Prepared by: Thomas Broderick
01749 340 490
t.broderick@totalrenewablesolutions.com

For: Simon
St Dubricius Church, Porlock

Quote #: 5354552
Valid until: 23rd October 2024

Solar Energy System Proposal

Dear Simon ,

Thank you for allowing us the opportunity to provide an initial estimate for the design, supply, and install of Solar PV for your upcoming project at St Dubricius Church, Porlock. We have carried out an initial survey based on the information gathered and are happy to give an estimate as detailed below.

Along with our estimate, please also find attached details of the chosen PV panels and inverter. Should this be of interest to you, the next step would be to arrange a further site survey so we can confirm the scope of the works and also the panel & inverter location to enable us to finalise our quotation.

Please note that any system above 3.68kW net capacity for single phase, and 11.04kW net capacity for three phase supplies, is subject to prior approval from the DNO. Further details of this will be provided alongside our final quoatation.

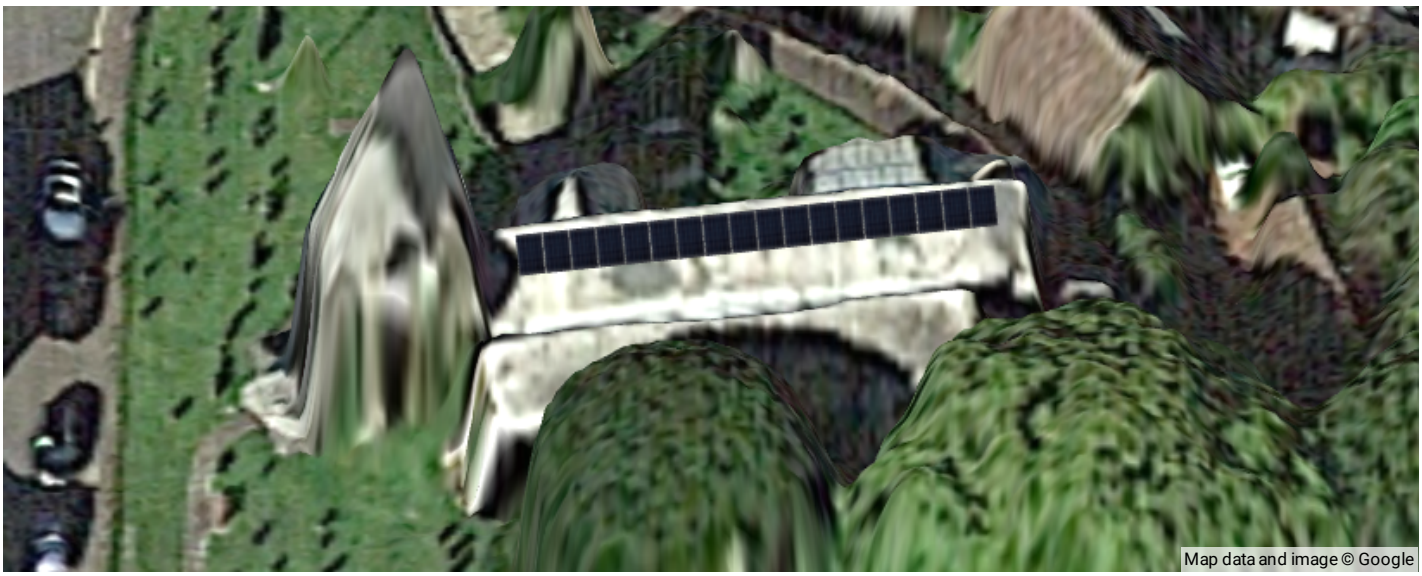
Furthermore, in some instances it is a requirement to apply for planning permission to carry out the installation of solar panels. Unfortunately we are unable to carry out this process and ask for you to contact your local planning agency before placing an order. Please take a look through and let me know your thoughts. I look forward to hearing from you.

Best Regards,

Thomas Broderick

System Option 1 of 2: 18 Panels

8.19 kW	£1,051	£9,470	8 Years 5 Months
System Size	Estimated Annual Electricity Bill Savings	Total System Price	Payback



Your Solution

Solar Panels

Aiko Energy
8.190 kW Total Solar Power
18 x 455 Watt Panels (AIKO-A455-MAH54Mw Black Frame (30mm))
6,036 kWh per year

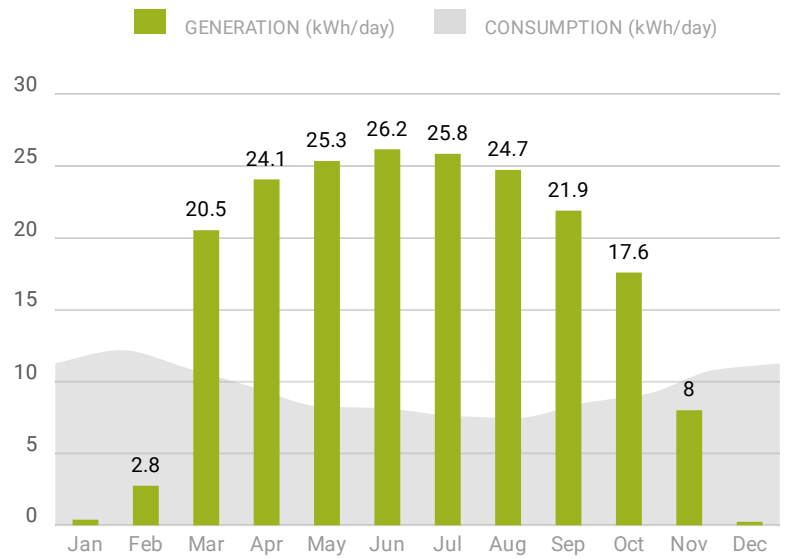
FoxESS K Series Hybrid Inverter

8kW of Inverter Power
Fox ESS 1 x KH8

Warranties: 15 Year Panel Product Warranty, 30 Year Panel Performance Warranty

System Performance

172%
Energy From Solar



19%	81%
Self-consumption	Export to grid

System Performance Assumptions: System Total losses: 0%, Inverter losses: 0%, Optimizer losses: 0%, Shading losses: 22.9%, Performance Adjustment: 0%, Output Calculator: MCS. Panel Orientations: 18 panels with Azimuth 172 and Slope 49.

