

Maximising CHP with Demand Side Response

Through Demand Side Response, one of the UK's oldest 'red brick' universities is receiving payments from the UK's electricity transmission system operator for its flexible power



A sustainable future

With over 30,000 staff and students on-site, this 'red brick' university has an annual turnover approaching £500 million, and is also a member of the Russell Group of research-led UK universities. Many of its activities are energy intensive, with an increasing focus on research to reduce carbon emissions and understanding the challenges of climate change.

The university has produced an environmental strategy with core ambitions to reduce its carbon footprint and evaluate the environmental impact of all its activities.

Optimum efficiency

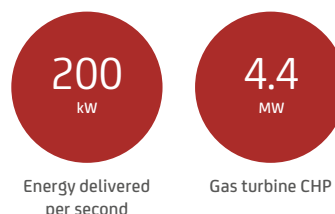
In 2014 the university installed a new 4.4 MW gas turbine Combined Heat and Power (CHP) unit to deliver baseload heat requirements year round for the main campus and upgrade the efficiency of the old CHP system. This was in response to a significant power outage which meant the university had to rely on backup generation for several days.

Having installed this significant asset, the university was keen to understand how the unit could be utilised more efficiently to maximise return on investment, and contribute to a more secure infrastructure to avoid power outages in the future.

The results

Working closely with the university's engineers and with the CHP manufacturer and maintenance team, Centrica Business Solutions identified two streams to improve return on investment: participation in the Capacity Market and as part of a portfolio of assets delivering dynamic Firm Frequency Response (dFFR).

Centrica Business Solutions worked with the CHP unit's manufacturer to create a solution engineered to deliver just over 200 kW/second; enabling the delivery of 2 MW of flexible power within the 10 second requirement for dFFR. Working so closely with the manufacturer ensured that all warranties were still valid and there was no impact on the comprehensive maintenance cover already in place.



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Working with such a provider has allowed the university to maximise the value obtained from its energy investment.”

Spokesperson, UK University

Why Centrica Business Solutions?

- Generates significant recurring revenue which can be used to reduce energy bills
- No impact on production; shielded from the risk of penalties when power flexibility is not available
- Revenues optimised all year-round, offering the highest possible volume, in the highest-paying reserve, at the best possible time