PVsyst - Simulation report

Grid-Connected System

Project: Floating_solar_plant

Variant: Tilt_15_azi_0_1MW_block_loom_550Wp_

No 3D scene defined, no shadings

System power: 22.00 MWp

Rohtas, Bihar - India

Ankit gupta- NITP

PVsyst V8.0.15
VC3, Simulation date:
08/09/25 01:06
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 15

No 3D scene defined, no shadings

Orientation #1
Fixed plane
Tilt/Azimuth 15 / 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	20000 kVA
Grid power limit	20.00 MWac
Grid lim. Pnom ratio	1.100

Results summary

Produced Energy	27326 MWh/year	Specific production	1242 kWh/kWp/year	Perf. Ratio PR	76.53 %
Apparent energy	27326 MVAh/year				

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General parameters

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

Orientation #1
Fixed plane
Tilt/Azimuth 15 / 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 PV1000
(Original PVsyst database)
Unit Nom. Power 1000 kVA

Array #1 - PV Array

Number of PV modules	2000 units	Number of inverters	1 unit
Nominal (STC)	1100 kWp	Total power	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		

PV Array Characteristics

Array #4 - Sub-array #4

At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		

PV Array Characteristics

Array #10 - Sub-array #10

At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		

PV Array Characteristics

Array #16 - Sub-array #16

At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	1000 kVA
Modules	80 string x 25 In series		
At operating cond. (50°C)		Operating voltage	802-1500 V
Pmpp	1013 kWp	Pnom ratio (DC:AC)	1.10
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	20000 kVA
Number of inverters	20 units
Pnom ratio	1.10

Array losses

Array Soiling Losses
Loss Fraction 1.0 %

Thermal Loss factor
Module temperature according to irradiance
Uc (const) 22.8 W/m²K
Uv (wind) 1.2 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 15
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

DC wiring losses

Global wiring resistance 0.75 mΩ
Loss Fraction 1.5 % at STC

Array #1 - PV Array
Global array res. 13 mΩ
Loss Fraction 1.3 % at STC

Array #2 - Sub-array #2
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #3 - Sub-array #3
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #4 - Sub-array #4
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #5 - Sub-array #5
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #6 - Sub-array #6
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #7 - Sub-array #7
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #8 - Sub-array #8
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #9 - Sub-array #9
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #10 - Sub-array #10
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #11 - Sub-array #11
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #12 - Sub-array #12
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #13 - Sub-array #13
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #14 - Sub-array #14
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #15 - Sub-array #15
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #16 - Sub-array #16
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #17 - Sub-array #17
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

Array #18 - Sub-array #18
Global array res. 15 mΩ
Loss Fraction 1.5 % at STC

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DC wiring losses

Array #19 - Sub-array #19		**Array #20 - Sub-array #20**	
Global array res.	15 mΩ	Global array res.	15 mΩ
Loss Fraction	1.5 % at STC	Loss Fraction	1.5 % at STC

AC wiring losses

Inv. output line up to injection point

Inverter voltage	550	Vac tri
Loss Fraction	5.37	% at STC
Inverter: Sinacon PV1000		
Wire section (20 Inv.)	Copper 20 x 3 x 2500	mm²
Average wires length	2000	m

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Main results

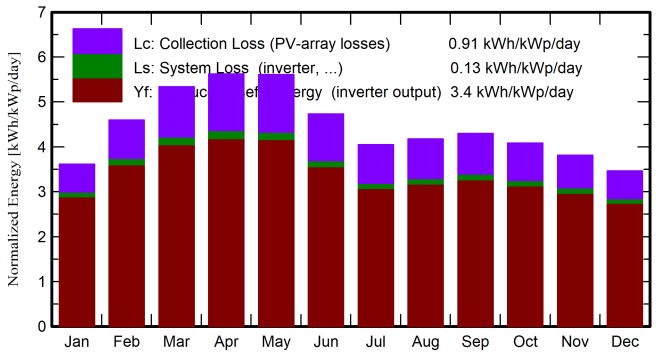
System Production

Produced Energy	27326 MWh/year	Specific production	1242 kWh/kWp/year
Apparent energy	27326 MVAh/year	Perf. Ratio PR	76.53 %

