Hall Farm Ground Mount Hall Farm, hall Farm northamptonshire uk

Report

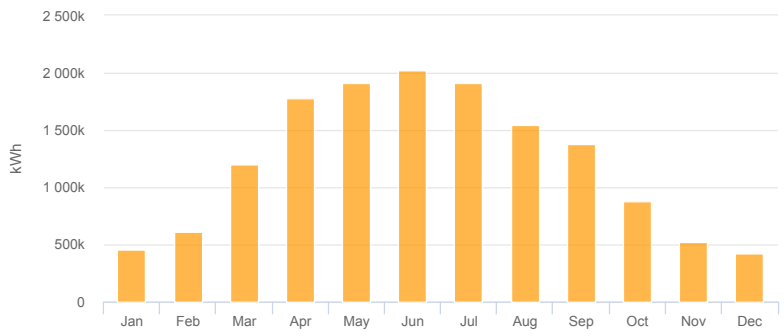
Project Name	Hall Farm
Project Address	hall Farm northamptonshire uk
Prepared By	Paul Dougan pd@iamsolar.uk

System Metrics

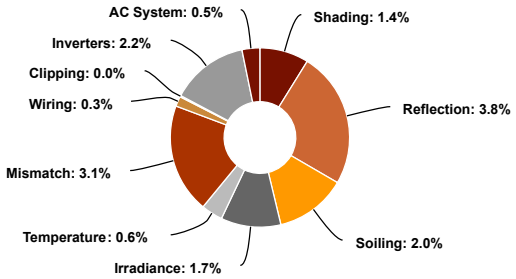
Design	Hall Farm Ground Mount
Module DC Nameplate	14.3 MW
Inverter AC Nameplate	11.5 MW Load Ratio: 1.25
Annual Production	14.63 GWh
Performance Ratio	85.8%
kWh/kWp	1,021.6
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	9c02b5deb1-388eda1f11-1a6f592b1e-c8d7445e4b

Project Location

Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,046.5	
	POA Irradiance	1,190.1	13.7%
	Shaded Irradiance	1,173.7	-1.4%
	Irradiance after Reflection	1,128.9	-3.8%
	Irradiance after Soiling	1,106.3	-2.0%
	Total Collector Irradiance	**1,106.3**	**0.0%**
Energy (kWh)	Nameplate	15,916,592.5	
	Output at Irradiance Levels	15,648,545.5	-1.7%
	Output at Cell Temperature Derate	15,554,053.7	-0.6%
	Output After Mismatch	15,075,577.0	-3.1%
	Optimal DC Output	15,033,676.3	-0.3%
	Constrained DC Output	15,027,994.4	0.0%
	Inverter Output	14,700,000.0	-2.2%
	Energy to Grid	**14,626,500.0**	**-0.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp		12.5 °C
	Avg. Operating Cell Temp		18.4 °C
Simulation Metrics			
	Operating Hours		4576
	Solved Hours		4576

Condition Set

Description	Condition Set 1											
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)											
Solar Angle Location	Meteo Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Sandia Model											
Temperature Model Parameters	Rack Type	a	b	Temperature Delta								
	Fixed Tilt	-3.56	-0.075	3°C								
	Flush Mount	-2.81	-0.0455	0°C								
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	2	2	2	2	2	2	2	2	2	2	2	2
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	0.50%											
Module Characterizations	Module	Characterization										
	STK-180P6-A (3E)	Spec Sheet Characterization, PAN										
Component Characterizations	Device	Characterization										
	Sunny Tripower 24000TL-US (SMA)	Modified CEC										

Components

Component	Name	Count
Inverters	Sunny Tripower 24000TL-US (SMA)	477 (11.5 MW)
Strings	10 AWG (Copper)	3,224 (741,256.1 ft)
Module	3E, STK-180P6-A (180W)	79,544 (14.3 MW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	7-30	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Landscape (Horizontal)	15°	180°	9.0 ft	4x1	19,886	79,544	14.3 MW

Detailed Layout