DAVE NORWOOD - MOORLANDS STABLE

Stoke-on-Trent, United Kingdom | 6 Jun 2023

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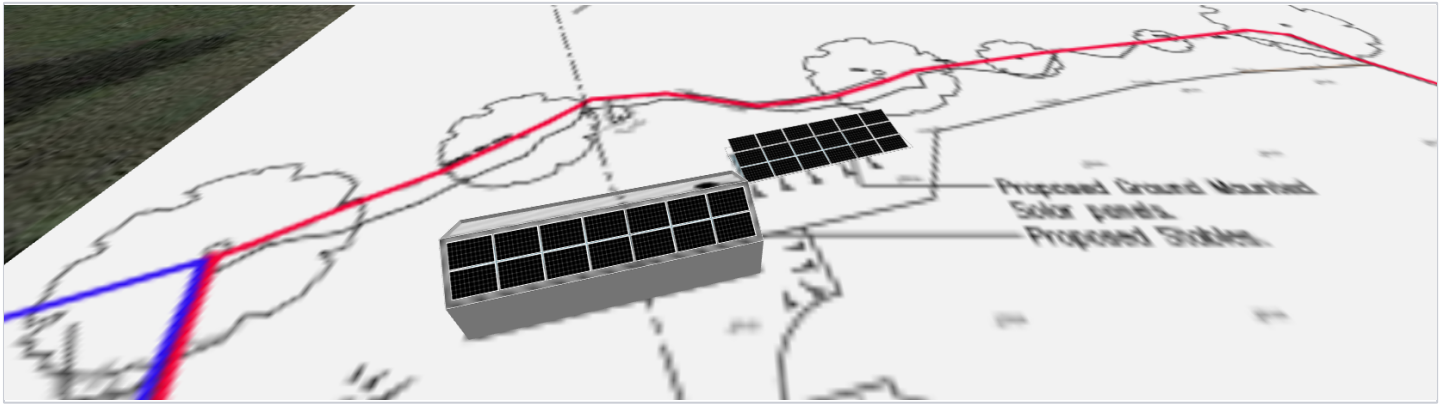

SYSTEM OVERVIEW

32 PV modules | 1 Inverter | 32 Optimizers

SIMULATION RESULTS

Installed DC Power	Max Achieved AC Power	Annual Energy Production	CO2 Emission Saved	Equivalent Trees Planted
13.92 kWp	10.00 kW	12.83 MWh	2.48 t	114

Max Achieved DC Power	DC/AC Oversizing	Max Active AC Power	Performance Ratio	Performance Index
13.36 kW	134 %	10.00 kW	89 %	922 kWh/kWp

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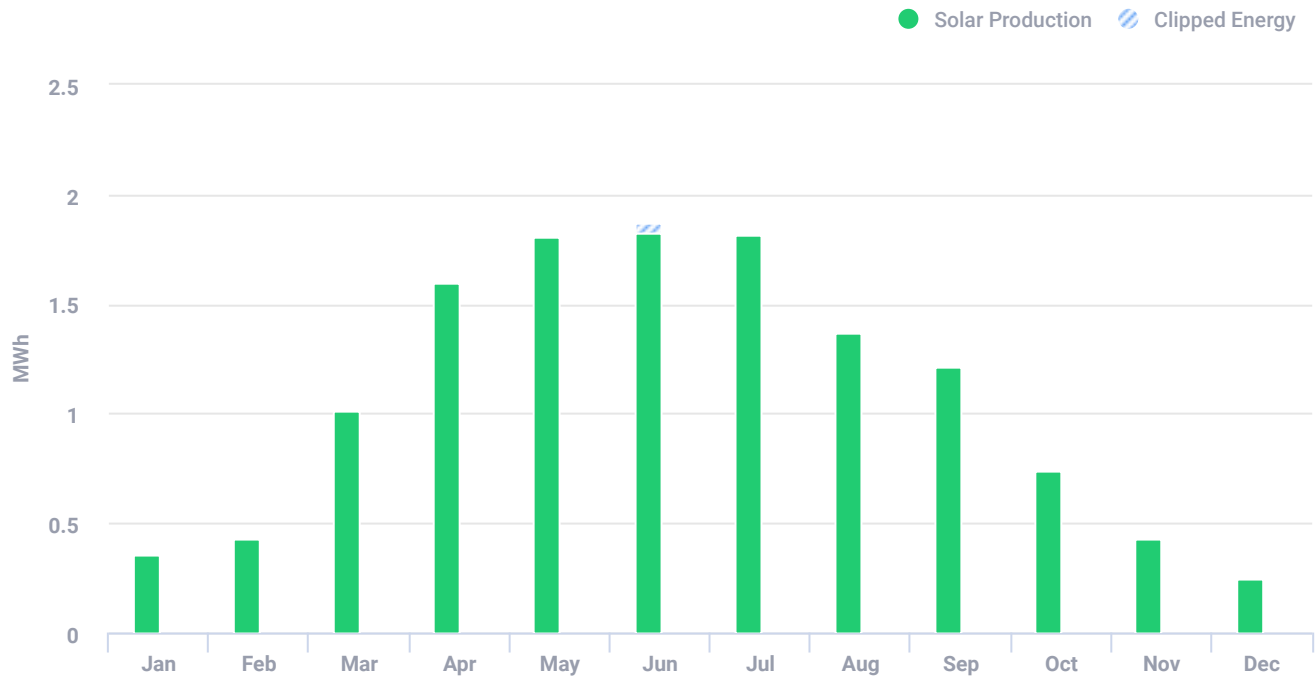
ESTIMATED MONTHLY ENERGY



