

Case study: Stirling Council

Maximising solar returns for social housing

- *PassivPro solar monitoring platform minimises downtime to boost yields by 5%*
- *Metering helps tenants maximise self-consumption to reduce bills*

In pursuing their efforts to address fuel poverty, many social housing landlords face some unique challenges in tackling the pressures to keep rental and energy costs as low as possible while complying with increasingly stringent energy efficiency standards.

Stirling Council is a case in point. Scotland has introduced higher energy efficiency standards – the Energy Efficiency Standard for Social Housing (EESH), to which social landlords must comply by 2020.

“Solar PV is the only viable technology that will get us over the pass mark,” said Gregor Wightman, Property & Private Sector Housing Manager at Stirling Council. “Our aim is to roll out solar PV to as many properties as possible – although we are limited by the challenges we face mixed tenure tenements and stock located within Conservation Areas.”

Stirling has already installed over 1,500 systems, giving it a portfolio of almost 4.8 MW to manage. The council is planning to install PV to another 2,000 of its properties, funding the project by supplementing its Solar PV Capital Investment budget with the feed-in tariff (FIT) payments it receives. Residents who have solar arrays on their properties save around £270 per year with solar switch devices being installed in off-gas areas and battery storage being trialled in a number of properties.

Minimising downtime

Stirling Council launched its solar programme in 2012, and was clear at the outset that it would need to implement remote monitoring to maximise returns and minimise maintenance costs. It is crucial that the solar arrays work at peak efficiency to recoup the council's expenditure. From the outset of the solar PV programme, its appointed contractor at the time first recommended PassivSystems' products and services, and Stirling has used its smart meters and associated services on all installations since then.

“We depend on the PassivPro service to alert us to when a PV array goes offline so that we can fix problems with a minimum of downtime. Using its automated metering facility removes the cost of having to send staff to each property every three months to get a meter reading,” continued Gregor. “We also depend on the automated weekly reports we generate to verify that individual systems are performing to our expectations and with the use of PassivPro Dual Element Generation Meters, we can also remotely monitor the self-consumption rates in each property.”

As a result of using automated monitoring, Stirling Council now includes response times in the service levels it agrees with its O&M partners.

Advanced metering

PassivSystems offers Stirling a choice of meters, with its latest dual element meter able to measure the power generated and how much energy is exported and consumed.

Using the dual element meter – predominantly on its new properties, allows Stirling to take advantage of the FIT processing services offered by PassivSystems and its sister company, arto.energy, which takes care of the administrative tasks associated with processing the FIT. Tenants appreciate the feedback they get about consumption with the latest meters, and can aim to maximise their benefit from the free solar power they receive.

Because of the wiring implications, Stirling can’t physically fit the dual element meters to some of its older properties – there simply isn’t enough wiring room within the distribution board.

“As a social housing provider we’re more accountable than private housing developers,” stated Gregor. “Having accurate information from the smart meters enables us to report back to our tenants and explain how they are benefiting from our solar investment – that’s a significant benefit to us.”

Measurable results

Solar PV is inherently reliable technology – systems rarely break down. Where automated monitoring really helps is in identifying issues brought about by tenants. Common faults include tenants letting their pre-payment meters run out, or not re-setting trip switches after a circuit fault, or sometimes turning off the isolator switch in error.

“As a result of using PassivSystems’ platform we’re probably getting another 5% out of our whole portfolio,” claimed Gregor. “That’s a financial benefit on top of the cost savings we get from automating the meter reading and streamlining the FIT process.”

“We’re very happy with what PassivSystems gives us. As well as providing good products, it also offers excellent technical support. We can pick up the phone and immediately talk to an expert who will be fully up to speed with the product. PassivSystems also understands the commercial pressures that we work to and have come up with a volume-based business model that suits our needs.”

“PassivSystems is constantly developing the product to improve its feature set – and it has shown that it clearly understands the unique challenges we face as a social landlord. Investing in these technologies and services is essential if we are to get the best out of our microgeneration portfolio. It also gives us a platform to develop new approaches in the future. For example, going to market with a power-purchase agreement model where we forego the diminishing FIT and instead sell power back to the grid on the open market.”

About Stirling Council

Stirling Council has over 5,600 social housing properties of which 7% are located in rural areas with no access to the gas network.