

Turning buildings into power stations



John Davidson speaks to *PFM* on how the MEES regulations, etc, are driving more interest in renewables and energy efficiency

Having trained as an electrician but wishing to extend his career options, John Davidson launched the Gas-elec business in 1996 as a gas and electrical safety inspection service for landlords of domestic and commercial properties.

It succeeded by offering clients what they needed most: expert advice for both forms of energy, but requiring only one visit as all engineers were qualified to test and service both gas and electrical appliances.

“No other company had this capability, and it saved my clients time and money and generated more lucrative contracts for my engineers. Demand soon exceeded supply and the only feasible way of maximising this opportunity was to franchise the business,” he says.



John Davidson

Over the next 20 years, the company grew to become the largest UK building services franchise operation, with over 100 franchisees providing services to more

than 80,000 properties, while providing Mr Davidson with a growing interest in energy conservation.

Having sold the business in 2016, he then became managing director of Eco-energi, which provides a domestic and commercial end-to-end service to help landlords and homeowners futureproof their properties with thermal upgrades. For Eco-energi, ‘end-to-end’ means assessing the property’s current energy performance to update its EPC, recommending and costing the retrofit solutions, carrying out the necessary upgrades and frequently funding them.

This has been an important time for landlords with the Minimum Energy Efficiency Standards (MEES) coming into force last

April, Mr Davidson continues, with many surprised by lower-than-expected EPC ratings and needing to react quickly to safeguard their rental income.

“Whether you’re a landlord or not, keeping the cost of heating, ventilation, air conditioning and lighting low is an ongoing battle as energy prices keep on increasing, and that’s when I began looking closely at the long-term effectiveness of solar panels, specifically Solar Power Purchase Agreements (Solar PPAs) for businesses of all sizes,” he states.

A PPA is a renewable energy scheme that provides organisations with immediate and long term financial and environmental benefits, without any outlay needed. Those

involved in the energy management of any type of facility should consider this option, says Mr Davidson.

There are three parties involved: one finances the installation; one designs, installs and maintains the solar PV system (at no cost to the owner of the property); and the owner or the tenant buys the electricity from them at a discounted rate, typically far lower than normal retail tariffs. This agreement will continue for 25 years and the Solar PPA passes on to the new owner if the building is sold.

With annual increases of 7-10% for electricity not uncommon, Mr Davidson says a Solar PPA could save an organisation thousands of pounds every year for the next

two decades, while significantly lowering its emissions.

“I work with an experienced team of designers and planners, using the latest CAD and solar modelling software to design and plan the installation. All projects are bespoke, as it’s important to install the PV in a manner that is both functional and sympathetic to the building and its surroundings. A dedicated project manager will be appointed to liaise closely with the client to ensure the installation runs smoothly and to the client’s satisfaction,” he says.

“There will be many of us who can remember the rush to install solar PV when the Feed-in Tariffs (FIT) scheme was launched by the government in 2010 and, with or without the FIT, solar PV remains the only way to protect your outgoings, unless you happen to own a state-of-the art smart building,” Mr Davidson continues.

“If you think solar PV is old technology, you’d be wrong, it’s always progressing; in just a decade solar panels have become 22% more efficient and, in seven years, their cost has fallen by 80%*.”

“In addition, there will always be clarity about the unit price paid for electricity, as it will only rise in line with the Retail Price Index, rather than the vagaries of the utility companies, making it easier to budget in the short, medium and long term,” he says.

Currently batteries are not available as part of a PPA for storing generated electricity, which can mean electricity generated during the day and not used is wasted. Battery storage systems can be fitted to protect against power cuts and, depending on how much is stored, a charging facility for electric cars.

“Whether you use a Solar PPA or install a solar PV system yourself, you will reduce your electricity bills significantly. While prices and the hours of daylight fluctuate, the one constant of a Solar PPA is the benefit: there are no upfront costs or ongoing service fees involved, there’s no payback period to take into consideration, which means savings start immediately and the cost of lowering your carbon footprint is zero.

“It’s not often you can honestly say ‘this is a win-win situation’, but this is a win-win situation,” Mr Davidson concludes. ■

**(Source: World Energy Council, World Energy Resources Report 2016).*

HOW THE PROCESS WORKS:

- Onsite electricity consumption (known as half hourly data or HHD) is obtained from the client’s utility company and this will help us determine the optimum size system that will deliver the greatest savings
- Authority from the district network operator (DNO) to connect the solar PV system to the grid is sought and received
- Structural survey is conducted to ensure the building can accommodate the system
- If planning consents are needed, we will take care of this
- The design is prepared for approval, together with an estimate of the annual electricity savings over the period of the agreement
- The solar PV system is installed and commissioned
- The system is monitored to ensure the forecast savings are achieved
- Client has 24/7 access to a remote monitoring system to check on the performance of the system

We have an Operations and Maintenance contract with our client and, in the unlikely event any damage to the building due to our installation or equipment, we are liable for the repair

Benefits to business owners:

- Lower unit price per kWh than paid through current utility supplier
- Capped annual inflation rate
- Protection against future energy prices rises
- Improved long term financial planning
- Long term clean energy security
- Long term low energy bills attractive to prospective tenants
- Increased savings from day one
- Fully transferable to new occupants should you move

DETAILS OF A RECENT INSTALLATION

Location: Bermondsey

System Size: 38kWp

Panel model: ET Solar 250w

Inverter model: K1ne

Annual output: 34,811kWh

Annual CO2 Savings: 18,396kg