Case Study

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Laboratory Upgrade for Energy Efficiency

The Challenge

The client, a Global Pharmaceutical Manufacturer had a very high energy demand driven by original heating, ventilation and air conditioning system design and layout with high air change rates and fresh air volumes.

The Solution

The existing air change rates and fresh air volume were reduced and the client's plant operational maintenance was improved by optimising the Building Management System.

Recommendations were also made to upgrade laboratory fume cupboards to Variable Air Volume. Upgrade and control of warehousing facilities was also recommended.

The design review of the heating ventilation and air conditioning system was supported, the project was then scoped out, and local Test and Balance and Controls contractors were engaged so they were able to bid to complete the project.

Smoke visualization trials were carried out and a reduced fume cupboard capture face velocity to deliver 20% energy savings was recommended. The client then used this data to develop strategy for further improvement work.

The Outcome

The warehouse is now successfully completed and leased out. As a result, 2,200 MWh energy savings have been delivered per year. The cost savings per year have been £213,816.00 and a reduction of CO_2 emissions of 985 tCO_2 has been achieved. Further savings from recommendations were also identified of 2,100 MWh per year.