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 is given as guidance only. 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 will be self-consumed.

Shading will be present on your system that will reduce its output to the factor stated. This factor was NOT calculated using the MCS shading methodology, but we can confirm that the system as quoted, taking into account the shading present, will deliver at least 90% of the energy (in kWh) as set out in this performance estimate.

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.

A. Installation data		
Installed capacity of PV system - kWp (stc)	8.190	kWp
Orientation of the PV system - degrees from South	Group 1: 18 panels with Orientation: 10 °	°
Inclination of system - degrees from horizontal	Group 1: 18 panels with Tilt: 49°	°
Postcode region	5E	
B. Performance calculations		

kWh/kWp (Kk) from table	Group 1: 956	kWh/kWp
Shade Factor (SF)	0.771	
Estimated annual output (kWp x Kk x SF)	6,036	kWh
C. Estimated PV self-consumption - PV Only		
Assumed occupancy archetype	In Half Day	
Assumed annual electricity consumption, kWh	3,500.00	kWh
Assumed annual electricity generation from solar PV system, kWh	6,036	kWh
Expected solar PV self-consumption (PV Only)	1,123.08	kWh
Grid electricity independence / Self-sufficiency (PV Only)	32.09	%

Environmental Benefits

Solar has no emissions. It just silently generates pure, clean energy.

Each Year

172% Of CO_2, SO_x & NO_x

2 tons Avoided CO_2 per year

Over System Lifetime

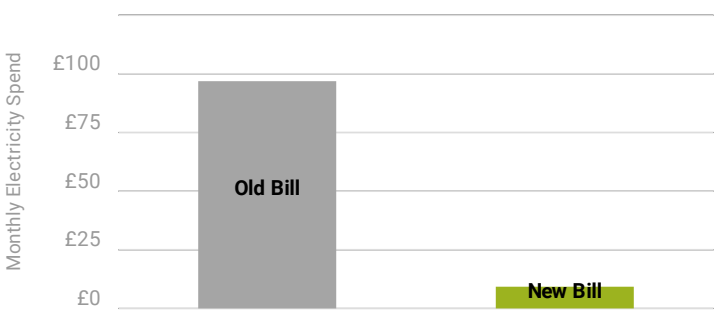
45,905 Car km avoided

295 Trees planted

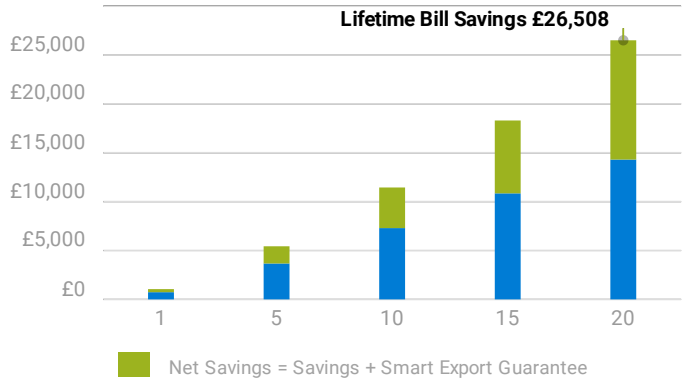
33 Long haul flights avoided

Electricity Bill Savings

First Year Monthly Bill Savings



Cumulative Bill Savings



Month	Solar Generation (kWh)	Electricity Consumption before solar (kWh)	Electricity Imported after solar (kWh)	Electricity Exported after solar (kWh)	Export Credit (£)	Utility Bill before solar (£)	Utility Bill after solar (£)	Estimated Savings (£)
Jan	12	350	337	0	0	113	110	3
Feb	77	341	299	35	5	110	93	17
Mar	636	339	198	495	74	110	-3	114
Apr	722	289	159	592	89	96	-29	125
May	786	257	126	655	98	87	-47	135
Jun	785	244	99	640	96	83	-53	137
Jul	801	236	97	662	99	82	-57	138
Aug	767	232	119	654	98	80	-49	130
Sep	657	255	148	550	83	86	-26	112
Oct	545	284	181	442	66	95	-0	95
Nov	240	324	272	188	28	106	63	43
Dec	8	349	342	0	0	113	111	2

Your projected energy cost is calculated by considering a 7% increase in energy cost each year, due to trends in the raising cost of energy. This estimate is based on your selected preferences, current energy costs and the position and orientation of your roof to calculate the efficiency of the system. Projections are based on estimated usage of 3500 kWh per year, assuming Custom Tariff Electricity Tariff.

Your electricity tariff rates may change as a result of installing the system. You should contact your electricity retailer for further information.

Proposed Tariff Details - Custom Tariff	
Energy Charges	
rate 0 *All Day*	£0.28 / kWh
Smart Export Guarantee	
rate 0 *All Day*	£0.15 / kWh

