JAGUAR
BUILDING SERVICES

CASE STUDY:

Energy Reductions Across the Colliers Portfolio

JBS has implemented a comprehensive energy management strategy across the Colliers Berkeley Estate West End Management portfolio to support their carbon reduction targets. This case study explores the objectives, energy-saving strategies, challenges faced, results achieved and future goals for ongoing improvements in energy efficiency.

Colliers

Objectives

1

Reduce portfolio electricity consumption by 30% by 2030 based on a 2019 baseline.

2

Reduce portfolio gas consumption by 25% by 2030 based on a 2019 baseline.

3

Lower operating costs associated with energy use.

4

Improve HVAC operational efficiency.

5

Achieve NABERS UK Energy for Offices certification.

Challenges faced

Two key things that we acknowledge through this process is the difficulty with the following:

1 Stakeholder Engagement

Ensuring all building occupants and stakeholders were on board with the changes required effective communication and demonstration of benefits.

2 Diverse Building Portfolio

Addressing the varied ages and conditions of the buildings required bespoke approaches and solutions for each property.

By working with Colliers and maintaining an open line of communication with the client, these challenges can be overcome, and this case study is evidence of how collaborative working can truly achieve a reduction in energy consumption, while managing the different stakeholders within property management. As a consequence of the results achieved, all parties are motivated to continue along this trajectory to ensure that we bring these assets along on their journey to carbon neutrality as all understand the value of why and how this can increase an asset's value.

Energy Saving Strategies Implemented

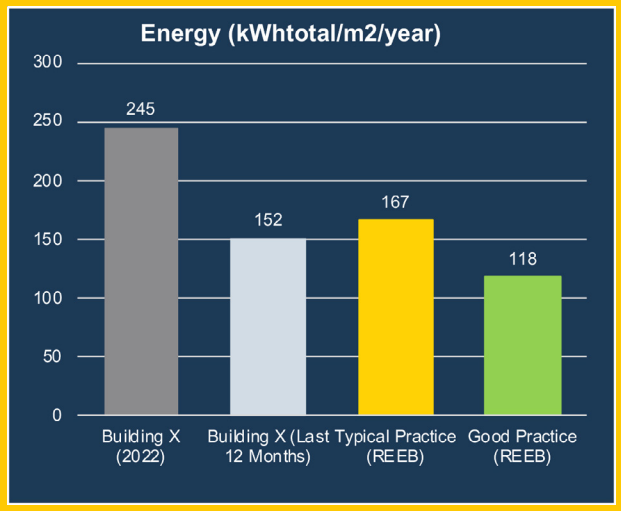
One of the pitstops along the client's journey to net zero was to conduct operational energy assessments across the key trophy assets; identifying inefficiencies and opportunities for energy savings and tracking the progress of the initiatives implemented to ensure continual improvement within the assets.

To track progress of the energy performance and introduce competition among the buildings, we worked with Colliers to benchmark energy performance across the estate to identify buildings with the highest potential for improvement using both the BBP REEB benchmark and CRREM analysis.

Once the energy assessment was conducted, we implemented the following measures:

- Energy-consuming systems were powered down or reduced during non-operational hours. Implementation of this measure saved ≈ 2,800,000 kWh across the portfolio.
- Upgraded and optimised HVAC systems for increased efficiency and performance, including improved controls and system refining. Saving ≈ 1,700,000 kWh
- Conducted seasonal commissioning to ensure HVAC systems operate efficiently throughout different seasons.
- Installed dedicated plant for specific energy-intensive operations where whole building systems were being brought on to service small areas.
- Implemented M&T programmes to monitor energy use in real-time, highlight areas of excess consumption and quantify the impact of energy-saving measures. This alerts the energy management and engineering teams who then communicate with the Building Management team to ensure that we are continually seeking opportunities to maintain the 'new' standard of operating.
- Replaced outdated lighting systems with energy-efficient LED lighting equipped with PIR (Passive Infrared) and photocell control to reduce energy use. We were able to thereby save ≈ 270,000 kWh/year with the project investments paying back in under two years as the labour was carried out in-house by JBS engineers.

By comparing the building's total energy usage to the Real Estate Environmental Benchmark (REEB) for both good and typical practices, we can track improvements in energy consumption and gain a clearer understanding of how the building performs relative to industry standards.



