

The powerPerfactor
Solution

Energy Solutions
Expo

**The essential Energy
Efficiency solution for
business operation
and security**



Presented by: Nick Harris



Risks to your organisation

Risk

Operational

Energy gap
Deteriorating power quality - disruption to business,

Financial

Rising costs – energy/carbon, Restricted budgets
Deteriorating power quality - disruption to business

Reputational

Carbon targets and league tables
Deteriorating power quality - disruption to business

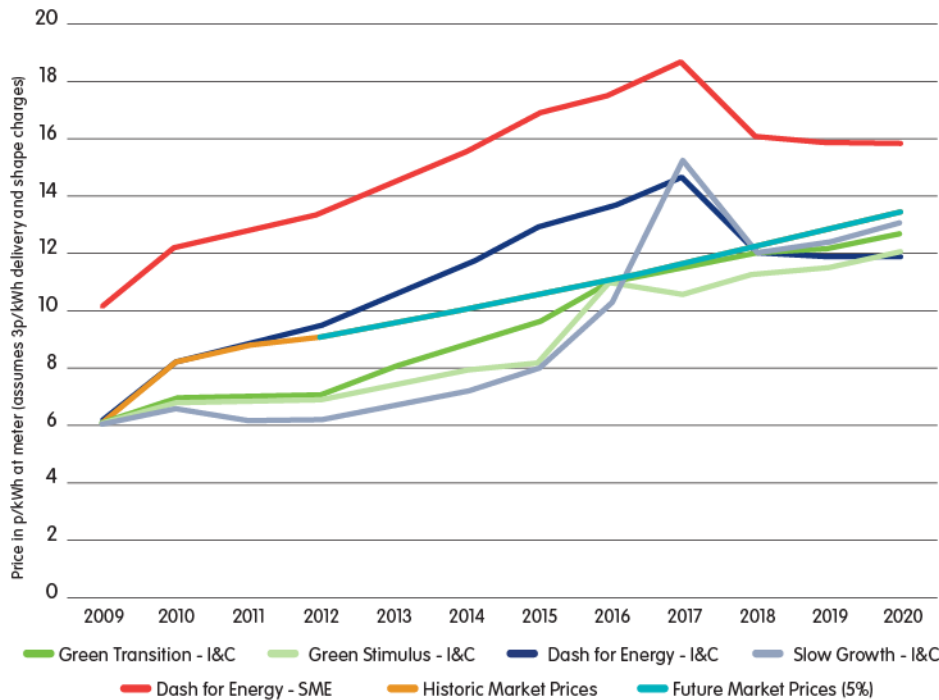




Mitigating financial risk

Protection from energy price rises

Project Discovery and Future Electricity Prices



Source: Ofgem

- Reduces energy costs
- Protects against business disruption
- Increased equipment lifespan
- Guaranteed returns
- Reduced impact of carbon tax

"We have also noticed a considerable drop in maintenance costs, which added together with the savings in energy costs, have ensured that the powerPerfactor has been a very simple and effective solution and well worth the investment."

David Waddell, Dakota Hotels

Energy efficiency - a proven solution



A solution of
choice for:



Integrity – Transparency – Professionalism – Respect



VPO – the core of your solution

- **Voltage Power Optimisation (VPO)®**
- **Invented in Japan in 1993**
- **100% safety and reliability record**
- **180,000 units installed worldwide since 1993**
- **FT.com: “The Green Holy Grail”**
- **Green Business Awards – Low Carbon Product of the Year 2010**
- **Pioneering Technology and Innovation of the year” at the Environment Agency’s 2010 ‘Environmental Pioneer Awards’.**
- **15 year guarantee and approximately a 50 year lifecycle**
- **Average savings across all sites – 11 per cent**

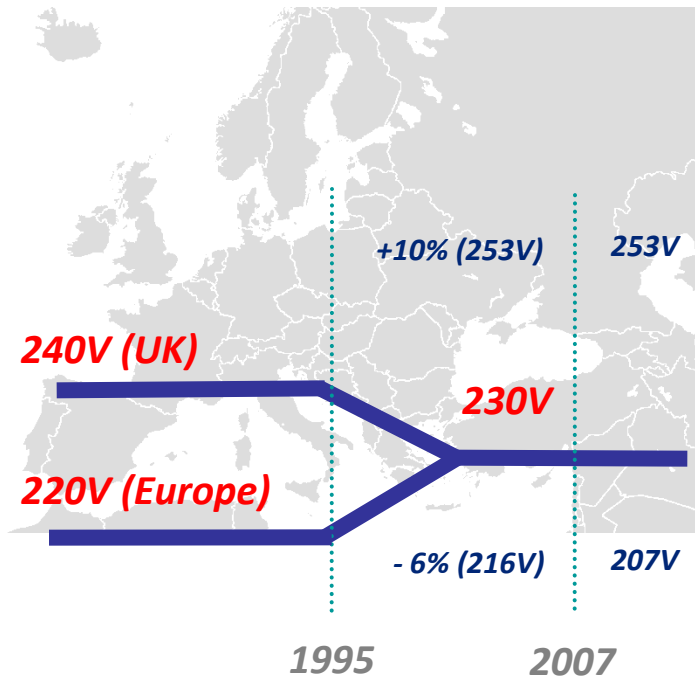


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What is Voltage Power Optimisation (VPO)®?

