive operations and maintenance package, which includes 24-hour remote monitoring, a dedicated site engineer and all-inclusive parts and labour from Centrica.



Why ENER-G CHP from Centrica

We work with you in partnership from the beginning, helping you find the best ENER-G CHP solution for your site – so you benefit from maximum savings and efficiencies.

We can monitor and maintain your unit throughout its life, to make sure you continue to receive the full benefit.

Our flexible payment options mean you can have a solution installed with a capital outlay or payment method that suits your company's finances. And you have the reassurance of Centrica's vast industry experience and knowledge of the energy industry now – and for the future.

Want to know more?

ENER-G CHP is generating new opportunities across all types of industry. Find out how we can help you power new levels of performance today.

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