

PARISH HALL Photovoltaic system (3.9kW domestic)

The Solar PV installation at the Parish Hall has now been in place for 7 full years (June 2015 – June 2022).



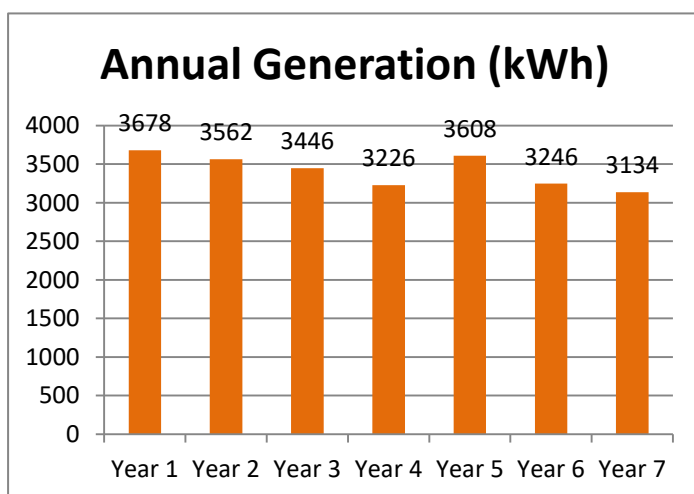
It was installed jointly by SHARE and South Hill Parish Hall committee. The Parish Council funded the SHARE half with a grant from the Trefinnick Solar Farm community benefit fund. The Parish Hall committee paid for their half. SHARE project-managed the installation and the FiT payments are shared with the Parish Hall.

Every month a reading is taken from the PV meter at the Parish Hall so that we have a continuous record of the electricity generated. The monthly figures are compared with those from previous years giving us an overall view of the system performance. We also “benchmark” the system by comparing the Parish Hall figures with other similar systems that we have access to. In this way, we would soon notice if the Hall PV started to behave differently.

Starting this year, we calculate the carbon savings, based on information from the [Department for Business, Energy and Industrial Strategy](#) (we used data from the Energy Saving Trust before).

Below is our carbon report for Year 7 of the system:

In its seventh year (July 2021 – June 2022), the system has generated 3134kWh.

