Design 1 Onkaparinga - Wardli Youth Centre, 13 McKinna Rd, Christie Downs SA 5164

Report

Project Name	Onkaparinga - Wardli Youth Centre
Project Address	13 McKinna Rd, Christie Downs SA 5164
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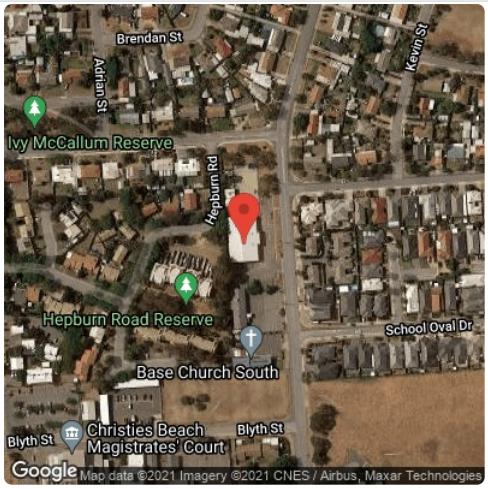
Westside Energy

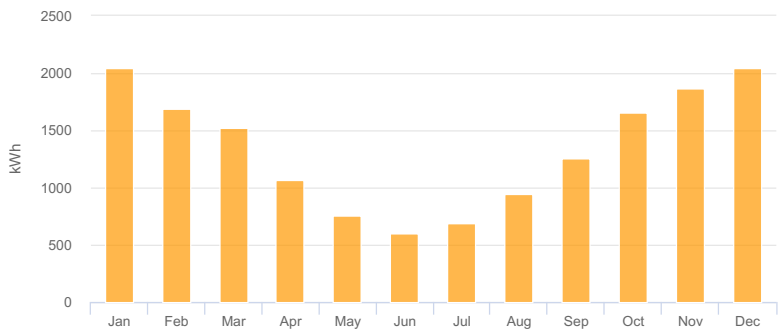
System Metrics

Design	Design 1
Module DC Nameplate	12.2 kW
Inverter AC Nameplate	12.5 kW Load Ratio: 0.98
Annual Production	16.12 MWh
Performance Ratio	72.8%
kWh/kWp	1,320.6
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	125ee4a60d-4598ccbfde-ddff206053-649f60a15b

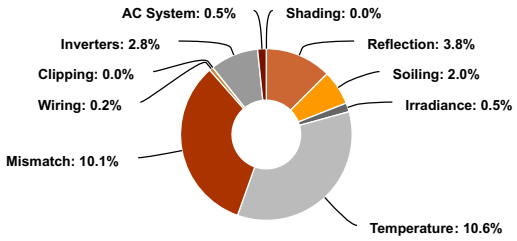
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,789.9	
	POA Irradiance	1,813.2	1.3%
	Shaded Irradiance	1,813.0	0.0%
	Irradiance after Reflection	1,743.9	-3.8%
	Irradiance after Soiling	1,709.0	-2.0%
	Total Collector Irradiance	**1,711.1**	**0.1%**
Energy (kWh)	Nameplate	20,899.4	
	Output at Irradiance Levels	20,792.6	-0.5%
	Output at Cell Temperature Derate	18,584.5	-10.6%
	Output After Mismatch	16,705.9	-10.1%
	Optimal DC Output	16,668.8	-0.2%
	Constrained DC Output	16,668.5	0.0%
	Inverter Output	16,205.5	-2.8%
	Energy to Grid	**16,124.5**	**-0.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp		19.1 °C
	Avg. Operating Cell Temp		37.9 °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	Uploaded By	Characterization									
	LR4-60HPH-370M (Longi Solar)	Folsom Labs	Spec Sheet Characterization, PAN									
Component Characterizations	Device	Uploaded By	Characterization									
	SYMO 12.5-3-M (Jan 2016) (Fronius)	Folsom Labs	CEC									

Components

Component	Name	Count
Inverters	SYMO 12.5-3-M (Jan 2016) (Fronius)	1 (12.5 kW)
Strings	10 AWG (Copper)	2 (18.9 m)
Module	Longi Solar, LR4-60HPH-370M (370W)	33 (12.2 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	Portrait (Vertical)	15°	86.49329°	0.0 m	1x1	22	22	8.14 kW
Field Segment 2	Flush Mount	Portrait (Vertical)	15°	266.493°	0.0 m	1x1	11	11	4.07 kW

Detailed Layout