PVsyst - Simulation report

Grid-Connected System

Project: Floating_solar_plant

Variant: New simulation variant_different_layout_south_faced

No 3D scene defined, no shadings

System power: 22.00 MWp

Rohtas, Bihar - India

Ankit gupta- NITP

PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

Project summary

Geographical Site
Rohtas, Bihar
India

Situation

Latitude	24.83 °(N)
Longitude	84.13 °(E)
Altitude	101 m
Time zone	UTC+5.5

Project settings
Albedo 0.18

Weather data
Rohtas, Bihar
Meteonorm 8.2 (2001-2020), Sat=100% - Synthetic

System summary

Grid-Connected System
Simulation for year no 10

No 3D scene defined, no shadings

Orientation #1
Fixed plane
Tilt/Azimuth 11 / 0 °

Near Shadings
no Shadings

User's needs
Unlimited load (grid)

System information

PV Array

Nb. of modules	40000 units
Pnom total	22.00 MWp

Inverters

Nb. of units	20 units
Total power	21800 kVA
Grid power limit	20.00 MWac
Grid lim. Pnom ratio	1.100

Results summary

Produced Energy	28388 MWh/year	Specific production	1290 kWh/kWp/year	Perf. Ratio PR	79.99 %
Apparent energy	28388 MVAh/year				

Table of contents

PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

General parameters

Grid-Connected System — **No 3D scene defined, no shadings**

Orientation #1
Fixed plane
Tilt/Azimuth 11 / 0 °

Models used
Transposition Hay
Diffuse Perez, Meteonorm
Circumsolar separate

Horizon
Free Horizon

Near Shadings
no Shadings

User's needs
Unlimited load (grid)

Grid injection point
Grid power limitation
Active power 20.00 MWac
Pnom ratio 1.100
Limit applied at the inverter level

Power factor
Cos(phi) (lagging) 1.000

PV Array Characteristics

PV module
Manufacturer Generic
Model shark 550
(Custom parameters definition)
Loom_Mono_550W_Half_PERC.PAN
Unit Nom. Power 550 Wp

Inverter
Manufacturer Generic
Model Sinacon PV1090
(Original PVsyst database)
Unit Nom. Power 1090 kVA

Array #1 - PV Array

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #2 - Sub-array #2

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #3 - Sub-array #3

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #4 - Sub-array #4

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		

PV Array Characteristics

Array #4 - Sub-array #4

At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #5 - Sub-array #5

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #6 - Sub-array #6

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #7 - Sub-array #7

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #8 - Sub-array #8

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #9 - Sub-array #9

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #10 - Sub-array #10

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		

PV Array Characteristics

Array #10 - Sub-array #10

At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #11 - Sub-array #11

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #12 - Sub-array #12

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #13 - Sub-array #13

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #14 - Sub-array #14

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #15 - Sub-array #15

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #16 - Sub-array #16

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		

PV Array Characteristics

Array #16 - Sub-array #16

At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #17 - Sub-array #17

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #18 - Sub-array #18

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #19 - Sub-array #19

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Array #20 - Sub-array #20

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1090 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	875-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.01
U mpp	961 V	Leading limit Cos(phi) min	0.100
I mpp	1053 A	Lagging limit Cos(phi) min	0.100

Total PV power

Nominal (STC)	22000 kWp
Total	40000 modules
Module area	103239 m²
Cell area	95397 m²

Total inverter power

Total power	21800 kVA
Number of inverters	20 units
Pnom ratio	1.01

Array losses

Array Soiling Losses
Loss Fraction 1.0 %

Thermal Loss factor
Module temperature according to irradiance
Uc (const) 29.0 W/m²K
Uv (wind) 0.0 W/m²K/m/s

Serie Diode Loss
Voltage drop 0.7 V
Loss Fraction 0.1 % at STC

Module Quality Loss
Loss Fraction -0.38 %

Module mismatch losses
Loss Fraction 2.00 % at MPP

Strings Mismatch loss
Loss Fraction 0.15 %

Module average degradation
Year no 10
Loss factor 0.4 %/year
Imp / Vmp contributions 80% / 20%

Mismatch due to degradation
Imp RMS dispersion 0.4 %/year
Vmp RMS dispersion 0.4 %/year

IAM loss factor
Incidence effect (IAM): Fresnel, AR coating, n(glass)=1.526, n(AR)=1.290

0°	30°	50°	60°	70°	75°	80°	85°	90°
1.000	0.999	0.987	0.963	0.892	0.814	0.679	0.438	0.000

Spectral correction
FirstSolar model
Precipitable water estimated from relative humidity

Coefficient Set	C0	C1	C2	C3	C4	C5
Monocrystalline Si	0.85914	-0.02088	-0.0058853	0.12029	0.026814	-0.001781

DC wiring losses

Global wiring resistance 0.59 mΩ
Loss Fraction 1.2 % at STC

Array #1 - PV Array
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #2 - Sub-array #2
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #3 - Sub-array #3
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #4 - Sub-array #4
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #5 - Sub-array #5
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #6 - Sub-array #6
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #7 - Sub-array #7
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #8 - Sub-array #8
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #9 - Sub-array #9
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #10 - Sub-array #10
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #11 - Sub-array #11
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #12 - Sub-array #12
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #13 - Sub-array #13
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

