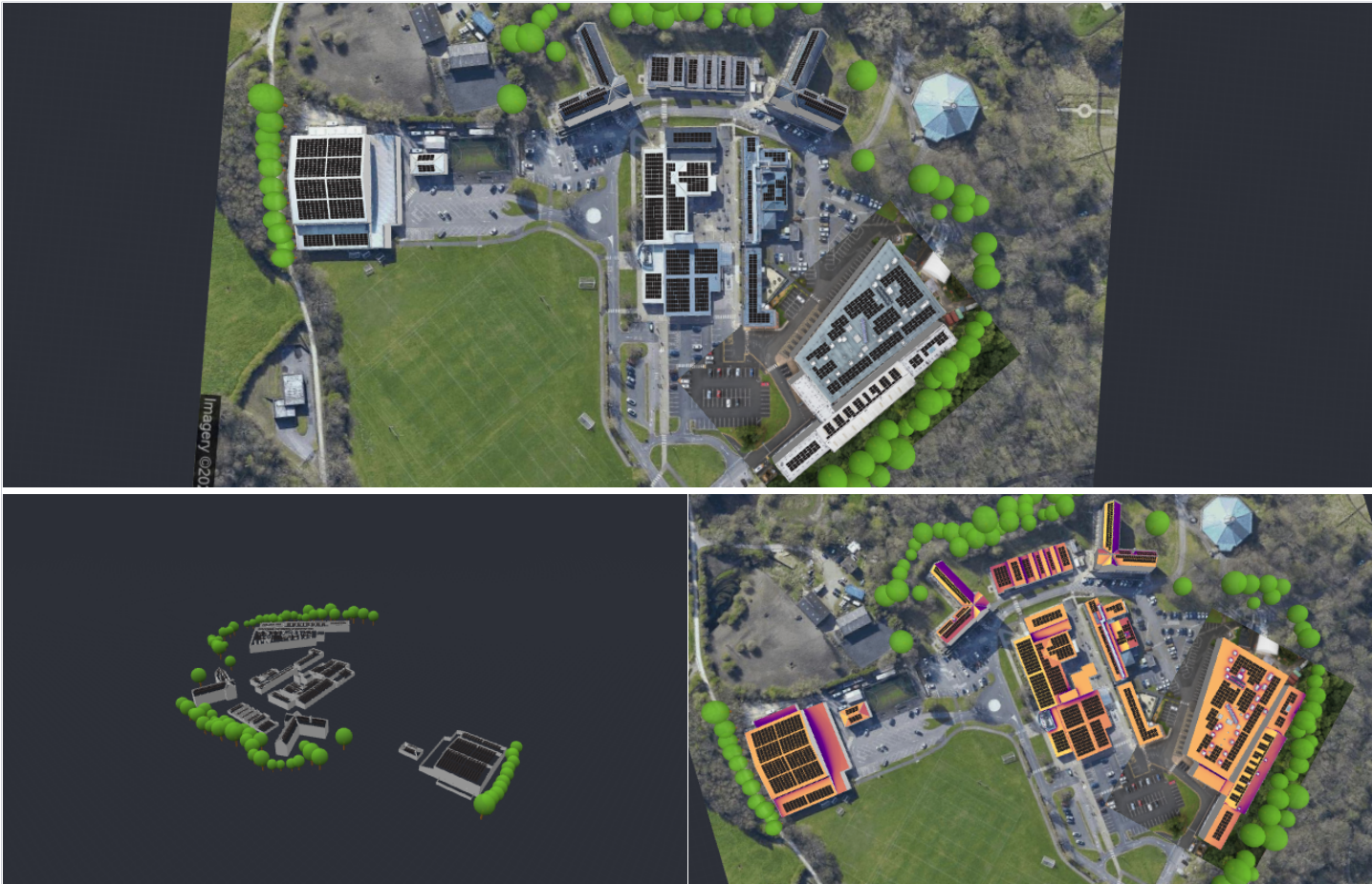


HOPWOOD HALL COLLEGE - MASTER

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SYSTEM OVERVIEW

 2263 PV modules

 14 Inverters

 1154 Optimizers

SIMULATION RESULTS



Installed DC Power

1.21 MWp



Max Achieved AC Power

761.50 kW



Annual Usable Solar Production

924.66 MWh



Annual CO₂ Emission Saved

178.81 t



Annual Equivalent Trees Planted

8,213

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ANNUAL CONSUMPTION AND PRODUCTION RESULTS



- 🏠 To Building 506.25 MWh (54%)
- 🔌 To Grid 418.41 MWh (45%)
- ⚡ Clipped Energy 8.20 MWh (1%)



