

2 Brickfields

250kW Solar PV Project

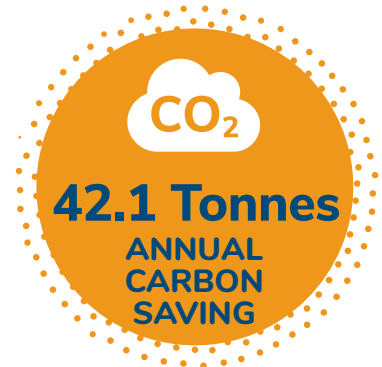
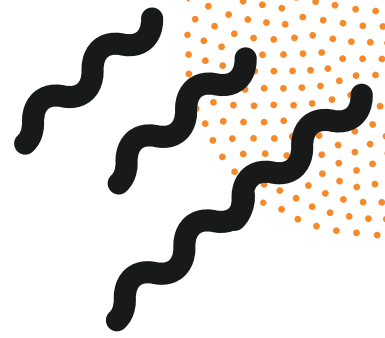


In August 2020 Warren Services instructed Ivy Solar to design and install a 250kW Solar Photovoltaic system for their facility at Brickfields Way. The system consists of 714no 350W Hanwha Q Cell Monocrystalline panels supplying 2 Huawei Sun2000 100KTL M0 inverters. The 250kW installation is estimated to generate 203,920kWh per annum.

The decision to proceed with the 250kW system was based upon careful analysis comparing half hourly electricity consumption for the operation versus simulated solar PV designs. Results from this analysis suggested the operation would consume 165,785kWh (81%) of the annual 203,920kWh generation directly onsite with the remaining 19% being naturally sent to the grid. 165,785kWh represents 29% of the operations annual electricity consumption and an annual saving of £24,941.

Total cost for the project was £139,452.68 excl VAT. Savings were achieved by carrying out the installation alongside a major roof over clad project allowing for access and plant costs to be shared.

Effective aftercare is provided by Solar-Log monitoring which provides detailed analyses of the entire solar PV system. Careful consideration to the design and layout of the solar PV system has allowed for panel level monitoring to be achieved without the need for expensive 3rd party hardware. Furthermore, smart metering provided by the Solar-Log system is providing Warren Services and Ivy Solar with detailed data on how the operation is using electricity from both the national grid and the solar PV system. This data will help Warren Services identify operational opportunities which will lead to further electricity savings.



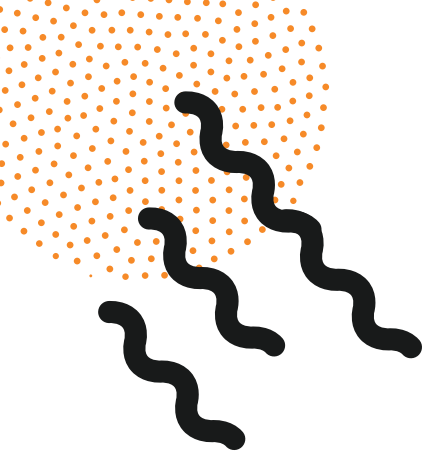
**FOR MORE INFORMATION,
PLEASE CONTACT US.**

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Summery Sheet



249.9kW Guide Return on Investment No Electric Supply Price Rise - Brickfields- Warren Services

Parameters	Excl. VAT Incl. Planning	Year	Power Output kWh Per Annum	Electric Rate (p)	Electric Saving £	Export PPA Rate	Export Value This Year	Total Value this year in £	% ROI	Cumulative revenue
System Cost £	£139,452.68	1	203,920.00	15.10	£24,941.46	4.000	£1,549.79	£25,951.25	18.61	-£113,501.43
Annual Output kWh	203,920	2	202,818.83	15.10	£24,806.77	4.000	£1,541.42	£25,808.19	18.51	-£87,693.24
Generation FIT (p)	0	3	201,723.61	15.10	£24,672.81	4.000	£1,533.10	£25,665.91	18.40	-£62,027.32
% Used on site	81%	4	200,634.30	15.10	£24,539.58	4.000	£1,524.82	£25,524.40	18.30	-£36,502.92
Electric Rate (p)	15.10	5	199,550.88	15.10	£24,407.07	4.000	£1,516.59	£25,383.65	18.20	-£11,119.27
Estimated Export	19%	6	198,473.30	15.10	£24,275.27	4.000	£1,508.40	£25,243.67	18.10	£14,124.40
Est Export PPA (p)	4	7	197,401.55	15.10	£24,144.18	4.000	£1,500.25	£25,104.43	18.00	£39,228.83
RPI Annual Inflation	2%	8	196,335.58	15.10	£24,013.80	4.000	£1,492.15	£24,965.96	17.90	£64,194.79
Energy Price Inflation*	0.00%	9	195,275.37	15.10	£23,884.13	4.000	£1,484.09	£24,828.22	17.80	£89,023.01
Export FIT inflation	0%	10	194,220.88	15.10	£23,755.16	4.000	£1,476.08	£24,691.23	17.71	£113,714.25
Annual Half Hourly Meter		11	193,172.09	15.10	£23,626.88	4.000	£1,468.11	£24,554.99	17.61	£138,269.23
Cost + Monitor (£)	£540.00	12	192,128.96	15.10	£23,499.29	4.000	£1,460.18	£24,419.47	17.51	£162,688.71
		13	191,091.46	15.10	£23,372.40	4.000	£1,452.30	£24,284.69	17.41	£186,973.40
		14	190,059.57	15.10	£23,246.19	4.000	£1,444.45	£24,150.64	17.32	£211,124.04
Gross Return	£492,705.69	15	189,033.25	15.10	£23,120.66	4.000	£1,436.65	£24,017.31	17.22	£235,141.34
Net Profit	£353,253.01	16	188,012.47	15.10	£22,995.80	4.000	£1,428.89	£23,884.70	17.13	£259,026.04
Gross Return %	353	17	186,997.20	15.10	£22,871.63	4.000	£1,421.18	£23,752.81	17.03	£282,778.85
Net Return %	253	18	185,987.41	15.10	£22,748.12	4.000	£1,413.50	£23,621.62	16.94	£306,400.47
Annual ROI Average %	17.67	19	184,983.08	15.10	£22,625.28	4.000	£1,405.87	£23,491.15	16.85	£329,891.63
		20	183,984.17	15.10	£22,503.10	4.000	£1,398.28	£23,361.38	16.75	£353,253.01

*Energy Price Inflation take from the DBEIS and is based upon the average non domestic electricity price rises for the last 5 years across very small (20,000kWh per annum) to medium users (20,000,000kWh per annum)

Total return	£492,705.69	17.67 % Average
Net profit	£353,253.01	353 % Gross
		253 % Net

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