Array #14 - Sub-array #14
Global array res. 12 mΩ
Loss Fraction 1.2 % at STC

PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

DC wiring losses

Array #15 - Sub-array #15		**Array #16 - Sub-array #16**	
Global array res.	12 mΩ	Global array res.	12 mΩ
Loss Fraction	1.2 % at STC	Loss Fraction	1.2 % at STC
Array #17 - Sub-array #17		**Array #18 - Sub-array #18**	
Global array res.	12 mΩ	Global array res.	12 mΩ
Loss Fraction	1.2 % at STC	Loss Fraction	1.2 % at STC
Array #19 - Sub-array #19		**Array #20 - Sub-array #20**	
Global array res.	12 mΩ	Global array res.	12 mΩ
Loss Fraction	1.2 % at STC	Loss Fraction	1.2 % at STC

AC wiring losses

Inv. output line up to injection point

Inverter voltage	600 Vac tri
Loss Fraction	3.77 % at STC
Inverter: Sinacon PV1090	
Wire section (20 Inv.)	Copper 20 x 3 x 1500 mm²
Average wires length	1000 m

PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

Main results

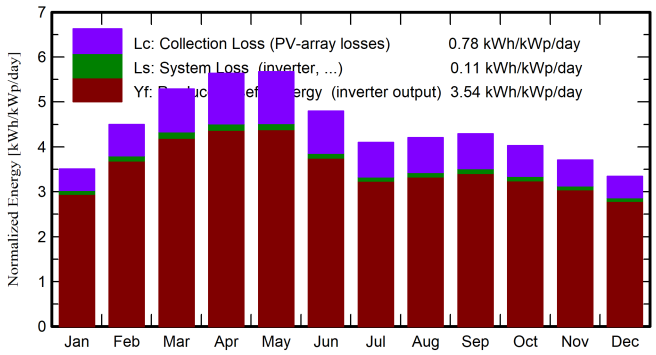
System Production

Produced Energy	28388 MWh/year	Specific production	1290 kWh/kWp/year
Apparent energy	28388 MVAh/year	Perf. Ratio PR	79.99 %

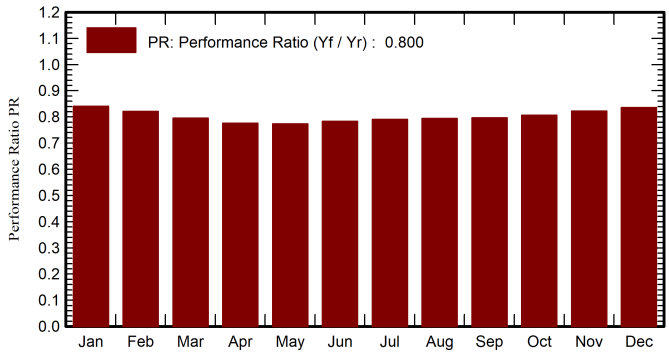
Economic evaluation

Investment		Yearly cost		LCOE	
Global	643,610,000.00 INR	Annuities	0.00 INR/yr	Energy cost	2.39 INR/kWh
Specific	29.3 INR/Wp	Run. costs	37,714,353.33 INR/yr		
		Payback period	18.0 years		

Normalized productions (per installed kWp)



