# Case Study

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## Pharmaceutical Warehouse Upgrade

### The Challenge

The client, a Global Pharmaceutical Manufacturer had a very high energy demand in one of their pharmaceutical warehouses. This demand was driven by the original heating, ventilating and air conditioning system design and layout. The client wanted to reduce energy demand without compromising on quality compliance.

### The Solution

The design review of the heating ventilation and air conditioning system was supported, the project was then scoped out and local contractors were engaged so they were able to bid to complete the project. The existing air change rates and fresh air volume were reduced. New variable speed drives were installed to the 100kW

supply air fans. The existing supply air diffusers were replaced to improve air distribution.

Existing heating, ventilating and air conditioning system in the warehouse was used to serve a samples store which was retained by the client.

A risk based approach was undertaken to mitigate potential "out of condition" impact of the systems.

#### The Outcome

The warehouse is now successfully completed and leased out. As a result, 1,950 MWh energy savings have been delivered per year. The cost savings per year have been  $\pounds$ 83,195.00 and a reduction of CO<sub>2</sub> emissions of 917 tCO<sub>2</sub> has been achieved. The pay back for the client was 1.5 years. However, as a funded solution was accessed to cover the costs,, there was a capital cost avoidance of £21,569.00.

"This project was key for delivering the sites 2012 energy target. It exemplifies how the proper air flow & fresh air can contribute significant energy savings. This type of project will be replicated in the remaining areas of our Facility." Site Utilities Manager



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