



PVsyst V8.0.14

PVsyst - Simulation report

Grid-Connected System

Project: SUNGJIN NICE

Variant: New simulation variant

No 3D scene defined, no shadings

System power: 986 kWp

20.888050249667153, 106.35437139638657i - Vietnam

Author

CÔNG TY TNHH XUÂN SƠN HẢI DƯƠNG (Viet Nam)



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05/08/25 11:59
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Project summary			
Geographical Site 20.888050249667153, 106.35437139638657i Vietnam	Situation Latitude 20.89 °(N) Longitude 106.35 °(E) Altitude 9 m Time zone UTC+7	Project settings Albedo 0.20	
Weather data 20.888050249667153, 106.35437139638657i Meteonorm 8.2 (1991-2000), Sat=100% - Synthetic			

System summary			
Grid-Connected System			No 3D scene defined, no shadings
Orientation #1 Fixed plane Tilt/Azimuth 15 / 135 °	Orientation #2 Fixed plane Tilt/Azimuth 15 / -45 °	Near Shadings no Shadings	
System information PV Array Nb. of modules 1590 units Pnom total 986 kWp	Inverters Nb. of units 5.1 units Total power 771 kWac Pnom ratio 1.28		
User's needs Unlimited load (grid)			

Results summary					
Produced Energy	989.82 MWh/year	Specific production	1004 kWh/kWp/year	Perf. Ratio PR	83.30 %

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General parameters					
Grid-Connected System					No 3D scene defined, no shadings
Orientation #1		Orientation #2		Models used	
Fixed plane		Fixed plane		Transposition	Perez
Tilt/Azimuth	15 / 135 °	Tilt/Azimuth	15 / -45 °	Diffuse	Perez, Meteonorm
Horizon		Near Shadings		Circumsolar	separate
Free Horizon		no Shadings			
				User's needs	
				Unlimited load (grid)	

PV Array Characteristics					
PV module		Inverter			
Manufacturer	JA Solar	Manufacturer	Huawei Technologies		
Model	JAM66-D45-620-LB	Model	SUN2000-150K-MG0-380V		
(Original PVsyst database)		(Original PVsyst database)			
Unit Nom. Power	620 Wp	Unit Nom. Power	150 kWac		
Number of PV modules	1590 units	Number of inverters	36 * MPPT 14% 5.1 units		
Nominal (STC)	986 kWp	Total power	771 kWac		
Modules	106 string x 15 In series	Operating voltage	200-1000 V		
At operating cond. (50°C)		Max. power ($\geq 30^{\circ}\text{C}$)	165 kWac		
Pmpp	915 kWp	Pnom ratio (DC:AC)	1.28		
U mpp	559 V	No power sharing between MPPTs			
I mpp	1636 A				
Total PV power		Total inverter power			
Nominal (STC)	986 kWp	Total power	771 kWac		
Total	1590 modules	Nb. of inverters	6 units		
Module area	4295 m ²	Pnom ratio	0.9 unused		
			1.28		

Array losses								
Array Soiling Losses			Thermal Loss factor					DC wiring losses
Loss Fraction	1.6 %		Module temperature according to irradiance					Global array res.
			Uc (const)	17.0 W/m ² K				5.6 mΩ
			Uv (wind)	0.0 W/m ² K/m/s				Loss Fraction 1.50 % at STC
Module Quality Loss			Module mismatch losses					Strings Mismatch loss
Loss Fraction	-0.75 %		Loss Fraction	2.00 % at MPP				Loss Fraction 0.10 %
IAM loss factor								
Incidence effect (IAM): Fresnel smooth glass, n = 1.526								
0°	30°	50°	60°	70°	75°	80°	85°	90°
1.000	0.998	0.981	0.948	0.862	0.776	0.636	0.402	0.000

System losses								
Unavailability of the system								
Time fraction	1.0 % 3.7 days, 3 periods							



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Main results

System Production

Produced Energy 989.82 MWh/year

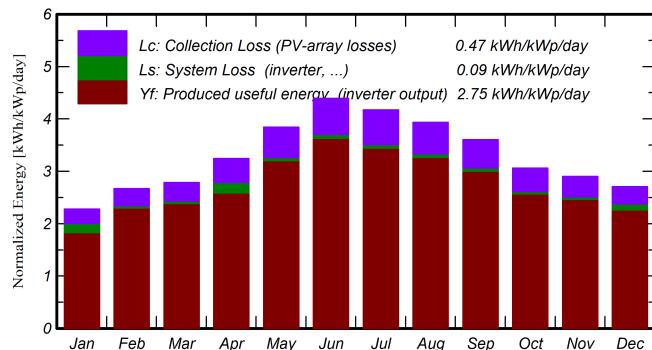
Specific production

1004 kWh/kWp/year

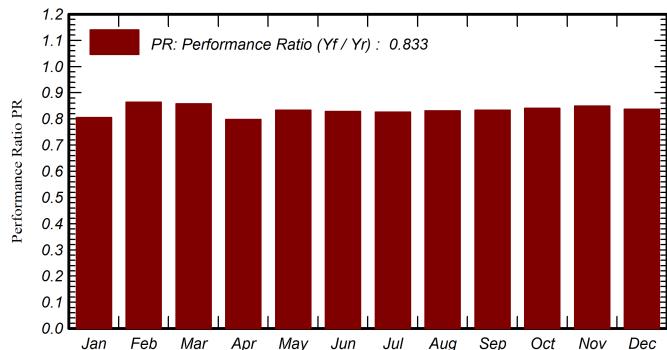
Perf. Ratio PR

83.30 %

Normalized productions (per installed kWp)



Performance Ratio PR



Balances and main results

	GlobHor kWh/m ²	DiffHor kWh/m ²	T_Amb °C	GlobInc kWh/m ²	GlobEff kWh/m ²	EArray MWh	E_Grid MWh	PR ratio
January	68.3	52.04	16.02	70.7	66.7	61.5	56.1	0.805
February	72.1	52.30	17.62	74.7	70.9	64.8	63.6	0.863
March	86.1	71.49	20.58	86.4	81.9	74.5	73.1	0.858
April	98.5	76.70	24.23	97.4	92.5	82.6	76.6	0.798
May	121.3	87.88	27.91	119.2	113.5	99.9	98.0	0.834
June	136.9	90.52	29.37	131.7	125.4	109.7	107.6	0.828
July	132.8	86.89	29.39	129.3	123.0	107.4	105.3	0.826
August	124.2	84.37	28.47	121.9	116.1	101.9	99.9	0.831
September	107.3	71.97	27.04	108.2	102.9	90.7	88.9	0.834
October	92.6	68.77	25.31	94.8	90.1	80.1	78.6	0.840
November	82.5	53.12	21.61	87.1	82.7	74.4	72.9	0.849
December	78.1	54.23	17.77	84.0	79.6	72.9	69.3	0.837
Year	1200.6	850.28	23.81	1205.4	1145.3	1020.5	989.8	0.833

Legends

GlobHor	Global horizontal irradiation	EArray	Effective energy at the output of the array
DiffHor	Horizontal diffuse irradiation	E_Grid	Energy injected into grid
T_Amb	Ambient Temperature	PR	Performance Ratio
GlobInc	Global incident in coll. plane		
GlobEff	Effective Global, corr. for IAM and shadings		



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