

## Weaver Manor Goes Solar. June 2022

On Monday 13<sup>th</sup> June we had our new solar system installed utilising a Cheshire East Green Grant. The system is a 10 Panel 3.95KWh system with a 3.6KWh inverter that converts the Direct Current (DC) generated by the panels and converts this to Alternating Current (AC) that is used by every electrical appliance, including lighting, within the house.



Image 1: Panels before lifting to the roof



Image 2: Panel Installation in Progress

The installation begins with the erection of scaffolding followed by the physical fitting of the Photo Voltaic (PV) panels on to the roof. Once this has been done the electrical team will connect the panel cables to the Inverter and the Inverter to the mains feed to the house, which should all be done in 3 days.



Image 3: The new electrical installation to Support the Solar Installation



Image 4: Electrical Connection

The system went live just before 4pm on the 13<sup>th</sup> and by 4pm on the 20<sup>th</sup> we have generated the grand total of 137KWh of electricity. To give that number some kind of context our daily background load is approximately 5KWh/day (across daytime and night time). Additionally a typical kettle is 3KW and an electrical Immersion used to heat a households water is 2.8KW. Therefore if you boiled a kettle for a full hour you would use 3KWh or 3 units of electricity and if you ran your immersion for 1hr you would use 2.8KWh or 2.8 units of electricity.....simples or so you might think!



Image 5: Inverter installed in the loft



Image 6: Completed PV Panel Installation

However that is the easy bit because if you don't use what you generate then it gets fed straight in to the Grid, Free of Charge..... well unless you sign up for a Smart Export Guarantee (SEG) or in old money a Feed in Tariff. You are probably thinking that this also sounds pretty simple, but then you have to factor in that to sign up for a SEG it takes 8-10 weeks for the energy provider (it doesn't need to be the one you purchase your energy from) from completion of the application, which you can only do when your installer has applied for your Microgeneration Certification Scheme (MCS) or the EN 45011 or EN ISO/IEC 17065 2012!

Once this is all done your SEG provider will provide you with a cheque, yes they do still exist, every quarter at the rate of £0.01-£0.11 per unit. Now that might seem great until you realise that most people will be paying somewhere between £0.15-£0.25 per unit from their suppliers. Our tariff costs us a smidge over £0.20 per unit with Eon Next and their SEG rate is £0.055 or 5.5p per unit, which to me is outrageous! I should qualify that Tesla is the top SEG company but to qualify you have to have a top of the range Tesla battery installed which starts at £8,600.

Every other SEG allows for the use of any other commercially available battery which will typically be £1,500-£3,000 for midrange unit/units. This means that you will probably be looking at somewhere between £6,000-£9,000 for a battery supported Solar system. Even only being 1 week in on this ECO journey a battery is a must if you want to maximise the return on your investment in a Solar installation

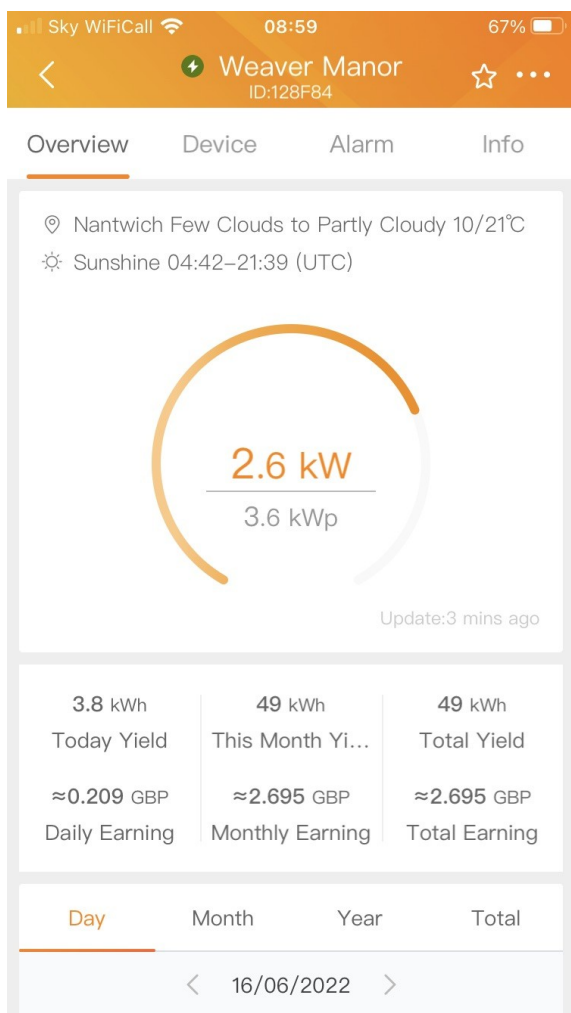


Image 3: Real Time Data Logging – either App or Browser Available

The other interesting thing is that the amount of energy that you generate on any given day fluctuates massively. In our first week we have been reasonably lucky that the weather has been OK, however our generation figures have varied between 7.6KWh on Saturday 18<sup>th</sup> June and 27.5KWh on Monday 20<sup>th</sup> June. Also generation is pretty insignificant before 7.30am and 6.30pm due to the South East direction of our panels so utilising the times between those hours to do Washing, Dishwasher runs, Ironing etc means we are trying to maximise the use of our own generated electricity.

We will issue an update on what the installation has actually meant to our ever increasing electricity bills in a few months time. We will also look to try to provide a view on the length of the return on investment should you choose, at some point, to take the same journey as we have.....

***Shaun Davies***

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