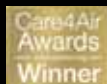


THE SIMPLE SOLUTION FOR LOCAL AUTHORITIES.


powerstar
100% British Engineered. 100% Guaranteed Results.

A UNIQUE VOLTAGE OPTIMISATION SYSTEM

INNOVATOR 10





A UNIQUE VOLTAGE OPTIMISATION SYSTEM

HELPING LOCAL AUTHORITIES SAVE MONEY AND REDUCE THEIR CARBON FOOTPRINT **GUARANTEED.**



A 250kVA Powerstar unit is installed at Bolsover District Council's main offices



A 286kVA Powerstar unit is installed at the council owned Cotswold Leisure Centre

ABOUT POWERSTAR

Powerstar is a British engineered unique voltage optimisation system that actively reduces a considerable portion of your electrical energy consumption and has been proven to save up to 26.1% of consumed electricity. Powerstar reduces your carbon footprint and its users can qualify for carbon credits.

Powerstar is manufactured to match site specific requirements thus ensuring precise voltage optimisation.

THE BENEFITS OF POWERSTAR

- **Savings of up to 26.1% on energy consumption (kWh) and associated CO₂ emissions**
- Reduces maximum load (kW) and in turn reduces electricity bills
- Reduces carbon emissions
- **Significantly reduces harmonics**
- Improves power factor by up to 20%
- Increases the life expectancy of equipment and helps protect against damaging transients (power spikes) of up to 25,000V
- **Comes with 15 years warranty and 50 year life span**
- Provides voltage phase balancing
- **No moving parts therefore zero maintenance**
- ECA can be claimed for Powerstar M&T

PROVEN TO BE THE MOST EFFICIENT

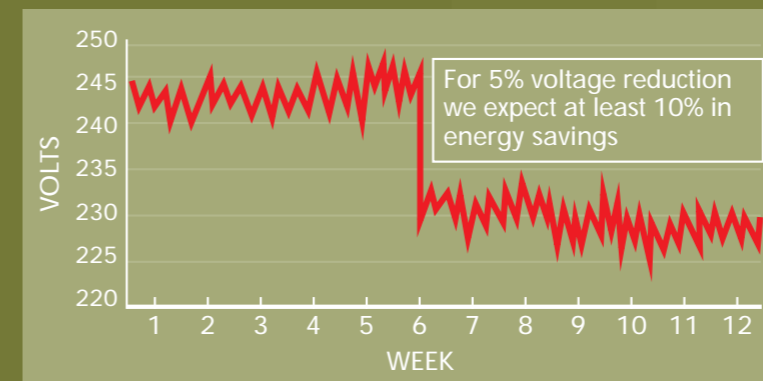
The Powerstar system has been proven in independent tests - carried out by energy supplier RWE npower - to be the most effective voltage optimisation system on the market. "We did a trial with Powerstar and one other supplier (I'm not able to advise the other suppliers name due to a confidentiality agreement with them). We did straight head to head trials at one of my sites over a 6 week period and during that time Powerstar showed a larger overall saving to my energy compared to the other company. In addition to the pure energy savings we also looked at harmonics and power factor, again Powerstar was the better system for both these metrics. A final area was the working relationship and technical advice we received from both companies.

It was felt by myself and the independent company I used to manage the trial that EMS Powerstar was by far the better company to work with, providing better advice at a technical level, the fact the equipment was all UK manufactured also meant the equipment could be custom built for our older sites which had restricted space in our distribution rooms."

Dave Horton, RWE npower, Property Sustainability Manager

WHY USE MORE THAN YOU NEED TO?

Most electrical equipment manufactured for Europe and the UK is rated at 220V and may indeed operate at an even lower voltage. One of the reasons Powerstar is so effective is that the average voltage supplied from the National Grid is 242V (although it can be as high as 253V), whereas the nominal voltage is 230V. So, in most cases, you are being supplied more voltage than you need - and you're paying for it, whether you want it or not.



There is nothing to be gained by operating equipment at a voltage higher than it was designed for; quite the contrary as over-voltage will significantly reduce the life expectancy of most equipment.

Powerstar will therefore also reduce maintenance costs and extend the life expectancy of equipment.



POWERSTAR IS DESIGNED AND MANUFACTURED IN THE UK.

