

SUSTAIN

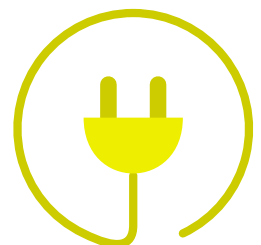
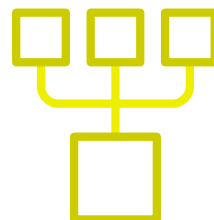
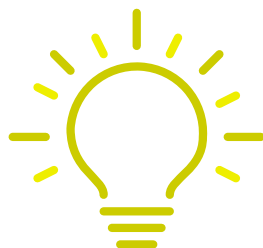
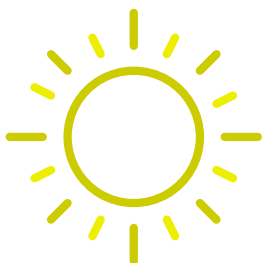
Louise Palmer

Project Name: PALMER_N10_3TS_GBNL_SOLAR
PROPOSAL 5-Panel

Address: 3 Rookfield Avenue London, N10 3TS

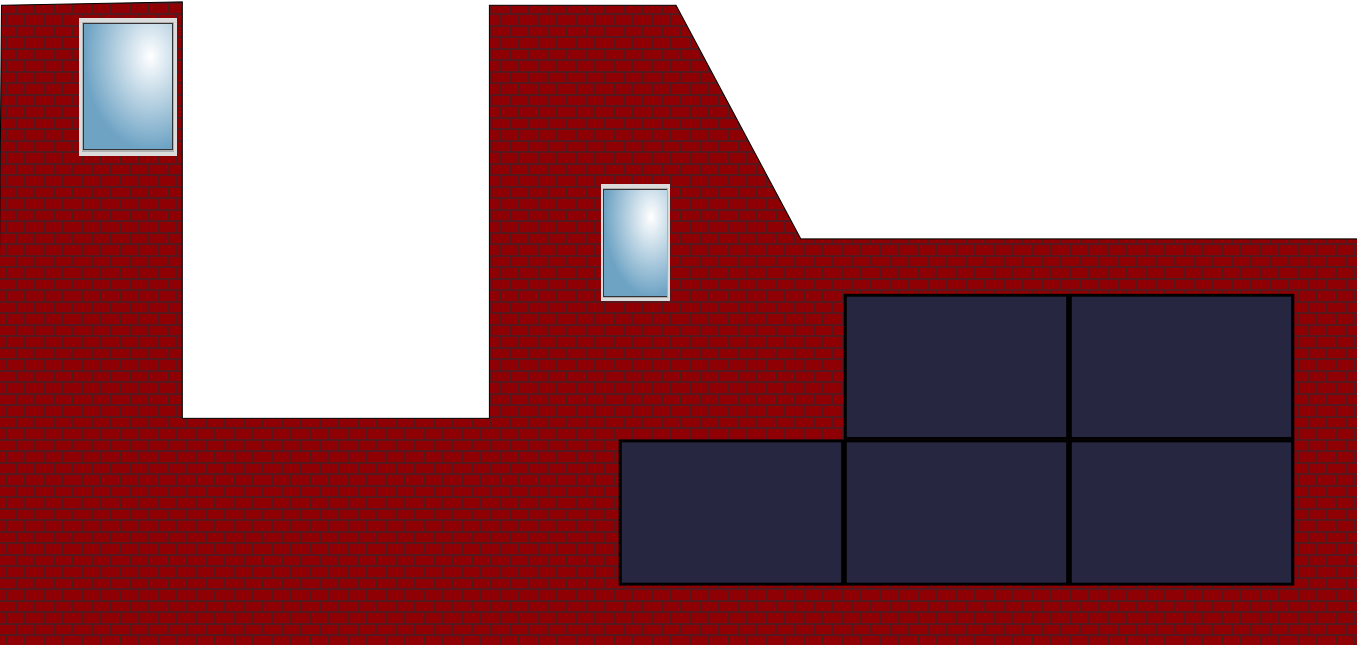
Date Created: 1st July 2026

Designer: Dave Bailey



Roof Layout

Roof 1



Component list

Item	Quantity
DMEGC 465W solar panel	5
Fastensol end clamp (30mm black)	8
Fastensol mid clamp (30mm black)	6
Fastensol black end cap	8
Fastensol portrait flat tile roof hook	20
Hookstop protector	20
Fastensol rail splice	4
Fastensol silver rail 3550mm	6
Fox ESS H1 G2 3.68kW 1ph Hybrid Inverter inverter	1
Fox ESS EP12 Plus 11.52kWh Li-ion Battery w/ heating function	1
AC isolator - IMO - 20A 4-pole	2
IMO 25A DC Isolator 4-pole 2-string	1
MC4 4mm Connector Pair	2
50m reel of 4mm2 solar cable	1
Label sheet	1

Battery Hazard Warning Label Pack	1
Bird Guard	1
Battery Warning Label Stickers	1
Battery in Installation Stickers	1



Inverter checks

Fox ESS H1 G2 3.68kW 1ph Hybrid Inverter

Panels

PV power **2325** Rated AC output **3680**

Input 1: 5 DMEGC 465W solar panels in 1 strings

Panels

Inverter

PV power	2325 W		
Open circuit voltage at -10° C	199 V	Max DC voltage	550 V
V _{mpp} at 40° C	150 V	V _{mpp} lower limit	80 V