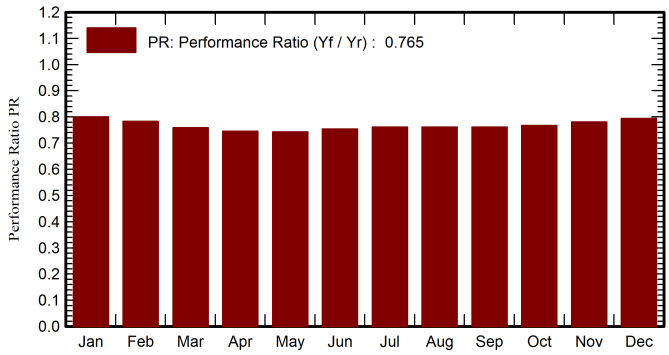
Economic evaluation

Investment		Yearly cost		LCOE	
Global	716,100,000.00 INR	Annuities	0.00 INR/yr	Energy cost	3.52 INR/kWh
Specific	32.6 INR/Wp	Run. costs	44,002,924.99 INR/yr		
		Payback period	Unprofitable		

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	111.9	107.9	2045	1972	0.801
February	116.1	59.3	19.91	128.8	124.6	2310	2220	0.784
March	156.2	73.8	25.57	165.5	160.4	2884	2765	0.759
April	167.0	81.6	30.80	168.8	163.0	2882	2766	0.745
May	178.3	102.9	33.50	173.8	167.6	2957	2843	0.744
June	146.8	98.9	32.26	142.1	136.5	2442	2354	0.753
July	129.5	84.8	29.93	125.5	120.5	2179	2101	0.761
August	130.8	83.9	29.31	129.4	124.3	2249	2168	0.762
September	125.9	76.1	28.56	128.9	124.0	2243	2159	0.762
October	118.2	70.1	26.36	126.6	122.0	2220	2138	0.767
November	100.6	54.3	21.12	114.4	110.5	2040	1964	0.781
December	91.8	49.1	16.77	107.4	103.5	1945	1875	0.794
Year	1559.4	891.8	25.80	1623.0	1564.7	28396	27326	0.765

