



Case Study
Hospitality
RADISSON BLU

Case Study Hospitality



41%

Reduction in
Gas Consumption

Client

The Radisson Hotel at East Midlands Airport is a 218 bedroom hotel featuring extensive conference facilities, swimming pool and leisure facilities. Designed as a BREEAM Excellent building, the hotel was opened in 2011.

17%

Reduction Electricity
Consumption

The hotel also boasts a 285kW bio-oil CHP (Combined Heat and Power) system that can generate enough electrical power to support the hotel, while converting waste heat as a primary source of heating and cooling for the hotel. This 'green' CHP plant operates on waste bio-oil (Ethyl Ester) that qualifies for the maximum number of ROC's (Renewable Obligation Certificates) under the government's renewables scheme.

30%

Overall kWh
Reduction

Challenge

This leading facility was designed, developed and handed over as a **BREEAM Excellent Building** to the hotel operator, the Azure Group. However, the operating costs, and in particular the utility costs, did not reflect the operation of one of the greenest hotels in the UK. **The operators of the hotel now had the challenge of how to make this facility operate as efficiently as possible**, while not really being sure where the baseline should be set. Teething issues like this often occur within the first few months or even years of a building's life that may not be obvious at the time handover takes place.

Two years after the hotel opened, **Optimised Buildings were commissioned** by the hotel to **optimise the operation of HVAC** (Heating Ventilation and Air Conditioning), **the BeMS** (Building energy Management System), **absorption chiller and CHP** (Combined Heat

Project implemented by:



and Power), along with providing a managed service to look at the overall energy management of the hotel. It was soon evident that some fundamental challenges lay ahead.

While the individual systems mentioned above were commissioned, they were not commissioned to operate together or commissioned for seasonal change.

As a result, the hotel was operating very inefficiently from an energy efficiency perspective – costing the operator dearly.



DEXMA and Optimised Buildings have helped us get through these challenges with their technical expertise, analytical solutions and managed services. We are now in a great place to run our hotel as efficiently as it can, ensuring our utility costs are operating as low as they can.

DANIEL KEANE

General Manager, Radisson Blu Hotel
East Midlands Airport

Solution

The first step

The **first step was to monitor the energy being consumed** through the extensive sub metering that was installed into the hotel.

These meters were already linked into the Trend BeMS which minimised the integration requirements, and then this half-hourly data was logged and 'pushed' to the cloud-based software solution, the DEXMA Platform.

This **created the transparency and baseline data to effectively monitor and measure the impact** of the building optimisation deployed.

The second step

The **second step was to implement the DEXMA Platform to monitor the BeMS and HVAC systems** through intelligent algorithms.

This cloud-based platform tracks the performance of assets, equipment and systems and quickly identifies anomalies in plant operation, thereby saving energy and maintenance costs.

Once the above systems were in place, the task of building optimisation began.

This started with the CHP plant, ensuring this was operating with the absorption chiller, BeMS, boilers and electric chillers.

Once the core systems were operating correctly, this was fine-tuned to maximise efficiency and minimise operating costs.

Once some of these core areas were addressed, **the DEXMA Platform remotely monitored the performance of the HVAC, BeMS and sub-meters** to continually commission and re-commission assets, equipment and systems **to ensure they were operating efficiently.**

The Results of the Project

Since the various assets have been operating together as a system and various optimisation strategies have been implemented, significant savings have been realised by the hotel.

The net business impact is an overall reduction on the kWh consumption across the electricity and gas utilities, of 30% through optimisation of existing assets and systems.

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DEXMA offers energy analysis technologies that help energy managers understand and reduce energy cost and consumption. [Contact us](#) if you need help with your projects or take a free look at the [DEXMA Platform](#) today!



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