


Design 1 Onkaparinga - Base 10 Youth Centre, 10 Main S Rd, Old Reynella SA

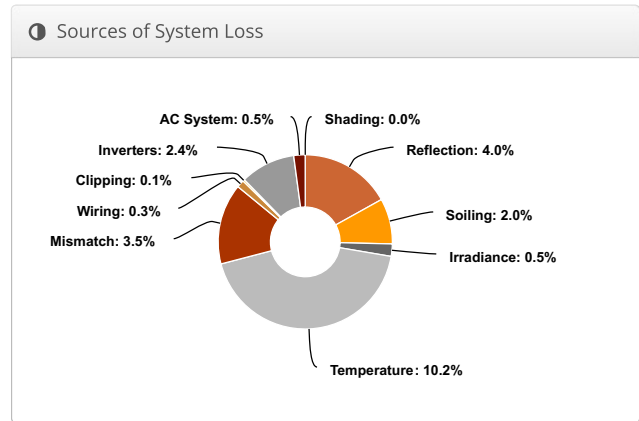
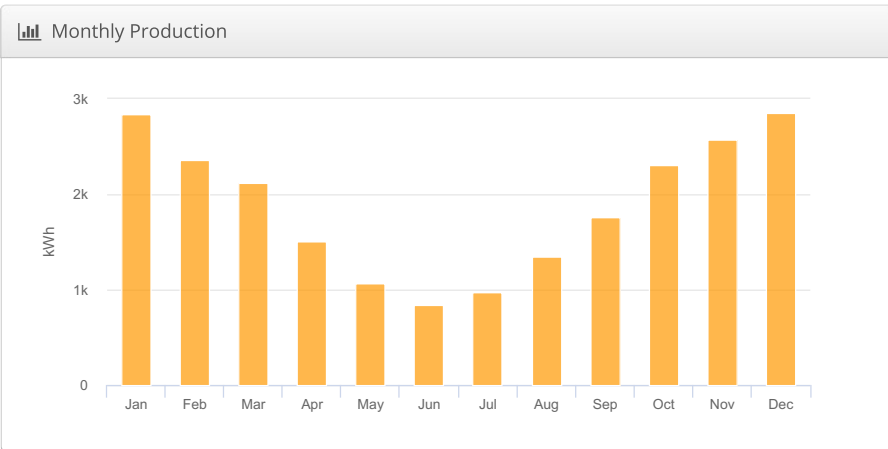
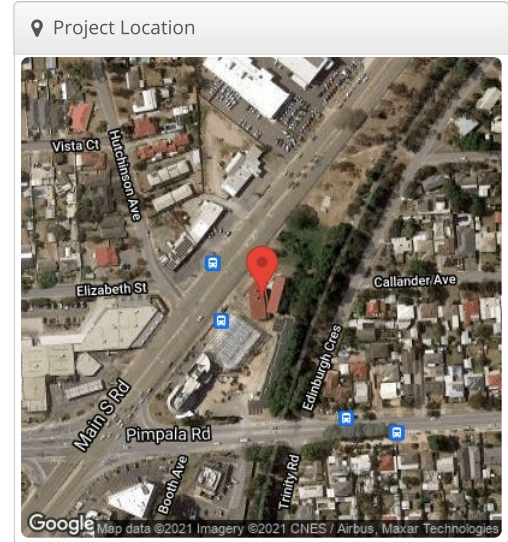
Report

Project Name	Onkaparinga - Base 10 Youth Centre
Project Address	10 Main S Rd, Old Reynella SA
Prepared By	Chris Bull chris.bull@westsidegroup.com.au



System Metrics

Design	Design 1
Module DC Nameplate	16.3 kW
Inverter AC Nameplate	12.5 kW Load Ratio: 1.30
Annual Production	22.54 MWh
Performance Ratio	78.4%
kWh/kWp	1,384.3
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	125ee4a60d-4598ccbfe-ddff206053-649f60a15b



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,789.9	
	POA Irradiance	1,766.1	-1.3%
	Shaded Irradiance	1,766.1	0.0%
	Irradiance after Reflection	1,695.5	-4.0%
	Irradiance after Soiling	1,661.6	-2.0%
	Total Collector Irradiance	1,661.6	0.0%
Energy (kWh)	Nameplate	27,060.8	
	Output at Irradiance Levels	26,914.0	-0.5%
	Output at Cell Temperature Derate	24,162.3	-10.2%
	Output After Mismatch	23,305.0	-3.5%
	Optimal DC Output	23,228.5	-0.3%
	Constrained DC Output	23,210.1	-0.1%
	Inverter Output	22,649.8	-2.4%
	Energy to Grid	22,536.6	-0.5%
Temperature Metrics			
	Avg. Operating Ambient Temp	19.1 °C	
	Avg. Operating Cell Temp	37.3 °C	
Simulation Metrics			
	Operating Hours	4571	
	Solved Hours	4571	

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	LR4-60HPH-370M (Longi Solar)						Uploaded By	Folsom Labs					Characterization
														Spec Sheet Characterization, PAN
Component Characterizations	Device							Uploaded By						Characterization

Components

Component	Name	Count
Inverters	SYMO 12.5-3-M (Jan 2016) (Fronius)	1 (12.5 kW)
Strings	10 AWG (Copper)	2 (19.5 m)
Module	Longi Solar, LR4-60HPH-370M (370W)	44 (16.3 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	10-22	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Landscape (Horizontal)	5°	285.58093°	0.0 m	1x1	44	44	16.3 kW

Detailed Layout