Performance Ratio PR



Balances and main results

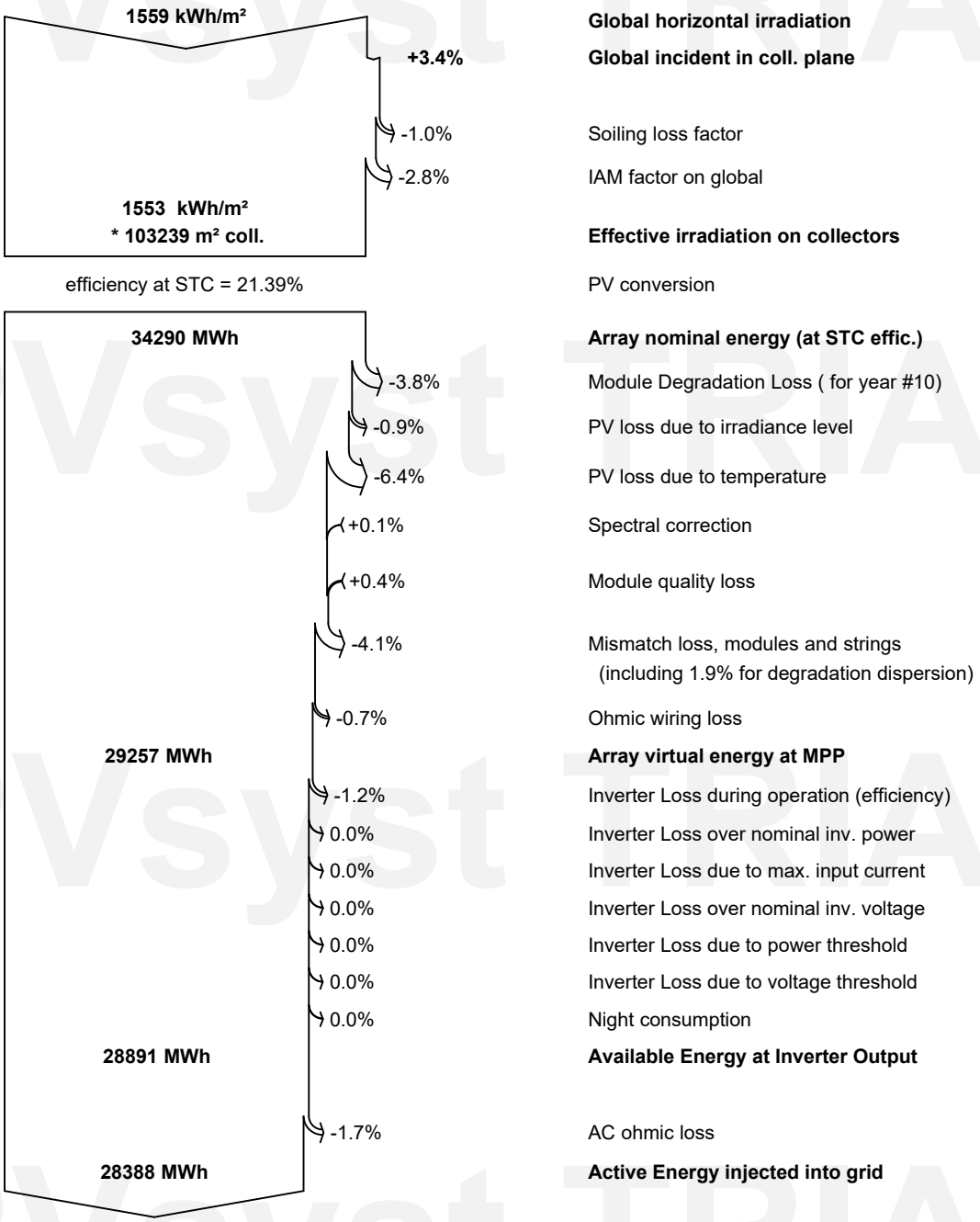
	GlobHor kWh/m²	DiffHor kWh/m²	T_Amb °C	GlobInc kWh/m²	GlobEff kWh/m²	EArray MWh	E_Grid MWh	PR ratio
January	98.3	56.9	15.21	108.8	104.5	2069	2011	0.840
February	116.1	59.3	19.91	126.0	121.6	2346	2275	0.821
March	156.2	73.8	25.57	163.8	158.5	2961	2865	0.795
April	167.0	81.6	30.80	169.1	163.2	2984	2889	0.777
May	178.3	102.9	33.50	175.8	169.4	3087	2993	0.774
June	146.8	98.9	32.26	143.9	138.2	2551	2478	0.783
July	129.5	84.8	29.93	127.0	122.0	2276	2211	0.791
August	130.8	83.9	29.31	130.3	125.1	2343	2275	0.794
September	125.9	76.1	28.56	128.6	123.7	2324	2255	0.797
October	118.2	70.1	26.36	124.9	120.2	2283	2216	0.806
November	100.6	54.3	21.12	111.2	107.1	2072	2012	0.822
December	91.8	49.1	16.77	103.7	99.6	1962	1906	0.836
Year	1559.4	891.8	25.80	1613.2	1553.1	29257	28388	0.800

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		

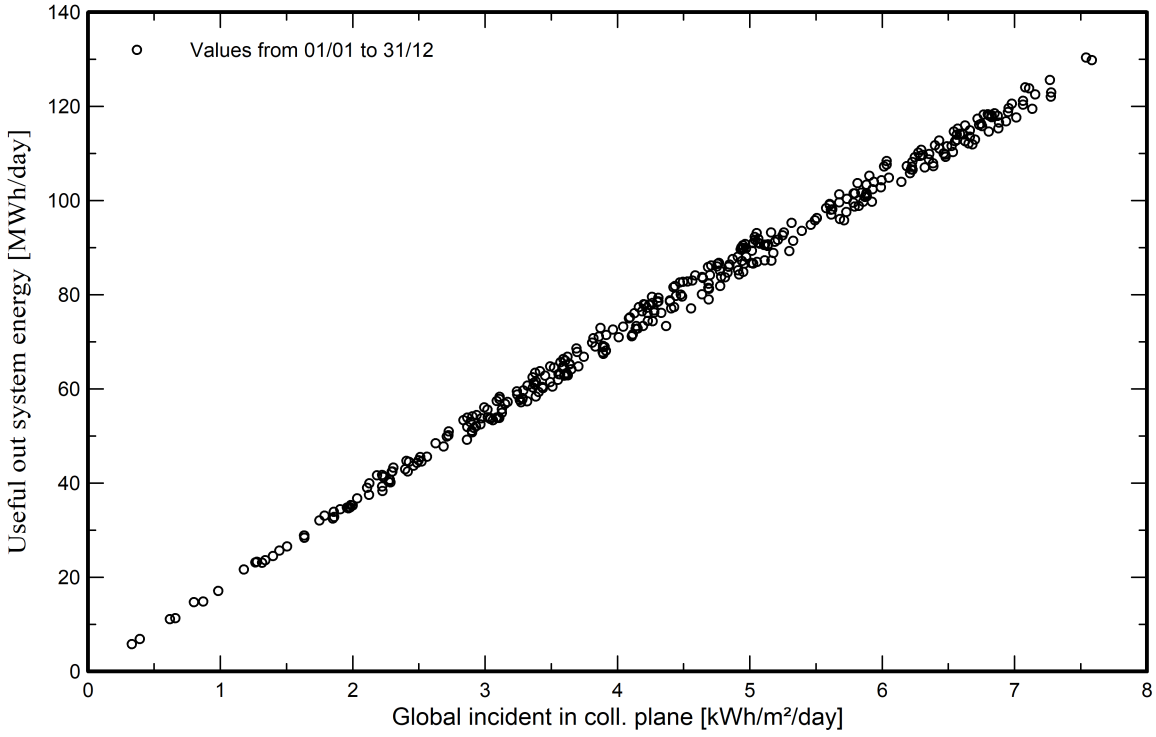
PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

