COMMERCIAL CASE STUDY:

GW Martin

17.3%

PROJECTED ROI

'TOMORROW'S GENERATION TODAY'

EMPOWER ENERGY

GW Martin, Eastleigh

GW Martin are a long established contractor in the engineering industry, supplying machined components and assemblies in all types of metals and materials for aerospace, defence, automotive, electrical, filtration and medical sectors.

GW Martin are dedicated to sustainable development and continually seek opportunities to improve environmental performance through their Environmental Management System which is certified to ISO 14001:2004.

With consistently rising electricity costs playing such a factor in the above and their bottom line, Empower were called upon to install a 50KWp PV system utilising the latest high-efficiency Solaredge technology making use of five different aspects of the building to create the perfect system size for maximum return.

The PV system was just one phase of the overall contract that Empower were commissioned to fulfil, including electrical distribution.

KEY FACTS

INSTALLED
JULY 2013

SIZE
50 KWP

PANELS USED
JETION 250w POLY

INVERTER
SOLAREDGE SE16K WITH OP600 OPTIMISERS

ANNUAL OUTPUT
47.406 KWH

PROJECTED ROI
17.3%

SOLAREDGE INVERTER

JETION PANELS

ANNUAL INCOME
£9,379

TOTAL INCOME OVER 20 YEARS
£289,355

WHY SOLAR?

Enhance your green credentials

Save you £1000s every year

Protect against rising fuel costs

In a market often associated with pushy sales people and poor customer care, our attention to detail and honest approach to every job we constantly reinforces our good reputation.

If you would like more information on how to become more energy efficient or would like to book a free, no-obligation survey to find out how much you could save then please get in touch.

Email: **info@empowerenergy.co.uk**
Call us on: **01202 821 000**
Visit: **www.empowerenergy.co.uk**

EMPOWER ENERGY

'TOMORROW'S GENERATION TODAY'

solaredge

EMPOWER ENERGY

SPECIAL OFFERING FOR COMMERCIAL INSTALLATIONS

The new OP600 power optimiser represents the most cost-efficient optimisation solution for commercial systems

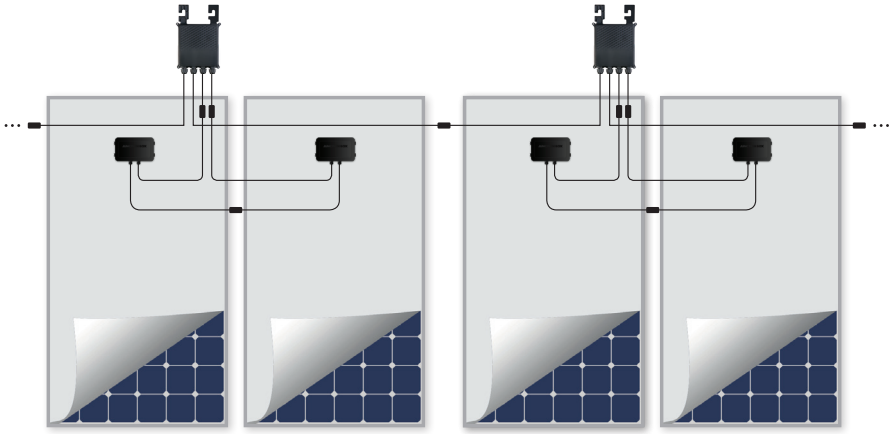
2% - 10% ADDED ENERGY

MAXIMUM ROOF UTILISATION

REDUCED MAINTENANCE COST

HIGHER PROFIT

OP600 - CONNECTING TWO MODULES PER POWER OPTIMISER



60 cell modules

OP600 Power Optimiser

Yield	Module-level MPPT - no mismatch power losses
Site Design	Strings of uneven length, modules on multiple azimuths & tilts in the same string
Compatibility	Compatible with SolarEdge Inverters SE16k & larger
Safety	SafeDC™ - automatic module-level safety shutdown

Three Phase Inverter

Ideal for power optimisers	Lower cost compared to 3rd party inverters
Performance	Superior efficiency (up to 98%); Fixed string voltage ensures optimal DC/AC inversion
Installation	Small, lightweight, easy to install
Communication	Built-in communication gateway

SolarEdge Monitoring

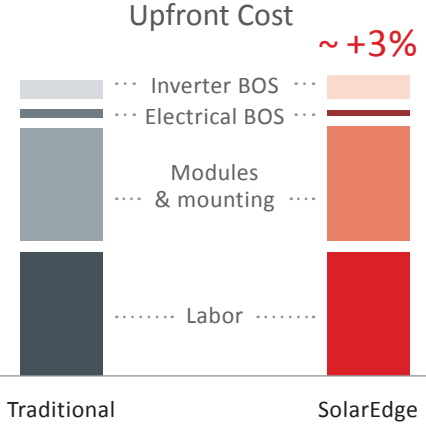
Maintenance	Module-level monitoring; Full visibility of system performance and remote troubleshooting