Voltage



Permissible supply: 207V to 253V
(BS EN 50160:2007)

Power

Transients

- Spikes are on the increase and can be devastating

Harmonics

- Disrupt sensitive electronic equipment and reduce efficiency of HV transformers

3-phase imbalance

- Reduces motor efficiency and leads to triplen harmonics

Power factor

- Poor power factor is a result of high reactive power, and can result in additional penalty charges



Unique technology

Build Quality

- Single integrated unit
- Handmade
- 99.9% efficient
- No moving parts
- No bypass needed
- No forced cooling or ongoing temperature monitoring
- 5 optimisation settings (inc 0%)
- No maintenance required



FACT: Voltage Management units have to handle significant power. A 1% loss in a 1MVA VM unit generates up to 10kW of heat in the product, which is pure waste. powerPerformer's ultra high efficiency keeps losses to 0.1%, so additional fan cooling is not required..



Technology selection

95% of UK installed sites use standard **powerPerfactor**

powerPerfactor Plus is available for sites with a volatile supply:

- Dynamic VPO
- 10-year warranty
- No moving parts
- Voltage regulation via patented power electronics
- Close regulation (2-3% band depending on unit)
- Corrects under-voltage
- Control module replaceable without interrupting supply

powerPerfactor unit

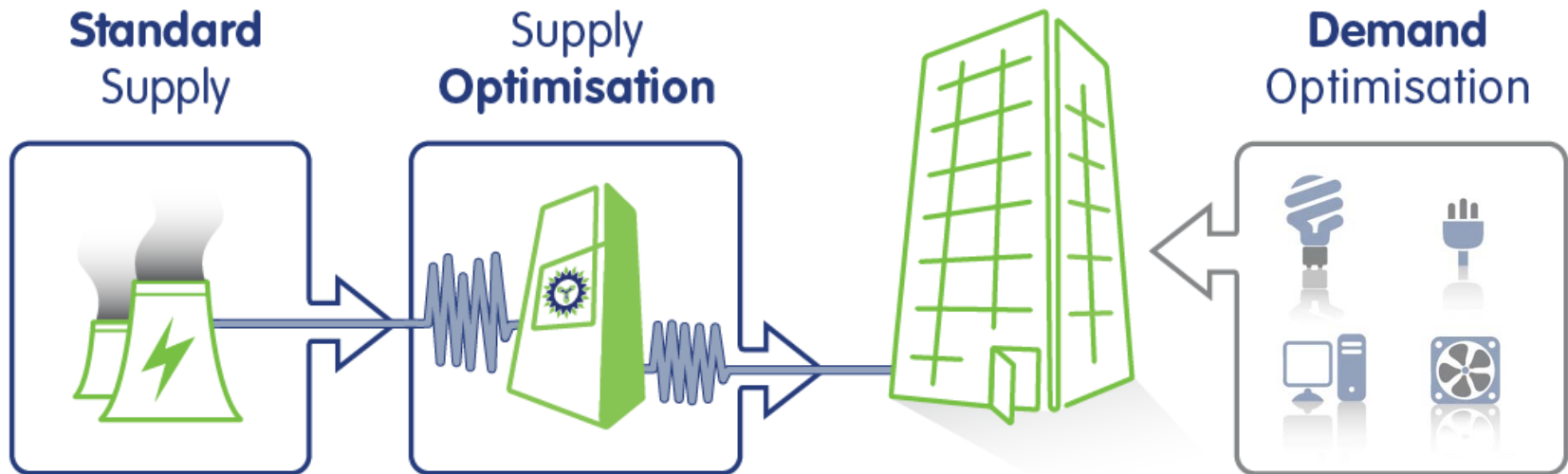


powerPerfactor Plus unit





Mitigating operational risk



- **At-source Voltage Power Optimisation (VPO)[®]**
- **Ensures electrical equipment runs efficiently**



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Mitigating Reputational Risk

Corporate Social Responsibility

- Align with best practice
- Market perceptions
- Secure electrical supply
- Proven, auditable savings