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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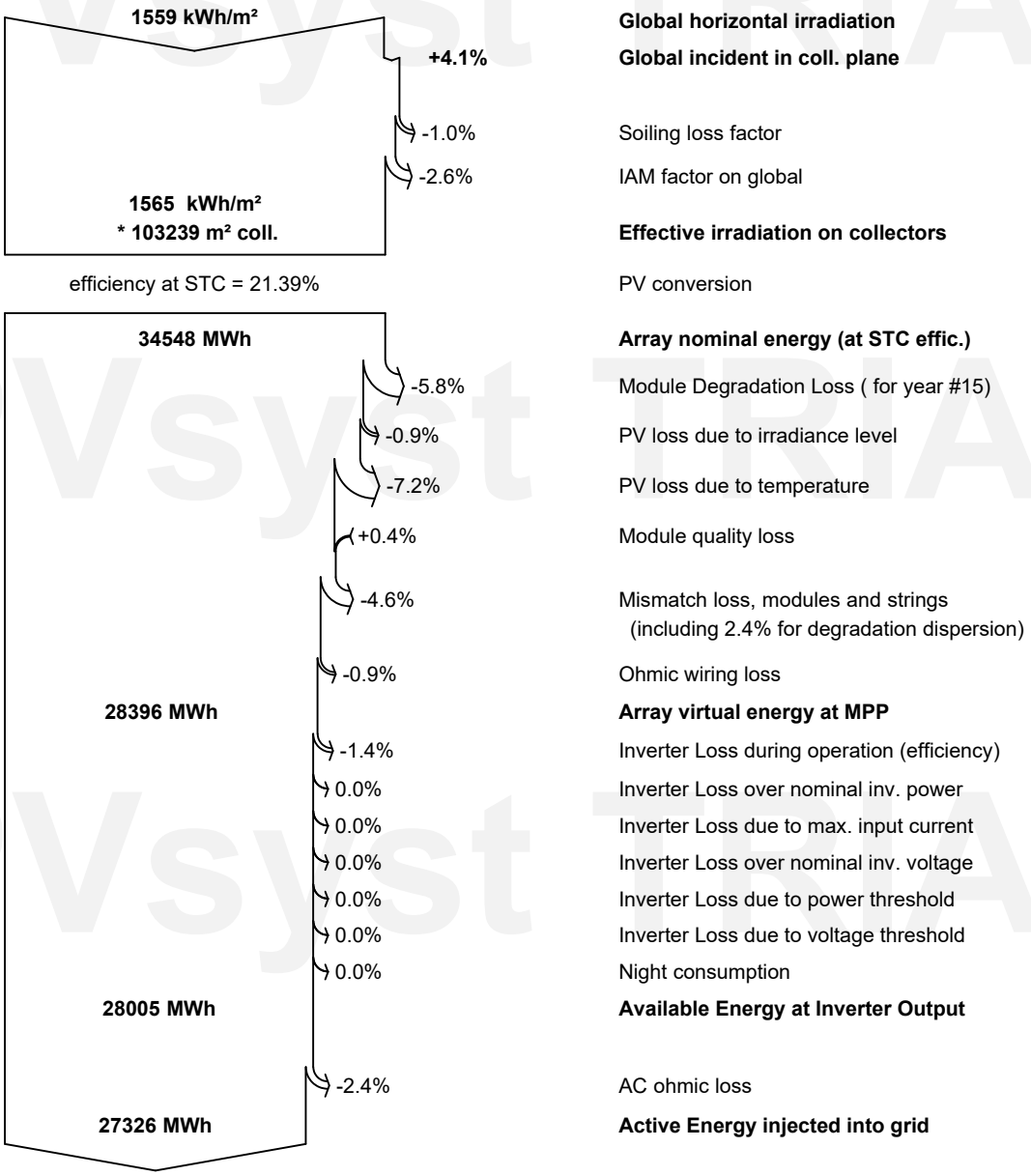
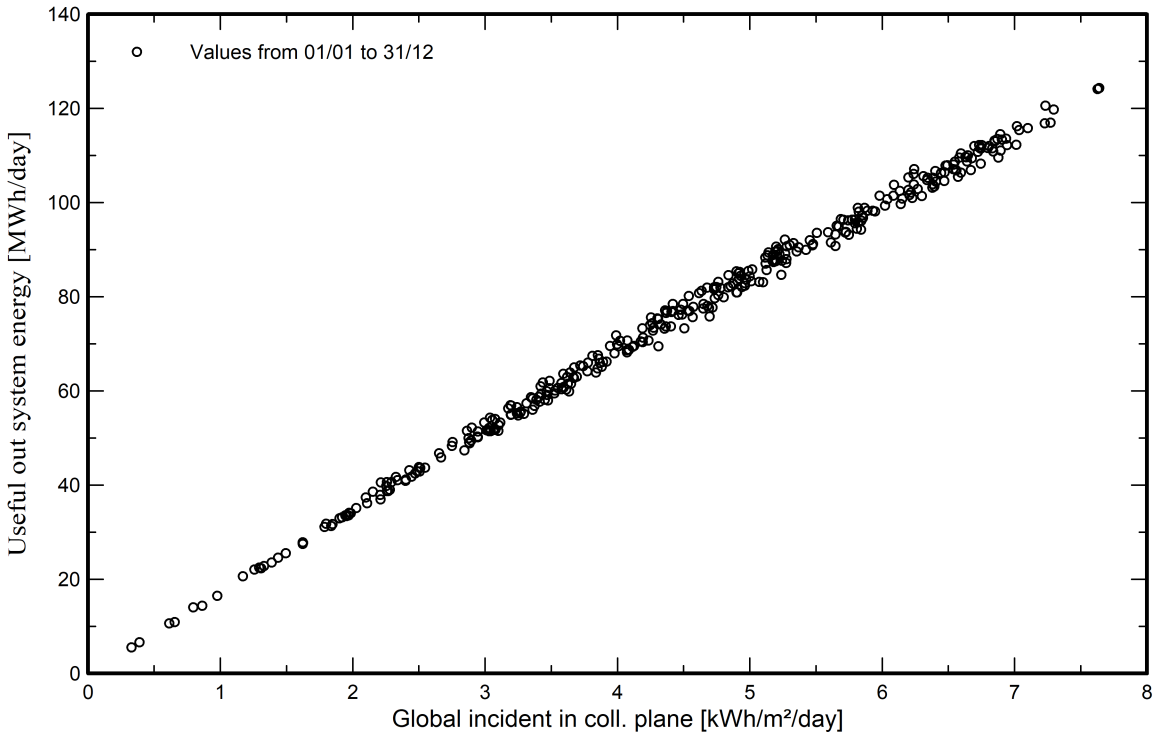
Loss diagram