Loss diagram

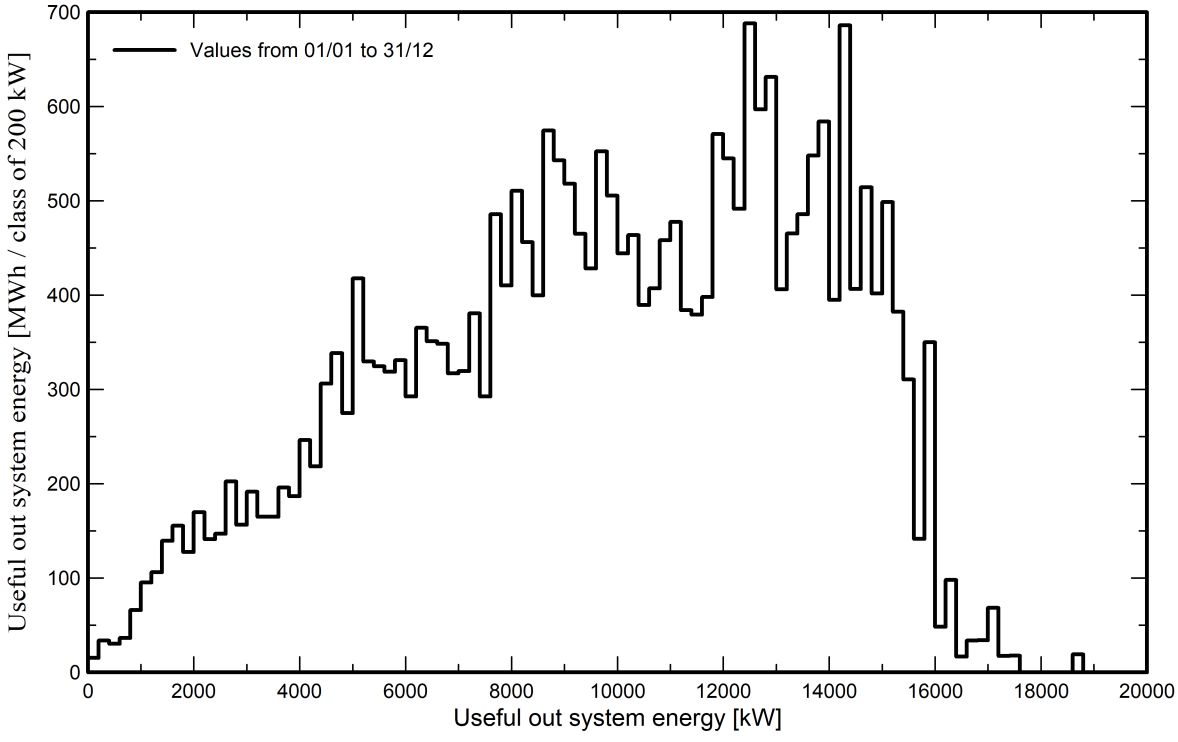


Predef. graphs

Daily Input/Output diagram



System Output Power Distribution



PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

P50 - P90 evaluation

Weather data

Source	Meteonorm 8.2 (2001-2020), Sat=100%
Kind	Monthly averages
Synthetic - Multi-year average	
Year-to-year variability(Variance)	0.0 %

Specified Deviation

Climate change	0.0 %

Simulation and parameters uncertainties

PV module modelling/parameters	1.0 %
Inverter efficiency uncertainty	0.5 %
Soiling and mismatch uncertainties	1.0 %
Degradation uncertainty	1.0 %

