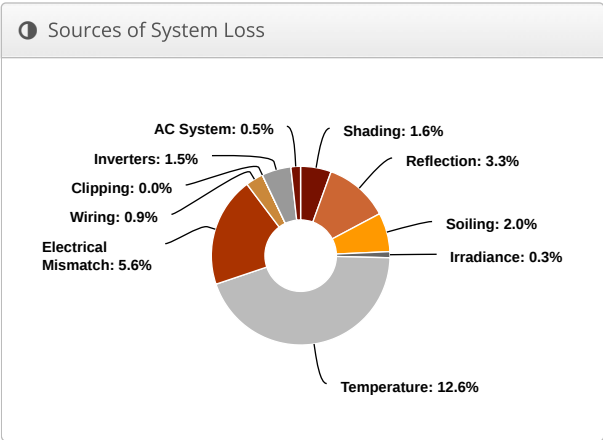
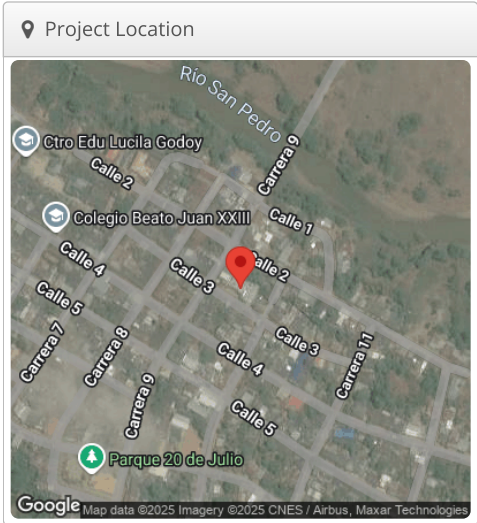


Design 1 ALCALDIA PUERTO LIBERTADOR, PUERTO LIBERTADOR

Report	
Project Name	ALCALDIA PUERTO LIBERTADOR
Project Address	PUERTO LIBERTADOR
Prepared By	carlos romero carlosromero.1730@gmail.com

System Metrics	
Design	Design 1
Module DC Nameplate	57.8 KW
Inverter AC Nameplate	80.0 kW Load Ratio: 1.03
Annual Production	119.7 MWh
Performance Ratio	74.4%
kWh/kWp	1,449.6
Weather Dataset	TMY, 0.04° Grid (7.89,-75.66), NREL (psm3)
Simulator Version	0ca365bb6f-65406d84af-b037915dbd-b6166710fe



⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,983.6	
	POA Irradiance	1,947.4	-1.8%
	Shaded Irradiance	1,916.8	-1.6%
	Irradiance after Reflection	1,853.2	-3.3%
	Irradiance after Soiling	1,816.1	-2.0%
	Total Collector Irradiance	1,816.0	0.0%
Energy (kWh)	Nameplate	150,004.0	
	Output at Irradiance Levels	149,532.6	-0.3%
	Output at Cell Temperature Derate	130,675.1	-12.6%
	Output after Electrical Mismatch	123,294.0	-5.6%
	Optimal DC Output	122,172.2	-0.9%
	Constrained DC Output	122,169.6	0.0%
	Inverter Output	120,337.0	-1.5%
	Energy to Grid	119,735.4	-0.5%
Temperature Metrics			
Avg. Operating Ambient Temp		28.6 °C	
Avg. Operating Cell Temp		53.6 °C	
Simulation Metrics			
Operating Hours		4364	
Solved Hours		4364	

☁ Condition Set													
Description		Condition Set 1											
Weather Dataset		TMY, 0.04° Grid (7.89,-75.66), NREL (psm3)											
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 & Component Characterizations	Type	Component						Characterization					
	Module	JAM72D40-590/MB 2024 (JA Solar)						Spec Sheet Characterization, PAN					
	Inverter	SUN2000-80K-MGL0 (Huawei)						Spec Sheet					

Components		
Component	Name	Count
Inverters	SUN2000-80K-MGL0 (Huawei)	1 (80.0 kW)
Strings	10 AWG (Copper)	14 (1,366.2 m)
Module	JA Solar, JAM72D40-590/MB 2024 (590W)	98 (57.8 KW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	4-5	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Landscape (Horizontal)	10°	219.48108°	0.2 m	1x1	25	25	14.8 kW
Field Segment 2	Flush Mount	Landscape (Horizontal)	10°	33.765648°	0.2 m	1x1	24	24	14.2 kW
Field Segment 3	Flush Mount	Landscape (Horizontal)	10°	33.765648°	0.2 m	1x1	36	36	21.2 kW