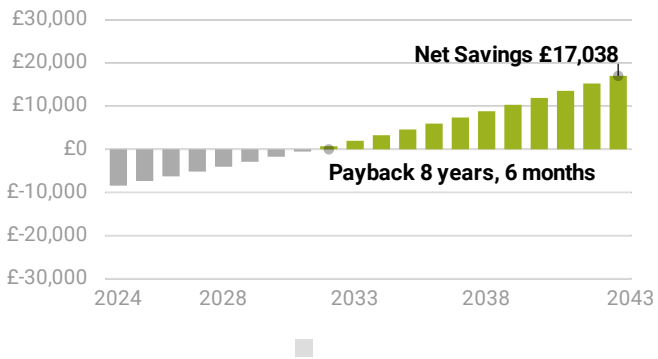
Fixed Charges	
Fixed Charge	£0.50 / day

Net Financial Impact Cash

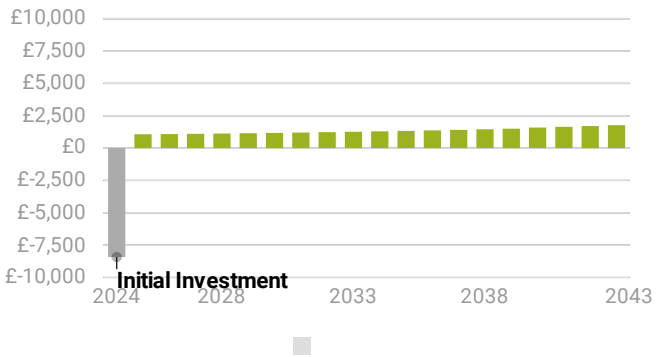
£26,508 - £9,470 = £17,038

Utility Bill Savings | Net System Cost | Estimated Net Savings

Cumulative Savings From Going Solar



Annual Savings From Going Solar



£4,040
Net Present Value

12 Years 4 Months
Discounted Payback Period

180%
Total Return on Investment

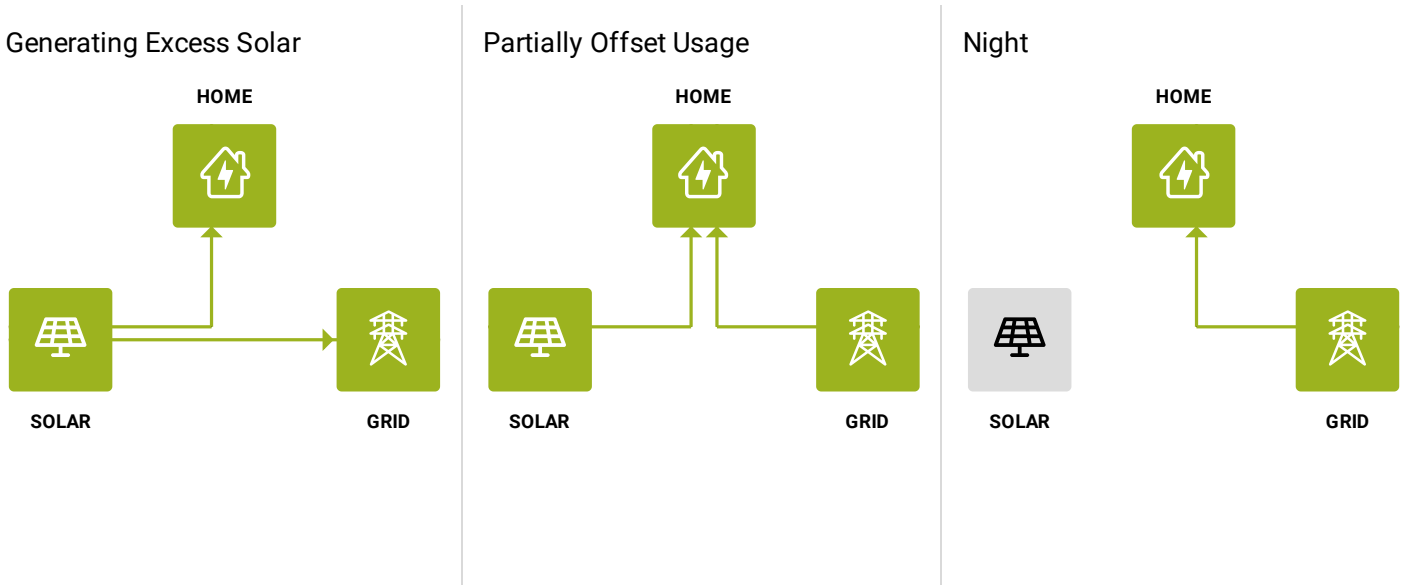
11.3%
Rate of Return on Investment

Year	Electricity Consumption (kWh)	Solar Generation (kWh)	Utility Bill (before solar) (£)	Utility Bill (after solar) (£)	Annual Savings (from solar) (£)	System Costs (Net of Dealer Incentives) (£)	Customer Incentives (Upfront) (£)	Net Savings (£)	Cumulative Impacts (£)
2024	3,500	6,036	1,162	111	1,051	9,470	0	(8418)	(8418)
2025	3,500	6,015	1,244	174	1,070	0	0	1070	(7348)
2026	3,500	5,994	1,331	248	1,083	0	0	1083	(6265)
2027	3,500	5,972	1,424	321	1,104	0	0	1103	(5161)
2028	3,500	5,951	1,524	398	1,125	0	0	1125	(4036)
2029	3,500	5,930	1,630	482	1,149	0	0	1148	(2887)
2030	3,500	5,909	1,745	571	1,174	0	0	1174	(1713)
2031	3,500	5,888	1,867	666	1,201	0	0	1201	(512)
2032	3,500	5,867	1,997	767	1,230	0	0	1230	717
2033	3,500	5,846	2,137	876	1,261	0	0	1261	1978
2034	3,500	5,825	2,287	992	1,294	0	0	1294	3272
2035	3,500	5,803	2,447	1,117	1,330	0	0	1330	4602
2036	3,500	5,782	2,618	1,250	1,368	0	0	1368	5971
2037	3,500	5,761	2,801	1,392	1,409	0	0	1409	7380

Year	Electricity Consumption (kWh)	Solar Generation (kWh)	Utility Bill (before solar) (£)	Utility Bill (after solar) (£)	Annual Savings (from solar) (£)	System Costs (Net of Dealer Incentives) (£)	Customer Incentives (Upfront) (£)	Net Savings (£)	Cumulative Impacts (£)
2038	3,500	5,740	2,998	1,545	1,453	0	0	1452	8832
2039	3,500	5,719	3,207	1,708	1,500	0	0	1499	10332
2040	3,500	5,698	3,432	1,844	1,588	0	0	1587	11920
2041	3,500	5,677	3,672	2,028	1,644	0	0	1644	13564
2042	3,500	5,656	3,929	2,225	1,705	0	0	1704	15268
2043	3,500	5,634	4,204	2,435	1,769	0	0	1769	17037