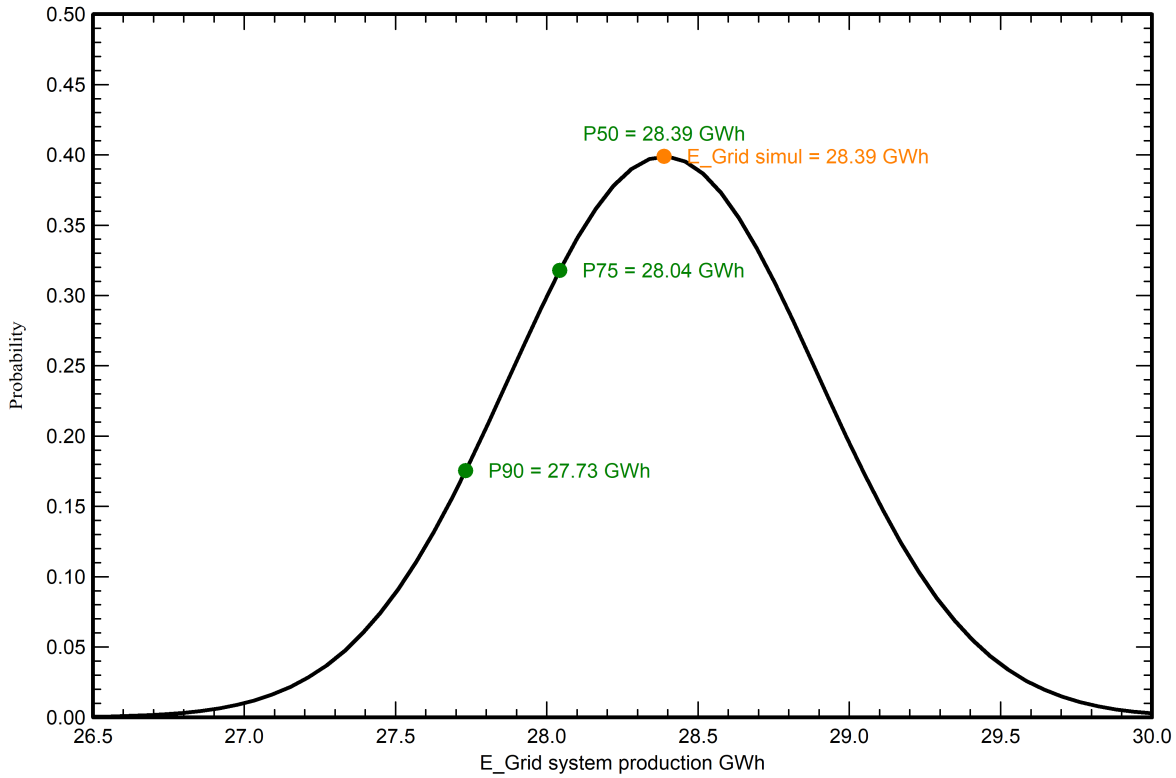
Global variability (weather data + system)

Variability (Quadratic sum)	1.8 %

Annual production probability

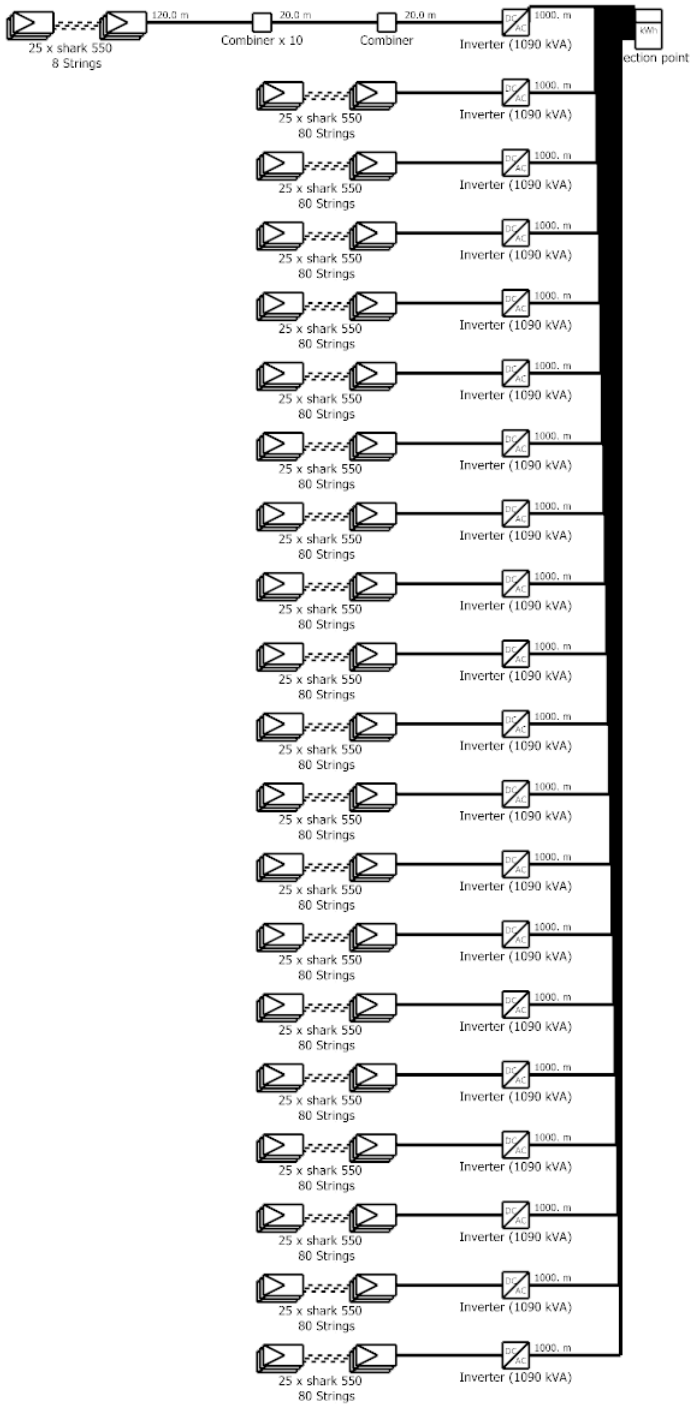
Variability	0.51 GWh
P50	28.39 GWh
P90	27.73 GWh
P75	28.04 GWh

