



## Hilton - Manchester Airport – Case Study

### Challenge

- To reduce the energy consumption and electricity costs at the Hilton Manchester Airport hotel through optimising the over voltage supply by installing a p560kVA **powerPerfector** at a minus 8% optimisation setting.

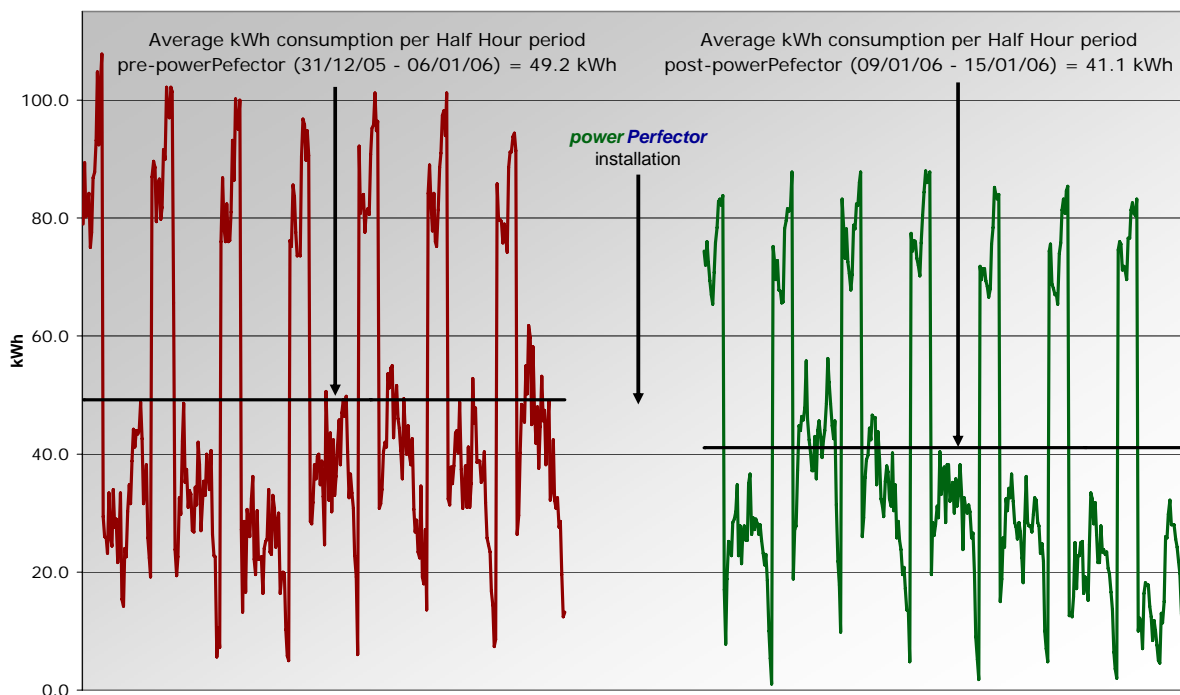
### Method

- To compare the day to day electrical consumption of the hotel pre and post **powerPerfector** installation by utilising the Half Hourly (HH) data supplied by Hilton's electricity provider for the periods referred to in the graphs.

### Benefits

- **16.5%** reduction in electricity consumption and costs.
- **16.5%** reduction in CO<sub>2</sub> emissions, lessening the environmental impact of the hotel's operations.
- Protection against transients (spikes) that damage computers and other sensitive equipment.

The following graph shows HH kWh consumption during the week pre and the week post the installation of the **powerPerfector**.



Average HH kWh consumption (31/12/05 – 06/01/06) = 49.2 kWh

**powerPerfector** installation 08/01/06

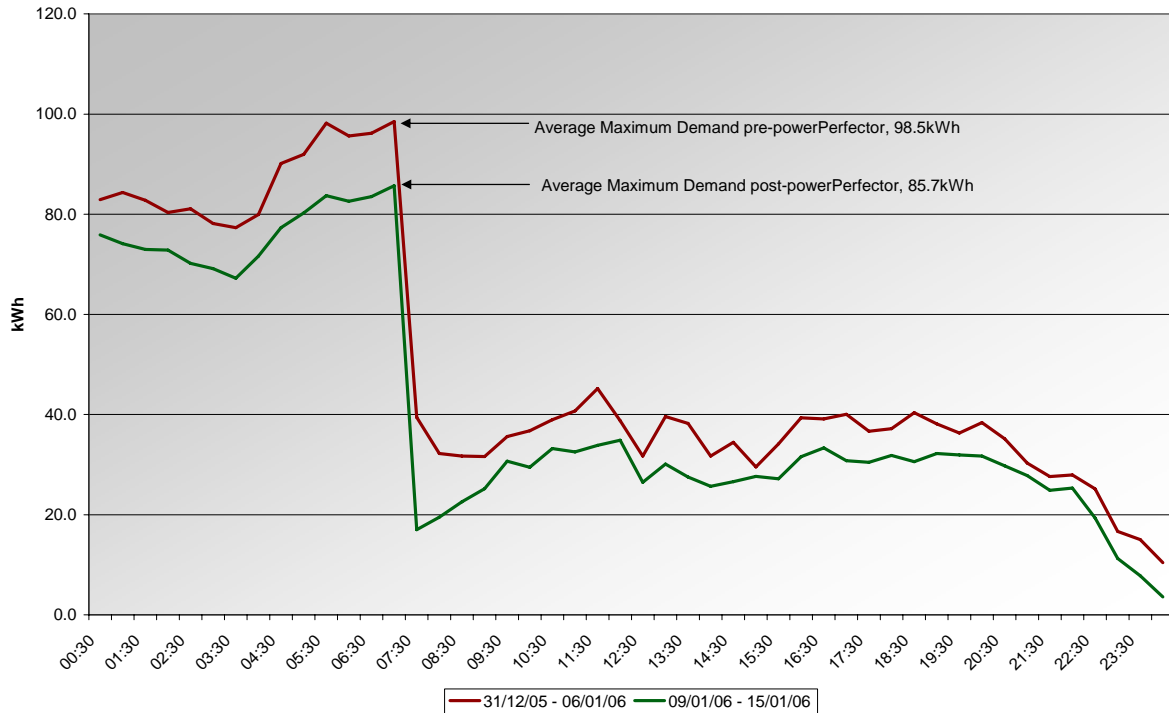
Average HH kWh consumption (09/01/06 – 15/01/06) = 41.1 kWh

Reduction in average HH kWh following installation of **powerPerfector** = **16.5%**



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The following graph shows HH kWh consumption during the week pre and the week post **powerPerfactor** installation. The values have been averaged for every half hour period to show the reduction in the maximum demand.



Average HH maximum kWh (31/12/05 – 06/01/06) = **98.5kWh**

Average HH maximum kWh (09/01/06 – 15/01/06) = **85.7kWh**

Reduction in average HH maximum demand in kWh following installation of **powerPerfactor** = **13%**

### Conclusion

The installation of a 560kVA **powerPerfactor** at the Hilton Manchester Airport has reduced electricity consumption by **16.5%**. Over the course of a year, this equates to a reduction of **246,000 kWh** in the electricity consumed, financial savings of **£17,220** and **105,780 kg** of carbon savings.

Hilton Hotels have now installed in 6 of their hotels and total annual savings are expected to be 2.1 million kWh, which equates to over £160,000 per annum and 903 tons of carbon emissions. Their ROI is above 50%, or under a 2 year payback.