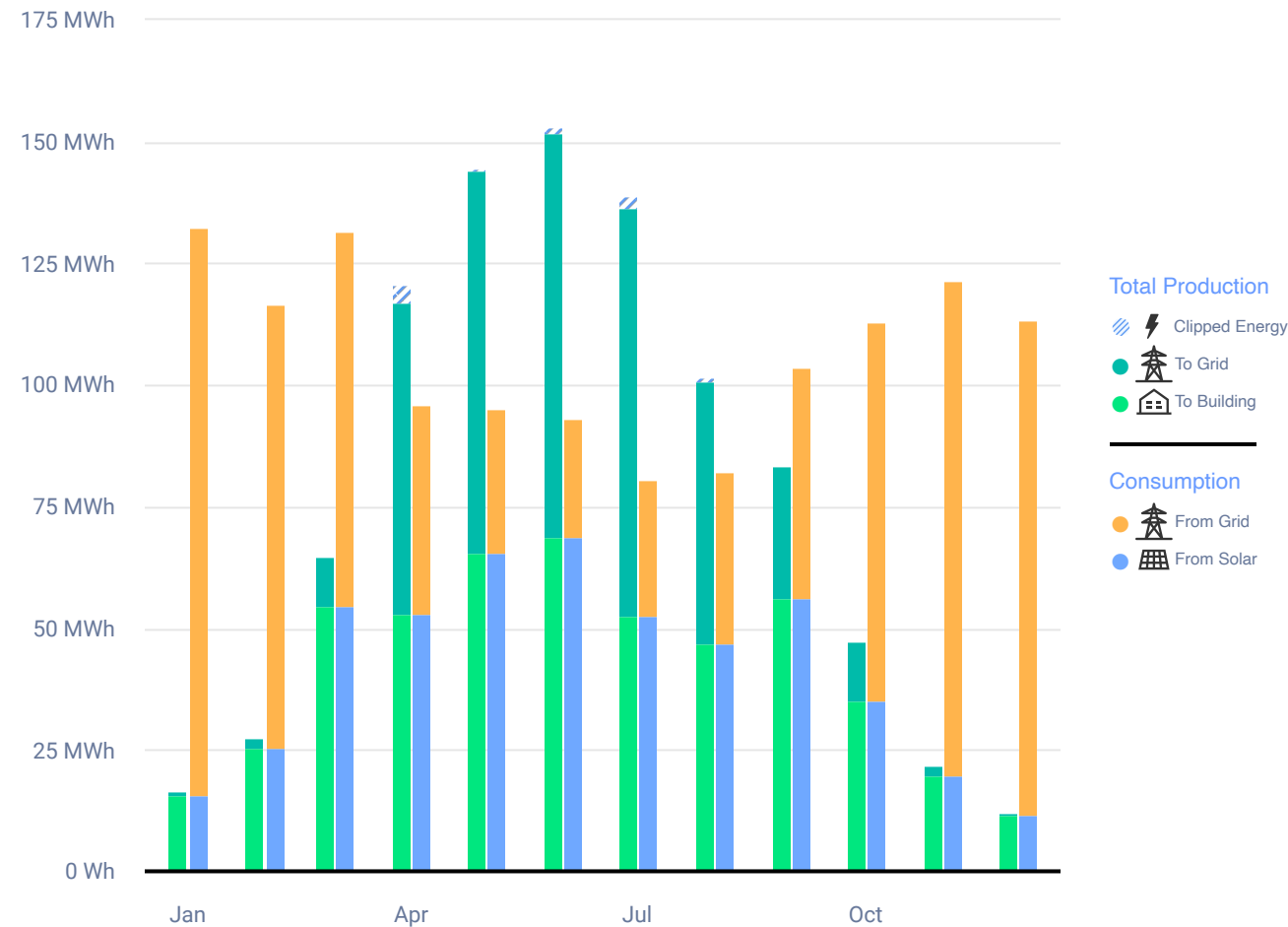
- ☀️ From Solar 0.51 GWh (40%)
- 🔌 From Grid 0.77 GWh (60%)