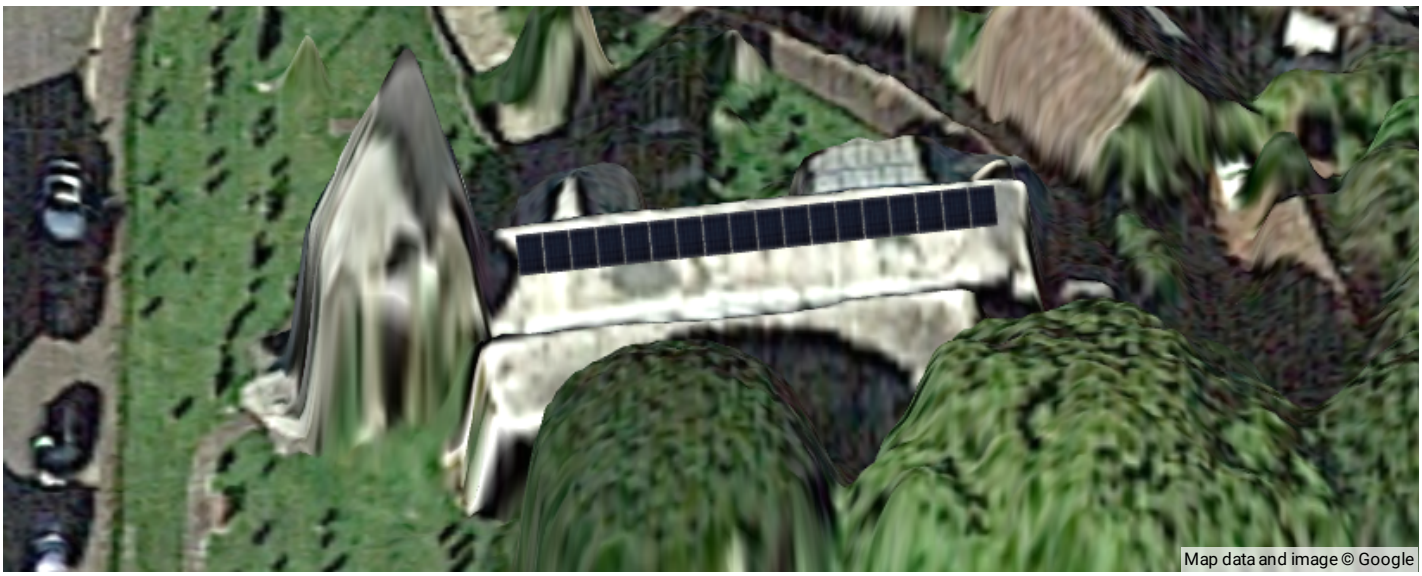
Estimates do not include replacement costs of equipment not covered by a warranty. Components may need replacement after their warranty period. Financial discount rate assumed: 6.75%

How your system works



System Option 2 of 2: 18 Panels + Battery

8.19 kW	£1,202	£12,070	8 Years 4 Months
System Size	Estimated Annual Electricity Bill Savings	Total System Price	Payback



Your Solution

Solar Panels

Aiko Energy
8.190 kW Total Solar Power
18 x 455 Watt Panels (AIKO-A455-MAH54Mw Black Frame (30mm))
6,036 kWh per year

FoxESS ECS Series

5.76kWh of Battery Storage
Fox ESS
1 x ECS2900-H2

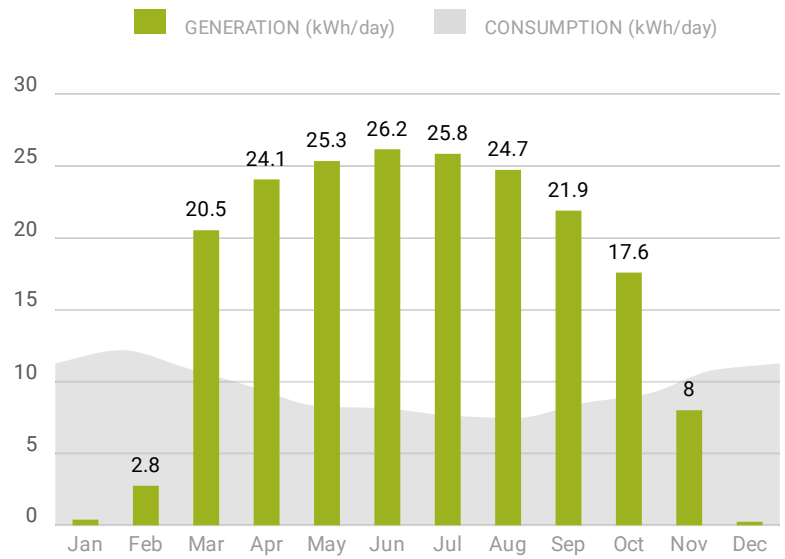
FoxESS K Series Hybrid Inverter

8kW of Inverter Power
Fox ESS 1 x KH8

Warranties: 15 Year Panel Product Warranty, 30 Year Panel Performance Warranty

System Performance

172%
Energy From Solar



40%	60%
Self-consumption	Export to grid

System Performance Assumptions: System Total losses: 0%, Inverter losses: 0%, Optimizer losses: 0%, Shading losses: 22.9%, Performance Adjustment: 0%, Output Calculator: MCS. Panel Orientations: 18 panels with Azimuth 172 and Slope 49.

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 is given as guidance only. 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 will be self-consumed.

Shading will be present on your system that will reduce its output to the factor stated. This factor was NOT calculated using the MCS shading methodology, but we can confirm that the system as quoted, taking into account the shading present, will deliver at least 90% of the energy (in kWh) as set out in this performance estimate.

