



Case study: Financial Services HQ

Background

This 10,000 m² facility, located in the West Midlands provides commercial office space, a call centre and comms rooms for one of the UK's leading banks. The facility was built around 20 years ago and accommodates around 2,000 staff daily. The site has no sub-metering and relied on the fiscal half hourly meters to prove savings. The HVAC system was being controlled by a 15 year old Trend IQ1 BeMS (Building energy Management System).

The facility is part of wider portfolio that is managed under an energy performance contract by one of the UK's leading facility management companies. The site was consuming around 6 GWh annually of energy and while the FM company had already done a good job at reducing consumption by around 13%, Optimised Buildings identified further saving opportunities.

Challenge

Optimised Buildings were asked to assess the facility to determine if further energy savings could be achieved through their optimisation proposition.

See the solution overleaf

optimisedbuildings.com

Quick facts

- < 6 Months ROI
-
- 25% reduction in Electricity (kWh)
-
- 17% reduction in Gas (kWh)
-
- 1,060,000 kWh saved in the first 12 months
-
- All savings achieved through optimisation of the HVAC and BeMS system
-
- Technology, expertise and process have all been major contributors to the savings achieved

22%

Overall kWh reduction

46% of the sites energy was being consumed by Heating, Ventilation and Air Conditioning (HVAC)

The HVAC system consumed 40% of the electricity and 95% of the gas consumption at this facility. Optimised Buildings undertook a detailed energy audit and determined a further 500,000 kWh (8% of total kWh's consumed) could be saved over a 12 month period. These savings were all identified to come from HVAC and BeMS optimisation.

Optimised Buildings were then contracted by the FM company to deliver the savings and challenged to exceed these projections of 500,000 kWh a year.

Solution

The solution consisted of both technology and expertise to achieve the savings.

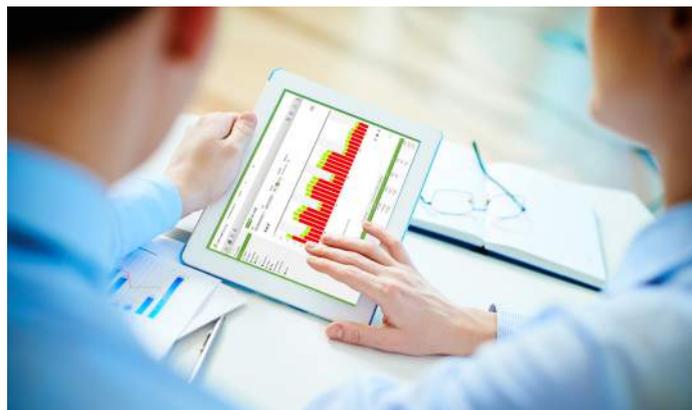
Following a site assessment mechanical, electrical and controls issues were identified and a plan put in place to resolve these issues, all of which were contributing to excessive energy consumption. Controls strategies were reviewed and corrected along with time schedules, setpoints and runtimes.

Remote communications were set-up to the site which enabled data to be extracted from the Trend BeMS system on a 15 minute interval. This data was then pushed to the cloud, which feeds the Optimised Analytics platform where fault diagnosis and detection algorithms identifies and tracks the performance of assets, equipment and systems and quickly identifies anomalies in plant operation saving energy and maintenance costs.

The continuous monitoring and analysis undertaken by the Optimised Bureau team ensures that savings are not only delivered, but they are maintained long term. The Optimised Analytics data

combined with aM&T data has enabled our energy analysts to identify anomalies with the operation of the HVAC / controls and make energy conservation measures recommendations. This is fed back to the FM/Energy team to rectify the issues in a timely manner and the results analysed.

Combining the technology, expertise and process has resulted in significant energy savings being achieved throughout this facility.



Results

Following the first 12 months of optimisation over 1,060,000 kWh have been saved delivering an ROI in less than 6 months.

Further savings opportunities have been identified and savings are expected to increase further over the coming months.

The net result is a **22% saving** for the client.

Year 1 Results

£ savings	£80,000
CO ₂ Reduction	571,184 kg
kWh Saving	1,060,000 kWh

% of Total Energy Spend	22%
% of HVAC Energy Spend	47%
ROI (months)	5.44 Months

*Projected over first 12 months (figures calculated based on 8 months of results)

Optimised Buildings Ltd, Millhouse Business Centre,
Station Road, Castle Donington, Derby, DE74 2NJ, UK

Tel: 0333 370 2021
Email: info@optimisedbuildings.com

optimisedbuildings.com

© Optimised Buildings Ltd. All rights reserved