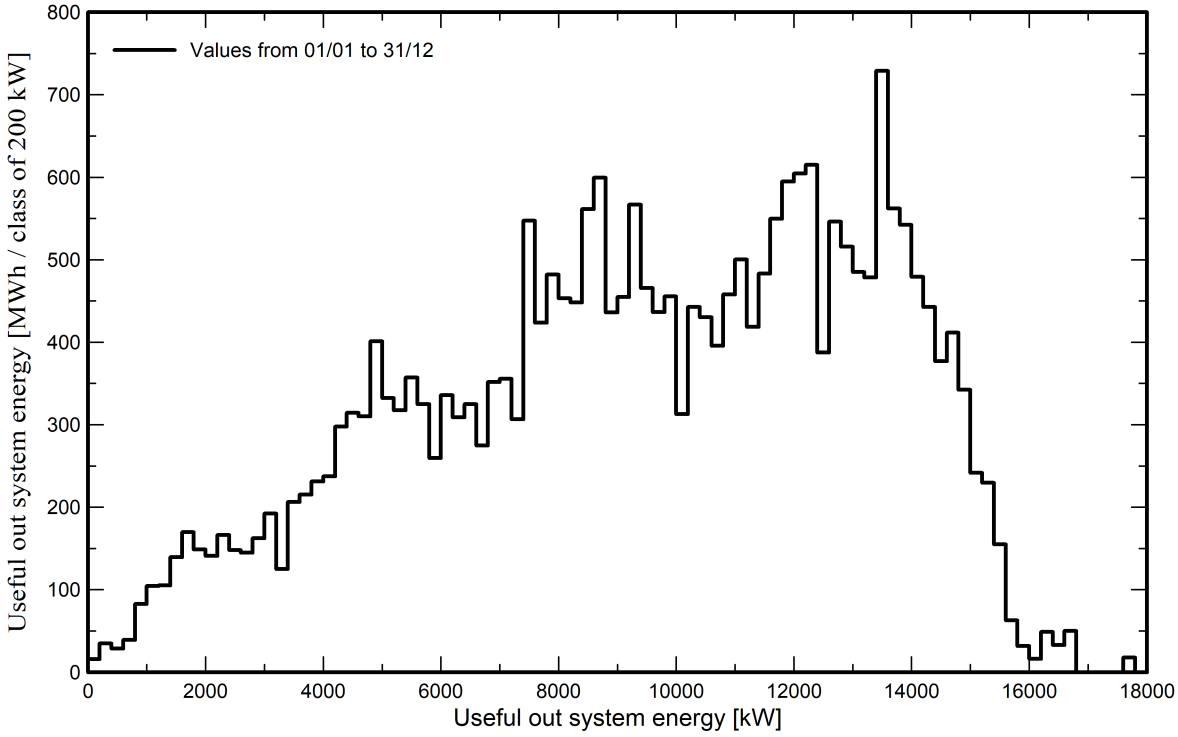


Predef. graphs

Daily Input/Output diagram



System Output Power Distribution



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P50 - P90 evaluation

Weather data

Source	Meteonorm 8.2 (2001-2020), Sat=100%
Kind	TMY, multi-year
Year-to-year variability(Variance)	-1.0 %
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 %

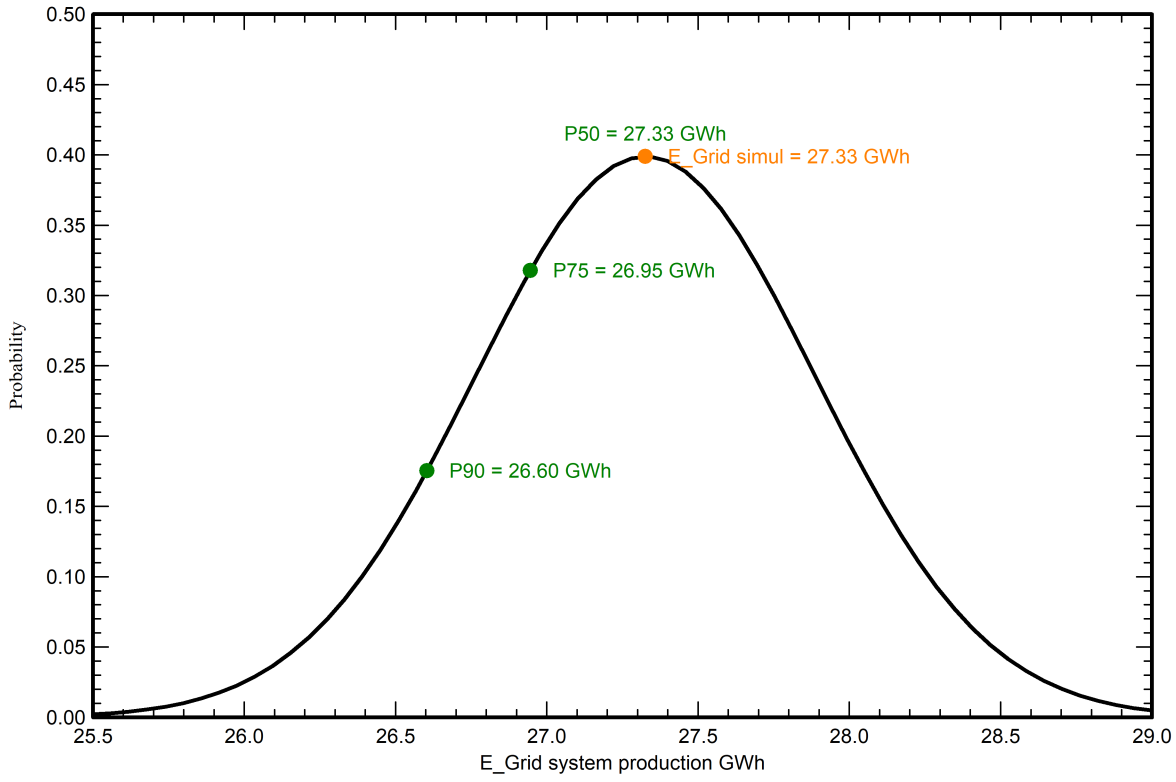
Global variability (weather data + system)

