Adfield Electrical

Solar PV - Design Calculations
Project Reference: WBCH

A. Solar PV Installation data (String 1)		Calculations
Installed capacity of PV system – kWp (stc)	8.9 kWp	
Orientation of the PV system – degrees from South	5°	
Inclination of system – degrees from horizontal	50°	
Postcode region	2	
B. Performance calculations (String 1)		
kWh/kWp (Kk) from table	1114 kWh/kWp	
Shade Factor (SF)	1.00	
Estimated annual output (kWp x Kk x SF)	9915 kWh	8.9 x 1114 x 1.00
A. Solar PV Installation data (String 2)		
Installed capacity of PV system – kWp (stc)	8.9 kWp	
Orientation of the PV system – degrees from South	5°	
Inclination of system – degrees from horizontal	50°	
Postcode region	2	
B. Performance calculations (String 2)		
kWh/kWp (Kk) from table	1114 kWh/kWp	
Shade Factor (SF)	1.00	
Estimated annual output (kWp x Kk x SF)	9915 kWh	8.9 x 1114 x 1.00
Totals		
Total estimated output	19829 kWh	
C. Estimated PV self-consumption - PV Only		
Assumed occupancy archetype	Home all day	
Assumed annual domestic electricity consumption	3500 kWh	
Expected solar PV self-consumption (PV Only)	1785 kWh	19829 x 9%
Grid electricity independence / Self-sufficiency (PV Only)	51%	1785/3500 x 100

Notice: Latest MCS MGD 003 self-consumption methods are only used for properties consuming and systems generating between 1,500 and 5,999kWh per year. These figures are indicative only, using a method calculated internally, and should not be represented as fact. Caution should be taken when claiming predicted system performance for any Solar PV system.

Adfield Electrical, 15 The Saltings, Littlehampton, BN17 6RR
VAT Number: 272 4617 01
Tel: 01903 724457 E-mail: james@adfieldelectrical.co.uk

Adfield Electrical

Solar PV Design Calculations
Project Reference: WBCH

Solar PV Panel Details	
Panel manufacturer	JA Solar
Panel model	445W
Panel type	Monocrystalline

Calculation Inputs	
Building use	Commercial
Building type	Retrofit
EPC Band	F

CO_2 Savings		
CO_2 savings from PV system	kg/yr	9164.86

Financial Benefits		
Installation costs	£	12398
Annual income generated from smart export tariff	£/yr	2706.69
Total income from smart export tariff	£	54133.80
PV Only		
Annual savings from electricity generated	£/yr	803.25
Total annual cost saving (for 20 years)	£/yr	3509.94
Total annual cost saving (afterwards)	£/yr	803.25
Payback period (years)	yr	3.53

Disclaimer

The performance of solar PV systems is impossible to predict with certainty due to the variability in the amount of solar radiation (sunlight) from location to location and from year to year. This estimate is based upon the standard MCS procedure, given as guidance only for the first year of generation. It should not be considered as a guarantee of performance.

The solar PV self-consumption has been calculated in accordance with the most relevant methodology for your system. There are a number of external factors that can have a significant effect on the amount of energy that is self-consumed so this figure should not be considered as a guarantee of the amount of energy that will be self-consumed.

This system performance calculation has been undertaken using estimated values for array orientation, inclination or shading. Actual performance may be significantly lower or higher if the characteristics of the installed system vary from the estimated values.

Adfield Electrical, 15 The Saltings, Littlehampton, BN17 6RR
VAT Number: 272 4617 01
Tel: 01903 724457 E-mail: james@adfieldelectrical.co.uk