

9.2 Výstup z návrhu FVE

9.2.2 1.ETAPA – VARIANTA B



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STUDIE PROVEDITELNOSTI
MODERNIZACE KALOVÉHO A ENERGETICKÉHO HOSPODÁŘSTVÍ ÚČOV

NÁZEV PŘÍLOHY
VÝSTUP Z NÁVRHU FVE

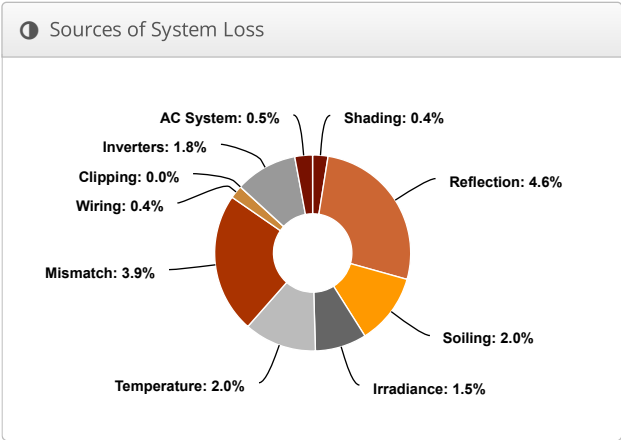
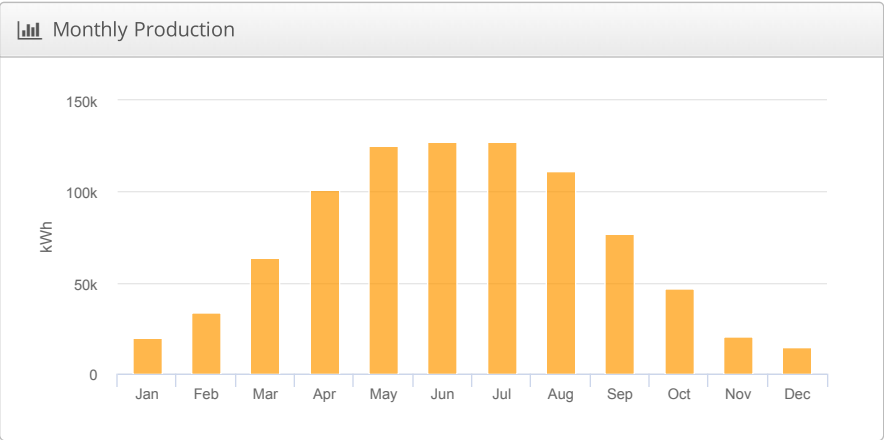
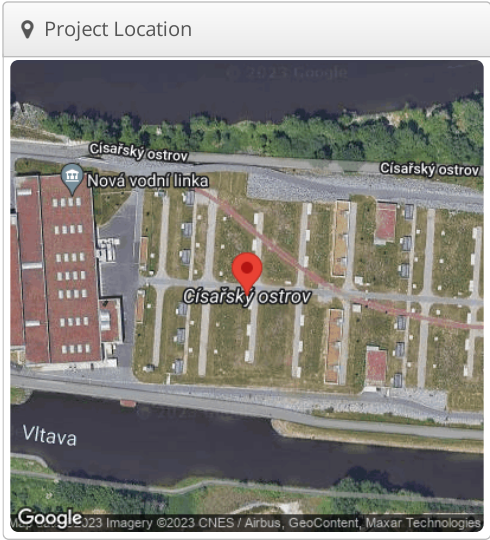
MĚŘÍTKO
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Č. PŘÍLOHY
9.2.2

Design 1 (without zones 26-30) ČOV Císařský ostrov, Císařský ostrov

Report	
Project Name	ČOV Císařský ostrov
Project Address	Císařský ostrov
Prepared By	SPV1 Photon Energy it@photonenergy.com

System Metrics	
Design	Design 1 (without zones 26-30)
Module DC Nameplate	959.6 kW
Inverter AC Nameplate	1.01 MW Load Ratio: 0.95
Annual Production	868.2 MWh
Performance Ratio	84.1%
kWh/kWp	904.8
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	d8839fec03-7e69edec0a-3ed647693e-951876f10f



⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,064.4	
	POA Irradiance	1,076.1	1.1%
	Shaded Irradiance	1,071.5	-0.4%
	Irradiance after Reflection	1,022.4	-4.6%
	Irradiance after Soiling	1,001.9	-2.0%
	Total Collector Irradiance	1,001.9	0.0%
Energy (kWh)	Nameplate	961,421.7	
	Output at Irradiance Levels	947,475.9	-1.5%
	Output at Cell Temperature Derate	928,123.7	-2.0%
	Output After Mismatch	891,465.1	-3.9%
	Optimal DC Output	888,188.2	-0.4%
	Constrained DC Output	888,179.0	0.0%
	Inverter Output	872,591.2	-1.8%
	Energy to Grid	868,228.2	-0.5%
Temperature Metrics			
Avg. Operating Ambient Temp		12.5 °C	
Avg. Operating Cell Temp		19.6 °C	
Simulation Metrics			
Operating Hours		4553	
Solved Hours		4553	

