

Zone 19/24 722191 | Groningen ZP-CAES Systeem, 53.24304069572769, 6.687871594668537

Report

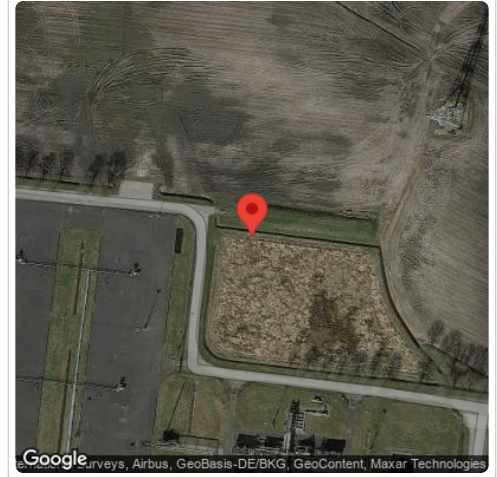
Project Name	722191 Groningen ZP-CAES Systeem
Project Address	53.24304069572769, 6.687871594668537
Prepared By	Pondera Consult w.pustjens@ponderaconsult.com



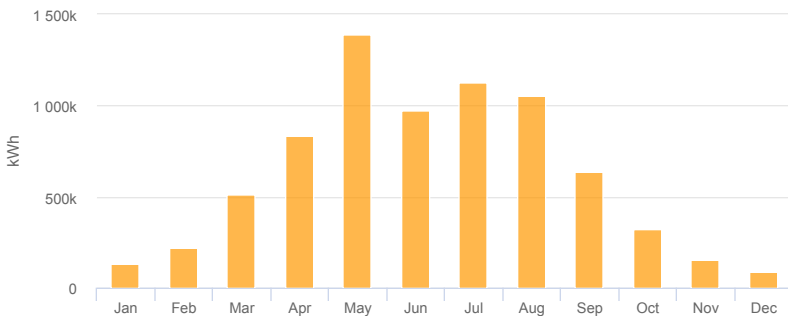
System Metrics

Design	Zone 19/24
Module DC Nameplate	8.84 MW
Inverter AC Nameplate	5.95 MW Load Ratio: 1.49
Annual Production	7.448 GWh
Performance Ratio	84.2%
kWh/kWp	842.8
Weather Dataset	Groningen ZP (TMY), Groningen ZP, ECMWF/ERA (custom)
Simulator Version	28179409b0-e97228905f-dee8ce9e64-bbf3497f23

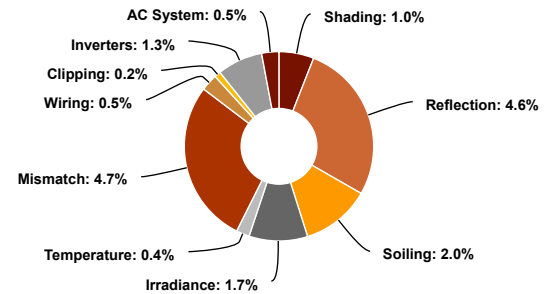
Project Location



Monthly Production



Sources of System Loss



⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,014.9	
	POA Irradiance	1,000.9	-1.4%
	Shaded Irradiance	990.8	-1.0%
	Irradiance after Reflection	945.0	-4.6%
	Irradiance after Soiling	926.1	-2.0%
	Total Collector Irradiance	925.9	0.0%
Energy (kWh)	Nameplate	8,184,207.1	
	Output at Irradiance Levels	8,045,529.6	-1.7%
	Output at Cell Temperature Derate	8,014,768.8	-0.4%
	Output After Mismatch	7,635,742.9	-4.7%
	Optimal DC Output	7,598,758.1	-0.5%
	Constrained DC Output	7,585,014.0	-0.2%
	Inverter Output	7,485,470.0	-1.3%
	Energy to Grid	7,448,043.0	-0.5%
Temperature Metrics			
Avg. Operating Ambient Temp		13.2 °C	
Avg. Operating Cell Temp		18.5 °C	
Simulation Metrics			
		Operating Hours	4171
		Solved Hours	4171

☁ Condition Set												
Description	Groningen PVGIS-SARAH2 (TMY)											
Weather Dataset	Groningen ZP (TMY), Groningen ZP, ECMWF/ERA (custom)											
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				
	JAM72S30-550/MR (1500V) (JA Solar)					HelioScope		Spec Sheet Characterization, PAN				
Component Characterizations	Device						Uploaded By		Characterization			
	SUN2000-185KTL-H1 (@40C) (2021) (Huawei)						HelioScope		Spec Sheet			

📦 Components		
Component	Name	Count
Inverters	SUN2000-185KTL-H1 (@40C) (2021) (Huawei)	34 (5.95 MW)
Strings	10 AWG (Copper)	632 (99,906.9 m)
Module	JA Solar, JAM72S30-550/MR (1500V) (550W)	16,068 (8.84 MW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	13-27	Along Racking

🏠 Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Zone 19	East-West	Landscape (Horizontal)	15°	296°	2.5 m	6x13	103	16,068	8.84 MW

Detailed Layout