Results

Since April 2023, based on a 2022 baseline, JBS's energy management strategy has yielded significant results across the portfolio:

Energy Reduction

8,631,850 kWh saved

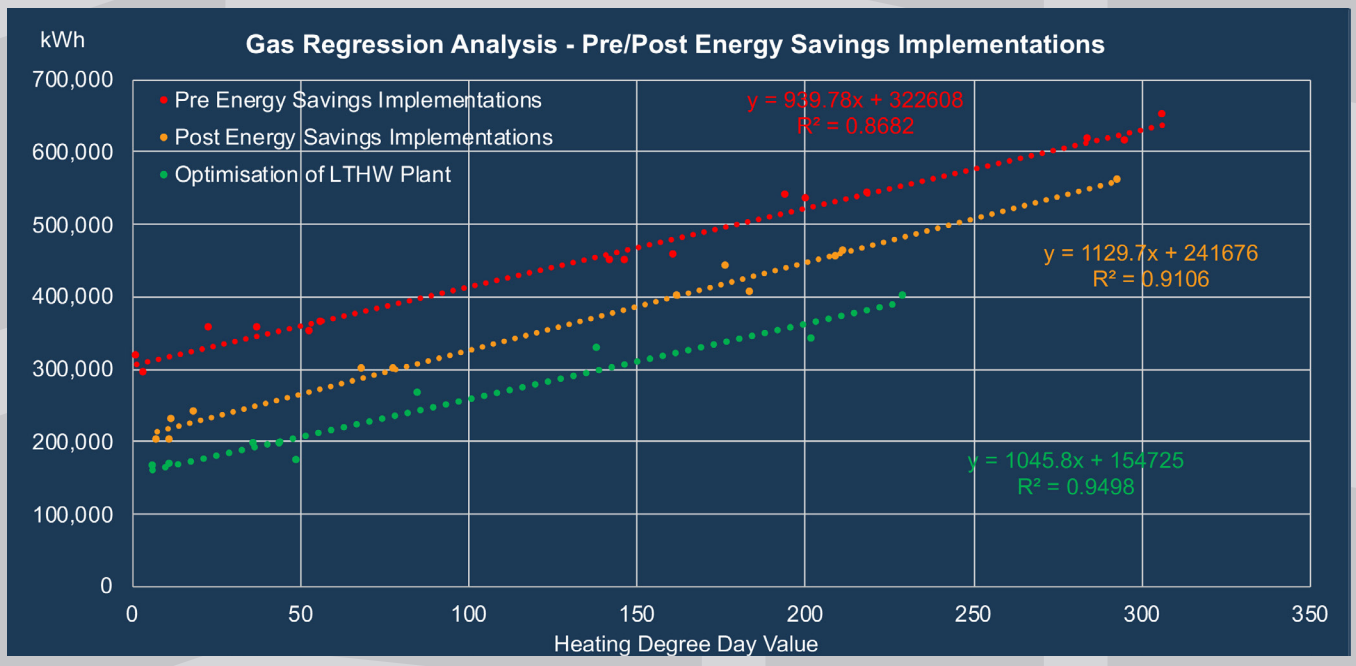
Cost Savings

£786,512 saved

Carbon Emission Reduction

1,648 tCO_2e reduced

Results

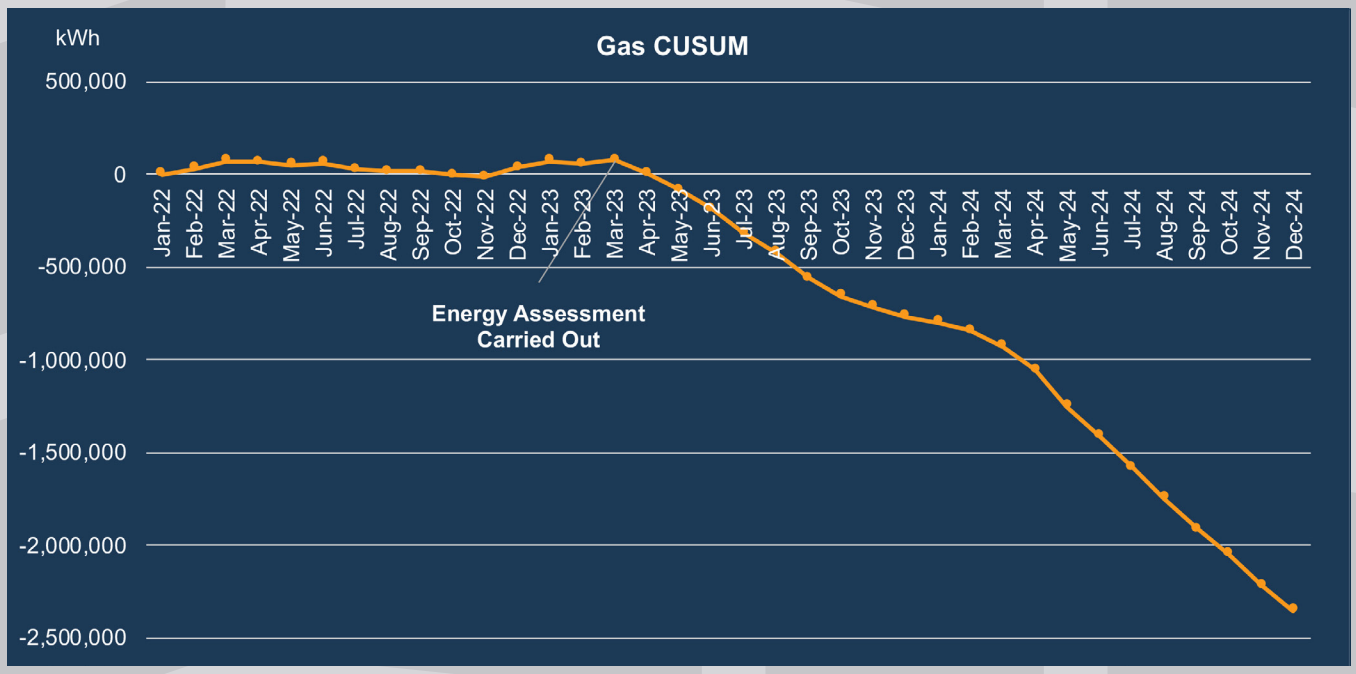


The gas regression analysis graph is a scatter plot that compares monthly energy consumption with degree days – a measure of cold weather severity and duration. It features a line of best fit, known as the performance line, which helps evaluate the building's energy usage by comparing it to historical trends.

This analysis allows for predictions of how much energy the building would have consumed if operational patterns had remained unchanged. By benchmarking gas consumption against degree days, the graph provides clear, quantifiable data to identify fluctuations in usage.

It also highlights phased reductions in gas consumption following the implementation of energy-saving initiatives.

Results



CUSUM (Cumulative Sum of the Difference) is a valuable tool for identifying overall trends in the building's gas consumption. When energy savings are achieved, the slope between consecutive months trends downward. This decline is typically less pronounced during the summer months when gas consumption – and the potential for savings – is lower.

Since March 2023, a noticeable downward slope has been observed, indicating a steady reduction in gas consumption within the building.

Future goals

To continue to work towards the client's net zero strategy, we are committed to working with Colliers on the following:

Continuous Improvement

Promote ongoing improvement by conducting bi-annual energy workshops involving all building stakeholders. These workshops will focus on sharing best practices, identifying new opportunities for savings, and maintaining momentum towards energy reduction goals.

