

Case Study #06

Voltage Power Optimisation



Cutting cost and carbon on the High Street

Why it is interesting: As an organisation the John Lewis Partnership has a long-term commitment to improving its environmental performance, and is making a significant investment to achieve this. This case study shows how VPO® has fitted in to an extensive programme of carbon reduction measures within Waitrose and how it can be introduced in a phased manner.

Waitrose

Annual Savings*

kWh:	3,161,400
CO ₂ kg:	1,719,000
£:	268,000
Av % Saving:	9.2

*Data for 23 sites

Don't take our word for it...

"powerPerfector provided us with an easy solution for reducing our consumption and making our stores more efficient. The quality of the service we have received has been first class."

Toby Marlow
Engineering Manager

Waitrose

Further information

For information on this, or any of our case studies, please contact:

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Waitrose is one of the UK's leading retail businesses. What sets it apart are its values and culture. As part of the John Lewis Partnership, Waitrose has set targets for a wide range of environmental measures.



These include reducing packaging and the amount of waste it sends to landfill, reducing water usage and improving transport efficiency. The company has set two overriding environmental goals:

- Deliver a 15% absolute reduction in our operational carbon footprint by 2020/21.
- Deliver excellence in environmental practice across our business.

With almost 270 branches, the business is growing at a fast pace and wants to minimise the impact that its shops have on the environment – and their associated energy consumption, carbon emissions and financial costs.

"Our approach is to make changes for the long term, so that improved energy efficiency becomes embedded throughout our business. We continue to fit the latest technology into our existing estate and new shops, and to engage Partners in helping to deliver reductions locally."

John Lewis 2011 CSR Report

With this in mind the company has taken a number of steps to curb energy use and carbon emissions on site.

In April 2010, the first tranche of a roll out of Voltage Power Optimisation began, with 26 stores installing the technology.

We have significant experience in working with food retailers and the electrical equipment within supermarkets are well matched to those that see savings from **powerPerfector**.

Whilst the technology is suitable for almost all types of site, we see the greatest savings on facilities with large lighting and motor loads, including refrigeration and air-conditioning. Longer operating hours, (i.e. high 'load factor') will also maximise the savings made.

Waitrose is now saving £268,000 every year and nearly 1,800 tonnes of carbon dioxide.

Having recognised the benefits of VPO®, Waitrose has continued with two further phases to the rollout. Once complete, over 100 Waitrose stores, offices and distribution hubs will be **powerPerfected**.

Procuring on quality

There were numerous options available to Waitrose when they chose to install a Voltage Management system within their estate.

Voltage Reduction and Voltage Optimisation are broadly the same thing – just a reduction in voltage with little or no improvement in power quality – this is reflected in their lower pricing. Whilst they will save some money they underperform by around 20 per cent compared to Voltage Power Optimisation that improves power quality and eliminates transients.

In choosing **powerPerfector**, Waitrose ensured that they were procuring the leading technology in the space with the most impressive history of performance. In 18 years and with over 4,000

units installed in the UK and tens of thousands worldwide, no unit has ever failed.

Toby Marlow, Engineering Manager at Waitrose: *"powerPerfector's enviable reliability record and savings guarantee removed any risk from the procurement process. We never doubted that the roll out would be a complete success."*

Guaranteed savings

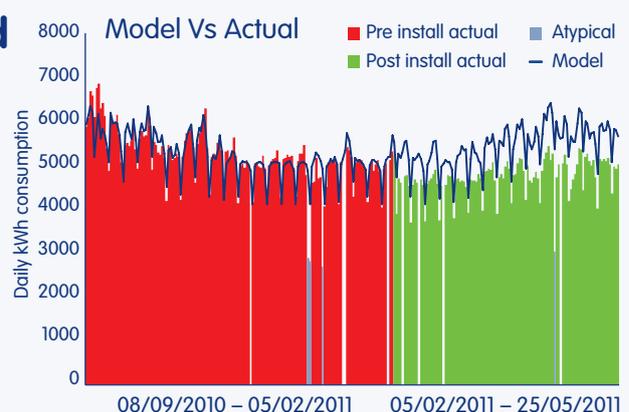
A savings analysis should be come in two parts, firstly a detailed savings plan, in which the site is analysed and a methodology for determining the savings is agreed upon before installation, and secondly a savings report, which quantifies the avoided energy use.

Any measurement and verification strategy that does not have these two ingredients could be open to ambiguity, or worse, abuse, as the savings analysis will simply be thrown together after the energy conservation measure has been implemented.

All of the savings achieved at Waitrose were evaluated using the International Performance Measurement and Verification Protocol (IPMVP), the most widely used and recognised M&V protocol in the world. It meant Waitrose could be sure that the savings were auditable and accurate, as the analysis was signed off by qualified practitioners (CMVP).

Waitrose, Surbiton - **powerPerfected**

Installation Date	5 February 2011
Units Size	560kVA
Optimisation Setting	8%
CO ₂ Savings	137,000kg
Reduced kWh consumption	12.7%



There are a range of case studies and client testimonials available on our website, please visit www.powerperfector.com for further information.