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.

Important Note: The energy performance and benefits of EESS is impossible to predict with certainty due to the numerous functions a system can be programmed to perform. This estimate is based upon the standard MCS proceduce and is given as guidance only. It should not be considered as a guarantee of performance.

[EESS capacity not used for self consumption] Storage capacity of the battery - assumed usable capacity of battery [Total energy discharged per annum] Assumed usable capacity of battery x 730 [Additional self consumption] Estimated annual output (Section B) x self consumption rate with battery as a % (no higher than 95%) - Expected solar PV self-consumption (with EESS) (Section D)

A. Installation data		
Installed capacity of PV system - kWp (stc)	8.190	kWp
Orientation of the PV system - degrees from South	Group 1: 18 panels with Orientation: 10 °	°
Inclination of system - degrees from horizontal	Group 1: 18 panels with Tilt: 49°	°
Postcode region	5E	

B. Performance calculations		
kWh/kWp (Kk) from table	Group 1: 956	kWh/kWp
Shade Factor (SF)	0.771	
Estimated annual output (kWp x Kk x SF)	6,036	kWh
C. Estimated PV self-consumption - PV Only		
Assumed occupancy archetype	In Half Day	
Assumed annual electricity consumption, kWh	3,500.00	kWh
Assumed annual electricity generation from solar PV system, kWh	6,036	kWh
Expected solar PV self-consumption (PV Only)	1,123.08	kWh
Grid electricity independence / Self-sufficiency (PV Only)	32.09	%
D. Estimated PV self-consumption - with EESS		
Assumed usable capacity of electricity energy storage device, which is used for self-consumption, kWh	5.18	kWh
Expected solar PV self-consumption (with EESS)	2,424.91	kWh
Grid electricity independence / Self-sufficiency (with EESS)	69.0%	%
E. Additional benefits from PV and EESS		
EESS capacity not used for self-consumption	0.58	kWh
Total energy discharged per annum	3784.32	kWh
Additional self-consumption for EV, heat pumps, diverters (only when present)	0.00	kWh

Environmental Benefits

Solar has no emissions. It just silently generates pure, clean energy.

Each Year

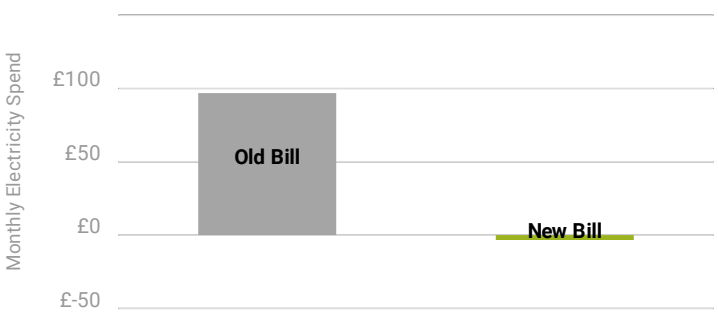
172%	2 tons
Of CO_2, SO_x & NO_x	Avoided CO_2 per year

Over System Lifetime

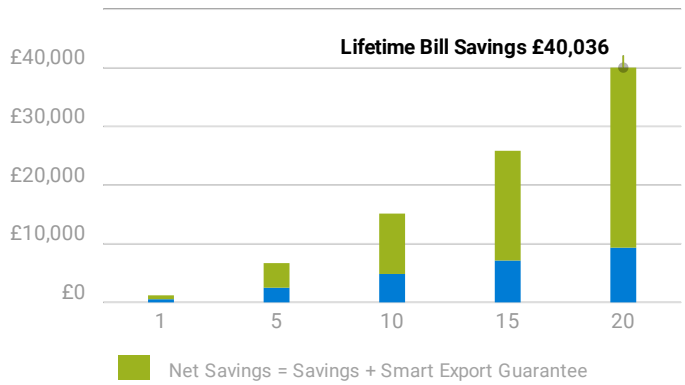
45,905	295	33
Car km avoided	Trees planted	Long haul flights avoided

Electricity Bill Savings

First Year Monthly Bill Savings



Cumulative Bill Savings



Month	Solar Generation (kWh)	Electricity Consumption before solar (kWh)	Electricity Imported after solar (kWh)	Electricity Exported after solar (kWh)	Export Credit (£)	Utility Bill before solar (£)	Utility Bill after solar (£)	Estimated Savings (£)
Jan	12	350	337	0	0	113	110	3
Feb	77	341	266	0	0	110	88	21
Mar	636	339	42	330	50	110	-22	133
Apr	722	289	8	433	65	96	-48	144
May	786	257	0	521	78	87	-63	150
Jun	785	244	0	535	80	83	-65	149
Jul	801	236	0	560	84	82	-68	150
Aug	767	232	0	529	79	80	-64	144
Sep	657	255	0	395	59	86	-44	131
Oct	545	284	24	278	42	95	-19	114
Nov	240	324	121	30	4	106	44	61
Dec	8	349	342	0	0	113	111	2

Your projected energy cost is calculated by considering a 7.0% increase in energy cost each year, due to trends in the raising cost of energy. This estimate is based on your selected preferences, current energy costs and the position and orientation of your roof to calculate the efficiency of the system. Projections are based on estimated usage of 3500 kWh per year, assuming Custom Tariff Electricity Tariff.

Your electricity tariff rates may change as a result of installing the system. You should contact your electricity retailer for further information.