NABERS Rating

Aim to achieve NABERS certification to validate the efficient energy usage within the buildings and demonstrate commitment to sustainability.

Building Electrification

Work with the client to plan for the electrification of building systems to reduce reliance on fossil fuels and further decrease carbon emissions, understanding an asset's lifecycle and the subsequent impact on service charge budgets and occupier relations.

The results of the energy assessments have been well received by the building management teams, occupiers and asset managers, proving tangible results. Jaguar Building Services' attention to detail and desire to do a thorough job illustrates how we (building management, asset management and supply partners) can all contribute to a building's journey to carbon neutrality. The project highlights the importance of collaborative working to all stakeholders, and we are all now incentivised to 'want' to do more; looking ahead to the next challenge to further reduce the building's carbon footprint.

Rachel Fairclough
Colliers, Director – ESG and Energy Management

Conclusion

Colliers and JBS's strategic approach to energy reduction across the Colliers portfolio showcases the impact of comprehensive energy management strategies.

By setting clear objectives, implementing targeted energy-saving measures and engaging all stakeholders, JBS has made significant strides towards supporting their client's 2030 energy reduction goals.

The results to date are promising, and the commitment to continuous improvement and future goals, such as achieving NABERS certification and building electrification, will further enhance the portfolio's sustainability and efficiency.

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