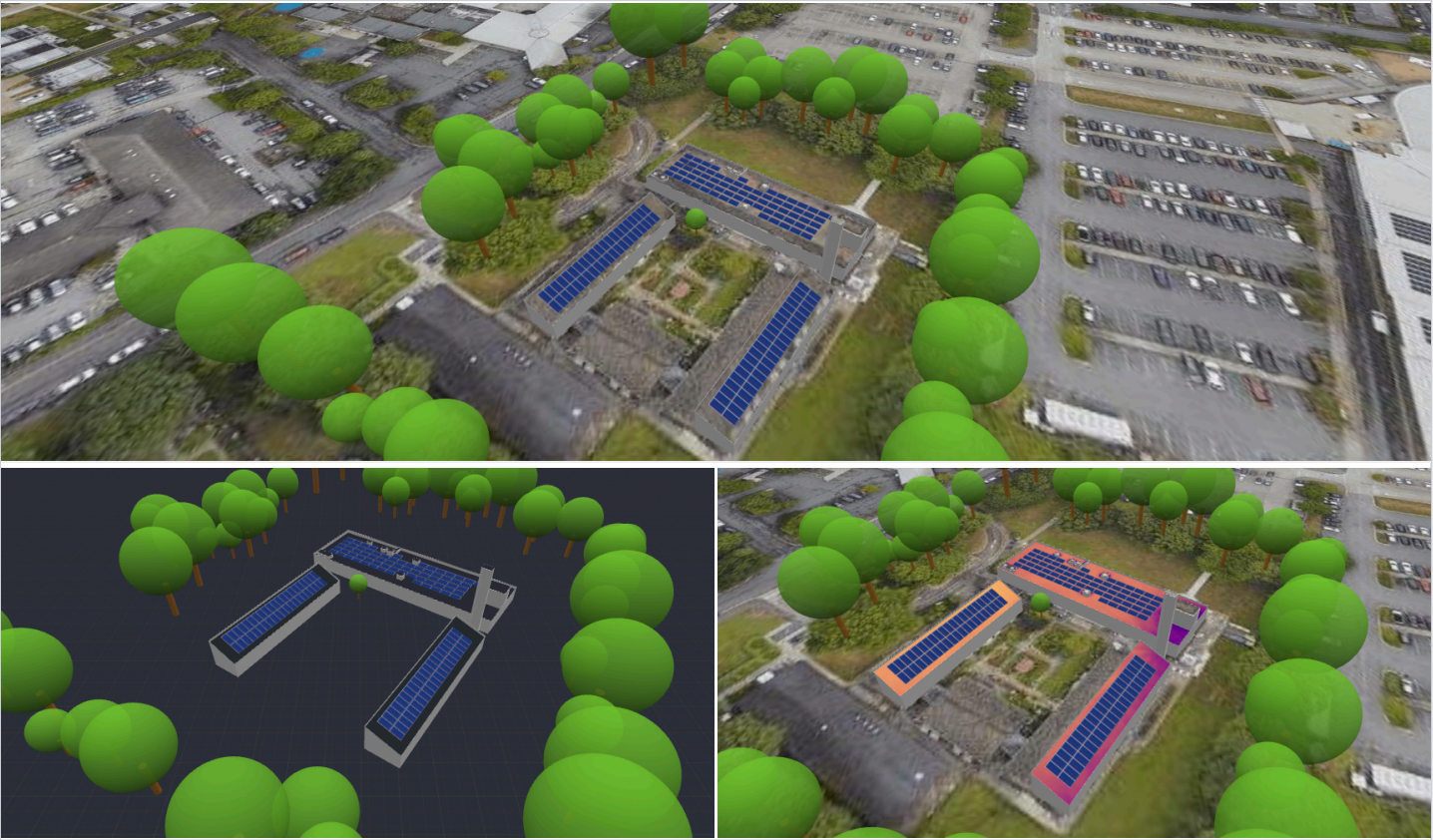


BUCCLEUCH LODGE
Manchester, United Kingdom | Aug 6, 2025



SYSTEM OVERVIEW

 154 PV modules

 1 Inverter

 77 Optimizers

SIMULATION RESULTS



Installed DC Power
81.62 kWp



Max Achieved AC Power
50.00 kW



Annual Usable Solar
Production
68.30 MWh



Annual CO₂ Emission Saved
13.21 t



Annual Equivalent Trees
Planted
607



Max Achieved DC Power
75.42 kW



DC/AC Oversizing
151 %



Max Active AC Power
50.00 kW



Performance Ratio
78 %

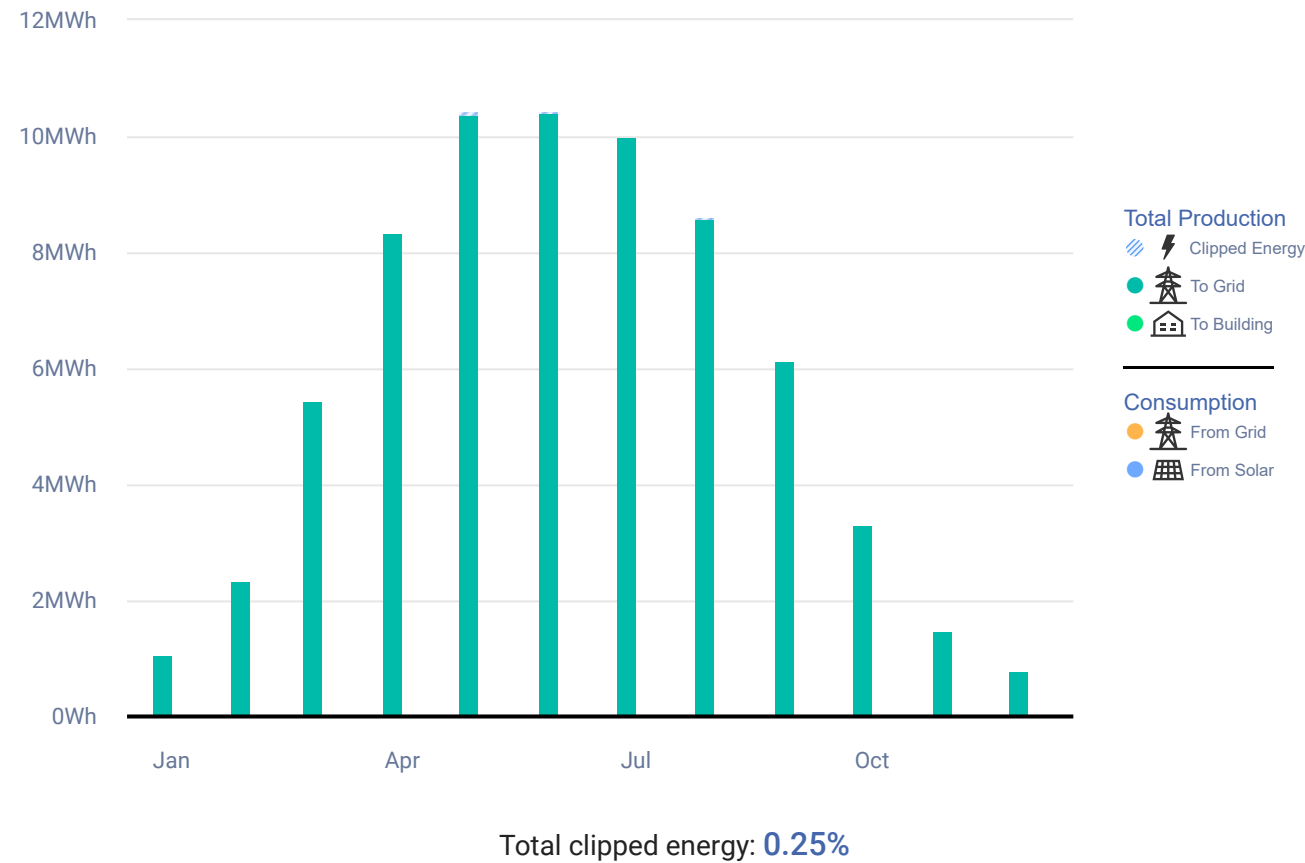


Annual Specific Production
837 kWh/kWp

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ESTIMATED MONTHLY ENERGY



Month	Production (kWh)		Clipped Energy (kWh)		Consumption (kWh)		From Grid (kWh)
	To Home (kWh)	To Grid (kWh)			From PV (kWh)		
Jan	1,057	-	1,057	-	-	-	-
Feb	2,345	-	2,345	-	-	-	-
Mar	5,438	-	5,438	-	-	-	-
Apr	8,350	-	8,350	8	-	-	-
May	10,375	-	10,375	65	-	-	-
Jun	10,406	-	10,406	50	-	-	-
Jul	9,985	-	9,985	23	-	-	-
Aug	8,591	-	8,591	20	-	-	-
Sep	6,144	-	6,144	2	-	-	-
Oct	3,325	-	3,325	-	-	-	-
Nov	1,479	-	1,479	-	-	-	-
Dec	809	-	809	-	-	-	-

