Design 1 rice mill project, 6.731639°N, 6.451333°E

Report

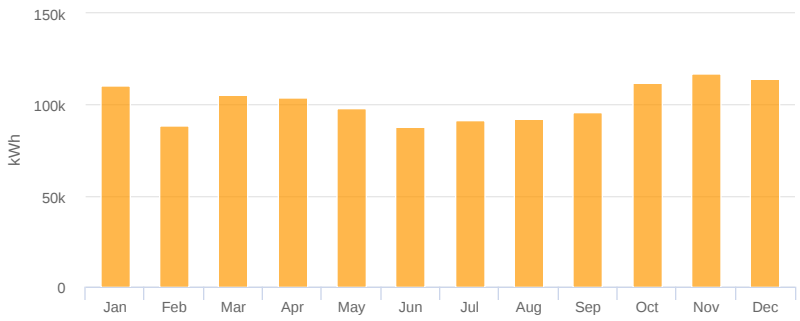
Project Name	rice mill project
Project Address	6.731639°N, 6.451333°E
Prepared By	PriVida Design Department info@prividaenergy.com

System Metrics

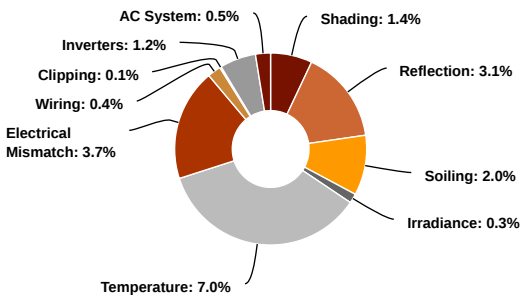
Design	Design 1
Module DC Nameplate	748.80 kW
Inverter AC Nameplate	600.00 kW Load Ratio: 1.25
Annual Production	1.217 GWh
Performance Ratio	81.8%
kWh/kWp	1,625.3
Weather Dataset	TMY, 10km Grid, Meteonorm 8 (meteonorm_v8)
Simulator Version	86402a1126-0d561f2b22-d999dd8968-c381c8e298

Project Location

Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,972.3	
	POA Irradiance	1,987.6	0.8%
	Shaded Irradiance	1,960.1	-1.4%
	Irradiance after Reflection	1,899.4	-3.1%
	Irradiance after Soiling	1,861.4	-2.0%
	Total Collector Irradiance	**1,861.4**	**0.0%**
Energy (kWh)	Nameplate	1,394,342.9	
	Output at Irradiance Levels	1,389,951.8	-0.3%
	Output at Cell Temperature Derate	1,292,220.0	-7.0%
	Output after Electrical Mismatch	1,244,143.3	-3.7%
	Optimal DC Output	1,238,602.3	-0.4%
	Constrained DC Output	1,237,973.4	-0.1%
	Inverter Output	1,223,110.1	-1.2%
	Energy to Grid	**1,216,994.7**	**-0.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp	27.1 °C	
	Avg. Operating Cell Temp	38.0 °C	
Simulation Metrics			
	Operating Hours	4667	
	Solved Hours	4667	

Condition Set

Description	Condition Set 1											
Weather Dataset	TMY, 10km Grid, Meteonorm 8 (meteonorm_v8)											
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								
	East-West	-3.56	-0.075	3°C								
	Carport	-3.56	-0.075	3°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
Albedo	J	F	M	A	M	J	J	A	S	O	N	D
	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Rear Mismatch Loss	10%				Rear Shading Factor			5%				
Module Transparency	0%											
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	0.50%											

Module & Component Characterizations	Type	Component	Characterization	Bifacial
	Module	JAM78S30-600/MR (1500V) (JA Solar)	Spec Sheet Characterization, PAN	False
	Inverter	SUN2000-100KTL-M1 (480) (Huawei)	Spec Sheet	N/A

Components

Component	Name	Count
Inverters	SUN2000-100KTL-M1 (480) (Huawei)	6 (600.00 kW)
Strings	10 AWG (Copper)	66 (3,583.3 m)
Module	JA Solar, JAM78S30-600/MR (1500V) (600W)	1,248 (748.80 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	5-20	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Landscape (Horizontal)	Module: 15°	Module: 180°	2.4 m	4x1	312	1,248	748.80 kW

Detailed Layout2