

SOL0166 - SHEARS GREEN JUNIOR SCHOOL

White Avenue 16, Northfleet, DA11 7JB, United Kingdom | Aug 5, 2025



SYSTEM OVERVIEW

 120 PV modules

 2 Inverters

 60 Optimizers

SIMULATION RESULTS



Installed DC Power

54.00 kWp



Max Achieved AC Power

40.00 kW



Annual Usable Solar Production

51.93 MWh



Annual CO₂ Emission Saved

10.04 t



Annual Equivalent Trees Planted

461

ANNUAL CONSUMPTION AND PRODUCTION RESULTS

Total Production

51.93 MWh

81%

Consumption

121.83 MWh

35%

65%

 To Building 42.09 MWh (81%)

 To Grid 9.84 MWh (19%)

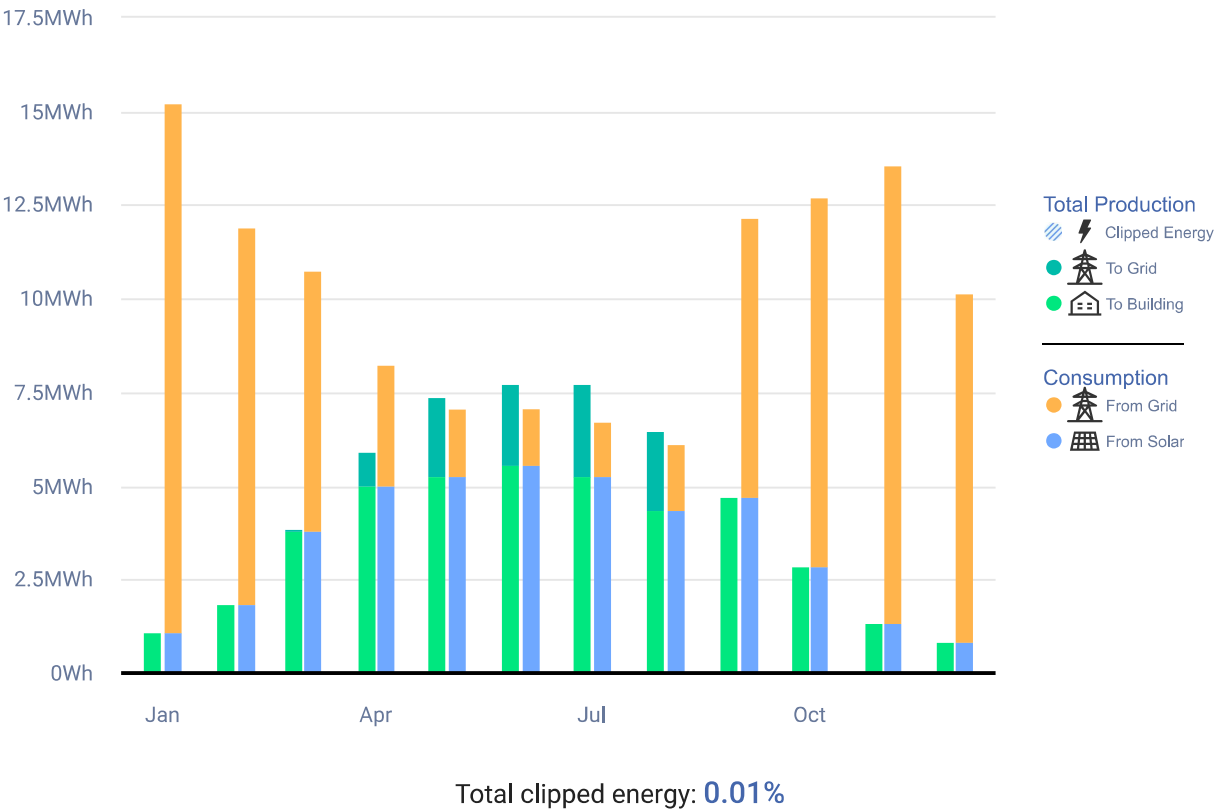
 From Solar 42.09 MWh (35%)

 From Grid 79.74 MWh (65%)

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ESTIMATED MONTHLY ENERGY



PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
32	JA Solar, JAM72S20-450/MR (1500V)	14.4 kWp			230°	18°
32	JA Solar, JAM72S20-450/MR (1500V)	14.4 kWp			50°	12°