Variability (Quadratic sum)	2.1 %

Annual production probability

Variability	0.56 GWh
P50	27.33 GWh
P90	26.60 GWh
P75	26.95 GWh

Probability distribution



Single-line diagram

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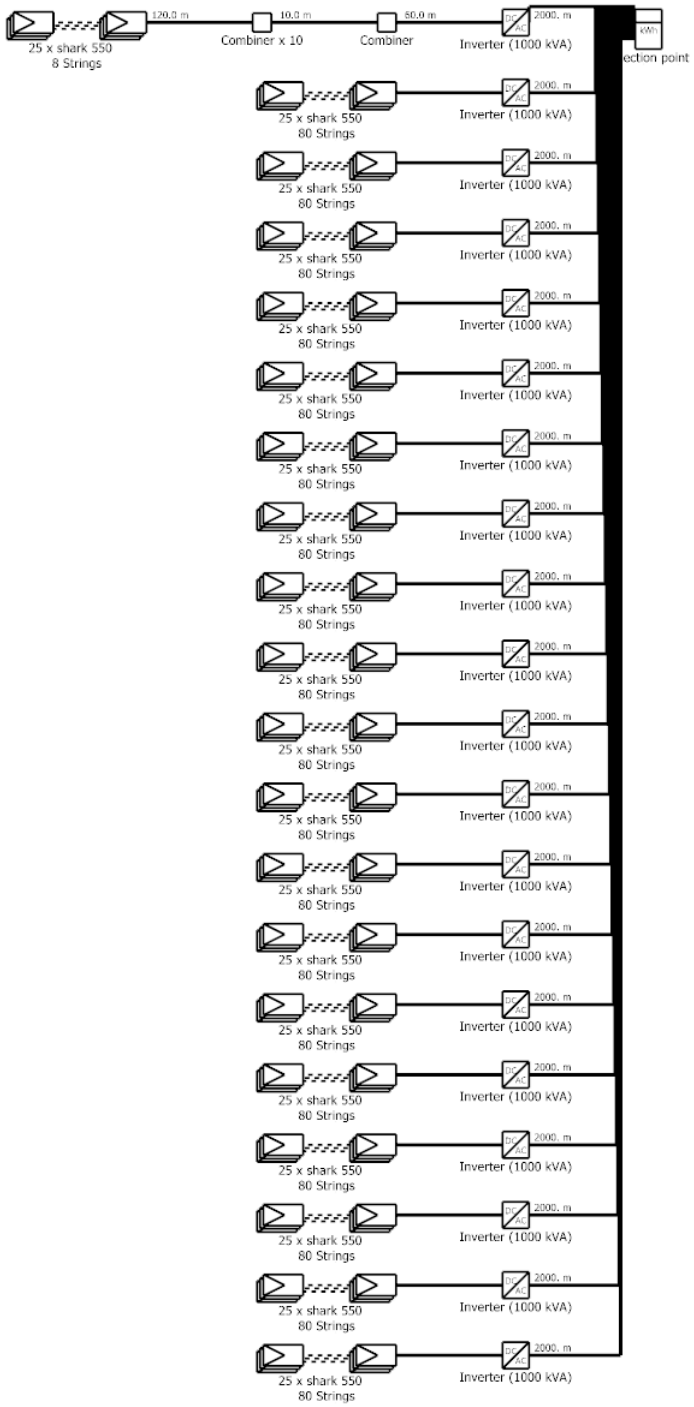