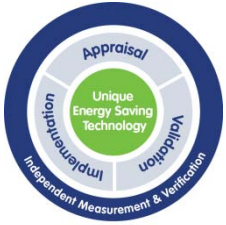


Carbon Reduction Commitment

- Reduce carbon footprint year-on-year
- CRC EES league table



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Savings solution



1
Using your energy data we estimate your potential savings



2
Voltage logging and load analysis



3
Project management team organise site survey

Detailed installation proposal issued



4
Full project management of your installation to PRINCE2 methodology

All installations carried out by **powerPerfactor** approved Contractors



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Engineering excellence

Experience

- Risk management of power-downs
- Roll out capability
- Up to 60 installations a week

Operational support

- Regional field engineers
- 24/7 on call duty engineer
- Dedicated project management team

Compliance

- Audited contractor selection and training
- Quality audits
- Health and Safety audits

Supply chain

- Secure supply chain
- Appropriate stock levels
- Dedicated supply and logistics support

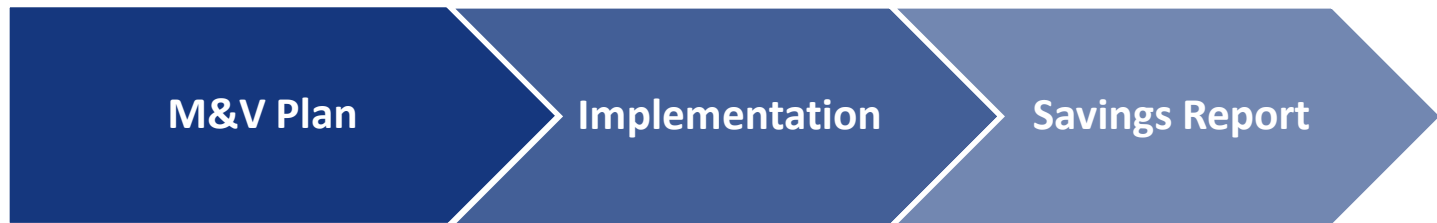


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Independent savings evaluation

All projects are independently evaluated to IPMVP (International Performance Measurement and Verification Protocol) – global best practice in performance verification

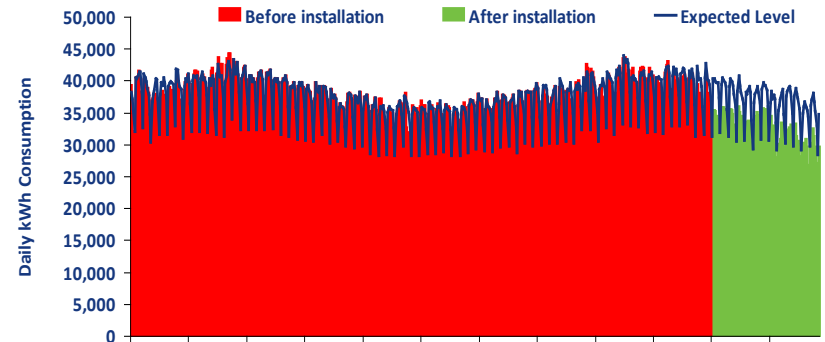


Before installation

- Understand site
- Build model of baseline energy use
- Client reports other changes in energy use

After installation (typically 3 months)

- Analyse data according to M&V Plan
- Full savings report
- Guarantee: verify that savings have been realised
- Green gauge



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Our clients



3 Whitehall Place
11% saving



Nobel House
13.4% saving



First six of 35 sites
14.6% saving



First nine sites inc Gresham St
10.2% saving



Atlantic House
8% saving



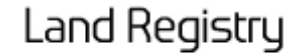
Three sites
10% saving



Calderstones Trust
11.2% saving



2009 average 10.3%
saving



17 sites
13% saving



Installed at more than...

250 private companies, including

- Retail
- Hospitality
- Financial services
- Manufacturing
- Offices and data centres
- Many others

162 councils

56 HE / FE facilities (all types)

20 government agencies



Dartford Bridge
13.5% saving



Data centre
13.8% saving



9 Millbank
9.1% saving



Suffolk House
6% saving



IPSL Erdington
7.4% saving



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Warranty and guarantee

Our Warranty

- 15 year warranty – proven performance over this period
- Zero failures in over 180,000 installations

Our Guarantee

- 100% guaranteed Return on Investment
- All savings independently evaluated

Our Commitment

- Project delivery – on time, on budget
- Engineering Excellence
- On-going support



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Total solution

- Award winning technology
- Finance Solution
- Experienced Project Management
- Engineering excellence using Approved Contractors
- Independent Measurement and Verification
- 24/7 through-life care



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What VPO has achieved?

Client Savings

kWh:	1,112,334,232
CO ₂ kg:	604,592,257
£:	95,446,685

*Data accurate to 15.01 10/10/11



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power
Perfector

energy saving like no other

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