



N E W S from Efficient Air

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O2 switched onto energy efficiency savings at Runcorn

Start of a winning partnership with Efficient Air

A clear example of how a large multi-national telecommunications company can meet its ambitious carbon reduction targets through well planned carefully engineered energy saving projects has come to light through a recent collaboration between leading mobile operator O2 and HVAC energy saving specialists Efficient Air.

O2 has set itself the goal of achieving 30 per cent energy savings per equivalent access against its 2007 level throughout its European operations. Leading the effort in the UK, where the O2 brand has 21.3 million mobile and 591,000 fixed broadband customers, is the company's Energy and Carbon Manager, Paul Eggleton.

Although he has a very challenging task, Paul has the support of a management team dedicated throughout the company to meeting the highest standards of sustainability. In 2009 O2 became the first mobile operator in the UK to be officially certified with the Carbon Trust Standard, an achievement that recognised the company's commitment to reduce its carbon footprint and a 15 per cent energy reduction over the past three years.

Among the measures that secured this award for O2 were a significant investment in smart metering to gain more control over energy consumption throughout the estate, network evolution, free cooling, the use of LED lighting, the installation of gas boiler controls and a reduction in PC Monitor standby times.

It was this very approach that brought Paul Eggleton together with Efficient Air. With these early successes under his belt, Paul needed to find equally simple and achievable wins to maintain the pace of energy saving. He explains:

“With 17 regional equipment sites operating the network 24/7, there had to be scope for energy saving within the fan arrangement of air handling units and computer room downflow (CRAC) units within each site. Although the energy that would be saved might be relatively modest in the scale of things, it would represent first class low hanging fruit, particularly as the network represents some 80 per cent of our total carbon footprint.”

As he was seeking new solutions he was contacted by Efficient Air as part of the company’s drive to acquaint datacentre based organisations with the scope for making significant energy savings on fan power through the replacement of existing forward curved fans by new, high efficiency, backward curved EC fans.

Efficient Air’s Business Development Manager, Julian Jowitt, explains: “In our experience it is not unusual for datacentre or similar operations to expect 30 to 40 per cent direct savings through retrofitting correctly selected, high efficiency fans, with payback in the region of 2 years. The replacement fans are also EC (electronically commutated), brushless motors and therefore produce less heat than the traditional fans, so there is less to cool.”

He adds: “Further ‘value added’ savings are also on offer from the removal of belts. Traditional fans are belt-driven which can absorb 5 to 15 per cent energy when they are correctly installed, plus the cost of replacement and regular servicing. No belts also mean no belt dust, which may cause concern in the sterile environment of datacentres.”

As a Chartered Mechanical Engineer and an experienced Energy Manager (Paul is a member of both the Institution of Mechanical Engineers and Energy Institute) Paul Eggleton found out very quickly that he spoke the same language as Efficient Air’s project team headed up by project manager, Matthew Barras.

The proposition was very straightforward, and made immediate sense to Paul. Efficient Air would undertake to remove the old fan arrangement within each of four air-handling units at the Runcorn Equipment Site in North-West England, which comprised 3-off

forward curved belt driven fans, and replace them with 2-off high efficiency direct drive EC plug fans.

35 per cent energy savings were achieved over the four fan units, equating to a carbon saving of 32.4 tonnes and a payback period of 31 months. The saving of around 7kW represents around 1.4 per cent of the site's total demand of 500kW.

This project has worked very well for Paul, who describes it quite simply as “doing precisely what it promised in the quotation.” And that has not always been the case with other projects, he is quick to add. He commented:

“Efficient Air has provided us with a solution that will reduce our energy costs and CO2 commitment, provide us with enhanced reliability, control and resilience, with reduced maintenance. The project was executed in a timely, flexible and reliable manner, with a high quality of workmanship and without any undue disruption. I also appreciated dealing with a friendly, knowledgeable company.

“We are already able to measure the benefits, the project fits very nicely into our overall programme, and it has given us some positive data to request funding to convert the other 16 similar equipment sites throughout the UK that support the network.”

So although it may represent a modest portion of O2 's total carbon footprint, there is no question that the fan replacement project at the North-West Equipment Site in Runcorn fits seamlessly into the company's sustainability strategy.

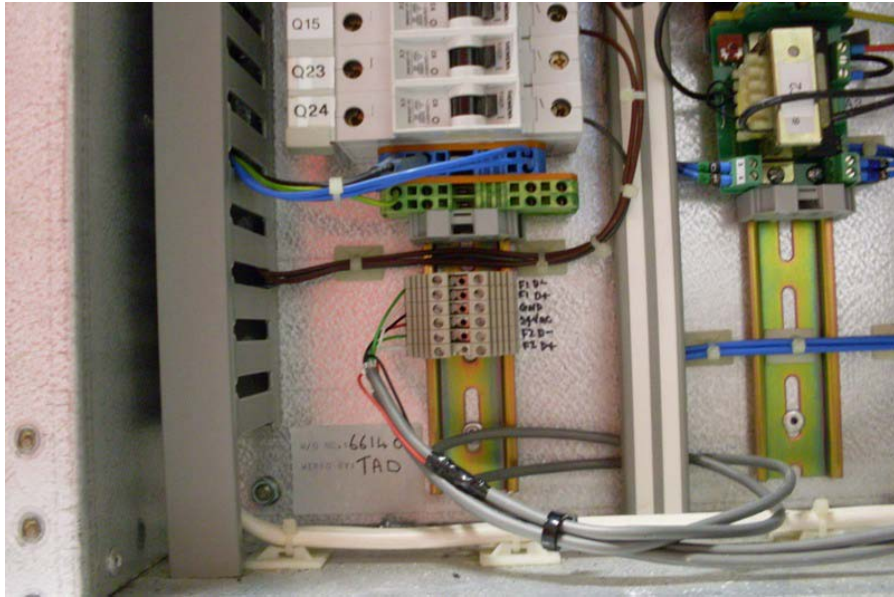
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The old system at O2 Runcorn used forward curved fans



The new system has been equipped with high efficiency, backward curved EC fans



Speed Reference Terminals Located within the new Control Panel