

Case Study #23

Voltage Power Optimisation



In the fast lane to savings at National Express

Why it is interesting: National Express has become the first transport company to be awarded the 'Gold Standard' by Carbon Saver. At the heart of the company's carbon reduction programme was **powerPerfector's** voltage optimisation.

National Express Group Plc

Annual Savings

kWh:	15.9%
CO ₂ kg:	659,000
£:	81,300

Don't take our word for it...

"We have been very impressed with the implementation of Voltage Power Optimisation thus far. It has proved effective and reliable."

Stuart Parker
Group Property & Environment Director
National Express Plc



Further information

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

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National Express were determined to see what more it could do to further reduce its carbon emissions.

Despite reducing total emissions by 50 per cent over the previous decade, in 2010, with the CRC Energy Efficiency Scheme

looming, the company decided to take affirmative action.

It committed to further carbon reductions over the following five years and set out to win an internationally recognised award for its carbon saving efforts.

This came in August 2012 when National Express became the first transport company to be awarded the 'Gold Standard' by Carbon Saver.

The Group, which has operations ranging from train franchise to local bus services and long distance coach services, received the top environmental accolade following a huge reduction in carbon consumption through the installation of state of the art green technologies.

These include photovoltaics solar panels on our bus depot roofs, a new energy efficient roof replacement programme, LED lighting and, at the heart of the rollout, **powerPerfector's** Voltage Power Optimisation.

The combined measures have led to National Express saving of over 3,400 tonnes of CO₂ annually.

Strategic Approach

While we may advise our customers on where to invest in their real estate portfolio to save money and energy, just as importantly,



we tell them where not to as well. We predict, and model the changes they need to make today to be ready for tomorrow.

powerPerfector's voltage optimisation technology regulates and controls the energy supplied at source to lower consumption and therefore reduce electricity bills, protect vital electrical infrastructure and help equipment work more efficiently for longer.

Energy savings achieved by **powerPerfector** technology are proven and verified. Critical to this is an in-depth survey of equipment and consumption trends on site.

For instance, we evaluated 35 sites for suitability for VPO®, implementing the technology in the nine bus garages likely to see the greatest energy savings.

The nine National Express West Midlands sites have seen electricity consumption reduced by an average of 16 per cent. At the Coventry Bus Station alone, VPO® achieved annual savings of £24,500. Savings more than meet the cost of installation; National Express will see a return on its investment in less than two years.

Phase two will see eight further VPO® installations take place in the UK, and sites in Spain analysed for suitability.

The result for National Express has been recognition for its carbon reduction programme.

Stuart Parker, Group Property & Environment Director, said: "We set out with the Carbon Saver



scheme to get an internationally recognised award that demonstrated how far we'd gone in reducing our carbon emissions. It was a two year programme.

"With **powerPerfector's** assistance and our investment we managed to achieve the gold standard award in August 2012.

"The **powerPerfector** installations were a quick, easy win that has made a significant contribution to our overall carbon targets. We were so impressed with the **powerPerfector** team, we asked for their advice on a range of other technologies"

Businesses and organisations today operate in an uncertain environment – one in which growth is a goal, not a given. Rising energy prices mean that the cost of standing still has never been greater; we help our customers model, predict and mitigate those costs, giving them the confidence they need to plan for tomorrow.

Site savings

The table below outlines the savings associated with seven installations.

Site Name	Unit Size	Unit Setting (Optimisation)	Installation Date	Savings %	Annual £ Savings	Annual CO ₂ Savings (kg)
Wolverhampton Bus Garage	210 pP	9%	02/07/2011	14.0%	£8,750	70,600
Coventry Bus Garage	420 pP	9%	31/07/2011	22.6%	£24,500	198,600
Yardley Wood Bus Garage	210 pP	8%	03/07/2011	9.4%	£6,300	50,900
Birmingham Central Bus Garage	280 pP	9%	10/07/2011	17.5%	£12,700	102,900
Perry Bar Bus Garage	210 pP	8%	31/07/2011	15.7%	£10,400	84,400
Acocks Green Bus Garage	210 pP	8%	03/07/2011	11.0%	£5,800	47,300
Walsall Bus Garage	350 pP	10%	02/10/2011	15.6%	£12,900	104,300
Total Savings				15.9%	£81,350	659,000

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