Design 2 villa sentul, Bogor, Telaga Indah V Sentul city Bogor

Report

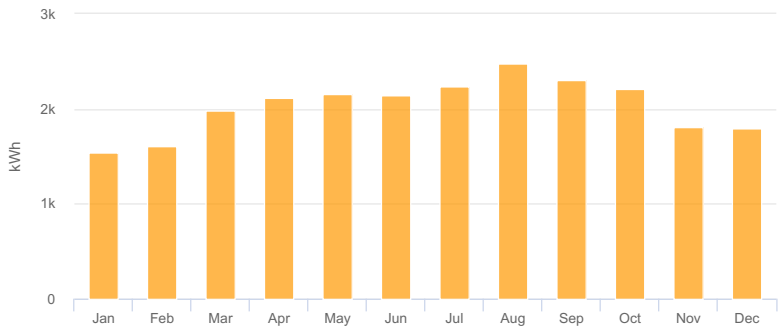
Project Name	villa sentul, Bogor
Project Address	Telaga Indah V Sentul city Bogor
Prepared By	meilani 008 tarameidyarespati@gmail.com

System Metrics

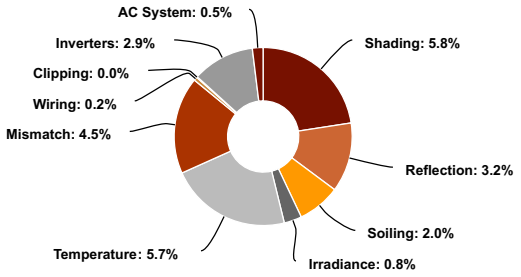
Design	Design 2
Module DC Nameplate	21.0 kW
Inverter AC Nameplate	20.0 kW Load Ratio: 1.05
Annual Production	24.36 MWh
Performance Ratio	76.9%
kWh/kWp	1,159.9
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	e080777989-af6ccafea2-64bddf3afa-29928cfc44

Project Location

Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,487.9	
	POA Irradiance	1,508.2	1.4%
	Shaded Irradiance	1,420.6	-5.8%
	Irradiance after Reflection	1,374.5	-3.2%
	Irradiance after Soiling	1,347.0	-2.0%
	Total Collector Irradiance	**1,347.1**	**0.0%**
Energy (kWh)	Nameplate	28,298.3	
	Output at Irradiance Levels	28,064.9	-0.8%
	Output at Cell Temperature Derate	26,468.7	-5.7%
	Output After Mismatch	25,267.3	-4.5%
	Optimal DC Output	25,225.7	-0.2%
	Constrained DC Output	25,216.7	0.0%
	Inverter Output	24,481.2	-3.0%
	Energy to Grid	**24,358.8**	**-0.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp		23.1 °C
	Avg. Operating Cell Temp		31.6 °C
Simulation Metrics			
	Operating Hours		4510
	Solved Hours		4510

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
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
	REC350TP2S 72 (REC)	Spec Sheet Characterization, PAN

Component Characterizations	Device	Characterization
	TRIO-20_0-TL-OUTD-400_BDEW (ABB)	Default Characterization

Components

Component	Name	Count
Inverters	TRIO-20_0-TL-OUTD-400_BDEW (ABB)	1 (20.0 kW)
Strings	10 AWG (Copper)	3 (111.8 ft)
Module	REC, REC350TP2S 72 (350W)	60 (21.0 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	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)	15°	341.362°	0.2 ft	1x0	N/A	48	16.8 kW
Field Segment 2	Fixed Tilt	Portrait (Vertical)	15°	341.362°	0.2 ft	1x0	N/A	12	4.20 kW

Detailed Layout