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ESTIMATED MONTHLY ENERGY



Total clipped energy: 0.91%

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ESTIMATED BILL SAVINGS YEAR 1

Annual			
Current Annual Bill	Annual Bill with SolarEdge	Net Bill Annual Savings	Bill Offset
£ 322,446.18	£ 173,950.30	£ 148,495.88	46.05 %

Estimated Net Lifetime Bill Savings

£ 2,282,424

Utility Provider: 2024 Average Utility Rates | Utility Rate: 25.2 p/kw Hopwood Hall College (0.252 £/kWh)

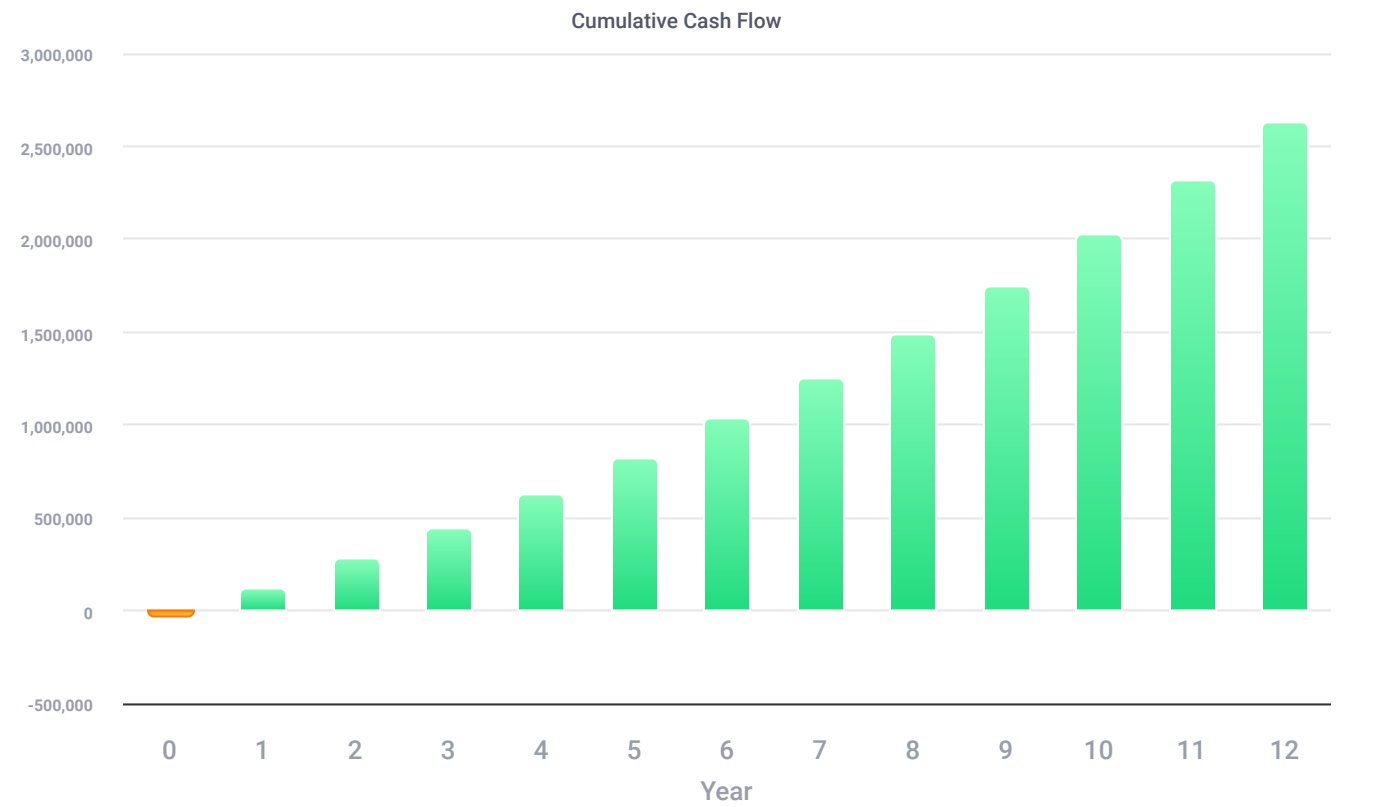
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DETAILED FINANCIAL ANALYSIS

