

Heathrow's Terminal 2 capitalises on 10-month energy saving return

Although much attention is being focussed on Heathrow's new Terminal 5 and the innovative building services that will make all it a model of operational efficiency, energy management company Efficient Air was tasked by BAA to achieve significant energy savings at neighbouring Terminal 2. The Terminal, where 28 airlines operate, handling over 8.5 million passengers a year.

The survey showed that the departure lounge HVAC system was a high energy consumer, and recommended that immediate energy savings could be made by reducing the supply of air at 16m³/s to a re-assessed rate of 15m³/s. The outside air was not being optimised for variations in occupancy, there was excessive system resistance as a result of a blocked coil, and the mixing dampers were faulty.

When the improvements were made, the air flow had been reduced to match current requirements, the mixing dampers were repaired, and temperature sensors were replaced. Supply and extract variable speed drives, and a return air mounted CO₂ sensor were added.

The BMS control strategy was also modified to optimise the use of fresh air maximising and minimising in the summer and winter respectively, to keep the cooling and heating loads to a minimum. The cooling coil was cleaned to reduce resistance and improve efficiency, and carbon dioxide sensors were fitted to vary outside air and match the variations in occupancy.

An HVAC energy survey carried out on the departure lounge has achieved annual energy savings of £20,300.00, achieving a 10 month return on investment, improved passenger indoor climate conditions and saved 220 tonnes of carbon dioxide emissions.