V _{mpp} at -10° C	170 V	V _{mpp} upper limit	550 V
I _{mpp} at 40° C	15 A	Max DC input current	16 A

Max voltage

The open circuit voltage of the solar panels never exceeds the voltage limit of the inverter.



Max power point range

The maximum power point voltage of the solar panels is always above the lower limit of the inverter MPPT tracker. The maximum power point voltage of the solar panels is always below the upper limit of the inverter MPPT tracker.

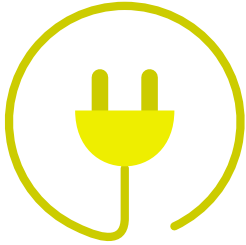


Max Current

The maximum power point current of the solar panels is always below the maximum current for the inverter MPPT tracker.



Input 2: No panels



Electrical

Fox ESS H1 G2 3.68kW 1ph Hybrid Inverter



AC Isolator

A AC isolator - IMO - 20A 4-pole has been specified for this input

Current

The rated isolator current (20A) is greater than the rated inverter current (18.4A)



Phases

The isolator is suitable for use on a single phase inverter.



Input 01



DC Isolator

A IMO 25A DC Isolator 4-pole 2-string has been specified for this input

Current

The isolator is rated for a current of 20A, which is more than the expected maximum current of 19.85A.



Voltage

At 20A the isolator is rated for a voltage of 800V, which is more than the expected maximum voltage of 218.76V.



Cable

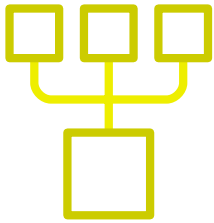
10m of 4mm² solar cable has been specified