PV module	shark 550
Inverter	Sinacon PV1000
String	25 x shark 550

	Floating_solar_plant	
	VC3 : Tilt_15_azi_0_1MW_block_loom_550Wp_	08/09/25

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	40000	2,750.00	110,000,000.00
Inverters			
Sinacon PV1000	20	2,750,000.00	55,000,000.00
Other components			
Accessories, fasteners	1	6,600,000.00	6,600,000.00
Wiring	1	11,000,000.00	11,000,000.00
Combiner box	1	13,200,000.00	13,200,000.00
Monitoring system, display screen	1	6,600,000.00	6,600,000.00
Measurement system, pyranometer	1	4,400,000.00	4,400,000.00
Surge arrester	1	1,100,000.00	1,100,000.00
Studies and analysis			
Engineering	1	4,400,000.00	4,400,000.00
Permitting and other admin. Fees	1	4,400,000.00	4,400,000.00
Environmental studies	1	2,200,000.00	2,200,000.00
Economic analysis	1	2,200,000.00	2,200,000.00
Installation			
Global installation cost per module	40000	220.00	8,800,000.00
Global installation cost per inverter	20	440,000.00	8,800,000.00
Transport	1	2,200,000.00	2,200,000.00
Settings	1	2,200,000.00	2,200,000.00
Grid connection	1	11,000,000.00	11,000,000.00
		Total	716,100,000.00
		Depreciable asset	633,600,000.00

Operating costs

Item	Total INR/year
Maintenance	
Provision for inverter replacement	4,400,000.00
Salaries	19,800,000.00
Repairs	2,200,000.00
Cleaning	1,100,000.00
Total (OPEX)	27,500,000.00
Including inflation (3.70%)	44,002,924.99

System summary

Total installation cost	716,100,000.00 INR
Operating costs (incl. inflation 3.70%/year)	44,002,924.99 INR/year
Produced Energy	27310 MWh/year
Cost of produced energy (LCOE)	3.5187 INR/kWh

Financial analysis

Simulation period

Project lifetime	25 years	Start year	2026

Income variation over time

Inflation	3.70 %/year
Module Degradation	0.50 %/year
Discount rate	7.00 %/year

Income dependent expenses

Income tax rate	22.00 %/year
Other income tax	12.00 %/year
Dividends	28.00 %/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 PV1000	Straight-line	20	0.00	55,000,000.00
Accessories, fasteners	Straight-line	20	0.00	6,600,000.00
		Total	0.00	633,600,000.00

Financing

Own funds	620,500,000.00 INR
Subsidies	100,000,000.00 INR

Electricity sale

Feed-in tariff	3.30000 INR/kWh
Duration of tariff warranty	20 years
Annual connection tax	0.00 INR/year
Annual tariff variation	+1.5 %/year
Feed-in tariff decrease after warranty	0.00 %

Return on investment

Payback period	Unprofitable
Net present value (NPV)	-51,099,984.31 INR
Internal rate of return (IRR)	0.00 %
Return on investment (ROI)	-8.3 %
Paid dividends	322,837,183.43 INR

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Financial analysis

Detailed economic results (INR)