System Price	Maintenance Cost (NPV)	Returns from Incentives (NPV)	Net Payments	Lifetime Bill Savings (NPV)
£ 30,730	£ N/A	£ N/A	£ 30,730	£ 2,282,424
System Profit (NPV)	Internal Return Rate (IRR)	Return Of Investment (ROI)	Levelized Cost Of Energy (LCOE)	Payback Period
£ 2,251,694	490.12 %	7,327.35 %	£/kWh 0.003	0.2 years



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YEARLY CASH FLOW

# Year	System Price	Net Bill Savings	Annual Cash Flow	Cumulative Cash Flow
0	£ -30,730.00	£ 0.00	£ -30,730.00	£ -30,730.00
1		£ 148,495.88	£ 148,495.88	£ 117,765.88
2		£ 158,709.74	£ 158,709.74	£ 276,475.62
3		£ 169,703.04	£ 169,703.04	£ 446,178.66
4		£ 181,537.75	£ 181,537.75	£ 627,716.41
5		£ 194,278.90	£ 194,278.90	£ 821,995.32
6		£ 207,997.39	£ 207,997.39	£ 1,029,992.71
7		£ 222,769.06	£ 222,769.06	£ 1,252,761.76
8		£ 238,676.32	£ 238,676.32	£ 1,491,438.08
9		£ 255,806.81	£ 255,806.81	£ 1,747,244.89
10		£ 274,255.28	£ 274,255.28	£ 2,021,500.18
11		£ 294,124.69	£ 294,124.69	£ 2,315,624.87
12		£ 315,523.97	£ 315,523.97	£ 2,631,148.83
Total:		£ 2,661,878.83	£ 2,631,148.83	

BILL OF MATERIALS (BOM)

Items	Part Number	Quantity	Price (£)	
Total (£)				
SE50K Synergy Manager SE50K-RW00IBNQ4 4 2250.00 9,000.00 Can be ordered as SE50K Synergy Manager, or as SE-DBL-RW00IBNM4 and configured as SE50K Synergy Manager during commissioning Three Phase Inverter with Synergy Technology, Manager, 50kW, MC4 connectors, DC Safety Switch and DC SPD				

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BILL OF MATERIALS (BOM) (CONTINUED)

Items		Part Number	Quantity	Price (£)	
Total (£)					
 SE100K Synergy Manager	SE100K-RW00IBNQ4		1	3550.00	3,550.00
 Can be ordered as SE100K Synergy Manager, or as SE-TRI-RW00IBNM4 or SE-TRI-RW00IBNQ4 and configured as SE100K Synergy Manager during commissioning  Three Phase Inverter with Synergy Technology, Manager, 100kW, MC4 connectors, DC Safety Switch and DC SPD					
 SE33.3K	SE33.3K-RW00IBNJ4		2	1470.00	2,940.00
 Order SE-SIN-RWR0IBNH8 or SExxK-RWxxlxxxx and configure the inverter model as SE33.3K during commissioning  33.3kW, MC4, DC safety unit with switch, AC/DC SPD, AC/DC Segregation					
 SE8K-RWB48 Home Hub	SE8K-RWB48BFN4		1	0.00	0.00
8kW SolarEdge Home Hub Three Phase - "backup ready" Inverter					
 SE66.6K Synergy Manager	SE66.6K-RW00IBNQ4		6	2540.00	15,240.00
 Can be ordered as SE66.6K Synergy Manager, or as SE-DBL-RW00IBNM4 and configured as SE66.6K Synergy Manager during commissioning  66.6kW with Synergy Technology, DC Safety Switch and DC SPD					
 S1000	S1000-1GM4MBT		1130		
SenceConnect, 0.10m input lead, single 4.7m output lead (+) (Short)					
 S500	S500-1GM4MRM		24	0.00	0.00
input up to 500Wp, Max Isc 15A					
 JAM60D42-535/LB			2239		

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BILL OF MATERIALS (BOM) (CONTINUED)

Items	Part Number	Quantity	Price (£)
Total (£)			
 JAM60D42-520/LB		24	
			Total Price: £ 30,730.00

PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
18	JA Solar, JAM60D42-535/LB (user-defined)	9.6 kWp			86°	9°
34	JA Solar, JAM60D42-535/LB (user-defined)	18.2 kWp			266°	11°
81	JA Solar, JAM60D42-535/LB (user-defined)	43.3 kWp			227°	16°
90	JA Solar, JAM60D42-535/LB (user-defined)	48.2 kWp			356°	11°
34	JA Solar, JAM60D42-535/LB (user-defined)	18.2 kWp			266°	3°
27	JA Solar, JAM60D42-535/LB (user-defined)	14.4 kWp			86°	3°
12	JA Solar, JAM60D42-520/LB (user-defined)	6.2 kWp			265°	22°
18	JA Solar, JAM60D42-535/LB (user-defined)	9.6 kWp			86°	3°
34	JA Solar, JAM60D42-535/LB (user-defined)	18.2 kWp			86°	11°
160	JA Solar, JAM60D42-535/LB (user-defined)	85.6 kWp			176°	11°
75	JA Solar, JAM60D42-535/LB (user-defined)	40.1 kWp			85°	8°

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PV MODULES (CONTINUED)

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
21	JA Solar, JAM60D42-535/LB (user-defined)	11.2 kWp			356°	18°
35	JA Solar, JAM60D42-535/LB (user-defined)	18.7 kWp			227°	3°
38	JA Solar, JAM60D42-535/LB (user-defined)	20.3 kWp			63°	45°
48	JA Solar, JAM60D42-535/LB (user-defined)	25.7 kWp			200°	45°
108	JA Solar, JAM60D42-535/LB (user-defined)	57.8 kWp			356°	9°
12	JA Solar, JAM60D42-520/LB (user-defined)	6.2 kWp			85°	22°
50	JA Solar, JAM60D42-535/LB (user-defined)	26.8 kWp			153°	45°
34	JA Solar, JAM60D42-535/LB (user-defined)	18.2 kWp			86°	3°
35	JA Solar, JAM60D42-535/LB (user-defined)	18.7 kWp			47°	3°
60	JA Solar, JAM60D42-535/LB (user-defined)	32.1 kWp			269°	3°
16	JA Solar, JAM60D42-535/LB (user-defined)	8.6 kWp			176°	18°
186	JA Solar, JAM60D42-535/LB (user-defined)	99.5 kWp			48°	3°
38	JA Solar, JAM60D42-535/LB (user-defined)	20.3 kWp			110°	45°
60	JA Solar, JAM60D42-535/LB (user-defined)	32.1 kWp			89°	3°
32	JA Solar, JAM60D42-535/LB (user-defined)	17.1 kWp			290°	45°

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PV MODULES (CONTINUED)

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
240	JA Solar, JAM60D42-535/LB (user-defined)	128.4 kWp			85°	8°
27	JA Solar, JAM60D42-535/LB (user-defined)	14.4 kWp			266°	3°
240	JA Solar, JAM60D42-535/LB (user-defined)	128.4 kWp			265°	8°
42	JA Solar, JAM60D42-535/LB (user-defined)	22.5 kWp			176°	11°
186	JA Solar, JAM60D42-535/LB (user-defined)	99.5 kWp			228°	3°
32	JA Solar, JAM60D42-535/LB (user-defined)	17.1 kWp			243°	45°
140	JA Solar, JAM60D42-535/LB (user-defined)	74.9 kWp			356°	4°
Total: 2263		1,210.3 kWp				

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ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE100K Synergy Manager Center Unit 129.9kW 130% Oversizing	2 x strings	17 x S1000 (2:1)	34
	1 x string	20 x S1000 (2:1)	40
	Left Unit		
	1 x string	18 x S1000 (2:1)	36
	1 x string	15 x S1000 (2:1)	30
	1 x string	14 x S1000 (2:1)	28
	Right Unit		
	2 x strings	15 x S1000 (2:1)	30
	1 x string	14 x S1000 (2:1)	28
1 xSE66.6K Synergy Manager Center Unit 88.74kW 133% Oversizing	1 x string	17 x S1000 (2:1)	34
	2 x strings	15 x S1000 (2:1), 1 x S1000 (1:1)	31
	Left Unit		
	1 x string	17 x S1000 (2:1)	34
	1 x string	15 x S1000 (2:1)	30
	1 x string	13 x S1000 (2:1), 1 x S1000 (1:1)	27

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ELECTRICAL DESIGN (CONTINUED)