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PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
70	JA Solar, JAM60D-42-530-LB-TS-BF (user-defined)	37.1 kWp			215°	10°
42	JA Solar, JAM60D-42-530-LB-TS-BF (user-defined)	22.3 kWp			125°	25°
42	JA Solar, JAM60D-42-530-LB-TS-BF (user-defined)	22.3 kWp			124°	20°
Total: 154		81.6 kWp				

BILL OF MATERIALS (BOM)

Items	Part Number	Quantity	Price (£)	Total (£)
	SE50K Synergy Manager	1		
	S1200	77		
	JAM60D-42-530-LB-TS-BF	154		

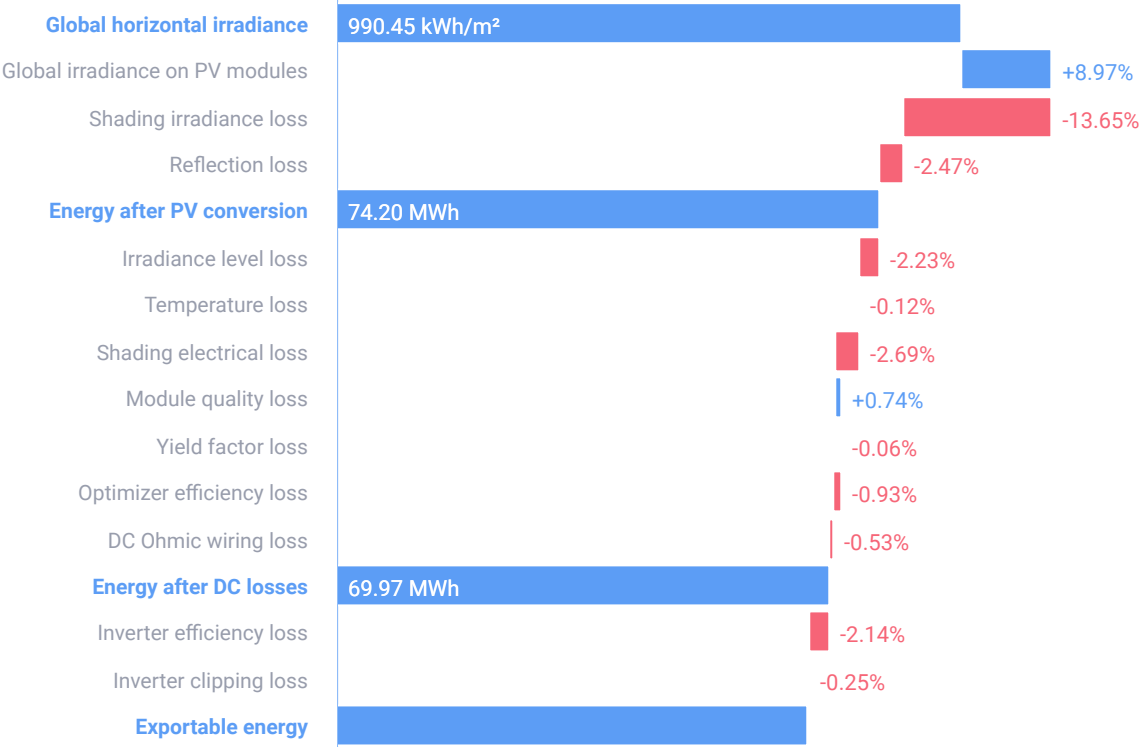
ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE50K Synergy ManagerCenter Unit 75.42kW 151% Oversizing	⌚ 1 x string	19 x S1200 (2:1)	38
	⌚ 1 x string	20 x S1200 (2:1)	40
	Left Unit		
	⌚ 2 x strings	19 x S1200 (2:1)	38

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SYSTEM LOSS DIAGRAM



SIMULATION PARAMETERS



LOCATION & GRID

Time zone	GMT+1 (London)
Weather station	Manchester-Ringway (8 km away)
Station altitude	69 m
Station data source	Meteonorm 8.2
Grid	400V L-L, 230V L-N



LOSS FACTORS

Near shading	Enabled
Albedo	0.20
Bi-Facial Albedo	0.30
Soiling/Snow	0%
Incidence angle modifier (IAM), ASHRAE b0 param.	0.05
Thermal loss factor Uc (const) Flush mount	20
Thermal loss factor Uc (const) Tilted	29
LID loss factor	0%
System unavailability	0%