Voltage drop

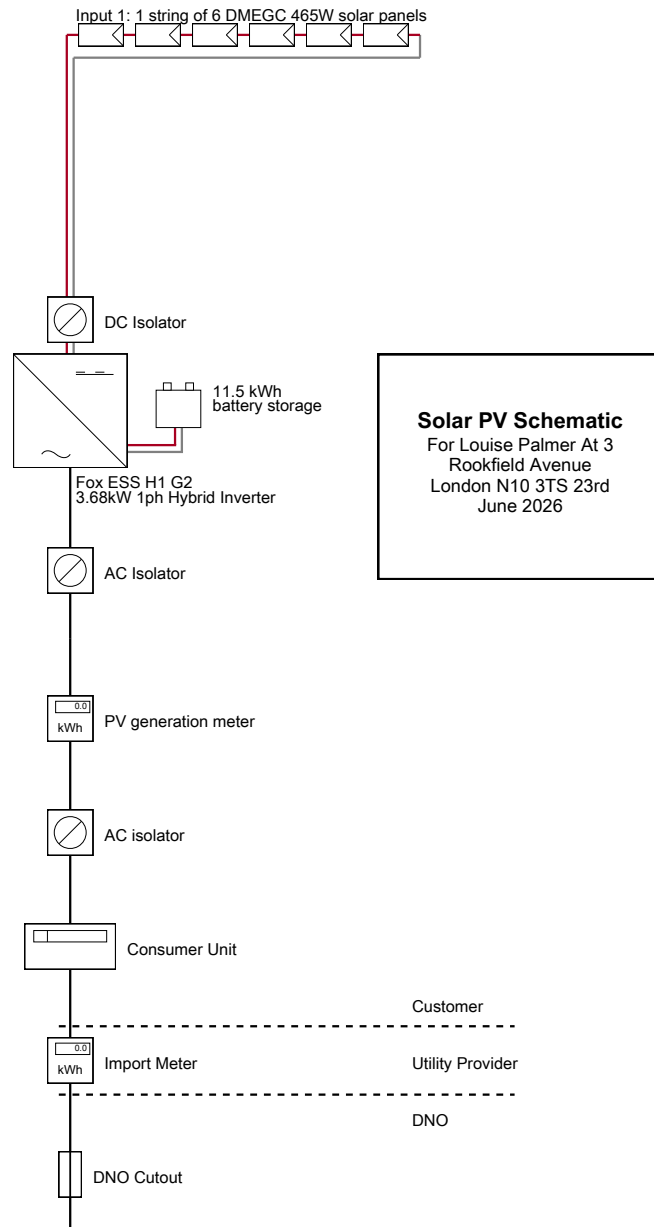
Voltage drop at maximum power point at 40°C will be around **1.38 V (0.92 percent)**

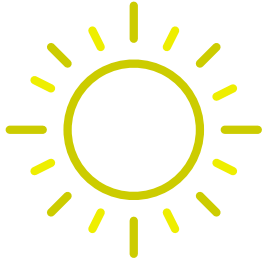


Input 11: No panels



Schematic diagram





Performance Estimate

Site details

Client

Louise Palmer

Address

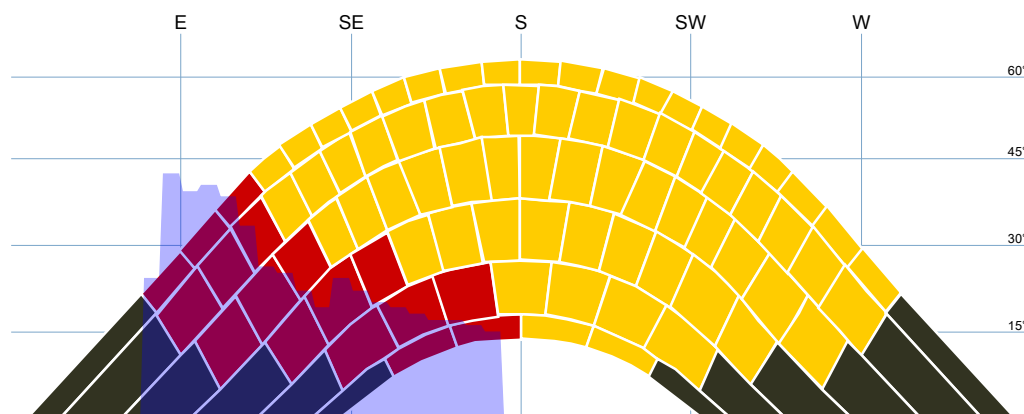
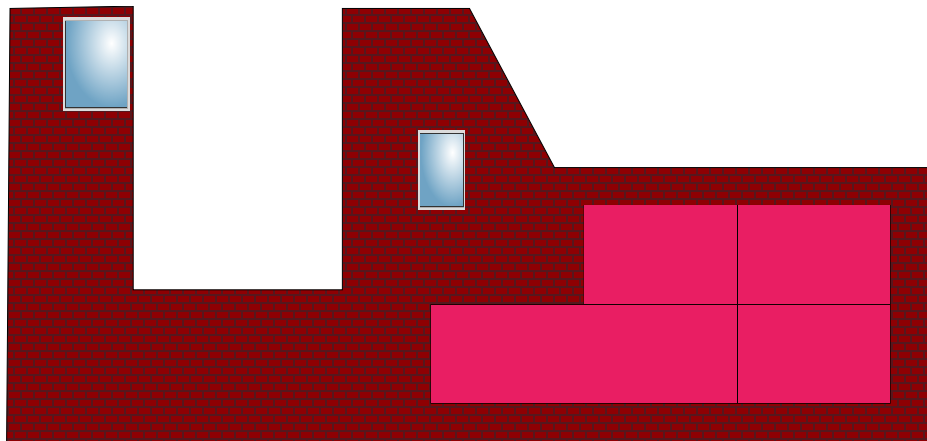
3 Rookfield Avenue London