Probability distribution



Single-line diagram

PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15



PV module	shark 550
Inverter	Sinacon PV1090
String	25 x shark 550

	Floating_solar_plant	
	VC2 : New simulation variant_different _layout_south_faced	06/09/25

Cost of the system

Installation costs

Item	Quantity units	Cost INR	Total INR
PV modules			
shark 550	40000	11,550.00	462,000,000.00
Supports for modules	2080	52,884.62	110,000,000.00
Inverters			
Sinacon PV1090	20	2,750,000.00	55,000,000.00
Other components			
Accessories, fasteners	1	440,000.00	440,000.00
Wiring	1	1,100,000.00	1,100,000.00
Combiner box	1	1,100,000.00	1,100,000.00
Monitoring system, display screen	1	1,100,000.00	1,100,000.00
Measurement system, pyranometer	1	1,100,000.00	1,100,000.00
Surge arrester	1	110,000.00	110,000.00
Studies and analysis			
Engineering	1	220,000.00	220,000.00
Permitting and other admin. Fees	1	330,000.00	330,000.00
Environmental studies	1	55,000.00	55,000.00
Economic analysis	1	55,000.00	55,000.00
Installation			
Global installation cost per module	40000	55.00	2,200,000.00
Global installation cost per inverter	20	110,000.00	2,200,000.00
Transport	1	2,200,000.00	2,200,000.00
Settings	1	2,200,000.00	2,200,000.00
Grid connection	1	2,200,000.00	2,200,000.00
		Total	643,610,000.00
		Depreciable asset	627,440,000.00

Operating costs

Item	Total INR/year
Maintenance	
Provision for inverter replacement	5,500,000.00
Salaries	26,400,000.00
Repairs	2,200,000.00
Cleaning	660,000.00
Subsidies	-1,100,000.00
Total (OPEX)	33,660,000.00
Including inflation (1.18%)	37,714,353.33

System summary

Total installation cost	643,610,000.00	INR
Operating costs (incl. inflation 1.18%/year)	37,714,353.33	INR/year
Produced Energy	28395	MWh/year
Cost of produced energy (LCOE)	2.3938	INR/kWh

PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

Financial analysis

Simulation period

Project lifetime	20 years	Start year	2026

Income variation over time

Inflation	1.18	%/year
Module Degradation	0.04	%/year
Discount rate	0.00	%/year

Income dependent expenses

Income tax rate	5.00	%/year
Other income tax	0.00	%/year
Dividends	0.00	%/year

Depreciable assets

Asset	Depreciation method	Depreciation period (years)	Salvage value (INR)	Depreciable (INR)
PV modules				
shark 550	Straight-line	20	0.00	462,000,000.00
Supports for modules	Straight-line	20	0.00	110,000,000.00
Inverters				
Sinacon PV1090	Straight-line	20	0.00	55,000,000.00
Accessories, fasteners	Straight-line	20	0.00	440,000.00
		Total	0.00	627,440,000.00

Financing

Own funds	600,000,000.00	INR
Subsidies	43,610,000.00	INR

Electricity sale

Feed-in tariff	2.50000	INR/kWh
Duration of tariff warranty	20	years
Annual connection tax	0.00	INR/year
Annual tariff variation	0.0	%/year
Feed-in tariff decrease after warranty	0.00	%

Return on investment

Payback period	18.0	years
Net present value (NPV)	57,954,299.87	INR
Internal rate of return (IRR)	0.94	%
Return on investment (ROI)	9.7	%

