

HERTFORDSHIRE COUNTY COUNCIL SAVE £300 A MONTH ON ENERGY BILLS WITH ENISTIC

Background

Energy efficiency is rapidly becoming a key data centre issue. The more energy efficient the data centre, the lower the on-going operating costs for facilities' users.

The initial objective for HCC was to measure the efficiency of one data centre, and then go on to improve and measure the results. This testing will be done in the first data centre to trial energy efficiency measures before eventually rolling out the successful technologies to other data centres within HCC. The aim is to also expand the level of monitoring during the roll out. The council required the formulation of a consumption benchmark and decided that using the power usage effectiveness scale (PUE) would help achieve this.

"PUE" is the industry metric for measuring the energy efficiency of data centres. As well as continual monitoring to evaluate efficiency measures.

To calculate the facilities PUE the Total Facility energy consumption is divided by the IT equipment energy consumption. Initially the whole HCC estate needed to be monitored in order to gain comparable results from the data centre. This information would then create the ratios required to deliver a PUE report whilst ensuring that specific functions within the data centre were isolated.



DATA CENTRE AT HERTFORDSHIRE CC

How we did it?

8 x 16 channel meters and 2 x Smart Energy Controllers were installed in the data centre. These monitored 128 individual circuits in the data centre focusing particularly on Lighting, Air conditioning, Server racks, Comms cabs, and Small power.

The performance of the UPS (un-interruptable power supply) was also monitored and was included in the PUE value. Monitoring input and output and including the UPS losses as consumption in the reporting.

These circuits were then combined with using the unique, powerful Enistic web based PUE reporting platform. This platform, designed specifically by Enistic for this project, allows PUE to be reported within variable time periods and displayed as either monthly, daily and hourly values. Being able to obtain a PUE Value was essential and these reports showed a highly detailed comparison and analysis of the data centre demands. "The solution provided to us by Total Energy Systems and Enistic pinpoints exactly where our excess energy consumption is" says Barry Sharpe, HCC's Network Analyst, "the customised report tells us everything we need to know to make more savings."

Outcome

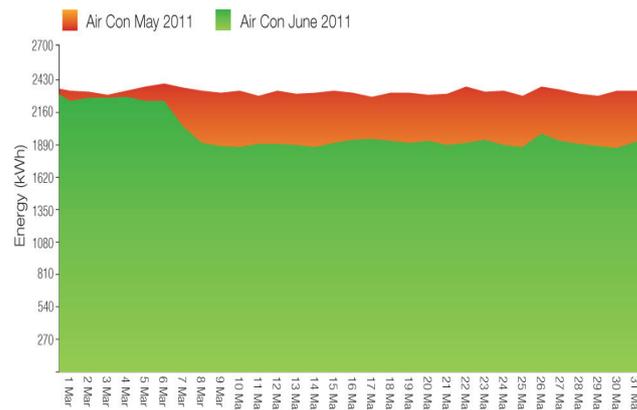
Having worked together on a previous project Total Energy Systems approached Enistic once again. This time to develop the PUE project. It was Enistic's "willingness and ability that was key to winning this business" says Paul Sweeney from Total Energy Solutions, "they set about tailor making a PUE report solely for HCC, and it is this knowledge and innovative approach that sets Enistic apart." After a period of monitoring, a benchmark PUE value was determined and there already has been an improvement.

The initial PUE as an average was 2.1 and after only 6 months this has already dropped to 1.8; meaning that HCC could initially save around £300 a month. This drop was aided by installing efficiency measures such as cold aisle containment and having the ability to monitor individual racks in order to compare the performance of different manufacturers and models.

By installing this system configuration it allows comparison of the efficiency and performance of individual pieces of hardware. These results will influence future procurement decisions and enable HCC to save money in the long term.

The results can be viewed and analysed instantly allowing an informed view of the benefits and determining the value of expanding efficiency methods further through the HCC estate.

Graphical Results



This graph represents Air Con analysis for May vs June.

“

I am delighted at the savings we have made already. We are now rolling out the solution to more of the HCC estate and would recommend Enistic to anyone, especially in a climate where saving energy and reducing our carbon footprint has never been more important. ”

**BARRY SHARPE – HERTFORDSHIRE COUNTY COUNCIL,
NETWORK DESIGNER AND ANALYST**