

Case Study #30

Voltage Power Optimisation



Partnership approach pays dividends in Glasgow

Why it is interesting: Glasgow City Council's partnership with the Property Management and Utility Services Section of City Building Group (CBG) and SSE has seen them install more **powerPerfect** units than any other UK local authority. This case study examines the importance of expert advice when considering energy reduction measures.

Glasgow City Council

Annual Savings

Units:	50
CO ₂ kg:	1,658,000
£:	308,000
ROI:	62%*

*Calculated across 57 installations

Don't take our word for it...

"A very impressive energy efficiency programme delivering tangible value."

Andrew Mouat
Energy Officer



Further information

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

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The budgetary challenge within the Public Sector has seen spending reduce across the country. This has made the challenge of meeting carbon reduction targets much tougher.



Forward thinking Public Sector bodies have continued to invest in infrastructure projects which will ultimately lead to reduced overheads in the future. But, with such scrutiny on spending, it is important that Public Sector organisations invest in the right technologies in order to prove value for money.

At the time of writing, Glasgow City Council buildings are operating at an optimised voltage.

In total, the Council will reduce its annual electricity bill by £308,000. What is more, because it is registered for the Carbon Reduction Commitment, reducing carbon emissions by 1658 tonnes will, in addition, save nearly £20,000 a year.

The technology will have paid for itself within four years and will continue providing energy saving and additional power conditioning benefits throughout its 50+ year useful life.

"We have been very impressed with the speed and professionalism of the VPO® rollout. powerPerfect and SSE have delivered a project that is producing excellent energy savings and a more sustainable future for Glasgow."

Andrew Mouat, Energy Officer, Glasgow City

Glasgow City Council Glasgow City Council engaged CBG to project manage the **powerPerfect** installations carried out by SSE across

much of its estate. Having trusted partners and expert advice is vital when determining which energy saving measures to implement.

SSE are the perfect delivery partner – knowledgeable about the technology and how to install it and able to provide insight in to which buildings within the Glasgow City Council estate will see the greatest savings from VPO®.

SSE surveyed the estate, logging the incoming voltages and made an assessment of the type of electrical loads building by building. Voltage optimisation technology is most effective within sites with large lighting and air conditioning loads.

SSE's expert installers implemented the technology within schools, offices, museums and leisure centres.

Equally important as the pre-installation surveys is the actual installation itself, and the requirement to ensure that electrical equipment is functioning correctly at a lower voltage.

There may be a requirement to change the settings on some equipment, particularly that with sensory monitoring circuits.

Our experience, with thousands of installations completed in the UK, has allowed us to draw up a list of equipment that may need to be adjusted:

- Uninterruptible Power Supplies (UPS)
- Generator control panels
- Automatic changeover panels
- Static transfer switches
- CHP control panels or relays
- Control panels or relays for other on-site generating plant, such as wind turbines, PV panels etc.
- Building entry systems
- Older lift control panels
- Inverter drives
- X-Ray Machines

Our approved contractors are used to working with client contractors to ensure that there are no operational issues following the change to an optimised voltage.

Kelvingrove Gallery

Annual Savings

CO₂kg: 123,000
£: 23,000
Payback: 2.5yrs

The Kelvingrove Art Gallery and Museum is Scotland's most popular free-to-enter visitor attraction. It houses one of Europe's great civic art collections including works by the Old Masters, French Impressionists, Dutch Renaissance and Scottish Colourists.

In 2012, over a million people visited the gallery which underwent a three year renovation completed in 2006 and now includes a new restaurant and a large basement extension to accommodate the 8,000 exhibits now on display.

The installation of a 690kVA **powerPerfector** unit has made a significant contribution to reducing energy consumption and carbon emissions within the gallery.

Kelvingrove Art Gallery & Museum 11/02/2013 to 30/03/2013