Proposed Tariff Details - Custom Tariff	
Energy Charges	
rate 0 *All Day*	£0.28 / kWh
Smart Export Guarantee	
rate 0 *All Day*	£0.15 / kWh

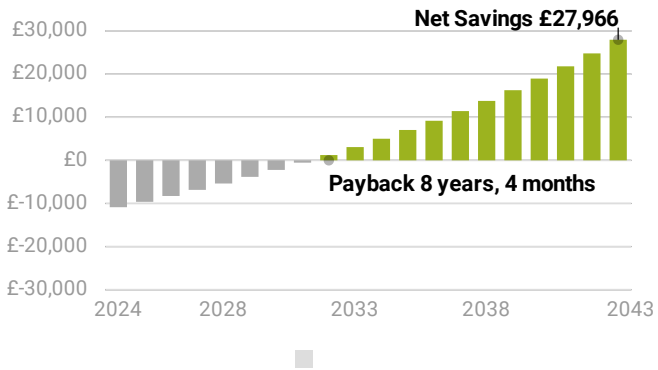
Fixed Charges	
Fixed Charge	£0.50 / day

Net Financial Impact Cash

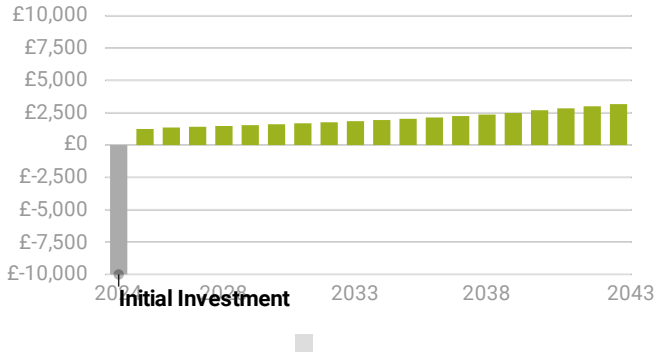
£40,036 - £12,070 = £27,966

Utility Bill Savings | Net System Cost | Estimated Net Savings

Cumulative Savings From Going Solar



Annual Savings From Going Solar



£7,353
Net Present Value

11 Years 8 Months
Discounted Payback Period

232%
Total Return on Investment

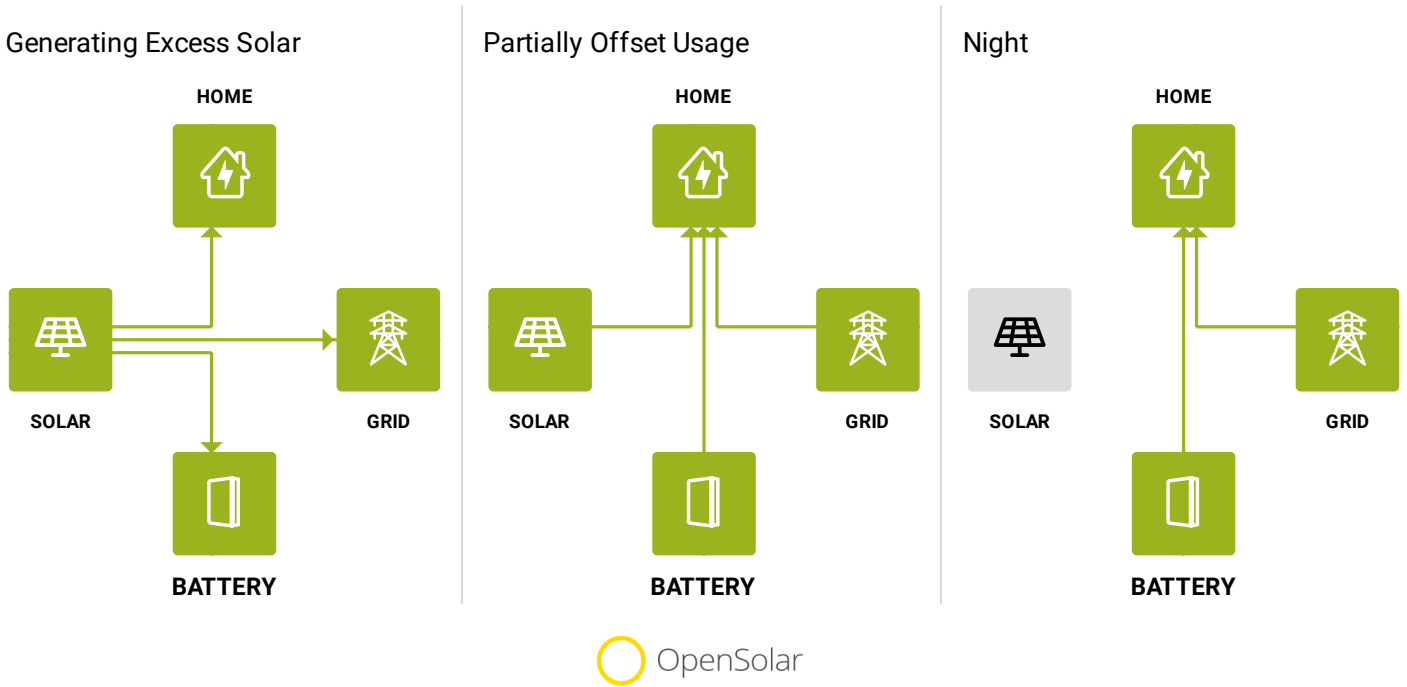
12.5%
Rate of Return on Investment

Year	Electricity Consumption (kWh)	Solar Generation (kWh)	Utility Bill (before solar) (£)	Utility Bill (after solar) (£)	Annual Savings (from solar) (£)	System Costs (Net of Dealer Incentives) (£)	Customer Incentives (Upfront) (£)	Net Savings (£)	Cumulative Impacts (£)
2024	3,500	6,036	1,162	-40	1,202	12,070	0	(10867)	(10867)
2025	3,500	6,015	1,244	-1	1,245	0	0	1244	(9622)
2026	3,500	5,994	1,331	-28	1,359	0	0	1358	(8264)
2027	3,500	5,972	1,424	8	1,416	0	0	1415	(6848)
2028	3,500	5,951	1,524	48	1,476	0	0	1476	(5372)
2029	3,500	5,930	1,630	89	1,541	0	0	1541	(3831)
2030	3,500	5,909	1,745	134	1,610	0	0	1610	(2221)
2031	3,500	5,888	1,867	183	1,684	0	0	1683	(537)
2032	3,500	5,867	1,997	235	1,763	0	0	1762	1225
2033	3,500	5,846	2,137	290	1,847	0	0	1846	3072
2034	3,500	5,825	2,287	350	1,937	0	0	1936	5009
2035	3,500	5,803	2,447	414	2,032	0	0	2032	7041
2036	3,500	5,782	2,618	483	2,135	0	0	2134	9176
2037	3,500	5,761	2,801	558	2,244	0	0	2243	11420

