Case Study - CISCO Data Centre

Critical Data Centre Chooses ENER-G to Guarantee Power

The state-of-the-art critical data centre will reduce carbon emissions by over 660 tonnes per year thanks to a black box energy centre designed by ENER-G that carries no-break provision.

CISCO has shaped the future of the Internet by creating unprecedented value and opportunity for their customers, employees, investors and ecosystem partners and has become the worldwide leader in networking - transforming how people connect, communicate and collaborate.

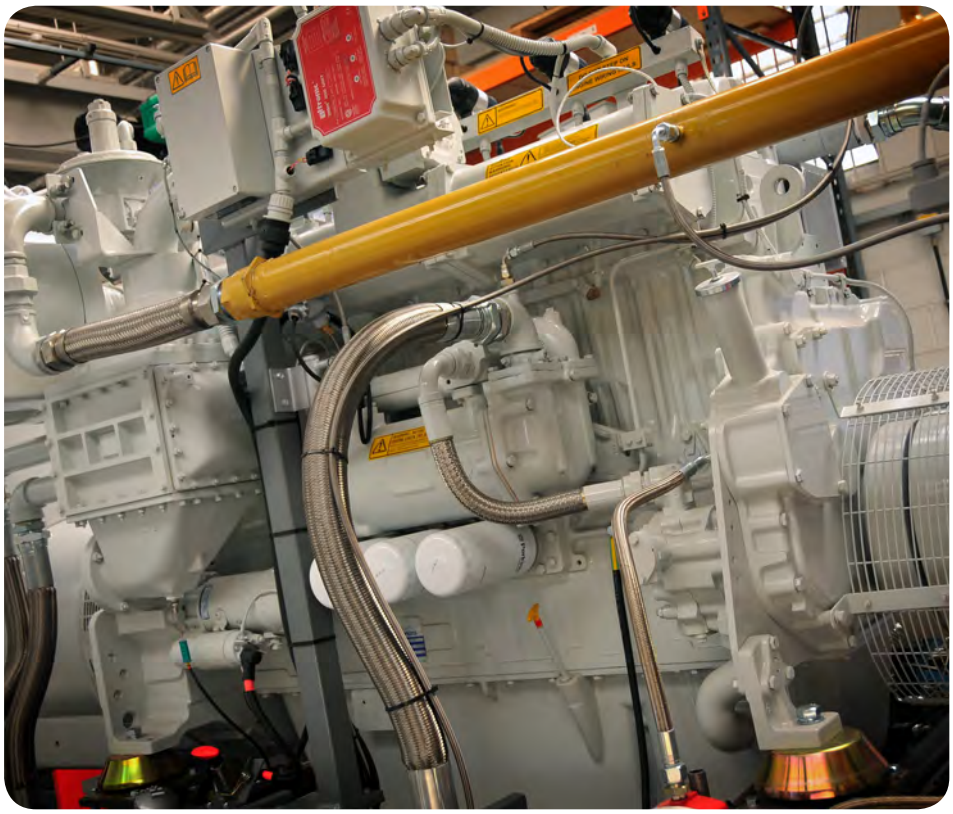
The company required addition electrical resilience against the national grid supply. As a global player a reduction in carbon emissions was also important to them, so ENER-G was chosen to provide them with their optimum solution.

Additionally the trigeneration system from ENER-G will help reduce energy costs and stabilise them over time, it also sits well with the company's green energy policy.

The system comprises a highly efficient gas fired trigeneration system powered by a 425kWe cogeneration unit that creates electricity and chilled water for the cooling load for the server equipment.

This system is unique in the fact that it carries a no break provision, to guarantee no interruption in performance as just an hour without power would cost the business millions. This new system is displacing an electric screw compressor chiller which currently uses grid electricity to provide the chilled water. The electric chiller is carbon intense so the new efficient trigeneration system will reduce the carbon impact.

The project was financed by capital purchase with a specialised operation and maintenance contract between ENER-G and CISCO.. As a result of this ENER-G's service team will be available to attend site within 4 hours to ensure there is optimum service available 24 hours a days, 365 days a year.



The benefits of cogeneration:

- Offers financial savings over conventional energy supply
- Primary energy savings deliver lower energy bills
- Higher efficiency offers reduced greenhouse gas emissions offsetting the carbon impact
- Greater security of supply and plentiful hot water
- Addition of chillers can provide efficient cooling
- Flexible procurement options
- Zero CAPEX required
- VAT savings
- Potential Government funding for energy efficient schemes
- Possible grant funding

The data centre solution accommodates a 425kWe trigeneration unit that uses an efficient Perkins engine. This unit accommodates the no-break provision promise to ensure island mode is possible.

ENER-G will not only maintain the highly efficient trigeneration unit, but also additional elements of the system that include an absorption chiller, an adiabatic chiller, combined cooling heat and power controls and pumps.

Cogeneration 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, much energy is also lost along the many miles of electrical distribution cables needed to bring the power to site. Instead, by using cogeneration to generate electricity on-site the heat is used via the absorption cooling system, to also provide chilled water for air conditioning.

ENER-G delivers whole life cycle cogeneration projects - from initial design to long term care of the installation.

Our solid financial status and independence provides the freedom to finance capital projects.

ENER-G pioneered the Discount Energy Purchase scheme, which means it installs, operates and finances the cogeneration installation without capital outlay and sells the energy at a discounted rate.

ENER-G's Quality Management System provides international best practice in design, manufacture and service.

Customers are offered a flexible aftercare solution, including a variety of service packages to meet precise requirements. CHP on-board computer systems provide a two-way communication channel to the company's 24/7 remote monitoring centre.

This means that engineers can diagnose and resolve issues before they become problems and enables customers to minimise downtime and prolong system life.

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.

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