

Hampshire Fire and Rescue Service Choose Enhanced Safety Solution for their 700kW PV Sites

“I believe the SolarEdge DC optimiser solution is the most advanced and reliable solution for the safe installation of solar PV. Our customers especially value the fire safety features and the remote monitoring capability, all of which help protect their assets and investment in solar energy.”

> Mike Turner, Managing Director, Solar-Voltaics



Project capacity: 700KW on 15 sites
Location: Hampshire, UK
Installation date: 2014



With continuously growing operation costs, and public pressure to reduce expenditures, Hampshire Fire and Rescue Service decided to install PV systems on top of 12 fire stations and 3 headquarter buildings across Hampshire. They initially specified for a standard string inverter, but Solar-Voltaics, a Hampshire based specialist in commercial solar installation recommended the SolarEdge solution for several reasons:

Reduced Capex

The design flexibility of the SolarEdge solution allows connection of strings over multiple roof facets and angles. Longer strings allowed Solar-Voltaics to reduce the number of strings in the system by a 1/3 in comparison to a traditional string inverter. The built-in safety solution further reduced the installation cost. “For complex roof installations the inherent simplicity of string design and the need for fewer strings provides a welcome reduction in installation time” says Mike Turner of Solar-Voltaics.

More Energy

Many fire stations have complex roofs and shading caused by training towers and communication antennas. With module-level optimisation, each module produces maximum power, independently of other modules in the string. This solution eliminates shading and other mismatch related power losses. To enable maximum electricity bill savings, the two largest systems, on top of the headquarters building and fleet maintenance building, are utilising the SolarEdge export limitation feature which allows maximum self-consumption while complying with grid restrictions. “The enhanced performance that the system offers and the versatility available as standard, such as the ability to connect meters and provide export limitation make the solution hard to beat and certainly worth the cost compared to conventional string inverters” says Turner. “The 25 year warranty on the optimisers and 12 year warranty on inverters reflect the reliability we have experienced and provides a reassurance that PV systems installed with SolarEdge technology will continue to provide high performance levels for many years to come” he adds.

Safety

Installing PV on fire stations poses safety concerns. With the SolarEdge solution, whenever AC power or the inverter are turned off, DC wires de-energise to a safe DC voltage during installation, maintenance and emergency. The Hampshire Fire and Rescue Service chose to equip all PV sites with the SolarEdge firefighter gateway which allows central safety management for the PV systems, including automatic and manual system DC shutdown, real time indication of system DC voltage for safety assurance and emergency stop button for the entire PV system.

