A measure of solar success

Howard Stark explains how including smart meters as part of a PV installation will enable installers to closely monitor performance and maintain optimum output

When you install photovoltaic (PV) panels on the roof of a house, it's not simply a case of fitting them and thinking that's the job done. The only way to manage the investment of a PV installation is to closely monitor its performance. After all, each of the stakeholders involved needs to receive regular information updates on how the panels are working:

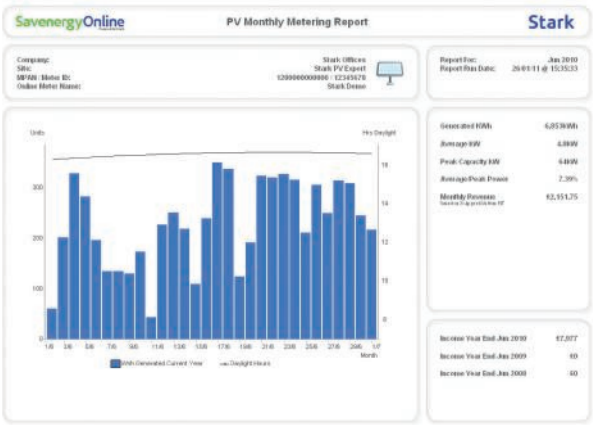
- The investor needs to know they are achieving the expected return on their investment.
- The PV installer needs to be sure each installation is working to optimum efficiency.
- The householder wants to know how much energy is being generated and how much electricity it is using.

As PV installations (and FiT payments) last for 25 years, it is unrealistic to expect things not to go wrong. Whether you are a single householder or a housing association installing thousands of solar panels, your PV installation is first and foremost an investment that needs to be looked after. So the current practice of getting the householder to submit a FiT meter reading to their electricity supplier once a quarter is hardly the way to manage such an asset. That is why Stark believes each PV installation should be linked to a smart meter. There are a whole host of advantages by going down this automatic meter reading route:

- Half hourly data is collected from the meters on a daily basis (Day +1), not a single reading once a quarter.
- Meters are read remotely and aren't dependent on householders having to read them manually.
- The meter reads are accurate, timely and reliable.
- The PV installer can remotely monitor the performance of the PV system on a daily basis

The major investors in PV are placing onerous performance criteria on the company that installs and maintains the solar panel equipment. If faults are not quickly identified and resolved, the expected return on investment will not be achieved.

"Stark acts as a meter reading and data collection partner to PV installers to ensure their installations always operate at maximum efficiency"



Maximum efficiency

Stark acts as a meter reading and data collection partner to PV installers to ensure their installations always operate at maximum efficiency. Its online energy reporting system, called SavenergyOnline, enables PV installers to view all the half hourly data it has collected and to receive output efficiency guidelines based on site specific parameters. They can then monitor how their PV installation is operating on a daily basis.

The amount of incoming solar radiation directly affects the power output from the PV array. But how can a PV installer tell whether a profile that's yo-yoing up and down is due to the weather, a technical fault or some other factor? Stark collects UK-wide insolation data from weather satellite feeds. Using post code identification, it correlates the energy output of the PV array with the local weather conditions. With this information, PV installers can:

- better understand variations in daily PV generation output;
- monitor PV performance;
- quickly identify any fault or decline in performance.

All PV installations will go down the smart route in the future. Everyone benefits from the introduction of smart meters: the investor, the PV installer and the householder.

- See Stark Software at The Energy Event Stand 2820.

Howard Stark is managing director of Stark

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"Smart meters are essential"

"Smart meters are an essential part of our installations – they're as important as the solar panels or inverters," says Sarwar Ahmed, director of communications at Norton Energy, whose contract with Stark will see 3,000 smart meter installations rolled out as part of PV installations in the next 12 months.

"The solar installations we carry out across the UK are part of a portfolio owned by a single investment fund. As the installer, we have to make sure each system is not only working on day one – but continually for the next 25 years.

"Along with the performance monitoring, the meter reading is equally important – as our contract with the investment fund includes reading the meters and submitting the readings to the energy providers. To do this job manually would cost hundreds of pounds per installation per year. Our contract with Stark allows us to do this and more for just a fraction of that cost."