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PV MODULES (CONTINUED)

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
56	JA Solar, JAM72S20-450/MR (1500V)	25.2 kWp			139°	15°
Total: 120		54 kWp				

ESTIMATED BILL SAVINGS YEAR 1

Avg. Monthly			
Current Monthly Bill	Monthly Bill with SolarEdge	Net Bill Monthly Savings	Bill Offset
£ 3,046.35	£ 1,953.13	£ 1,093.22	35.89 %
Estimated Net Lifetime Bill Savings			
£ 240,620			
Utility Provider: UK provider Utility Rate: 30p (0.3 £/kWh)			

BILL OF MATERIALS (BOM)

Items	Part Number	Quantity	Price (£)	Total (£)
 SE20K Three Phase Inverter, 20kW, DC SPD	SE20K-RW00IBNM4	2	1020.00	2,040.00
 P850 (verify waiver conditions)		60		
 JAM72S20-450/MR (1500V)		120		
Total Price: £ 2,040.00				

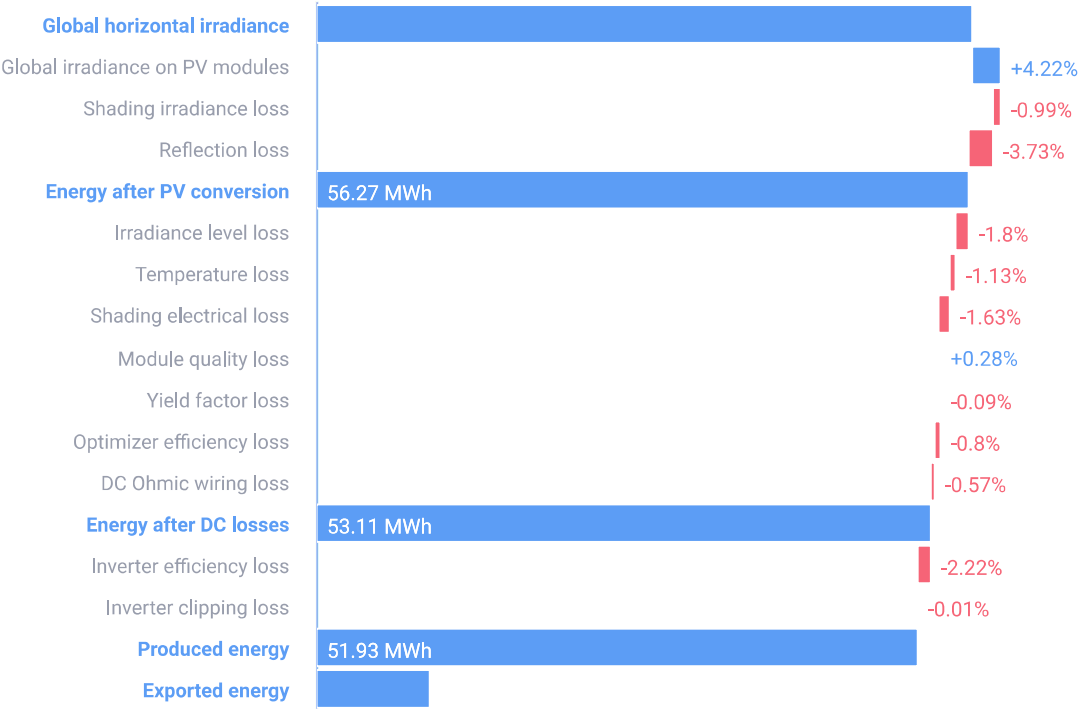
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ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
 1 xSE20K 25.32kW 127% Oversizing	2 x strings	 16 x P850 (verify waiver conditions) (2:1)	 32
 1 xSE20K 24.18kW 121% Oversizing	2 x strings	 14 x P850 (verify waiver conditions) (2:1)	 28

SYSTEM LOSS DIAGRAM



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SIMULATION PARAMETERS

 LOCATION & GRID

Time zone	GMT+1 (London)
Weather station	Gravesend Broadnes (5 km away)
Station altitude	3 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 U _c (const) Flush mount	20
Thermal loss factor U _c (const) Tilted	29
LID loss factor	0%
System unavailability	0%