Case Study

Energy reduction through a collaborative Hub approach

ENTRY BY:

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ASSET SERVICES

CLIENT
- Aviva Investors Manchester Hub

ASSET NAME
- Multiple Manchester Properties

LOCATION
- Manchester City Centre, UK

SIZE
- 900,000 m2

ASSET TYPE
- Comercial Office

TENANCY TYPE
- Multi-let office with ground floor retail

PROJECT DATE:
2020 - 2023

ABSTRACT: The Manchester Hub was launched in January 2020 and comprises over 900,000 sqft, and 42 occupiers with the vision to deliver an occupier focused, customer service driven, local property strategy. C&W appointing NG Bailey and BMSI across all the assets, in conjunction with Carbon Intelligences smart buildings programme enabled a data driven approach to the operation of these assets and ultimately enabled site teams to get a handle on energy consumption and start making significant reductions to this consumption in a relatively short timeframe.

CHALLENGE / SITUATION: the hub approach involved applying a smart building programme to multiple assets within the Manchester Hub. consisting of 5 properties, each with a difference in size, complexity and age, to align with each assets specific needs.

TEAMS INVOLVED: C&W Hub Director, FM and Building Managers, M&E contractor NG Bailey, BMS contractor Real Control Solutions, Accenture

ACTION TAKEN: the local Manchester Hub team's primary goal was to reduce energy consumption, by 10% year on year and to improve the comfort for occupiers in the building. initial objectives were set:
- To highlight opportunities and identify savings.
- Achieve efficiencies by analysing BMS data across the building whilst understanding that some areas are not controlled by BMS
- Proactively optimise building controls and further invest in key energy management software.
- Improve engagement with the engineering team on property and M&E contractors and local BMS engineers.

11 Portland Street	201 Deansgate	55 Spring Gardens	40 Spring Gardens	11 York Street
Removal of 24/7 boiler operation, enabling turn off in summer Introduction of a pasteurisation routine on the Domestic Hot Water system, enabling turn off overnight Reinstating thermal wheel in line with CIBSE guidance occupier engagement to highlight localised saving opportunities	Aligning floor time schedules with central plant operating times Implementing an outside air temperature hold off on the chilled water system Review of outside air temperature holdoff and setpoint on low temperature hot water system. Removing weekend plant operation	Reduction in VRF operation, refining schedules in line with occupier requirements Installation of electric immersion heaters on calorifiers CT Pump upgrade and implementing demand led strategy.	Reduction in out of hours pump operation Review of key outside air temperature hold offs and setpoints across chilled and low temperature hot water system Resolving issues with FCU control, leading to improve space conditions and reduced load on central plant	Reduction in fan time schedules for Heat recovery units, toilet and refuse extract fans Reduction in VRF operation whilst building is unoccupied Optimization of AHU operation and supply temperature leading to reduction in VRF operation Reduction in weekend plant operation and introduction of bank holiday schedules

Results

11 Portland Street	201 Deansgate	55 Spring Gardens	40 Spring Gardens	11 York Street	Hub Total
Gas – 16.5% savings (324 MWh) Electricity – 23.5% savings (1,396 MWh)	Gas – 58.4% savings (665 MWh) Electricity – 24.7% savings (1,062 MWh)	Electricity - 12.7% savings (162 MWh)	Gas – 11.2% savings (126 MWh) Electricity – 30.9% savings (878 MWh)	Electricity - 15-20% avoided costs from estimated annual consumption	Gas – **1,116 MWh** Electricity – **3,500 MWh** Total financial savings since the start of the programme equates to **£1.2 million**, with **1,556 tonnes CO_2** prevented from entering the atmosphere.