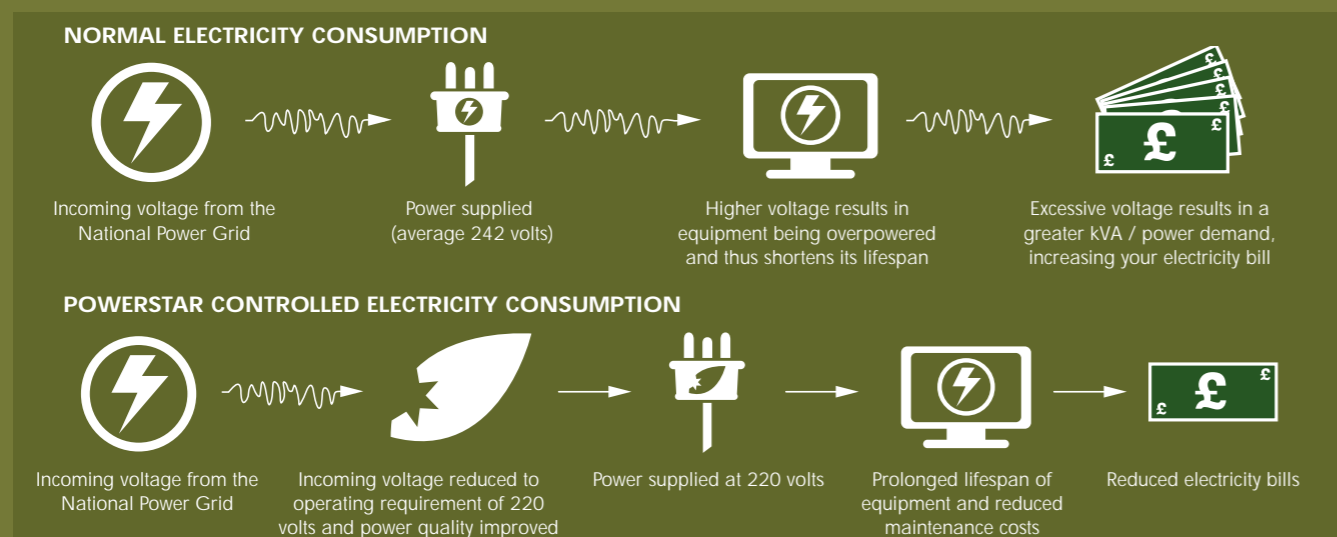
THE CARBON REDUCTION COMMITMENT ENERGY EFFICIENCY SCHEME

- The CRC is a mandatory scheme that is a central part of the UK Government's strategy to deliver carbon reduction targets.
- Local Authorities are among the 5,000 commercial and public sector organisations who are required to participate in CRC.
- Qualifying Local Authorities have to convert their electricity and other energy usage into CO₂ emissions. This will represent their annual CO₂ allocation.
- If qualifying Local Authorities exceed their annual CO₂ allocation, they will be faced with carbon tax costs on excessive emissions.

REDUCE THE CRC TAX

- From 2012 revenues from allowance sales will **no longer** be recycled back to organisations.
- Excessive emissions of CO₂ will be charged at £12 per tonne.
- This increases the pressure on organisations to have an effective strategy for improving energy efficiency and making carbon savings.
- **Powerstar can help organisations reduce the carbon emission tax by making real savings in both energy consumption and carbon emissions.**

WHY VOLTAGE OPTIMISATION?



WE WILL 100% GUARANTEE HOW MUCH YOU WILL SAVE

Powerstar comes with a 15 years warranty. We 100% guarantee savings as a percentage of kWh, as per our proposal. If the minimum savings are not achieved your company has the option to ask us to remove the system, fully refund all costs and put the supply to it's original condition. In the case we promise for example 10% savings but you achieve 9% we will provide a one-off payment to compensate for the loss. In addition we have a buy back guarantee if you replace your unit with a larger Powerstar system within 5 years.

HERE'S WHAT OUR CLIENTS SAY:



Councillor Dennis Kelly, Cabinet Member for the Environment, Bolsover District Council

"This decision highlights our dedication to reducing our own carbon footprint. The projected savings that Powerstar is set to deliver will be a welcome boost towards helping us achieve our energy efficiency targets. It was also ideal to be able to purchase from a local company."



Councillor Mark Tufnell, Cabinet Member for Environment and Communities, Cotswold District Council

"The introduction of the Powerstar unit is a significant contributor to Cotswold District Council's energy saving programme. I am particularly pleased that we have reduced costs while contributing to our goal of achieving a 25% reduction in harmful carbon emissions by 2015."



Martin Perrow, Energy Manager, Cornwall County Unitary Authority

"The results have been exciting with an average of 12.5% reduction in the three leisure centres. As a direct result of the Powerstar installation and other efficiency measures, our efficiency ratings were excellent."



JOIN THE GROWING LIST OF LOCAL GOVERNMENT INSTALLATIONS IN THE UK AND SAVE MONEY. **GUARANTEED.**

LOCAL AUTHORITIES CASE STUDIES



Tower Hamlets

THE CHALLENGE

The Council commissioned Powerstar engineers to survey its facilities at Albert Jacob House to determine the savings that could potentially be achieved there. After an analysis of their Half Hour Data and electricity bills the annual electricity consumption at the site was determined to be 540,745kWh. The largest consumption areas were found to be the switch start lighting, air handling units, air conditioning (small VSD), pumps, IT (with UPS) and lift motors.