☁ 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						
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%											
Trackers	Maximum Angle							Backtracking				
	60°							Enabled				
Module Characterizations	Module					Uploaded By		Characterization				
	JKM460M-60HL4-V (Jinko Solar)					HelioScope		Spec Sheet Characterization, PAN				
Component Characterizations	Device						Uploaded By		Characterization			
	SUN2000-33KTL-A (Huawei)						HelioScope		Spec Sheet			
	SUN2000-30KTL-M3 (Huawei)						HelioScope		Spec Sheet			
	SUN2000-12KTL-M2 (Huawei)						HelioScope		Spec Sheet			
	SUN2000-15KTL-M2 (Huawei)						HelioScope		Spec Sheet			
	SUN2000-20KTL-M2 (Huawei)						HelioScope		Spec Sheet			
	SUN2000-36KTL-M3 (400V) (2022) (Huawei)						HelioScope		Spec Sheet			
	SUN2000-20KTL-M2 (400V) (Huawei)						HelioScope		Spec Sheet			
	SUN2000-50KTL-M3 (400V) (Huawei)						HelioScope		Spec Sheet			
	SUN2000-100KTL-M2 (400V) (Huawei)						HelioScope		Spec Sheet			

Components		
Component	Name	Count
Inverters	SUN2000-33KTL-A (Huawei)	4 (120.0 kW)
Inverters	SUN2000-30KTL-M3 (Huawei)	1 (33.0 kW)
Inverters	SUN2000-12KTL-M2 (Huawei)	1 (12.0 kW)
Inverters	SUN2000-20KTL-M2 (Huawei)	4 (80.0 kW)
Inverters	SUN2000-36KTL-M3 (400V) (2022) (Huawei)	4 (144.0 kW)
Inverters	SUN2000-20KTL-M2 (400V) (Huawei)	1 (20.0 kW)
Inverters	SUN2000-50KTL-M3 (400V) (Huawei)	6 (300.0 kW)
Inverters	SUN2000-100KTL-M2 (400V) (Huawei)	3 (300.0 kW)
Strings	10 AWG (Copper)	107 (4,163.2 m)
Module	Jinko Solar, JKM460M-60HL4-V (460W)	2,086 (959.6 kW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	5-23	Along Racking
Wiring Zone 2	-	6-23	Along Racking
Wiring Zone 3	-	6-23	Along Racking
Wiring Zone 4	-	6-23	Along Racking
Wiring Zone 5	-	6-23	Along Racking
Wiring Zone 6	-	5-23	Along Racking
Wiring Zone 7	-	-	Along Racking
Wiring Zone 8	-	15-23	Along Racking
Wiring Zone 9	-	-	Along Racking
Wiring Zone 10	-	-	Along Racking
Wiring Zone 11	-	-	Along Racking
Wiring Zone 12	-	-	Along Racking
Wiring Zone 13	-	-	Along Racking
Wiring Zone 14	-	-	Along Racking
Wiring Zone 15	-	6-23	Along Racking
Wiring Zone 16	-	5-23	Along Racking
Wiring Zone 17	-	-	Along Racking
Wiring Zone 18	-	15-23	Along Racking
Wiring Zone 19	-	6-23	Along Racking
Wiring Zone 20	-	6-23	Along Racking
Wiring Zone 21	-	5-23	Along Racking
Wiring Zone 22	-	15-23	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
12	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	50	100	46.0 kW
11	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	50	100	46.0 kW
13	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	50	100	46.0 kW
14	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	50	100	46.0 kW
10	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	40	80	36.8 kW
18	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	80	160	73.6 kW
17	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	60	120	55.2 kW
16	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	40	80	36.8 kW
24	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	35	70	32.2 kW
20	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	27	54	24.8 kW
21	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	27	54	24.8 kW
22	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	27	54	24.8 kW

19	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	58	116	53.4 kW
23	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	12	24	11.0 kW
9	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	28	56	25.8 kW
8	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	3	6	2.76 kW
7	East-West	Landscape (Horizontal)	0°	155°	0.5 m	1x1	28	56	25.8 kW
35	East-West	Landscape (Horizontal)	0°	161.41307°	0.2 m	1x1	12	24	11.0 kW
34	East-West	Landscape (Horizontal)	0°	161.41307°	0.2 m	1x1	12	24	11.0 kW
40	Flush Mount	Landscape (Horizontal)	23°	222.61406°	0.0 m	1x1	46	46	21.2 kW
41	Flush Mount	Portrait (Vertical)	23°	222.61406°	0.0 m	1x1	153	153	70.4 kW
3	Flush Mount	Landscape (Horizontal)	15°	220.93242°	0.0 m	1x1	24	24	11.0 kW
1	Flush Mount	Portrait (Vertical)	15°	223.91908°	0.0 m	1x1	42	42	19.3 kW
42	East-West	Landscape (Horizontal)	15°	132.42664°	0.4 m	1x1	72	144	66.2 kW
15	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	20	40	18.4 kW
25	East-West	Landscape (Horizontal)	0°	177.07753°	0.5 m	1x1	14	28	12.9 kW
33	Flush Mount	Landscape (Horizontal)	0°	9.045801°	0.0 m	1x1	20	20	9.20 kW
37	Flush Mount	Landscape (Horizontal)	0°	190.09106°	0.0 m	1x1	12	12	5.52 kW
38	Flush Mount	Landscape (Horizontal)	0°	190.09106°	0.0 m	1x1	19	19	8.74 kW
36	Flush Mount	Landscape (Horizontal)	0°	222.4949°	0.0 m	1x1	180	180	82.8 kW

 Detailed Layout