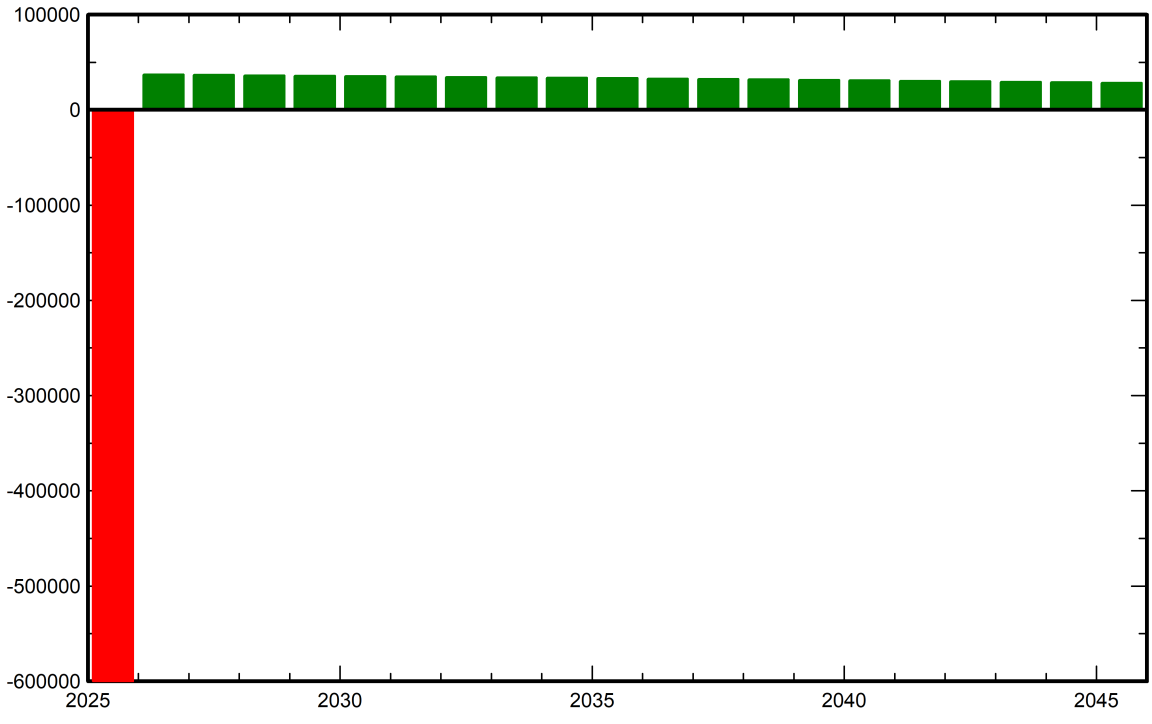
PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

Financial analysis

Detailed economic results (INR)

Year	Electricity sale	Own funds	Run. costs	Deprec. allow.	Taxable income	Taxes	After-tax profit	Cumul. profit	% amorti.
0	0	600,000,000	0	0	0	0	0	-600,000,000	0.0%
1	70,988,437	0	33,660,000	31,372,000	5,956,437	297,822	37,030,615	-562,969,385	6.2%
2	70,960,041	0	34,057,188	31,372,000	5,530,853	276,543	36,626,311	-526,343,074	12.3%
3	70,931,657	0	34,459,063	31,372,000	5,100,595	255,030	36,217,565	-490,125,510	18.3%
4	70,903,285	0	34,865,680	31,372,000	4,665,605	233,280	35,804,325	-454,321,185	24.3%
5	70,874,923	0	35,277,095	31,372,000	4,225,829	211,291	35,386,537	-418,934,648	30.2%
6	70,846,573	0	35,693,364	31,372,000	3,781,209	189,060	34,964,148	-383,970,499	36.0%
7	70,818,235	0	36,114,546	31,372,000	3,331,689	166,584	34,537,104	-349,433,395	41.8%
8	70,789,907	0	36,540,698	31,372,000	2,877,210	143,860	34,105,349	-315,328,046	47.4%
9	70,761,592	0	36,971,878	31,372,000	2,417,713	120,886	33,668,828	-281,659,218	53.1%
10	70,733,287	0	37,408,146	31,372,000	1,953,141	97,657	33,227,484	-248,431,735	58.6%
11	70,704,994	0	37,849,562	31,372,000	1,483,431	74,172	32,781,260	-215,650,475	64.1%
12	70,676,712	0	38,296,187	31,372,000	1,008,524	50,426	32,330,098	-183,320,377	69.4%
13	70,648,441	0	38,748,082	31,372,000	528,359	26,418	31,873,941	-151,446,436	74.8%
14	70,620,181	0	39,205,310	31,372,000	42,872	2,144	31,412,728	-120,033,708	80.0%
15	70,591,933	0	39,667,932	31,372,000	0	0	30,924,001	-89,109,707	85.1%
16	70,563,697	0	40,136,014	31,372,000	0	0	30,427,683	-58,682,024	90.2%
17	70,535,471	0	40,609,619	31,372,000	0	0	29,925,852	-28,756,172	95.2%
18	70,507,257	0	41,088,812	31,372,000	0	0	29,418,445	662,273	100.1%
19	70,479,054	0	41,573,660	31,372,000	0	0	28,905,394	29,567,667	104.9%
20	70,450,862	0	42,064,229	31,372,000	0	0	28,386,633	57,954,300	109.7%
Total	**1,414,386,540**	**600,000,000**	**754,287,067**	**627,440,000**	**42,903,465**	**2,145,173**	**657,954,300**	**57,954,300**	**109.7%**