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE50K Synergy ManagerCenter Unit 86.48kW 173% Oversizing	1 x string	16 x S1000 (2:1)	32
	2 x strings	15 x S1000 (2:1)	30
	Left Unit		
	1 x string	16 x S1000 (2:1)	32
	2 x strings	15 x S1000 (2:1)	30
	1 x string	19 x S1000 (2:1)	38
	2 x strings	13 x S1000 (2:1), 1 x S1000 (1:1)	27
	Left Unit		
	1 x string	16 x S1000 (2:1)	32
1 xSE50K Synergy ManagerCenter Unit 86.01kW 172% Oversizing	1 x string	15 x S1000 (2:1), 1 x S1000 (1:1)	31
	1 x string	15 x S1000 (2:1)	30
	1 x string	19 x S1000 (2:1)	38
	2 x strings	14 x S1000 (2:1)	28
	Left Unit		
	1 x string	16 x S1000 (2:1)	32
	2 x strings	15 x S1000 (2:1)	30
	1 x string	19 x S1000 (2:1)	38
1 xSE50K Synergy ManagerCenter Unit 85.68kW 171% Oversizing	1 x string	16 x S1000 (2:1)	32
	2 x strings	15 x S1000 (2:1)	30
	Left Unit		
	1 x string	16 x S1000 (2:1)	32
	2 x strings	15 x S1000 (2:1)	30
	1 x string	19 x S1000 (2:1)	38
	2 x strings	14 x S1000 (2:1)	28
	Left Unit		
	1 x string	16 x S1000 (2:1)	32

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ELECTRICAL DESIGN (CONTINUED)

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE66.6K Synergy Manager Center Unit 84.32kW 127% Oversizing	1 x string	17 x S1000 (2:1)	34
	1 x string	16 x S1000 (2:1)	32
	1 x string	14 x S1000 (2:1)	28
	Left Unit		
	1 x string	15 x S1000 (2:1), 1 x S1000 (1:1)	31
	1 x string	16 x S1000 (2:1), 1 x S1000 (1:1)	33
	1 x string	13 x S1000 (2:1), 1 x S1000 (1:1)	27
1 xSE66.6K Synergy Manager Center Unit 83.64kW 126% Oversizing	1 x string	17 x S1000 (2:1)	34
	1 x string	15 x S1000 (2:1)	30
	1 x string	14 x S1000 (2:1)	28
	Left Unit		
	3 x strings	14 x S1000 (2:1)	28
1 xSE66.6K Synergy Manager Center Unit 81.62kW 123% Oversizing	2 x strings	15 x S1000 (2:1)	30
	1 x string	14 x S1000 (2:1)	28
	Left Unit		
	3 x strings	15 x S1000 (2:1)	30

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ELECTRICAL DESIGN (CONTINUED)

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE66.6K Synergy ManagerCenter Unit 73.14kW 110% Oversizing	1 x string	16 x S1000 (2:1)	32
	1 x string	13 x S1000 (2:1), 1 x S1000 (1:1)	27
	1 x string	14 x S1000 (2:1)	28
	Left Unit		
	1 x string	15 x S1000 (2:1), 1 x S1000 (1:1)	31
	1 x string	16 x S1000 (2:1), 1 x S1000 (1:1)	33
	1 xSE66.6K Synergy ManagerCenter Unit		
	72.87kW 109% Oversizing		
	1 x string	19 x S1000 (2:1)	38
1 xSE50K Synergy ManagerCenter Unit 55.77kW 112% Oversizing	1 x string	16 x S1000 (2:1)	32
	1 x string	14 x S1000 (2:1)	28
	Left Unit		
	1 x string	16 x S1000 (2:1)	32
	1 x string	15 x S1000 (2:1), 1 x S1000 (1:1)	31
	1 xSE50K Synergy ManagerCenter Unit		
	55.77kW 112% Oversizing		
	1 x string	16 x S1000 (2:1)	32
	1 x string	14 x S1000 (2:1)	28

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ELECTRICAL DESIGN (CONTINUED)

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
 1 xSE33.3K 49.46kW 149% Oversizing	1 x string	16 x S1000 (2:1)	32
	1 x string	16 x S1000 (2:1), 1 x S1000 (1:1)	33
	1 x string	13 x S1000 (2:1), 1 x S1000 (1:1)	27
	1 x string	14 x S1000 (2:1)	28
 1 xSE33.3K 48.92kW 147% Oversizing	2 x strings	16 x S1000 (2:1)	32
	2 x strings	13 x S1000 (2:1), 1 x S1000 (1:1)	27
 1 xSE8K-RWB48 Home Hub 10.2kW 127% Oversizing	1 x string	24 x S500	24

