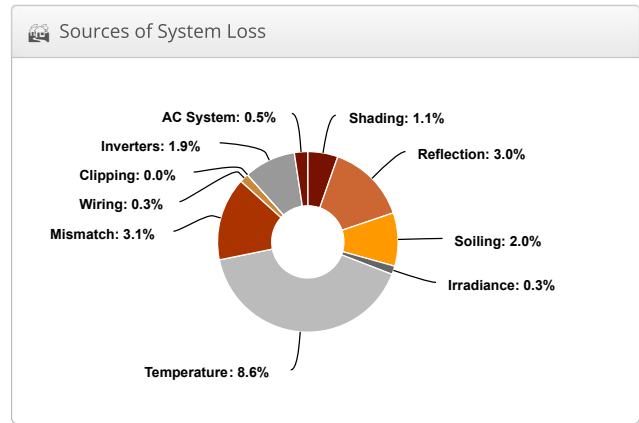
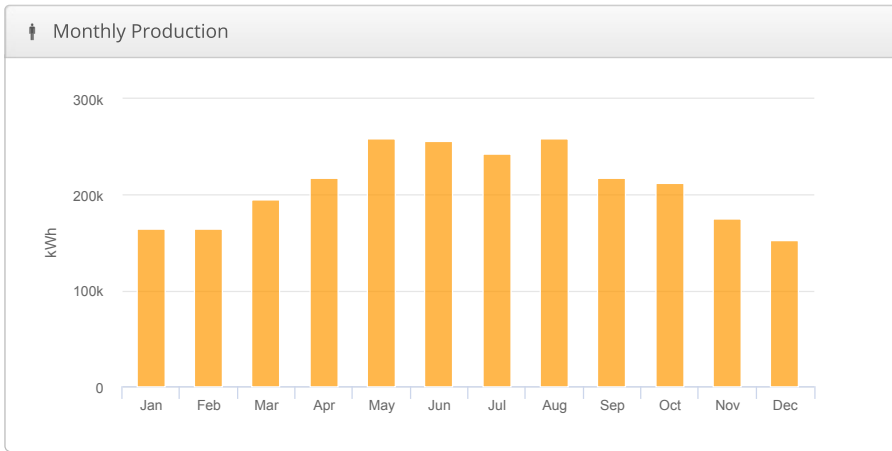
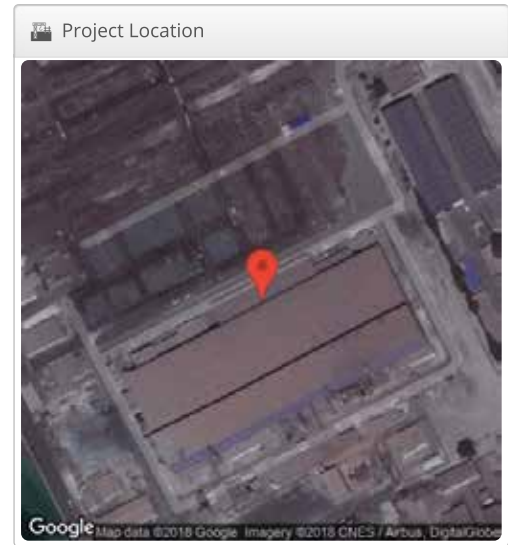


BSF-HIDD-BH Bahrain Steel Factory, Hidd, Bahrain, Bahrain Steel, Al Hidd

Report	
Project Name	Bahrain Steel Factory, Hidd, Bahrain
Project Description	Bahrain Steel Factory, Hidd, Bahrain 3MW Solar Power Plant
Project Address	Bahrain Steel, Al Hidd
Prepared For	Foulath Holding
Prepared By	Raheel Saeed raheel@oxusventures.com

System Metrics	
Design	BSF-HIDD-BH
Module DC Nameplate	1.54 MW
Inverter AC Nameplate	1.25 MW Load Ratio: 1.23
Annual Production	2,516 GWh
Performance Ratio	80.7%
kWh/kWp	1,635.8
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	9c02b5deb1-388eda1f11-1a6f592b1e-c8d7445e4b



Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,930.3	
	POA Irradiance	2,026.4	5.0%
	Shaded Irradiance	2,003.5	-1.1%
	Irradiance after Reflection	1,943.1	-3.0%
	Irradiance after Soiling	1,904.2	-2.0%
	Total Collector Irradiance	1,904.3	0.0%
Energy (kWh)	Nameplate	2,930,915.8	
	Output at Irradiance Levels	2,921,605.5	-0.3%
	Output at Cell Temperature Derate	2,671,145.5	-8.6%
	Output After Mismatch	2,587,650.1	-3.1%
	Optimal DC Output	2,578,864.7	-0.3%
	Constrained DC Output	2,578,857.9	0.0%
	Inverter Output	2,528,890.0	-1.9%
	Energy to Grid	2,516,250.0	-0.5%
Temperature Metrics			
	Avg. Operating Ambient Temp		28.8 °C
	Avg. Operating Cell Temp		38.9 °C
Simulation Metrics			
	Operating Hours	4592	
	Solved Hours	4592	

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									
	Fixed Tilt	-3.56	-0.075									
	Flush Mount	-2.81	-0.0455									
	East-West	-3.56	-0.075									
	Carport	-3.56	-0.075									
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										
	TSM-PD14 320 (May16) (Trina Solar)	Spec Sheet Characterization, PAN										
Component Characterizations	Device	Characterization										
	Sunny Tripower 24000TL-US (SMA)	Modified CEC										

Components		
Component	Name	Count
Inverters	Sunny Tripower 24000TL-US (SMA)	52 (1.25 MW)
Strings	10 AWG (Copper)	260 (12,229.7 m)
Module	Trina Solar, TSM-PD14 320 (May16) (320W)	4,807 (1.54 MW)

Ⓞ 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)	10°	180°	0.6 m	1x1	3,412	3,412	1.09 MW
Field Segment 2	Fixed Tilt	Landscape (Horizontal)	10°	180°	0.6 m	1x1	1,395	1,395	446.4 kW

🏠 Detailed Layout