Year	Electricity sale	Own funds	Run. costs	Deprec. allow.	Taxable income	Taxes	After-tax profit	Divid. 28.00%	Cumul. profit	% amorti.
0	0	620,500,000	0	0	0	0	0	0	-620,500,000	0.0%
1	90,199,314	0	27,500,000	31,680,000	31,019,314	10,546,567	52,152,747	14,602,769	-571,759,115	7.9%
2	91,094,542	0	28,517,500	31,680,000	30,897,042	10,504,994	52,072,048	14,580,173	-526,277,371	15.3%
3	91,998,656	0	29,572,648	31,680,000	30,746,008	10,453,643	51,972,365	14,552,262	-483,852,440	22.2%
4	92,911,742	0	30,666,835	31,680,000	30,564,907	10,392,068	51,852,839	14,518,795	-444,294,158	28.6%
5	93,833,891	0	31,801,508	31,680,000	30,352,383	10,319,810	51,712,573	14,479,520	-407,423,808	34.6%
6	94,765,193	0	32,978,164	31,680,000	30,107,029	10,236,390	51,550,639	14,434,179	-373,073,441	40.2%
7	95,705,737	0	34,198,356	31,680,000	29,827,381	10,141,310	51,366,071	14,382,500	-341,085,233	45.4%
8	96,655,617	0	35,463,695	31,680,000	29,511,921	10,034,053	51,157,868	14,324,203	-311,310,888	50.2%
9	97,614,924	0	36,775,852	31,680,000	29,159,072	9,914,084	50,924,987	14,258,996	-283,611,069	54.7%
10	98,583,752	0	38,136,559	31,680,000	28,767,193	9,780,846	50,666,347	14,186,577	-257,854,867	58.9%
11	99,562,196	0	39,547,611	31,680,000	28,334,584	9,633,759	50,380,826	14,106,631	-233,919,300	62.7%
12	100,550,350	0	41,010,873	31,680,000	27,859,477	9,472,222	50,067,255	14,018,831	-211,688,840	66.4%
13	101,548,313	0	42,528,275	31,680,000	27,340,037	9,295,613	49,724,425	13,922,839	-191,054,971	69.7%
14	102,556,180	0	44,101,821	31,680,000	26,774,358	9,103,282	49,351,076	13,818,301	-171,915,773	72.8%
15	103,574,050	0	45,733,589	31,680,000	26,160,461	8,894,557	48,945,904	13,704,853	-154,175,525	75.7%
16	104,602,022	0	47,425,732	31,680,000	25,496,290	8,668,739	48,507,552	13,582,114	-137,744,339	78.4%
17	105,640,197	0	49,180,484	31,680,000	24,779,713	8,425,103	48,034,611	13,449,691	-122,537,811	80.8%
18	106,688,676	0	51,000,162	31,680,000	24,008,515	8,162,895	47,525,620	13,307,173	-108,476,695	83.1%
19	107,747,561	0	52,887,168	31,680,000	23,180,394	7,881,334	46,979,060	13,154,137	-95,486,594	85.2%
20	108,816,956	0	54,843,993	31,680,000	22,292,963	7,579,607	46,393,356	12,990,140	-83,497,669	87.2%
21	108,272,871	0	56,873,221	0	51,399,650	17,475,881	33,923,769	9,498,655	-75,304,635	88.5%
22	107,731,507	0	58,977,530	0	48,753,977	16,576,352	32,177,625	9,009,735	-68,041,721	89.7%
23	107,192,849	0	61,159,698	0	46,033,151	15,651,271	30,381,880	8,506,926	-61,632,759	90.7%
24	106,656,885	0	63,422,607	0	43,234,278	14,699,654	28,534,623	7,989,695	-56,007,254	91.6%
25	106,123,600	0	65,769,244	0	40,354,357	13,720,481	26,633,876	7,457,485	-51,099,984	92.4%
Total	**2,520,627,581**	**620,500,000**	**1,100,073,125**	**633,600,000**	**786,954,456**	**267,564,515**	**1,152,989,941**	**322,837,183**	**-51,099,984**	**92.4%**

