

Scenario 3 (Proposal) Huis vd Provincie Utrecht, Archimedeslaan 6, 3584 BA Utrecht

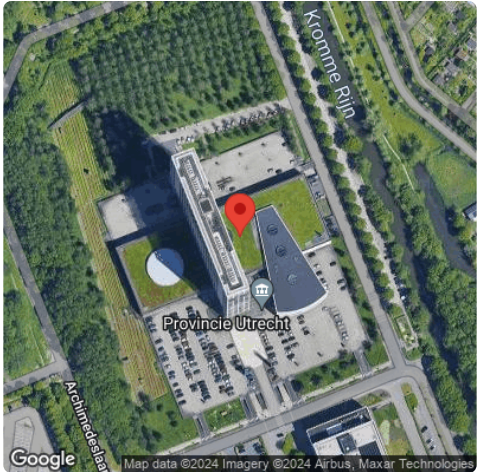
Report

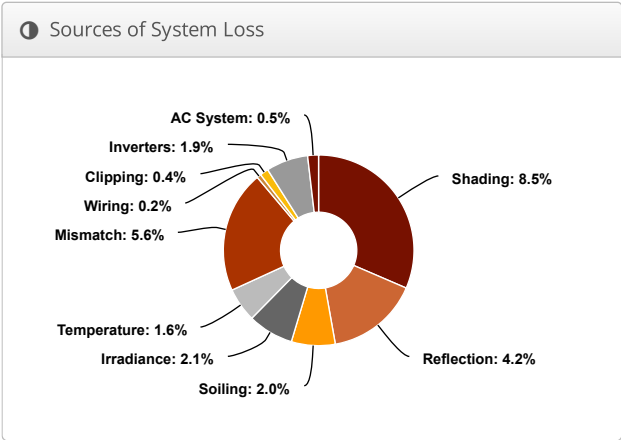
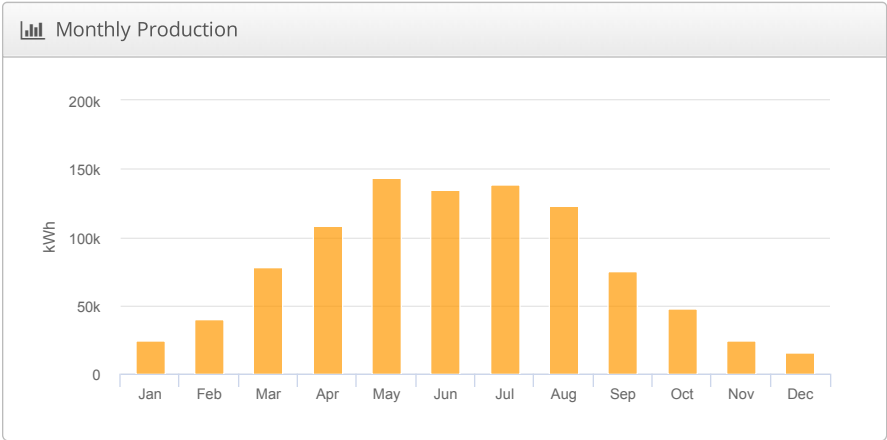
Project Name	Huis vd Provincie Utrecht
Project Address	Archimedeslaan 6, 3584 BA Utrecht
Prepared By	Thomas Hillman-Eady it-systemen@deerns.com



System Metrics	
Design	Scenario 3 (Proposal)
Module DC Nameplate	1.22 MW
Inverter AC Nameplate	986.5 kW Load Ratio: 1.23
Annual Production	951.5 MWh
Performance Ratio	76.8%
kWh/kWp	781.6
Weather Dataset	TMY, 10km Grid, meteonorm/nasa low resolution (meteonorm)
Simulator Version	2ef7dce9a6-89a791b56f-a4f1e46a17-b4d2c88cfc