The sunpath diagram shows the arcs of the sky that the sun passes through at different times of the day and year as yellow blocks. The shaded area indicates the horizon as seen from the location of the solar array. Where objects on the horizon are within 10m of the array, an added semi-circle is drawn to represent the increased shading. Blocks of the sky that are shaded by objects on the horizon are coloured red, and a shading factor is calculated from the number of red blocks. The performance of the solar array is calculated by multiplying the size of the array (kWp) by the shading factor (sf) and a site correction factor (kk), taken from tables which take account of the geographical location, orientation and inclination of the array.

Inverter 1

Fox ESS H1 G2 3.68kW 1ph Hybrid Inverter

Input 1



A. Installation data

Installed capacity of PV system – kWp (stc)	2.325	kWp
Orientation of the PV system – degrees from South	120	°
Inclination of system – degrees from horizontal	30	°
Postcode region	1	



B. Performance calculations

kWh/kWp (Kk)	691	kWh/kWp
Shade factor (SF)	0.83	
Estimated output (kWp × Kk × SF)	1333	kWh

Performance Summary

A. Installation data		
Installed capacity of PV system – kWp (stc)	2.325	kWp
Orientation of the PV system – degrees from South	See individual inputs	
Inclination of system – degrees from horizontal	See individual inputs	
Postcode region	1	
B. Performance calculations		
kWh/kWp (Kk)	See individual inputs	
Shade factor (SF)	See individual inputs	
Estimated output (kWp × Kk × SF)	1333	kWh
C. Estimated PV self-consumption – PV Only		
Assumed occupancy archetype	home all day	
Assumed annual electricity consumption, kWh	3500	kWh
Assumed annual electricity generation from solar PV system, kWh	1333	kWh
Expected solar PV self-consumption (PV Only)	706.49	kWh
Grid electricity independence / Self-sufficiency (PV Only)	20.19	%
D. Estimated PV self-consumption – with EESS		
Assumed usable capacity of electrical energy storage device, which is used for self-consumption	10.368	kWh
Expected solar PV self-consumption (with EESS)	1266.35	kWh
Grid electricity independence / Self-sufficiency (with EESS)	36.18	%



Equipment and Services

Equipment Costs

5 x 465W Panels with Medium 1 x Fox EP12 Battery 10.4kWh

Total equipment cost	£7,244.00
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Services Costs

Total services cost	£0.00
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Totals

Total before tax	£7,244.00
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VAT at 0%	£0.00
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Total including tax	£7,244.00
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