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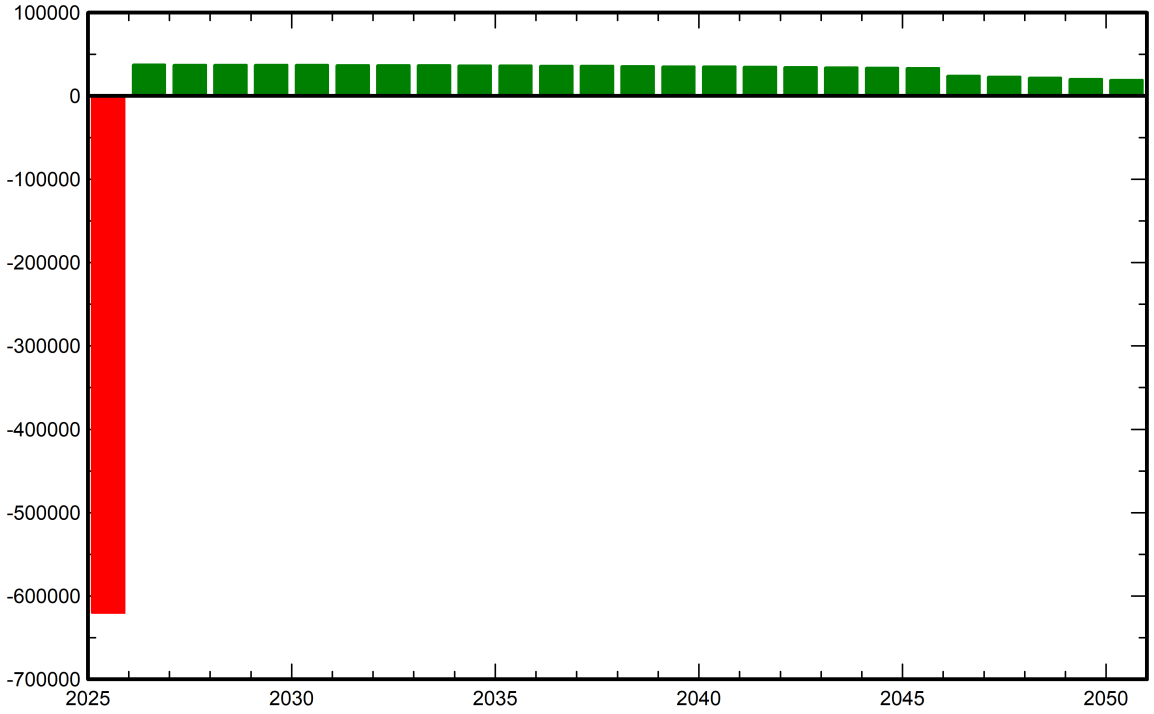
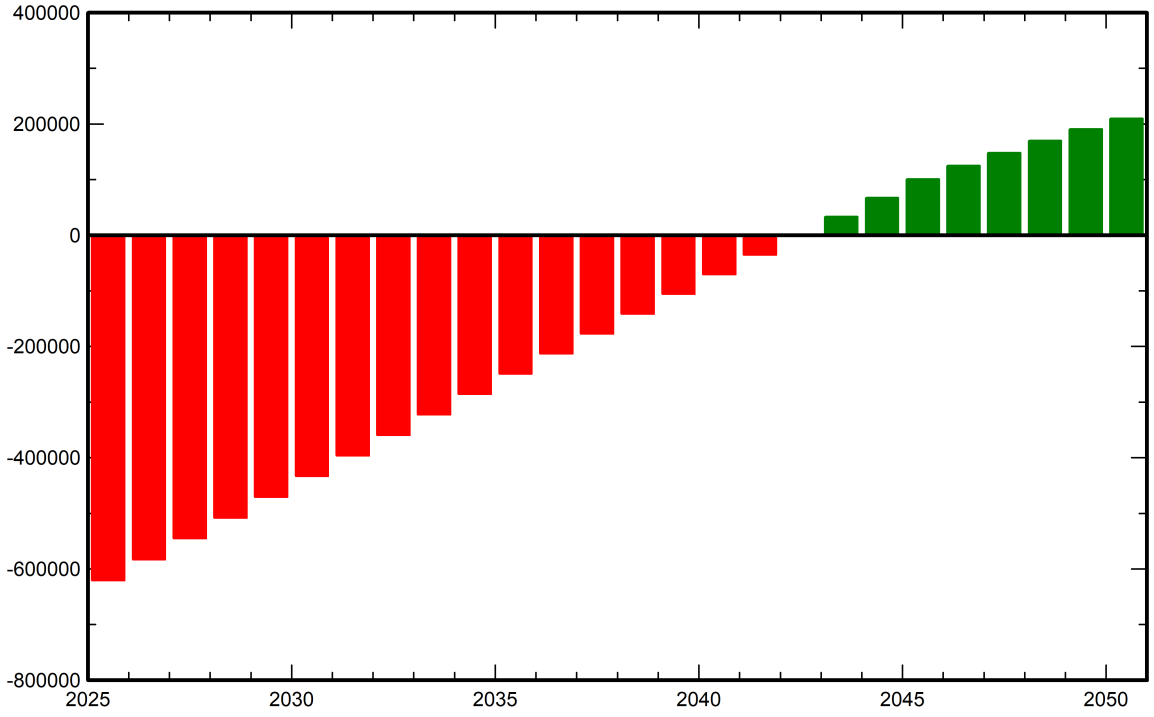
Financial analysis

Yearly net profit (kINR)



Cumulative cashflow (kINR)



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CO_2 Emission Balance

Total: 625578.8 tCO_2

Generated emissions

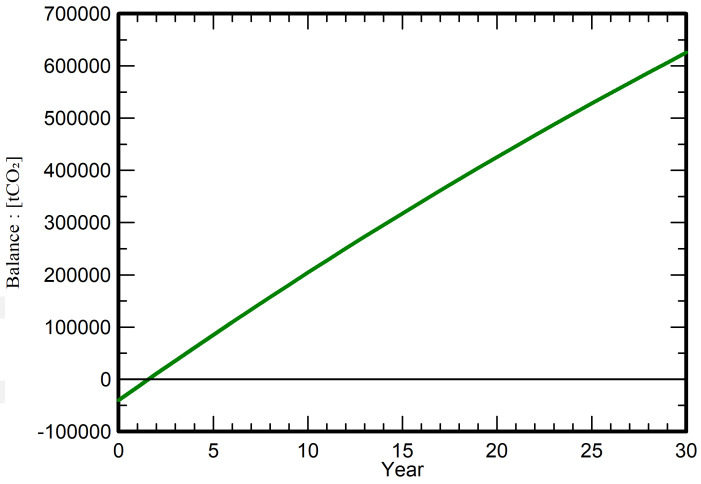
Total: 40189.46 tCO_2

Source: Detailed calculation from table below

Replaced Emissions

Total:	767309.9 tCO_2
System production:	27325.85 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	22000 kWp	37679840
Supports	6.24 kgCO2/kg	400000 kg	2497248
Inverters	619 kgCO2/units	20.0 units	12370