

SUENO - MAY 23

Bretfield Court 1, Unit, WF12 9BG, United Kingdom | 22 May 2023



SYSTEM OVERVIEW

 931 PV modules

 3 Inverters

 467 Optimizers

SIMULATION RESULTS



Installed DC Power  
381.71 kWp



Max Achieved AC Power  
249.80 kW



Annual Energy Production  
296.80 MWh



CO2 Emission Saved  
57.4 t



Equivalent Trees Planted  
2,636



Max Achieved DC Power  
331.54 kW



DC/AC Oversizing  
133%



Max Active AC Power  
249.80 kW



Performance Ratio  
89%



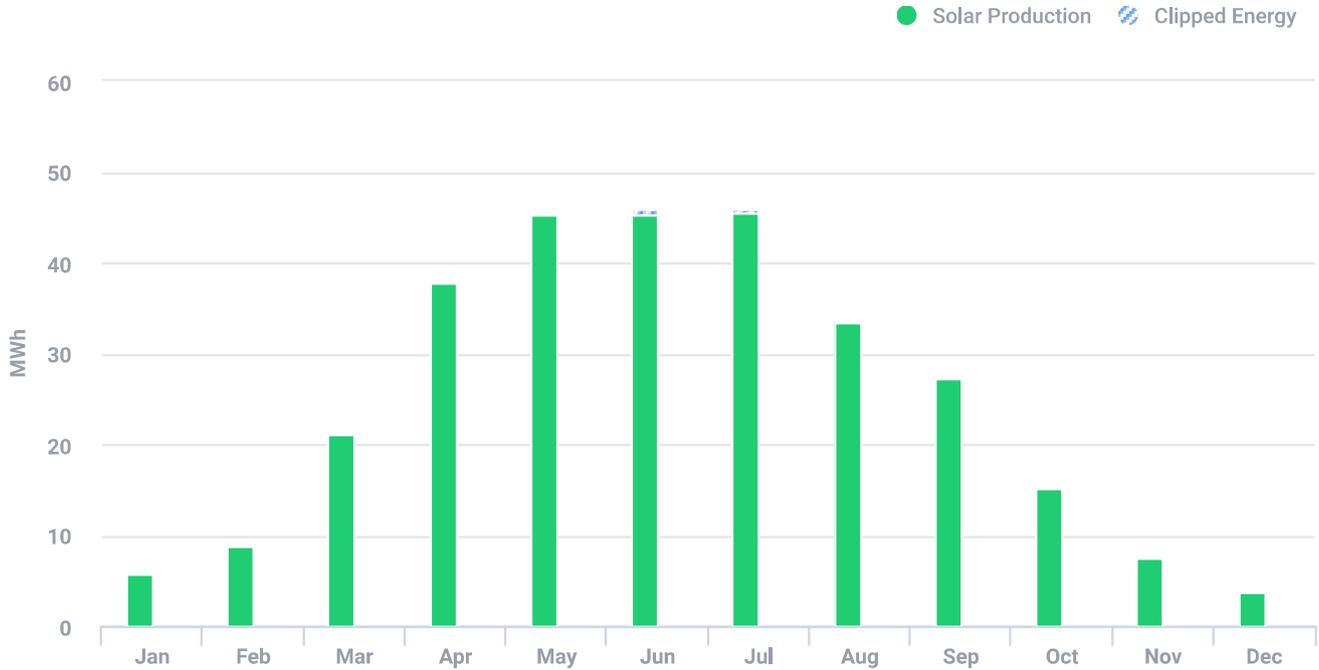
Performance Index  
778 kWh/kWp

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ESTIMATED MONTHLY ENERGY



Total clipped energy: 0.34%

Month	Solar Production (kWh)	Consumption (kWh)	Self-consumption (kWh)	Clipped Energy (kWh)
Jan	5,675	-	-	-
Feb	8,718	-	-	-
Mar	21,177	-	-	-
Apr	37,852	-	-	1
May	45,346	-	-	48
Jun	45,249	-	-	685
Jul	45,599	-	-	268
Aug	33,376	-	-	18
Sep	27,304	-	-	-
Oct	15,170	-	-	-
Nov	7,543	-	-	-
Dec	3,792	-	-	-

PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
322	Hanwha Q.Cells GmbH, Q.Peak Duo M-G11S 410W (user-defined)	132 kWp			67°	5°

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**PV MODULES (CONTINUED)**

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
322	Hanwha Q.Cells GmbH, Q.Peak Duo M-G11S 410W (user-defined)	132 kWp			247°	5°
132	Hanwha Q.Cells GmbH, Q.Peak Duo M-G11S 410W (user-defined)	54.1 kWp			337°	6°
155	Hanwha Q.Cells GmbH, Q.Peak Duo M-G11S 410W (user-defined)	63.6 kWp			157°	6°
<b>Total:</b>	931	381.7 kWp				

**BILL OF MATERIALS (BOM)**

Items	Part Number	Quantity	Price (£)	Total (£)
 SE100K Manager		2		
 SE50K Manager		1		
 P850		467		
 Q.Peak Duo M-G11S 410W		931		