Total clipped energy: 0.51%

Month	Solar Production (kWh)	Consumption (kWh)	Self-consumption (kWh)	Clipped Energy (kWh)
Jan	354	-	-	-
Feb	427	-	-	-
Mar	1,014	-	-	-
Apr	1,594	-	-	5
May	1,803	-	-	7
Jun	1,826	-	-	44
Jul	1,818	-	-	-
Aug	1,366	-	-	9
Sep	1,214	-	-	-
Oct	743	-	-	-
Nov	428	-	-	-
Dec	249	-	-	-

PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
18	Longi Solar, LR5-54HTH-435M Scientists	7.8 kWp			163°	10°

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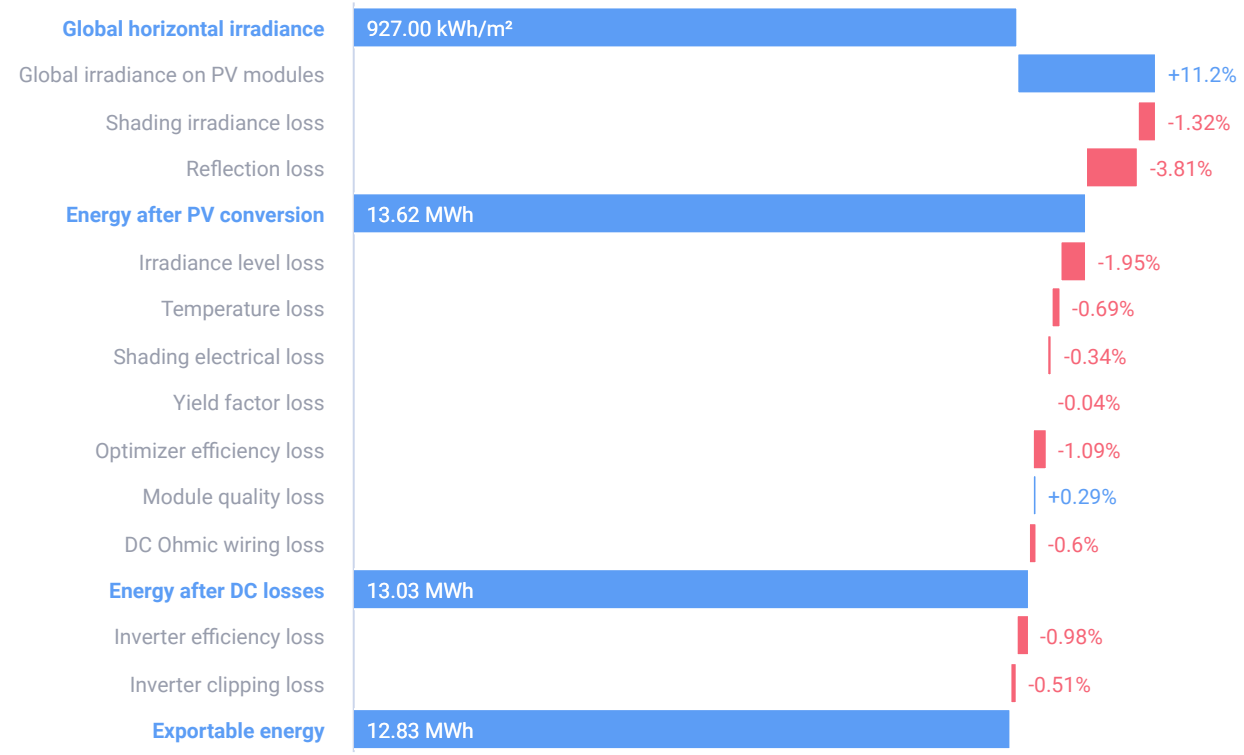
PV MODULES (CONTINUED)

# Module		Model	Peak power	Racking type	Orientation	Azimuth	Tilt
	14	Longi Solar, LR5-54HTH-435M Scientists	6.1 kWp			165°	30°
Total:	32		13.9 kWp				

ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE10000H 13.36kW | 134% Oversizing	1 x string	10 x S440	10
	2 x strings	11 x S440	11

SYSTEM LOSS DIAGRAM



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SIMULATION PARAMETERS

LOCATION & GRID

Time zone	BST (London)
Weather station	Uttoxeter (25.1 km away)
Station altitude	78 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 Uc (const) Flush mount	20
Thermal loss factor Uc (const) Tilted	29
LID loss factor	0%
System unavailability	0%