Project Location





⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,103.6	
	POA Irradiance	1,018.1	-7.7%
	Shaded Irradiance	931.8	-8.5%
	Irradiance after Reflection	892.3	-4.2%
	Irradiance after Soiling	874.5	-2.0%
	Total Collector Irradiance	874.3	0.0%
Energy (kWh)	Nameplate	1,077,459.6	
	Output at Irradiance Levels	1,054,976.2	-2.1%
	Output at Cell Temperature Derate	1,038,559.7	-1.6%
	Output After Mismatch	980,664.4	-5.6%
	Optimal DC Output	978,758.4	-0.2%
	Constrained DC Output	974,919.7	-0.4%
	Inverter Output	956,275.1	-1.9%
	Energy to Grid	951,493.8	-0.5%
Temperature Metrics			
Avg. Operating Ambient Temp		13.0 °C	
Avg. Operating Cell Temp		20.0 °C	
Simulation Metrics			
Operating Hours		4609	
Solved Hours		4609	

📦 Components		
Component	Name	Count
Inverters	Sunny Tripower 24000TL-US (SMA)	41 (986.5 kW)
Strings	10 AWG (Copper)	205 (6,771.5 m)
Module	SunPower, SPR-A430-COM-MLSD (430W)	2,169 (932.7 kW)
Module	SunPower, SPR-220-WHT-I (pre-2017) (220W)	1,294 (284.7 kW)

☁ Condition Set												
Description	Condition Set 1											
Weather Dataset	TMY, 10km Grid, meteonorm/nasa low resolution (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		Uploaded By		Characterization							
	SPR-220-WHT-I (pre-2017) (SunPower)		HelioScope		Spec Sheet Characterization, PAN							
	SPR-A430-COM-MLSD (SunPower)		HelioScope		Spec Sheet Characterization, PAN							
Component Characterizations	Device			Uploaded By		Characterization						
	Sunny Tripower 24000TL-US (SMA)			HelioScope		Modified CEC						

🏠 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	4-18	Along Racking

🏠 Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Landscape (Horizontal)	4°	338.27292°	0.6 m	1x1	237	237	101.9 kW
Field Segment 2	Fixed Tilt	Landscape (Horizontal)	Module: 4°	Module: 338.27292°	0.6 m	1x1	140	140	60.2 kW
Field Segment 3	Fixed Tilt	Landscape (Horizontal)	Module: 4°	Module: 158°	0.6 m	1x1	212	212	91.2 kW
Field Segment 4	East-West	Landscape (Horizontal)	15°	157.7°	0.1 m	1x1	66	132	56.8 kW
Field Segment 5	East-West	Landscape (Horizontal)	15°	158°	0.1 m	1x1	153	306	131.6 kW
Field Segment 6	East-West	Landscape (Horizontal)	15°	158°	0.1 m	1x1	123	246	105.8 kW
Field Segment 7	East-West	Landscape (Horizontal)	15°	159.44395°	0.1 m	1x1	69	138	59.3 kW
Field Segment 8	East-West	Landscape (Horizontal)	15°	158°	0.1 m	1x1	73	146	62.8 kW
Field Segment 9	East-West	Landscape (Horizontal)	15°	158°	0.1 m	1x1	85	170	73.1 kW
Field Segment 10	East-West	Landscape (Horizontal)	15°	158°	0.1 m	1x1	80	160	68.8 kW
Field Segment 11	East-West	Landscape (Horizontal)	15°	158°	0.1 m	1x1	77	154	66.2 kW
Field Segment 12	East-West	Landscape (Horizontal)	15°	157°	0.1 m	1x1	64	128	55.0 kW
Field Segment 19	Flush Mount	Landscape (Horizontal)	89°	157.61908°	0.0 m	1x1	286	286	62.9 kW
Field Segment 21	Flush Mount	Portrait (Vertical)	89°	245.83337°	0.0 m	1x1	424	448	98.6 kW
Field Segment 21 (copy)	Flush Mount	Portrait (Vertical)	89°	245.83337°	0.0 m	1x1	523	560	123.2 kW

 Detailed Layout