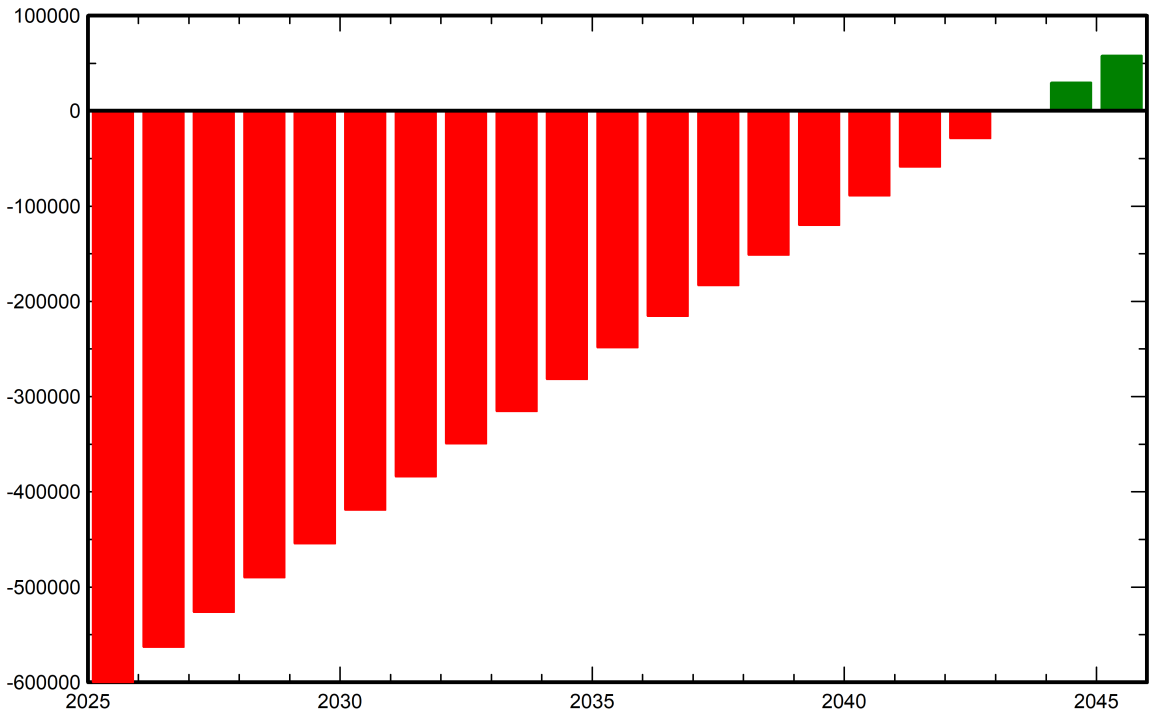
Yearly net profit (kINR)



PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

Financial analysis

Cumulative cashflow (kINR)



PVsyst V8.0.15
VC2, Simulation date:
06/09/25 01:55
with V8.0.15

CO_2 Emission Balance

Total: 689559.0 tCO_2

Generated emissions

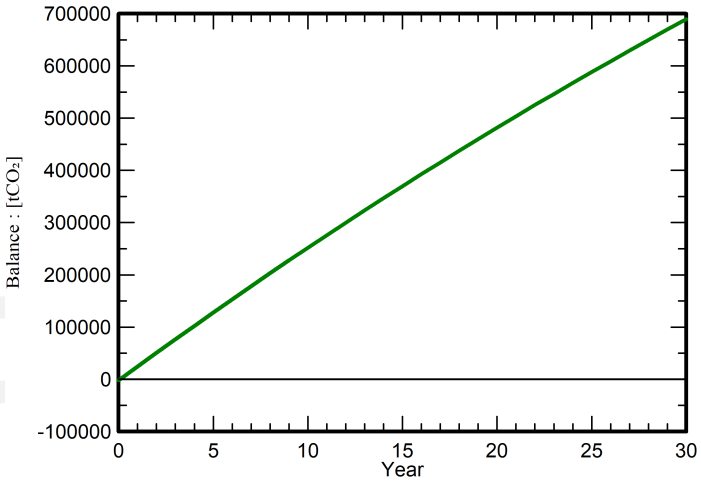
Total: 2089.83 tCO_2

Source: Detailed calculation from table below

Replaced Emissions

Total:	797137.7 tCO_2
System production:	28388.09 MWh/yr
Grid Lifecycle Emissions:	936 gCO_2/kWh
Source:	IEA List
Country:	India
Lifetime:	30 years
Annual degradation:	1.0 %

Saved CO_2 Emission vs. Time



System Lifecycle Emissions Details

Item	LCE	Quantity	Subtotal
			[$kgCO_2$]
Modules	1713 kgCO2/kWp	1144 kWp	1959352
Supports	6.24 kgCO2/kg	20800 kg	129857
Inverters	619 kgCO2/units	1.00 units	619