Year	Electricity Consumption (kWh)	Solar Generation (kWh)	Utility Bill (before solar) (£)	Utility Bill (after solar) (£)	Annual Savings (from solar) (£)	System Costs (Net of Dealer Incentives) (£)	Customer Incentives (Upfront) (£)	Net Savings (£)	Cumulative Impacts (£)
2038	3,500	5,740	2,998	637	2,360	0	0	2360	13780
2039	3,500	5,719	3,207	723	2,484	0	0	2484	16264
2040	3,500	5,698	3,432	738	2,694	0	0	2693	18958
2041	3,500	5,677	3,672	831	2,841	0	0	2841	21800
2042	3,500	5,656	3,929	930	2,999	0	0	2998	24799
2043	3,500	5,634	4,204	1,038	3,167	0	0	3166	27965

Estimates do not include replacement costs of equipment not covered by a warranty. Components may need replacement after their warranty period. Financial discount rate assumed: 6.75%

How your system works



OpenSolar

This proposal has been prepared by Total Renewable Solutions using tools from OpenSolar. Please visit www.opensolar.com/proposal-disclaimer for additional disclosures from OpenSolar.

Solar Options

System Option	System Size	Solar Generation	Electricity Savings	Net System Price
1 **18 Panels**	18 Panels, 8.19 kW	16.536 kWh per day	£1,051 per year	£9,470.00

Solar Panels
18 AIKO-A455-MAH54Mw Black Frame (30mm)
Aiko Energy
15.0 Year Product Warranty
30.0 Year Performance Warranty

Inverter
1 x KH8

System Option	System Size	Solar Generation	Electricity Savings	Net System Price
2 **18 Panels + Battery**	18 Panels, 8.19 kW 5.8 kWh Storage	16.536 kWh per day	£1,202 per year	£12,070.00

Solar Panels
18 AIKO-A455-MAH54Mw Black Frame (30mm)
Aiko Energy
15.0 Year Product Warranty
30.0 Year Performance Warranty

Inverter
1 x KH8

Battery
1 FoxESS ECS Series (Fox ESS)

FOX ESS

DATASHEET

Single Phase Hybrid / AC Inverter

KH7 / KH8 / KH9 / KH10 / KH10.5
KA7 / KA8 / KA9 / KA10 / KA10.5

K SERIES

SINGLE PHASE INVERTER

Harness the power of the sun day and night with the ground-breaking range of Hybrid & AC inverters from Fox ESS.
Full of advanced features and compatible with our very own range of high-voltage batteries, the hybrid range from Fox ESS is a new class of Inverter.

Fox ESS storage solutions are available with advanced and intuitive app based remote control and monitoring functionality.

Easy Installation

Flexible configuration, plug and play set-up, built-in fuse protection.

High Voltage

Includes high-voltage batteries for maximum round-trip effciency.

IP65 Rated

Engineered to last with maximum flexibility. Suitable for outdoor installation.

Remote Monitoring

Monitor your system remotely via smartphone app or web portal.

up to **10.5kW** charge/ discharge

REFINED – POWERFUL – FLEXIBLE

BATTERY EXPANSION

EASY UPGRADE

Expand your system easily by simply adding additional batteries. Seven batteries can be installed in series, providing up to 33.24kWh of storage capacity.

For more about the Fox ESS range, visit:

