

# HVAC Systems Improvements

## The Problem:

A large 9 storey, multi use hospital building that houses two cardio-thoracic operating theatres, two day surgery operating theatres, offices and treatment rooms as well as the hospitals main sterile services department (SSD) was experiencing very high energy consumption, particularly on the heating & hot water. It quickly became apparent that much of the controlled equipment (heating and cooling valves/actuators, dampers etc) was in a poor state and not functioning properly.

## The solution:

Extensive remedial works were completed on all air handler units which included replacement heating and cooling valves and actuators, replacement recuperator dampers and updated recuperator actuators along with general cleaning and servicing, and the implementation of a greatly improved control strategy.

## The outcome:

The equipment now consumes 626 kWh per day of electricity for cooling (from the chillers) with 208 kWh per day of free heat recuperation costing some £15 a day giving a total daily saving of £273.

Annually we confidently predict total savings of some £114,000 from this work as shown:

Gas savings of £44,000 equating to some 117,120 kWh of gas at the boilers or 21.5 tonnes of CO<sub>2</sub>

Electricity savings from cooling of £70,000, equating to 854,600 kWh or 448.3 tonnes of CO<sub>2</sub>.

## About the service provided:

- Energy Survey
- Energy monitoring and reporting
- BMS survey
- BMS optimisation

For more information or advice on all services provided by Efficiency Direct, please contact:

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