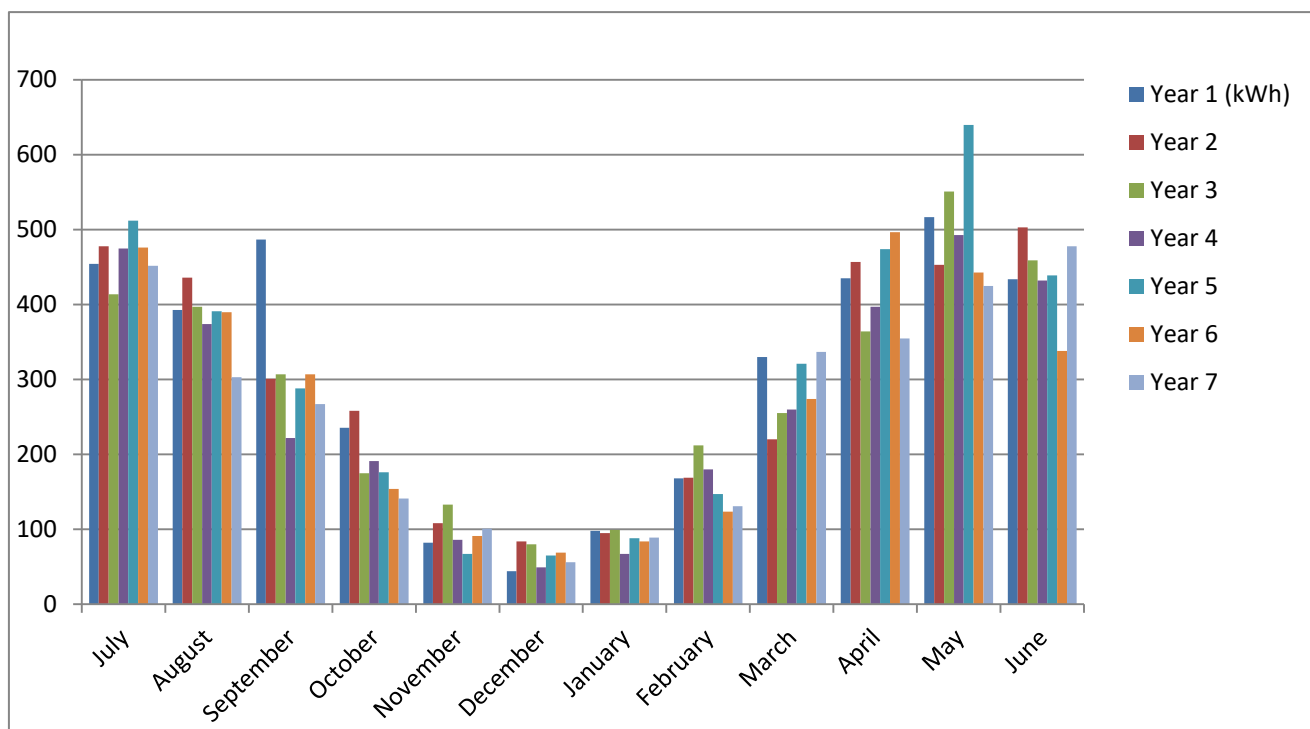


CO₂ savings are calculated using the updated (2022) conversion factor of 0.19338 kg CO₂e saved for each kWh produced from a carbon free source. The factor is based on the current carbon emissions from UK power stations per kWh generated, it includes CO₂ equivalent value of other greenhouse gases such as methane and nitrous oxide. It is updated and reducing year on year as the use of coal in power stations is reduced, the 2021 figure was 0.21233.

Therefore we have saved: **3134 x 0.19338kg = 606.05kg of CO₂e in Year 7.**

While this figure looks less impressive than in previous reports, it is actually a reflection of the increasing efficiency of the production of power from fossil fuels in terms of CO₂e over recent years.

- Monthly Generation to date (7 years):



What does it mean?

The Parish Hall has generated enough power in Year 7 to make more than 84½ THOUSAND cups of tea!

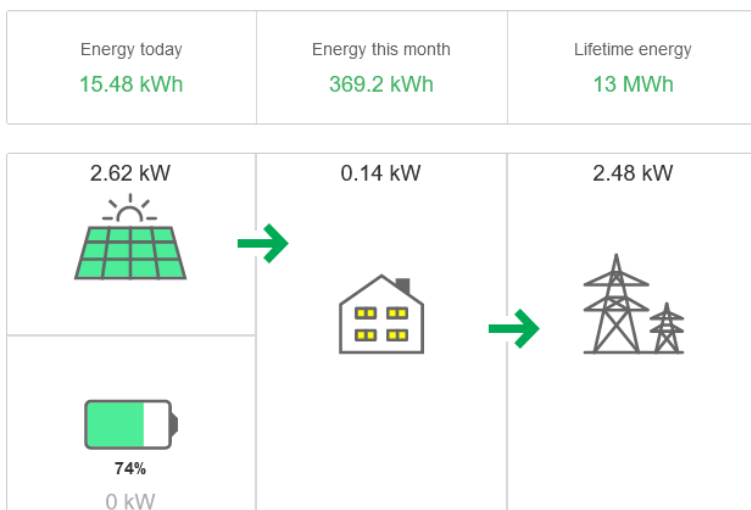
(Basis for calculations: 2.5kW kettle takes 1 min 45 sec to boil 2 cups; which means 1kWh equates to 27 cups. The Hall has generated 3134 kWh)