WWW.FOX-ESS.COM

TECHNICAL SPECIFICATIONS

Model	KH7 KA7	KH8 KA8	KH9 KA9	KH10 KA10	KH10.5 KA10.5
ELECTRICAL CHARACTERISTICS					
Battery Type			Li-Ion		
Battery Voltage Range [V]			85 ~ 480		
Recommended Battery Voltage [V]			300VDC		
Max. Charge Current [A]			50		
Max. Discharge Current [A]			50		
Communication Interfaces			CAN / RS485		
Reverse Connect Protection			YES		
INPUT PV (FOR KH ONLY)					
Max. Recommended DC Power [W]	10500	12000	13500	15000	15000
Max. DC Voltage [V]			600		
Norminal DC Operating Voltage [V]			360		
Max. Input Current (Input A / Input B) [A]		16 / 16 / 16[1]		16 / 16 / 16 / 16[1]	
Max. Short Circuit Current (Input A / Input B) [A]		20 / 20 / 20		20 / 20 / 20 / 20	
Max. Inverter Backfeed Current to the Array [mA]			0		
MPPT Voltage Range [V]			80 ~ 500		
Start-up Voltage [V]			75		
No. of MPP Trackers		3		4	
Strings Per MPP Tracker			1		
DC Disconnection Switch			Optional		
OUTPUT AC					
Norminal AC Power [VA]	7000	8000	9000	10000	10500
Max. Apparent AC power [VA]	7700	8800	9900	10500	10500
Rated Grid Voltage (AC Voltage Range) [V]			220 / 230 / 240（180 ~ 270）		
Rated Grid Frequency [Hz]			50 / 60, ±5		
Norminal AC Current [A]	30.4	34.8	39.1	43.5	45.7
Max. AC Current [A]	33.5	38.3	43.0	45.7	47.7
Displacement Power Factor			0.8 Leading to 0.8 Lagging		
Total Harmonic Distortion (THDi, Rated Power) [%]			<3		
INPUT AC					
Max AC Power [VA]	14000	16000	18000	18000	18000
Max. AC Current [A]	60.9	69.6	78.3	78.3	78.3
Rated Grid Voltage (AC Voltage Range) [V]			220 / 230 / 240（180 ~ 270）		
Rated Grid Frequency [Hz]			50 / 60, ±5		
EPS OUTPUT (WITH BATTERY)					
Max. EPS Power [VA]	7000	8000	9000	10000	10500
EPS Rated Voltage [V], Frequency [Hz]			220/230/240, 50 / 60		
Max. EPS Current [A]	31.8	36.4	40.9	45.5	47.7
EPS Peak Power [W]		10000, 60s		12000, 60s	
Switch Time [ms]			<20		
Total Harmonic Distortion (THDv, Linear Load) [%]			<2		
Parallel Operation			Yes @max10PCS		
EFFICIENCY					
MPPT Efficiency [%]			99.90		
Euro-efficiency [%]			97.40		
Max. Efficiency [%]			97.80		
Max. Battery Charge Efficiency (PV to BAT) (@Full Load) [%]			98.50		
Max. Battery Charge / Discharge Efficiency (BAT to AC) (@Full Load) [%]			97.00		
PROTECTION					
PV Reverse Polarity Protection			YES		
Battert Reverse Protection			YES		
Anti-islanding Protection			YES		
Output Short Protection			YES		
Leakage Current Protection			YES		
Insulation Resistor Detection			YES		
Over-current Protection / Over-temperature Protection			YES		
Over Voltage Category			III (AC side), II (DC side)		
AC/DC Surge Protection			Type II / Type II		
AFCI Protection			Optional		
POWER CONSUMPTION					
Standby Consumption [W] (Idle)			<15		
STANDARD					
Safety			IEC62109-1 / IEC62109-2 / IEC 62477-1		
EMC			EN 61000-6-1 / EN 61000-6-2 / EN 61000-6-3		
Cetification			G99 /AS4777.2 / EN50549-1 / CEI 0-21 / NRS 097-2-1 and so on		
ENVIRONMENT LIMIT					
Ingress Protection			IP65		
Protective Class			Class I		
Operating Temperature Range [°C]			-25..... +60 (Derating at +45)		
Humidity [%]			0 ~ 95 (Non-condensing)		
Altitude [m]			<2000		
Storage Temperature [°C]			-40..... +70		
Noise Emission (Typical) [dB]			<30		
DIMENSION AND WEIGHT					
Dimensions (W * H * D) [mm]			450*527*208		
Weight [kg]			29 (KH) / 27.5 (KA)		
Cooling Concept			Natural		
Topology			Non-isolated		
Communication			Meter(Optinal), WIFI, 4G (Optional), DRM, USB, CT, RS485		
LCD Display			Backlight 16*4 Character		

* More technical characteristics are avaliable on demand and customized.
[1] The maxium generating power of each pv string is limited to 3300 watts.

Version 1.6 | 2023/03/22

DATASHEET

ECS SERIES

ECS2900-H2/H3/H4/H5/H6/H7

Fox ESS **ECS** BATTERY STORAGE SYSTEM

HIGH VOLTAGE BATTERY FROM Fox ESS

The ECS is a high-performance, scalable battery storage system. The modular design allows for maximum flexibility, making it suitable for a broad range of storage applications.

Additional batteries can be installed in series, allowing for a maximum storage capacity of 20.16kWh. Installation is easy, with a plug and play solution that can save valuable time for installers.

- 2.88kWh capacity
- Scalable to 20.16 kWh
- 90% Depth of Discharge
- Large temperature tolerance
- Easy installation
- CAN/RS485 communication
- High voltage

High Voltage | **Simple Installation** | **High Efficiency** | **Expandable System** | **90% DoD**

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Fox ESS

ECS SERIES

ECS2900-H2/H3/H4/H5/H6/H7

Model	ECS2900 -H2	ECS2900 -H3	ECS2900 -H4	ECS2900 -H5	ECS2900 -H6	ECS2900 -H7
ELECTRICAL CHARACTERISTICS						
Battery Type	LiFePO4 Prismatic Cell					
Battery Module	1*CM2900 1*CS2900	1*CM2900 2*CS2900	1*CM2900 3*CS2900	1*CM2900 4*CS2900	1*CM2900 5*CS2900	1*CM2900 6*CS2900
Nominal Capacity [Wh]	5760	8640	11520	14400	17280	20160
Nominal Voltage [V]	115.2	172.8	230.4	288	345.6	403.2
Operating Voltage [V]	97.2 ~ 131.4	145.8 ~ 197.1	194.4 ~ 262.8	243 ~ 328.5	291.6 ~ 394.2	340.2 ~ 459.9
Recommend Discharge Current [A]	25					
Max. Charge/Discharge Current [A]	50					
Peak Discharge Current [A]	65 @60sec					
Battery Pack Round-Trip Efficiency [%]	>95					
Depth of discharge [%]	90					
Cycle Life[*1]	≥6000					
Communication	CAN, RS485					
Display	CS: LED*1, CM: LED*6					
Scalability	Max. 7 Modules in Series					
OPERATING CONDITIONS						
Installation Location	Outdoor/ Indoor (Stand)					
Operating Temperature [°C][*2]	Charge: 0 ~ 55 Discharge: -10 ~ 55					
Storage Temperature [°C]	-20 ~ 55					
Cooling method	Natural Convection					
Humidity [%]	5 ~ 95 (No Condensing)					
Altitude [m]	Max. 2,000					
Mechanical Characteristics						
Dimensions (W*H*D) [mm]	570*350*380	570*470*380	570*590*380	570*710*380	570*830*380	570*950*380
Weight [kg]	68.3	100.3	132.3	164.3	196.3	228.3
Certificates						
Safety	IEC 62619					
EMC	EN IEC 61000-6-1/2/3/4					
Transportation	UN38.3					
Ingress Protection	IP65					

*1, 25°C, @90% DOD, 0.5C charging/discharging.

*2, Charge derating will occur between 0°C and +15°C.