Carbon Management

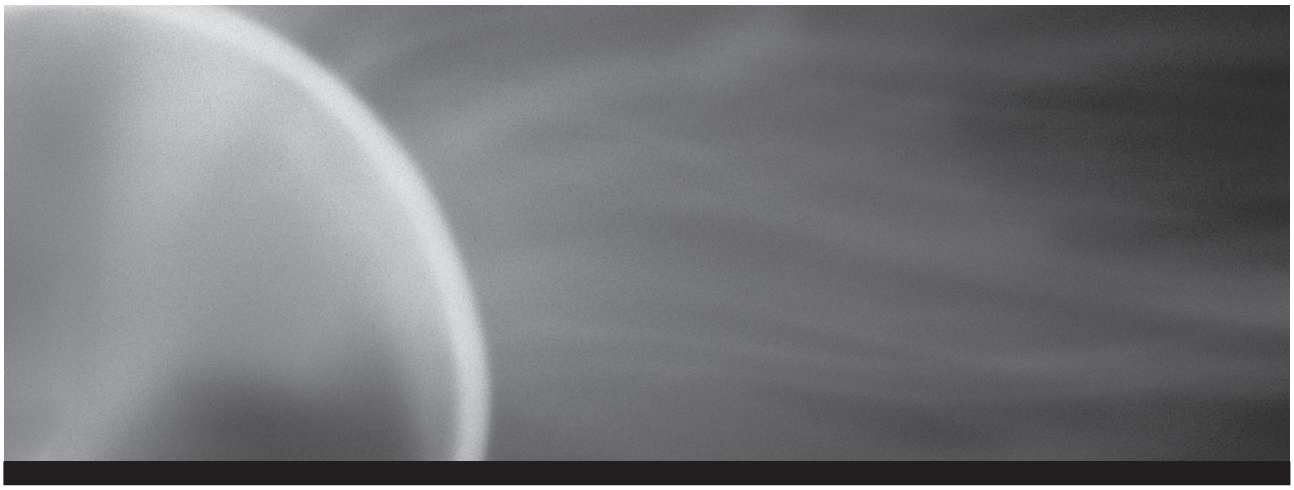
Energy Efficiency Improvements, Government Agency, UK

CLIENT Government Agency

LOCATION SW England

DATE Winter 2003 and summer 2004

PROJECT Energy Efficiency Improvements



DESCRIPTION

Early in 2001 the agency occupied their new "Low Energy" office building in the South West. When designed the building had a BREAM "excellent" rating. However, after a couple of year's operation, it became apparent to the building's facilities management team that the energy consumption was much higher than had been predicted.

The 5 storey building has a full height atrium and the design utilises the stack effect within the atrium to induce natural ventilation with the office spaces. Unfortunately, acceptable comfort conditions were not being maintained on many winter days nor on hotter summer days.

Abricon were requested to undertake an analysis of the actual performance of the building during the winter when in "heating" mode and in the summer when in "cooling" mode.

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This investigation identified a large number of issues that were all inter-related. These included:

- The operation and performance of the BMS
- The use of the manually openable windows.
- The distribution of mechanical ventilation within the office spaces
- The balancing of systems
- The poor operation of the main entrance doors
- The partitioning of the "open plan" office areas
- The inadequate sizing of some cooling coils

Two detailed reports were prepared that made recommendations that would reduce energy consumption but also help to maintain acceptable comfort conditions.