Design 1 Eland Phase Mini, 35.305278, -117.981667

Report

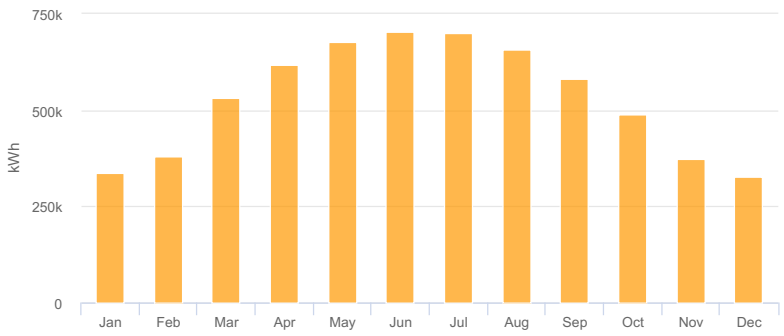
Project Name	Eland Phase Mini
Project Address	35.305278, -117.981667
Prepared By	John Weaver commercialsolarguy@gmail.com

System Metrics

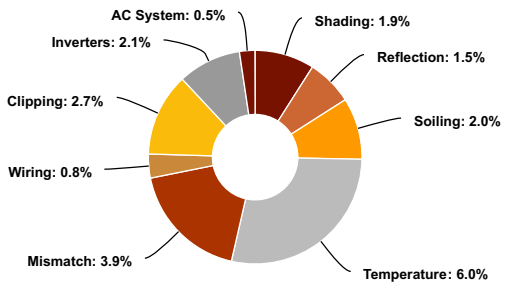
Design	Design 1
Module DC Nameplate	2.65 MW
Inverter AC Nameplate	2.00 MW Load Ratio: 1.33
Annual Production	6.381 GWh
Performance Ratio	80.5%
kWh/kWp	2,407.0
Weather Dataset	TMY, 10km Grid (35.35,-117.95), NREL (prospector)
Simulator Version	3b47ac6544-be9b25fa34-64ebb62130-dad231d957

Project Location

Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	2,144.1	
	POA Irradiance	2,991.4	39.5%
	Shaded Irradiance	2,933.7	-1.9%
	Irradiance after Reflection	2,890.0	-1.5%
	Irradiance after Soiling	2,832.2	-2.0%
	Total Collector Irradiance	**2,832.2**	**0.0%**
Energy (kWh)	Nameplate	7,510,087.7	
	Output at Irradiance Levels	7,510,382.9	0.0%
	Output at Cell Temperature Derate	7,056,158.2	-6.0%
	Output After Mismatch	6,780,377.9	-3.9%
	Optimal DC Output	6,727,800.9	-0.8%
	Constrained DC Output	6,547,188.1	-2.7%
	Inverter Output	6,412,630.0	-2.1%
	Energy to Grid	**6,380,570.0**	**-0.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp		19.7 °C
	Avg. Operating Cell Temp		33.7 °C
Simulation Metrics			
	Operating Hours		4665
	Solved Hours		4665

Condition Set

Description	Condition Set 1
Weather Dataset	TMY, 10km Grid (35.35,-117.95), NREL (prospector)
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

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
Q.PLUS DUO L-G5.2 375 (Hanwha)	Spec Sheet Characterization, PAN

Component Characterizations

Device	Characterization
SC 2000-EV-US (SMA)	Spec Sheet

Components

Component	Name	Count
Inverters	SC 2000-EV-US (SMA)	1 (2.00 MW)
Strings	10 AWG (Copper)	256 (186,269.2 ft)
Module	Hanwha, Q.PLUS DUO L-G5.2 375 (375W)	7,069 (2.65 MW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	23-28	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Single-axis Trackers (N/S)	Landscape (Horizontal)	15°	180°	8.0 ft	1x1	7,069	7,069	2.65 MW

Detailed Layout