Battery Storage

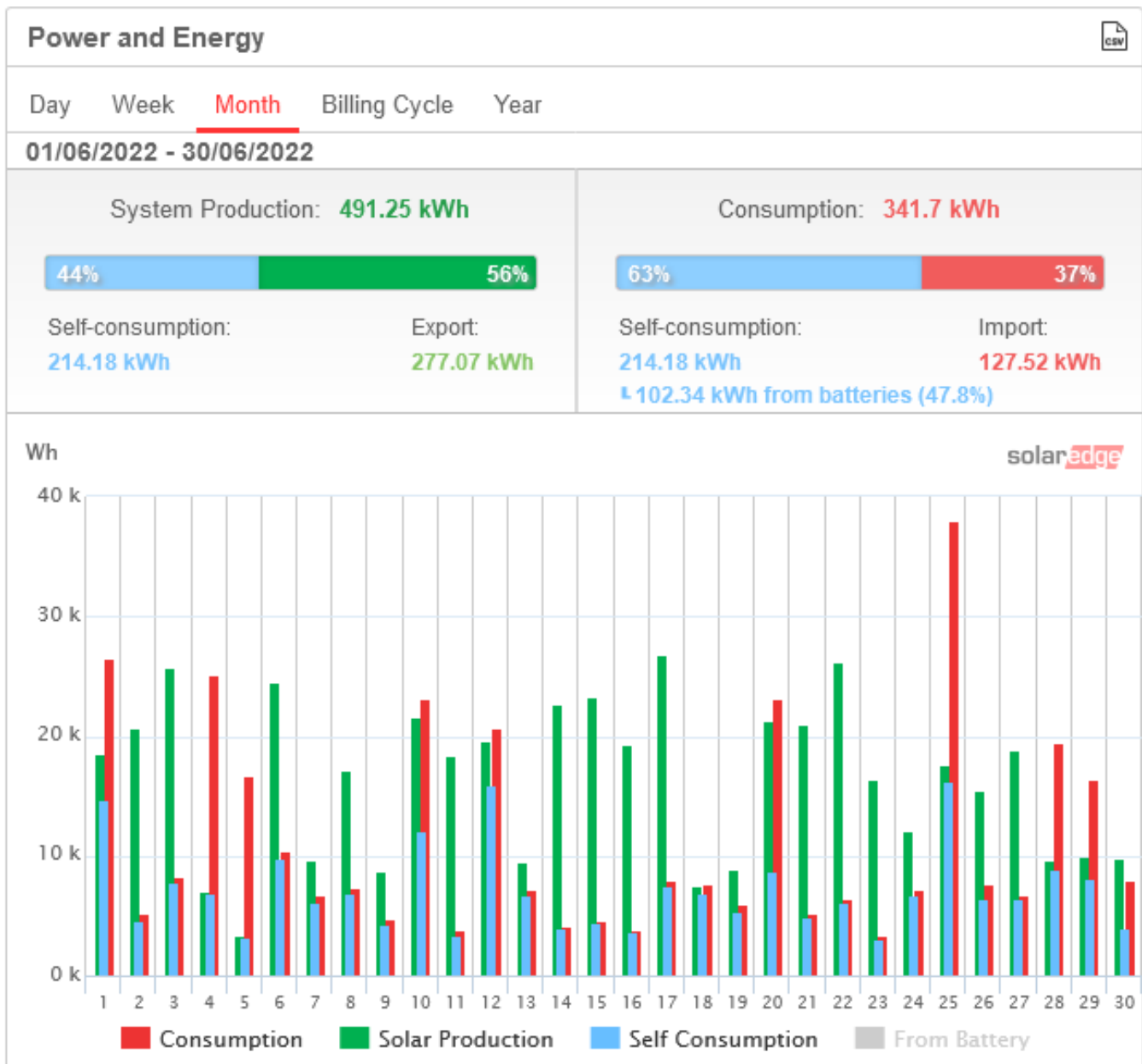
Installed by SHARE in September 2018 with grant from M&S Energy and donations via the “Power The Night” campaign, ownership of the system was signed over to the Parish Hall in June 2019.

The installation of battery storage (located in the meter cupboard in the Hall) enables the use during the evenings of power generated by the solar PV panels during the day. Even in the winter months, when less power is generated, the battery saves that power for later use.

Example of data from the Solaredge inverter on 21st July 2022



Solaredge snapshot, June 2022



This snapshot shows that for the month of June 2022, 44% of power generated by the PV panels was used at the Hall, either directly or to charge the battery. The other 56% was exported to the National Grid. [In January 2022 when generation was at its lowest, these figures were 99% and 1%]

Electricity not used by the Parish Hall is not wasted but makes a valuable carbon-free contribution to the National Grid. One day we may be able to sell this power directly to local homes at a favourable rate.

It also shows that of the total energy consumption at the Hall, 63% was provided by the solar PV and battery system, while the other 37% was imported from the grid. [In January 2022, these figures were 6% and 94%]

Ground Source Heat Pump

While the installation of this in the summer of 2019 was not a SHARE initiative, we have been interested to take readings of the energy used and the heat produced by the system. Using this data it is estimated that, when the cost of energy used is offset against the Renewable Heat Incentive (RHI), the Hall is “in credit”.

Financials

SHARE has received a total of £399.69 in Feed In Tariff (FIT) and deemed Export of power, **in Year 7**. *The figure is low this year because a deadline for submission of readings to Good Energy was missed. The balance will be made up in Year 8.*

For small systems such as this, export is deemed to be 50% of the total generated; it is not measured as this would require special metering.

The income is shared equally with the Parish Hall committee as per our agreement.

Tariff rates increase in April each year, in line with the RPI.

Appendix 1 - Generation

Month	Generation (kWh)
July 2021	451
August	303
September	267
October	141
November	101
December	56
January 2022	89
February	131
March	337
April	355
May	425
June	478
Year total	3134

Appendix 2 - Income

Payment Date	Amount received (£)	Amount paid to Parish Hall (£)
6/9/21	201.55	100.77
3/12/21	198.14	99.07
Total	399.69	199.84