WITH SOLAREDGE: ADDED ENERGY YIELD & REDUCED O&M LIFETIME COST RESULT IN HIGHER PROFIT

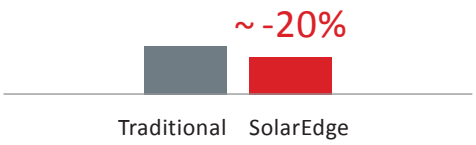
LIFETIME COST

SolarEdge design advantage:
Up to 44 modules per string & flexible string designs save up to 50% on electrical BOS components (cables, fuses, combiner boxes)

Upfront Cost



Lifetime O&M Cost (Operation & Maintenance)

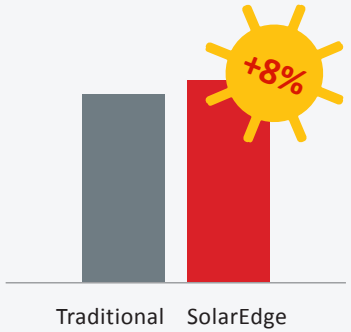


SolarEdge O&M advantage:
Lower inverter replacement cost & reduced troubleshooting time with module-level monitoring

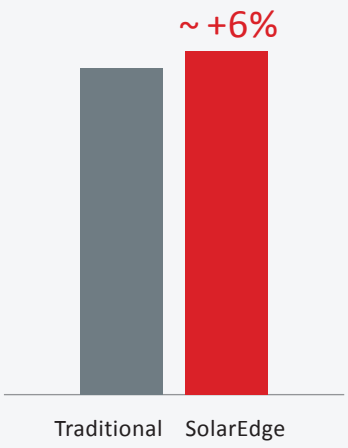
LIFETIME REVENUE

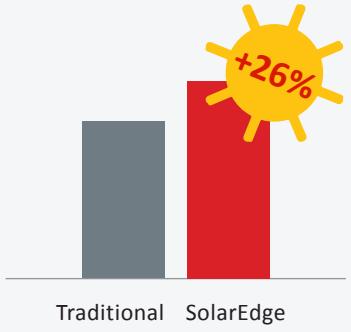
LIFETIME PROFIT

First Scenario:
Best-case system
Inherent mismatch only (no shading, no soiling)



Second Scenario:
Typical system
Considering real-world environmental mismatch





EMPOWER ENERGY

solaredge

CASE STUDY

Southampton, UK, 50kW

DESIGN FLEXIBILITY FOR MAXIMUM ROOF UTILIZATION

"The design flexibility enabled by the SolarEdge solution allowed us not only to utilize five different roof aspects but also to save Balance of System cost and generate more energy even in partly shaded areas"

Malcolm Davidge,
Technical Manager,
Empower Energy

Modules:
– 200 x JETION 250w

Power optimizers:
– 100 x OP600 (2-to-1)

Inverters:
– 3 x SE16k

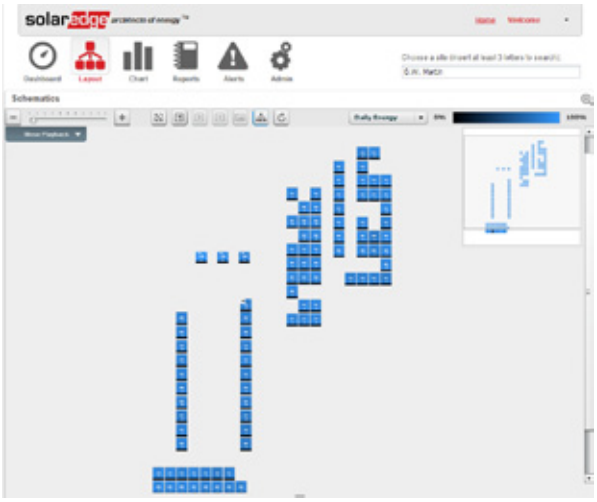
OPTIMIZED COMMERCIAL SYSTEM

Maximum Design Flexibility

Module-level optimization by power optimizers and the fixed input voltage maintained by them allow unprecedented design flexibility. With only three inverters, this 50kW system is installed on three different roofs with five different tilts and orientations. This amounts to a significant reduction in inverter, cabling, combiner box and fuses costs.

More energy with module-level optimization

Module-level MPP tracking performed by the power optimizers allows generation of maximum energy from every module. Modules on different roof facets and even of different roofs will have different MPPs but will each generate the maximum energy possible. Partially shaded modules in this installation will generate less energy due to the reduced irradiance, but will not affect the performance of neighboring modules.



"Physical layout of the different roof aspects enables quick and easy identification of module underperformance for enhanced maintenance at lower cost"

Cost Effective Maintenance

Physical representation of the system layout on a virtual site map allows real-time, accurate, remote troubleshooting. Underperforming modules are quickly identified and can be treated to immediately improve the system's performance.

Superior DC Safety

The unique SolarEdge solution guarantees ultimate safety for installers, maintenance personnel, firefighters and other emergency forces. DC voltage is automatically shut down whenever AC power is off, providing safe roof at all times.