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**ELECTRICAL DESIGN**

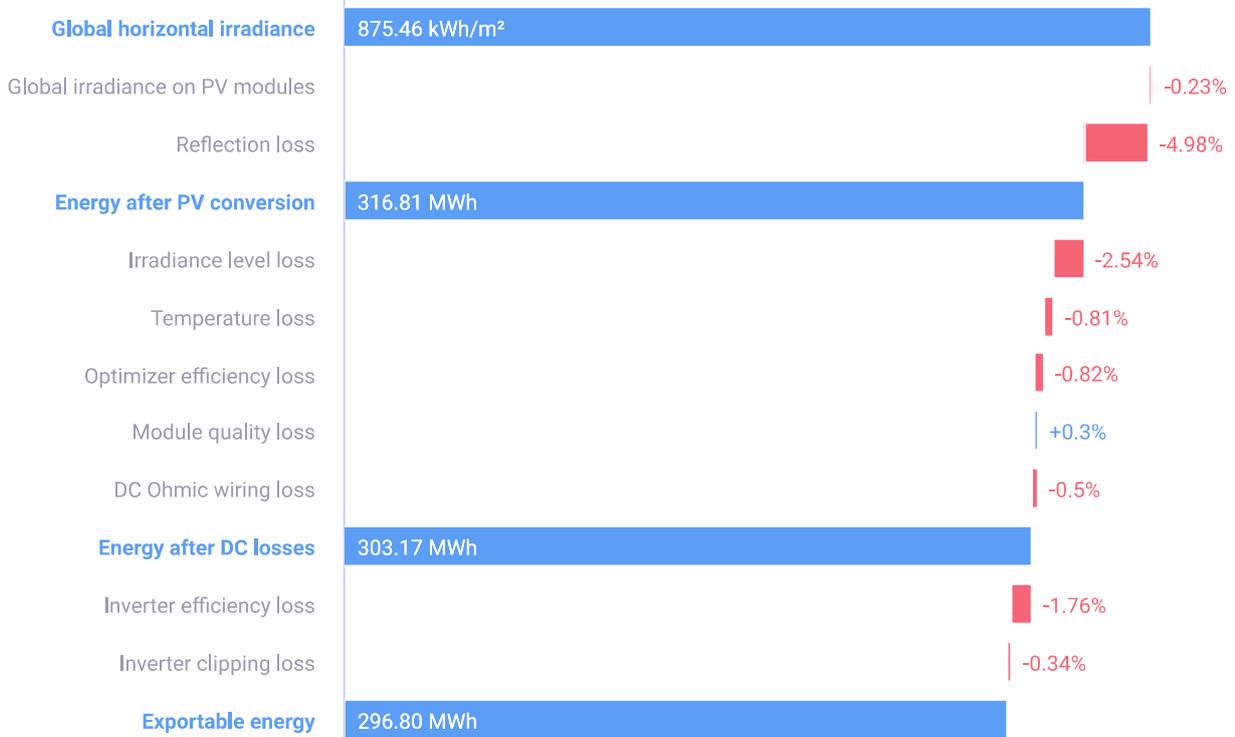
Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
<b>1 xSE100K Manager</b> 132.8kW   133% Oversizing	<b>Center Unit</b>		
	Ω 3 x strings	22 x P850 (2:1)	44
	<b>Left Unit</b>		
	Ω 1 x string	18 x P850 (2:1)	36
	Ω 2 x strings	20 x P850 (2:1)	40
	<b>Right Unit</b>		
	Ω 3 x strings	21 x P850 (2:1)	42
<b>1 xSE100K Manager</b> 130.09kW   130% Oversizing	<b>Center Unit</b>		
	Ω 1 x string	23 x P850 (2:1)	46
	Ω 2 x strings	20 x P850 (2:1)	40
	<b>Left Unit</b>		
	Ω 2 x strings	20 x P850 (2:1), 1 x P850 (1:1)	41
	Ω 1 x string	20 x P850 (2:1)	40
<b>Right Unit</b>			
	Ω 1 x string	21 x P850 (2:1)	42
	Ω 2 x strings	20 x P850 (2:1)	40
<b>1 xSE50K Manager</b> 68.64kW   137% Oversizing	<b>Center Unit</b>		
	Ω 1 x string	18 x P850 (2:1), 1 x P850 (1:1)	37
	Ω 2 x strings	16 x P850 (2:1)	32
	<b>Left Unit</b>		
	Ω 1 x string	23 x P850 (2:1)	46
	Ω 1 x string	20 x P850 (2:1)	40

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**SYSTEM LOSS DIAGRAM**



**SIMULATION PARAMETERS**



**LOCATION & GRID**

Time zone	BST (London)
Weather station	Leeds (17.46 km away)
Station altitude	93 m
Station data source	Meteonorm 7.1
Grid	400V L-L, 230V L-N



**LOSS FACTORS**

Near shading	Enabled
Albedo	0.20
Soiling/Snow	0%
Incidence angle modifier (IAM), ASHRAE b0 param.	0.05
Thermal loss factor U <sub>c</sub> (const) Flush mount	20
Thermal loss factor U <sub>c</sub> (const) Tilted	29
LID loss factor	0%
System unavailability	0%