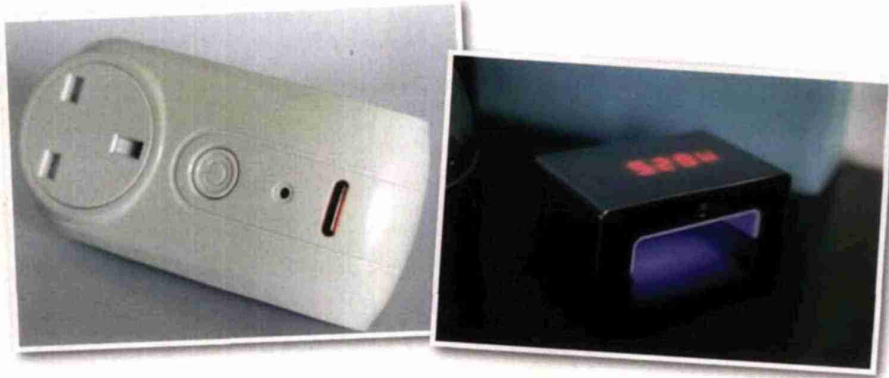


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## An eye on energy

**Providing homes that are both affordable and sustainable is an increasingly challenging task for housing associations. Mark Elliott discusses the contribution that solar power can make and the importance of implementing effective energy monitoring.**

**A**s the cost of living shoots up and power companies warn of possible blackouts due to insufficient capacity in the network, it is probable that the launch of the 2013 Building Regulations this autumn will require all new-builds to comply with level 4 of the Code for Sustainable Homes – something which the affordable housing sector has already been working to for a number of months.

Indeed, many housing associations and social housing landlords already have buildings fitted with renewable energy technologies as standard, while some older stock has also benefited from retrofitted equipment. It is not uncommon to see collections of solar panels on the roofs of housing association properties and the benefits can be substantial.

Solar power provides an opportunity for housing associations to improve the long-term energy prospects of their tenants by alleviating fuel poverty and greatly reducing their carbon emissions. This is increasingly important in light of

recent research by the Association for the Conservation of Energy, which found that Britain has the highest fuel poverty figures in Western Europe (as of March 2013). Despite the cuts to the Feed-in Tariff (FIT), some of which have already taken effect, the benefits of subsidies for landlords and discounted electricity bills for tenants offered by renewable energy will continue to transpire as inflation continues and utility companies increase their prices.

### Behavioural change

Of course, it isn't just about the installation of renewable energy technology; the full benefits of measures such as solar panels will only be realised if they are supported by wider efforts to encourage people to be more energy-efficient. Installations are often 'out of sight, out of mind', so encouraging the behavioural change needed to achieve the true benefits of solar power can be difficult. Landlords and tenants alike need to gain a true insight into energy use in their

building, which will give them control to reduce their own electricity bills.

Energy monitoring can improve both the financial and environmental performance of housing association properties and social housing. There are numerous monitoring technologies available, the best of which will fit conveniently and cleanly into the tenant's living space and provide visibility of both energy being used and carbon emissions being produced. For example, the Wattson Solar Plus monitor will glow green when an installation has generated surplus power, telling residents that they can use the free power.

Giving the tenants transparency in this way enables them to shift from using items that consume a high amount of energy, like washing machines, at peak power cost times, to using them when power is 'free' because the installation is generating at full capacity. Indeed, some of the more sophisticated monitoring equipment will link to online portals – such as Wattson Anywhere, which will show

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historic data on consumption and energy escape – ultimately allowing tenants to plan their energy use going forward.

In 2012, a scheme to drive energy efficiency in homes in the Leicestershire village of North Kilworth had a dramatic impact on residents' behaviour. A total of 80 energy monitors were handed out to residents in an initiative led by the Village Power Community Interest Company (CIC) as part of a programme of activities designed to reduce the village's carbon footprint.

After just two months, two thirds of residents involved with the Local Energy Assessment Fund (LEAF) project confirmed that their energy usage had changed and the same number wanted more information on energy efficiency.

The next phase of the LEAF project has seen free Optiplugs supplied to the community. These are intelligent sockets which automatically divert energy to appropriate appliances when there is spare energy being produced by the system. This means that appliances – such as washing machines, tumble dryers, storage heaters and water heaters – only receive power when it is free to the resident.

Poole Housing Partnership (PHP) is in the process of installing solar PV in around a quarter of its managed stock. Part of the Alliance Home Framework Partnership, PHP is also rolling out energy monitoring equipment as part of its bid to lift tenants out of fuel poverty, cutting energy bills by an average of £10 per week, per property. As well as reducing bills and cutting emissions, the project aims to engage entire families in the issue of energy efficiency, using bold displays and tenant roadshows to convey the messages.

### **Making use of 'free energy'**

Using 'free electricity' becomes quite easy with the right monitoring technology in place. However, this has historically only been useful when the tenant is at home to make use of the power being generated. The latest innovations in the marketplace provide residents with smart technology that can learn how much power is required around the building at different times and then automatically divert enough energy to power an appliance when there is free energy available.

As an example, the Optimersion can convert surplus free electricity into hot water via immersion heaters, with typical savings in the region of £131 per year for an oil-fired boiler and £175 per year for electrically heated water.

More and more renewable installations are being fitted as standard on new housing. However, the biggest driver for installations is the financial benefits. When landlords invest in solar PV, they are freeing tenants from utility companies, enabling them to secure their own energy use and, in some cases, lifting them out of fuel poverty. However, when they combine this with the right monitoring technology and smart metering, the results can be far greater than anticipated.

● **Mark Elliott is chief operating officer at Energeno.**

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