

Ground Mount_Fixed_Jinko_Rev 1 Unilever Boksburg, 511 Commissioner street, boksburg

Report

Project Name	Unilever Boksburg
Project Address	511 Commissioner street, boksburg
Prepared By	Soventix South Africa jp.devilliers@soventix.com



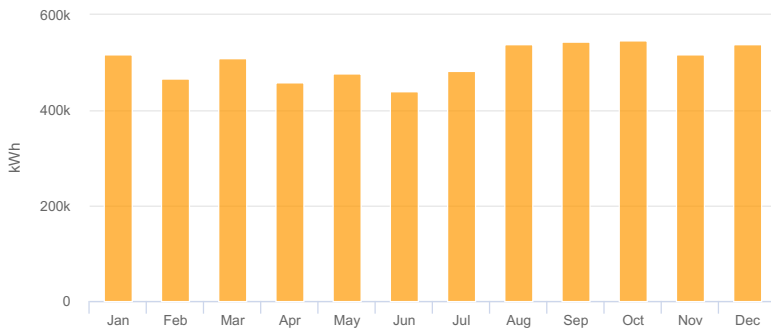
System Metrics

Design	Ground Mount_Fixed_Jinko_Rev 1
Module DC Nameplate	3.27 MW
Inverter AC Nameplate	2.80 MW Load Ratio: 1.17
Annual Production	6,036 GWh
Performance Ratio	82.6%
kWh/kWp	1,848.3
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	3a2c440a43-ac1ba03513-f7a4b02bd3-eebdbb10d4

Project Location

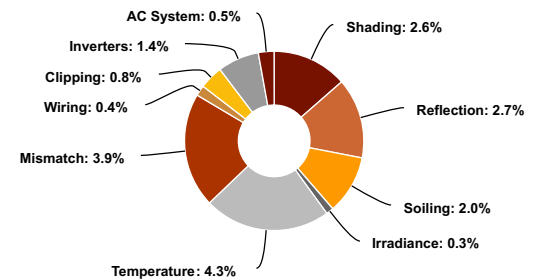


Monthly Production



Month	GHI (kWh/m ²)	POA (kWh/m ²)	Shaded (kWh/m ²)	Nameplate (kWh)	Grid (kWh)
January	206.5	196.3	191.8	595,118.1	518,022.7
February	174.7	175.3	171.1	531,276.4	467,137.7
March	175.4	190.4	186.3	580,325.0	508,461.3
April	143.5	168.4	165.0	514,867.2	458,501.5
May	133.5	174.4	169.0	527,267.6	477,668.9
June	117.3	162.1	155.0	483,153.1	440,941.1
July	130.0	175.1	168.6	525,918.9	481,667.1
August	156.3	194.7	190.9	596,944.3	538,833.0
September	178.5	201.8	198.2	619,278.3	544,735.4
October	197.5	203.0	198.5	617,255.1	546,114.5
November	201.0	193.9	189.1	586,758.1	516,060.4
December	216.6	202.5	197.4	611,499.9	538,211.0

Sources of System Loss



⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	2,030.8	
	POA Irradiance	2,238.0	10.2%
	Shaded Irradiance	2,180.7	-2.6%
	Irradiance after Reflection	2,121.1	-2.7%
	Irradiance after Soiling	2,078.6	-2.0%
	Total Collector Irradiance	2,078.6	0.0%
Energy (kWh)	Nameplate	6,789,662.0	
	Output at Irradiance Levels	6,772,542.3	-0.3%
	Output at Cell Temperature Derate	6,480,738.7	-4.3%
	Output After Mismatch	6,227,741.8	-3.9%
	Optimal DC Output	6,205,396.8	-0.4%
	Constrained DC Output	6,155,710.0	-0.8%
	Inverter Output	6,068,835.0	-1.4%
	Energy to Grid	6,036,354.6	-0.5%
Temperature Metrics			
Avg. Operating Ambient Temp		18.9 °C	
Avg. Operating Cell Temp		29.7 °C	
Simulation Metrics			
		Operating Hours	4595
		Solved Hours	4595

☁ 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					Uploaded By		Characterization				
	JKM540M-72HL4-V (Jinko Solar)					Folsom Labs		Spec Sheet Characterization, PAN				
Component Characterizations	Device		Uploaded By					Characterization				

📦 Components		
Component	Name	Count
Inverters	SUN2000-215KTL-H0 (Huawei)	14 (2.80 MW)
AC Panels	7 input AC Panel	2
AC Home Runs	70 mm2 (Copper)	16 (3,515.0 m)
Strings	6 mm2 (Copper)	252 (17,809.6 m)
Module	Jinko Solar, JKM540M-72HL4-V (540W)	6,048 (3.27 MW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	24-24	Along Racking

🏠 Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Portrait (Vertical)	20°	0°	3.5 m	3x4	504	6,048	3.27 MW

Detailed Layout

