

Versatemp System **Efficiency Direct**

The Problem:

The client was a company in the financial sector occupying a purpose built office block in Central London with a total floor area of 4,087m². The object of the survey was to identify areas where energy use could be reduced therefore reducing costs and carbon emissions.

The site uses electricity and has an oil fired boiler for heating/air conditioning where individual areas are maintained by Versatemp heat pumps.

The official benchmark for a building of this type is between 350 and 570 kWh/m², the client was using 699 kWh/m² which is poor and merited urgent investigation.

The solution:

Our consultant noticed the boiler was working unnecessarily during a hot day.

On closer inspection it was noted that the main control valve indicated that it was in the full by-pass however, the valve was actually in full supply. The consequence of this action was the cooling tower wasting heat as quickly as the boiler provided it!

The outcome:

An isolation valve was shut to prove the assertion and that single action resulted in a 90% saving in oil used where the weekly consumption was reduced from over 300 gallons to just 30 gallons. This was an immediate saving of about £300 per week; the valve repair cost was £1,200 giving a 4 week payback.

In addition, the building is centrally air conditioned by an air handling unit (AHU) that had no provision for heat recovery to recover the waster heat.

It was recommended to look at ways for air recirculation or heat recovery, the cost of remedying the situation could be offset against Corporation Tax through Enhanced Capital Allowances (ECA). Also, the need to look at variable speed drives for the air con fans was highly recommended to further reduce energy used. Again, the cost of implementing the changes could be offset against ECA's.

Main recommendations included: Improve the boiler/cooling tower/Versatemp operation; Review the site's electrical base load; Create an energy policy and awareness campaign; Improve BMS controls; Heat recovery; Add variable speed drives;.

If actioned, the recommendations would lead to an annual saving of £31,134 with an overall payback of 15 months. The client did action most of the recommendations and has reaped the benefits subsequently.

About the service provided:

Technical consultancy

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