THE SOLUTION

The Powerstar team identified that a minimum saving of 12% in electricity consumption could be achieved through voltage optimisation and as a result a 226kVA Powerstar unit was recommended and subsequently installed at Albert Jacob House.

THE BUSINESS BENEFITS

An annual saving in electricity consumption of 54,065kWh. This equates to a saving of £6,411 on the annual electricity charges. Carbon emissions will also be reduced by 30 tonnes per annum. The Real Time Monitoring System included in the Powerstar unit will also assist the Council to identify overall electricity consumption and take further steps on their own to make savings through more efficient use of lighting and general equipment.



Derby City Council

THE CHALLENGE

Three sites were identified by the Council for voltage optimisation installation; the Council's Eagle Centre Market, the Council's Environmental Services Parks Management Depot and the Market Hall. The challenge to Powerstar was to demonstrate that it is the most efficient and cost effective system capable of delivering the savings expected by the Council.

THE SOLUTION

Powerstar demonstrated its qualities as the most efficient voltage optimisation system in the UK with an efficiency rating 99.91%. The fact that Powerstar is designed and manufactured in the UK allows for a flexibility of design to meet the most exacting and unique requirements of each installation location. This, together with the Real Time Monitoring System made it the ideal solution.

THE BUSINESS BENEFITS

In addition to the £10k financial savings in electricity costs from a 128,972kWh reduction in consumption, Powerstar will also lower the level of carbon emissions by 69.2 tonnes. This clearly demonstrates the value of Powerstar as a key contributor to the Council's overall energy savings strategy.



Bolsover District Council

THE CHALLENGE

The Council is fully committed to the delivery of the essential actions required to achieve energy sustainability in the community and in business. Keen to play its part by reducing its carbon footprint, the Council sought a solution to the challenge of cutting energy consumption and associated CO₂ emissions – without compromising the supply to equipment in use at each site.

THE SOLUTION

After consulting the Powerstar team, it became apparent that Powerstar voltage optimisation offered the opportunity to maximise energy savings by optimising the voltage, and also to improve the efficiency of machinery by ensuring that it operated at the correct loading level. In doing this, a significant reduction in CO₂ emissions would occur. The Council commissioned Powerstar engineers to carry out a full survey of the relevant sites to establish what savings could be achieved through voltage optimisation. As a result, Powerstar recommended the installation of two units – a 250kVA unit at the main Council offices in the centre of the town and a smaller 90kVA unit for their Riverside Depot.

THE BUSINESS BENEFITS

The two Powerstar units will enable Bolsover District Council to reduce its CO₂ emissions by up to 51 tonnes per annum. The cost of electricity used will also be cut and savings of up to £9,774 are predicted each year. In addition to this, the Real Time Monitoring System will help with further savings.



Cotswold Council

THE CHALLENGE

The Cotswold Leisure Centre building opened in April 2006, and features both wet and dry facilities, spread over two floors, offering a varied programme of activities for people of all ages and abilities.

The Council's carbon management plan aims to make a substantial cut in carbon emissions, in line with an overall approach to reduce the environmental impact on the area through the 'Cleaner and Greener' initiative. The Leisure Centre was targeted to improve their energy efficiency and to cut costs through lower electricity charges. The Powerstar team was challenged to establish whether the level of savings that voltage optimisation could achieve at site would offer a cost-effective solution.


THE SOLUTION

Once the savings Powerstar could achieve at the Leisure Centre were assessed, and the cost-effectiveness of the plan verified, a 286kVA unit was installed. Powerstar is the highest rated voltage optimisation system with an efficiency rating of 99.91%, and as it is fully designed and manufactured in the UK it is the ideal solution for those who wish to support British manufacturing.

THE BUSINESS BENEFITS

Powerstar is enabling Cotswold Leisure Centre to make a 57,614kWh saving in energy consumption. This equates to an overall energy saving of 8%. The Centre has also decreased its carbon footprint by reducing CO₂ emissions by 54 tonnes. In monetary terms Powerstar is projected to make an annual saving of £7,800 on the Leisure Centre's electricity costs.

WWW.POWERSTAR.CO.UK


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SAL/X


CARBON
TRUST


ESTA
energy services and technology association

Visit the dedicated Local Authorities page on the Powerstar website for further reading on energy saving & voltage optimisation, including:-

- How the CRC tax affects Local Authorities
- What are Carbon Credits and how can you benefit
- A guide to Powerfactor and how it affects electricity cost
- How harmonics and transients affect your site

Go to www.powerstar.co.uk/Localgov.html


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