

Frequently Asked Questions

Q. What is VO?

- A. Voltage Optimisation (VO) is an electrical energy saving technology that works by optimising and reducing high the incoming voltage from the electricity grid. e-efficient Energy's 3rd Generation Technology, known as eVO+R balances and regulates an ever more fluctuating grid voltages to deliver energy savings and protect sites from grid instability.

Q. What technologies are available?

- A. Most people with a responsibility for energy have heard of Voltage Optimisation (VO) but few may be aware of the other technologies to hand to help save energy, protect equipment and improve carbon footprints. Our technologies include voltage stabilisers, voltage optimisers variable speed drives and transformers. For more information, see a full list of our products and their specifications under the "Technologies" tab.

Q. Does VO Work?

- A. Voltage optimisation is an electrical energy saving technique which is mainly installed in series with the mains electricity supply to provide a reduced supply voltage for the site's equipment. As long as the preparation has been thoroughly investigated and completed then we can guarantee savings. There are a few reasons as to why VO wouldn't be suitable for your company, this may be down to low energy usage or low voltage, however this will be discovered upon site visit. At e-efficient Energy we have other energy saving technologies which work along side VO or on their own if VO is not suitable..

Q. Why Should I Choose e-efficient Energy's VO Technology?

- A. e-efficient Energy's Voltage Optimisation technologies are unlike other VO systems, which typically employ step down transformers to reduce the incoming voltage by a set amount or operate slow moving 'Dynamic Units'. Our eVO+R system is the technical leader in voltage management, with response times of <300ms. The eVO+R delivers maximum energy savings combined with intelligent control and regulated voltage through our unique Buck & Boost technology.

Q. Why is Buck & Boost Important?

- A. A report by The Institution of Engineering and Technology for The House Of Lords Science and Technology Committee in September 2014 highlighted "...things are changing fast that pose risks to resilience in the short, medium and long term" The report went on to say "New sources of generation such as wind and solar have lower levels of inertia than conventional power stations.....they transfer less energy to the system under fault conditions or sudden losses of generation, resulting in more rapid falls in system frequency and more severe dips in voltage." As well as providing opportunities for energy savings e-efficient Energy's advanced voltage optimisation systems offer significant resilience against grid voltage instability.

Q. Why Does My Equipment Need Protection?

- A. Some types of electrical equipment are more sensitive to disturbance than others, especially when they face problems from an often unstable mains supply. e-efficient Energy includes stabiliser technology which aims to protect your equipment. All site equipment will be assessed during a Site Survey by one of our Technical Engineers and can be discussed in depth to decide on the best option for your business needs.



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Delivering total power management solutions
to industry and the built environment



FAQ's



Q. What is an Ideal Voltage?

- A. The ideal voltage for a business is site specific. Equipment will vary between each site and will therefore differ in voltage needs. In the UK the grid supplies an average voltage of 242V and many businesses are supplied with higher than this. The majority of European electrical equipment is designed to run most efficiently at 220V nominal, so businesses may be being supplied a voltage significantly higher than necessary, therefore wasting energy.

Q. Is it Hazardous if My Voltage is High?

- A. Voltage that is supplied higher than the optimal voltage does not have any related benefits. Higher voltage generally creates higher energy consumption increasing costs and carbon emissions. Electrical equipment can be negatively influenced by high voltage with the affects including increased heat generation and a reduction in life expectancy.

Q. Which Technology is Right for Me?

- A. Understandably, with many VO technologies available, selecting the most suitable technology needs careful consideration. Following a detailed Site Survey, the best options for you will be presented and a team will be available to answer any questions or queries you have. Our experienced team will discuss in full your requirements and expectations.

Q. How Much Could I Save?

- A. Typical savings, following e-efficient Energy's VO projects, are between 7 and 13%. All factors which determine the amount of savings that can be achieved will be assessed by one of our technical engineers during a Site Survey. After this process a Provisional Investment Case will be created to show potential savings, ROI and project paybacks, this process is free of charge. To see how other clients have saved energy using our technologies, see our [case studies](#).

Q. How Soon Can Works Be Completed?

- A. Once we receive your order, typical lead times are 8-10 weeks for the dynamic systems and around 5 to 6 weeks for the fixed reduction systems. At e-efficient energy we will always work with you to ensure minimum disruption to your business during the installation and commissioning phase of any project.

Q. How Soon After the Install Will I See the Savings?

- A. As soon as the unit is energised savings will be instantaneous, we also complete a Post Install Savings Analysis typically 3-6 months after commissioning to prove savings.

Q. Can the Voltage Be Adjusted After the Install?

- A. The Dynamic Unit output voltage can be adjusted on-load by 1V increments. The Fixed Reduction units can also be adjusted by one of our engineers.

Q. What After Sales Support is Available?

- A. e-efficient Energy's experienced team are dedicated to ensuring high customer satisfaction is consistently achieved. Our UK based team are on hand to offer technical support, or to answer any questions or queries our customers may have.

Q. Which Sectors have e-efficient Energy worked in?

- A. e-efficient Energy have worked in many sectors across the UK, including the following:

- Education – Schools and Universities
- Leisure – Cinemas, Hotels and Leisure Centres
- Care – Hospitals and Nursing homes
- Commercial Premises
- Manufacturing, Warehousing and Engineering
- Retail Outlets.

e-efficient Energy are currently expanding across the globe, with distributor agreements being developed in Canada, UAE, Colombia, Egypt, Indonesia and Gibraltar.



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