NOTIFICATIONS

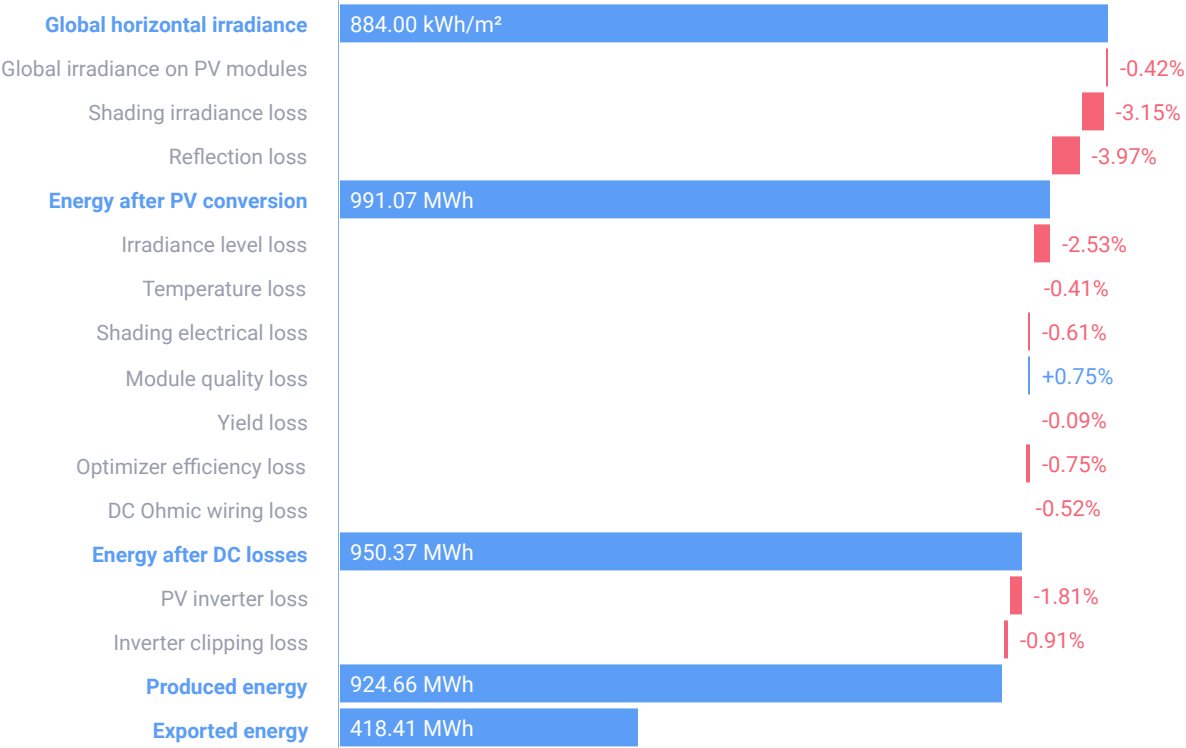
-  Warning: Batteries are not connected to a StorEdge inverter(s) (SE8K-RWB48 Home Hub).
-  Warning: This design contains power optimizers with PV modules in different azimuth/tilt, this may result in significant energy losses that are not reflected in this report. It is highly recommended to change the site design for optimal production.

HOPWOOD HALL COLLEGE - MASTER

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SYSTEM LOSS DIAGRAM



HOPWOOD HALL COLLEGE - MASTER

Hopwood Road, Middleton, M24 6XH, United Kingdom | 18 Aug 2026



SIMULATION PARAMETERS



LOCATION & GRID

Time zone	BST (London)
Weather station	Manchester (25 km away)
Station altitude	67 m
Station data source	Meteonorm 7.1
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 U _c (const) Flush mount	20
Thermal loss factor U _c (const) Tilted	29
LID loss factor	0%
System unavailability	0%

OPTIMIZE YOUR SYSTEM



SolarEdge Battery
For this site, adding a battery can increase total self-consumption by up to 12.78%



SolarEdge EV Charger
Drive on sunshine by charging your EV with excess solar energy, fully integrated into the SolarEdge ecosystem.



SolarEdge Meter
Track actual energy consumption and unlock more accurate insights to improve solar savings.