

Zone 1 v2 722191 | Groningen ZP-CAES Systeem, 53.24304069572769, 6.687871594668537

Report

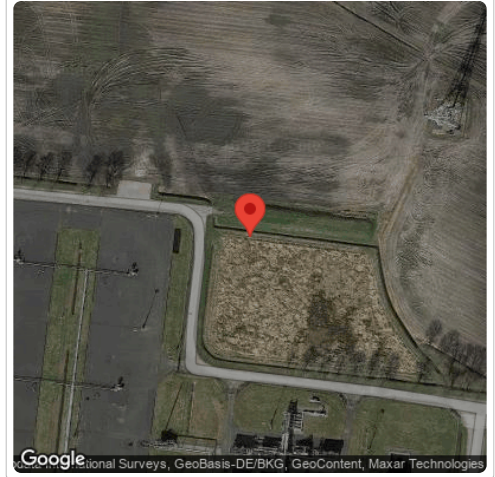
Project Name	722191 Groningen ZP-CAES Systeem
Project Address	53.24304069572769, 6.687871594668537
Prepared By	Pondera Consult w.pustjens@ponderaconsult.com



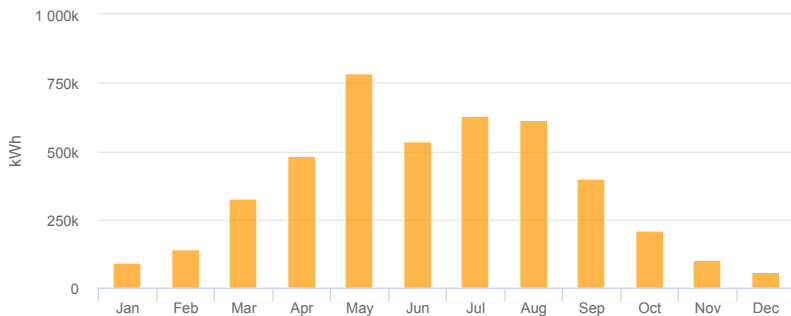
System Metrics

Design	Zone 1 v2
Module DC Nameplate	4.77 MW
Inverter AC Nameplate	3.33 MW Load Ratio: 1.43
Annual Production	4.371 GWh
Performance Ratio	82.6%
kWh/kWp	917.2
Weather Dataset	Groningen ZP (TMY), Groningen ZP, ECMWF/ERA (custom)
Simulator Version	d434cd410b-a5ae2a50b9-dce38bbf90-32747469a5

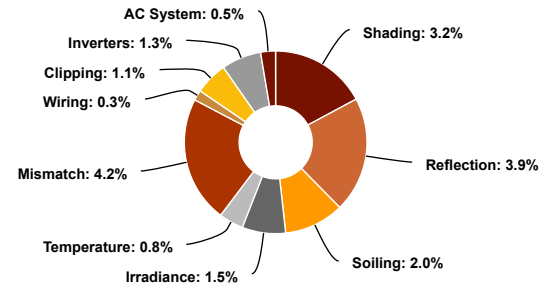
Project Location



Monthly Production



Sources of System Loss



⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,014.9	
	POA Irradiance	1,110.2	9.4%
	Shaded Irradiance	1,074.3	-3.2%
	Irradiance after Reflection	1,032.9	-3.9%
	Irradiance after Soiling	1,012.2	-2.0%
	Total Collector Irradiance	1,012.2	0.0%
Energy (kWh)	Nameplate	4,824,268.7	
	Output at Irradiance Levels	4,754,285.5	-1.5%
	Output at Cell Temperature Derate	4,715,285.6	-0.8%
	Output After Mismatch	4,516,307.2	-4.2%
	Optimal DC Output	4,500,827.7	-0.3%
	Constrained DC Output	4,451,663.4	-1.1%
	Inverter Output	4,392,702.5	-1.3%
	Energy to Grid	4,370,739.0	-0.5%
Temperature Metrics			
Avg. Operating Ambient Temp		13.2 °C	
Avg. Operating Cell Temp		19.0 °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)	19 (3.33 MW)
Strings	10 AWG (Copper)	342 (25,846.9 m)
Module	JA Solar, JAM72S30-550/MR (1500V) (550W)	8,664 (4.77 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
Field Segment 1	Fixed Tilt	Landscape (Horizontal)	15°	187°	3.0 m	6x19	76	8,664	4.77 MW

🌐 Detailed Layout

