Power optimization at work in Australia

"Parkes Shire Council was obligated to apply high standards and receive best value for money and the SolarEdge system enabled them to have both. They have installed five systems with SolarEdge technology so far in the region and we are very content with the results"
says Eris McCarthy

Installer: Eris McCarthy Electrical
Installation date: May 2012
Location: Parkes, New South Wales, Australia
Capacity: 91.7kWp
Modules: Astronergy 235W
Power optimizers: OP250
Inverters: 7 x SE12.5k & 1 x SE10k

When Parkes Shire Council selected Solco and their installer Eris McCarthy Electrical, a leading NSW installation contractor, requesting a PV installation on the library roof running along a local main street, the installer immediately recognized the added benefits the SolarEdge system would have for this installation. In May 2012, Parkes Shire Council installed a 91.7kW system, with the intention to increase the level of solar energy in the city's energy mix. As a governing authority Parkes Shire Council is expected to install PV systems which abide by highest industry standards.

Energy yield and efficient use of space

The trees east of the installation, as well as the corner of an adjacent building would certainly cast a shadow on some of the modules. Therefore, applying a traditional system would either lead to disproportional losses of energy whereby shaded modules would pull down the performance of unshaded modules in the same string. Or partially shaded areas would need to be avoided at the expense of the system's size. Not so with the SolarEdge system: Power optimizers are connected to each module and provide Maximum Power Point Tracking at the module-level. Each module operates at its peak power point regardless of the performance of other modules in the string. Space can be fully utilized and energy yield is optimal at all times.

Effective Maintenance

The SolarEdge system provides performance data about every single module, whilst traditional systems monitor only the inverter output. Installers can log in to the SolarEdge Monitoring Portal on a regular basis to check how the modules are performing and if any maintenance is required. In the portal, underperforming modules are easily located on the site layout map where they are visually detectable. This ability is specifically useful for commercial size installations like this one, where a single underperforming module could easily go undetected.

Safety

The SolarEdge system has a built-in safety feature. In case of inverter or grid shutdown, power optimizers automatically remove DC current as well as voltage from all string wires. The voltage of each module is reduced to each module equals 1V per module. This safety feature ensures complete safety for maintenance workers and firefighters, eliminating the risk of electrocution and electric arcs, and which is certified as a DC disconnect.