

Your Solar Assessment Report

A personalised rooftop solar analysis for your address

Location-specific solar, cost, subsidy, and savings estimates



YOUR SOLAR SCORE

Excellent

Hot & Dry · Rajasthan

Your rooftop has excellent solar potential. Highly suitable for rooftop solar installation.

PREPARED FOR

Sample report

Phone: +91 75794 95251

Email: Contact@ugaconsult.com

LOCATION COORDINATES

26.9124°N, 75.7873°E

REPORT ID

SS-20260921-37E690BBF1

LOCATION

Jaipur, Rajasthan

GENERATED ON

21 September 2026, 10:10 AM IST

REPORT ID

SS-20260921-37E690BBF1

DATA SOURCE

PVGIS · EC JRC · ALMM

AT A GLANCE

- Recommended system: **3.52 kWp** (8 panels)
- Estimated annual generation: **4,683 kWh (P50), 4,036 kWh or better in nine years out of ten (P90), over the first year**
- Net cost after subsidy: **₹98,000**
- Estimated payback: **7.4 years (P50), up to 8.6 years in a poor year (P90)**

WHAT P50 AND P90 MEAN

P50 and P90 are the two numbers a lender asks for. P50 is the middle estimate: half of years should beat it. P90 is the cautious one: nine years in ten should beat it. Use the P90 figure when you are deciding what you can afford, and the P50 figure when you are asking what this system is likely to do. Both are stated with the period they cover, because a figure for one year and a figure for twenty-five mean different things.

Combined uncertainty is 11.1% for a single year, dominated by module power and mismatch (catalogue only) at 8.0%. Percentiles are exceedance values: P90 is the figure beaten in nine years out of ten, and is the one to use for a loan.

The combined uncertainty is 11.1%, wider than the 8-10% a typical Indian desktop assessment produces, dominated by module power and mismatch (catalogue only) at 8.0%. Either the module's parameter provenance carries a wider term than the generic one, or the component table has been edited away from its shipped values.

No uncertainty component has been validated against measured production. The band is indicative: it is the right shape and the right order of magnitude, but it is not a measurement.

About This Report

This report estimates what a rooftop solar system on this specific building would produce, what it would cost after subsidy, and what it would save. It covers all 28 states and 8 union territories, using each state's published residential tariff and the PM Surya Ghar subsidy slabs in force on the date shown.

Methodology: Method: long-term satellite solar irradiance for these coordinates, the state's published residential tariff and net-metering rate, the MNRE ALMM approved module list, and the PM Surya Ghar subsidy slabs. Roof area and shading come from the answers given during the assessment.

Disclaimer: An indicative assessment based on satellite data and standard engineering assumptions. Actual performance varies with installation quality, equipment and usage. Confirm subsidy eligibility and tariff rates with your DISCOM before committing.

SECTION 2

Solar Score & Rooftop Analysis

SOLAR SCORE



Excellent

Hot & Dry

Your rooftop has excellent solar potential. Highly suitable for rooftop solar installation.

CLIMATE ZONE

Hot & Dry

High radiation, low humidity, dusty

Annual Solar Radiation **2117 kWh/m²**

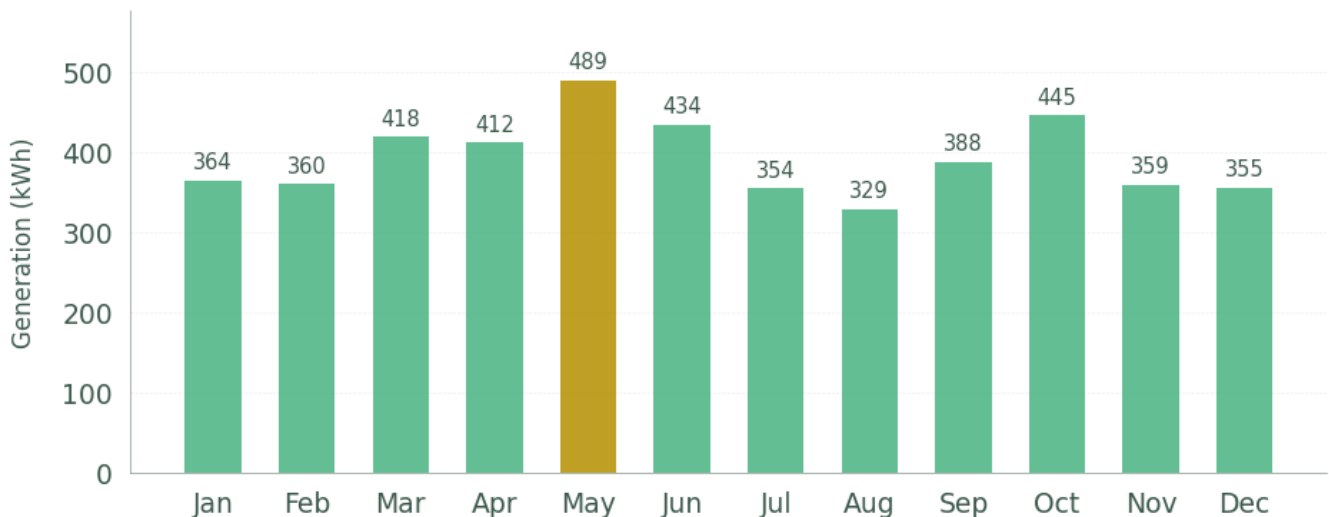
Peak Sun Hours **5.34 hrs/day**

Best Solar Months **May, Oct, Jun**

Least Generation **Aug, Jul**

Estimated Monthly Solar Generation

Based on Hot & Dry solar irradiance for Jaipur



32°C

AVG TEMPERATURE

280-310

CLEAR SKY DAYS/YEAR

May, Oct, Jun

BEST MONTHS

ROOFTOP ANALYSIS

60

sq.m
TOTAL AREA

42.0

sq.m
USABLE AREA

0.92

SHADOW FACTOR

flat_rcc

ROOF TYPE

Roof area estimated from your answers · Working uncertainty allowance: ±25.0%

Assessment: This rooftop is well suited to solar. Irradiance, usable area and your state's tariff all work in your favour. Clean the panels every two to three months, and after any dust storm. Soiling is the largest avoidable loss in Indian conditions.

SECTION 3

Recommended Solar System

RECOMMENDED SYSTEM SIZE

3.52

kWp System

8 panels × 440W · South-facing at 26.9° tilt

CLIMATE SUITABILITY

Hot & Dry

High radiation, low humidity, dusty Mono PERC panels perform optimally in this climate.

RECOMMENDED PANEL

We could not find this panel on MNRE's ALMM List-I (2026-08-03), which puts ₹78,000 of subsidy in question.

Vikram Solar

SOMERA 440BF Bifacial

Panel Type	Bifacial Mono PERC
Wattage	440 Wp
Efficiency	22.5%
Warranty	25 years (catalogue claim)

Listing check: The model code on this quote does not appear on the list. PM Surya Ghar pays the residential subsidy only against modules on ALMM List-I. That does not necessarily mean this panel is ineligible — installers and MNRE often write the same model code differently, and the list is revised roughly monthly. It does mean nobody has confirmed it yet. Ask your installer for the ALMM listing of this exact model in writing before you count on ₹78,000.

SYSTEM DESIGN

System Capacity	3.52 kWp
Number of Panels	8
Optimal Tilt	26.9°
Azimuth	180.0° (South)
Total Panel Area	15.4 sq.m
Performance Ratio	0.6151
System Efficiency	61.5%

ESTIMATED ENERGY GENERATION

13 kWh

P50 · 11 kWh or better in 9 years out of 10 (P90) ·
over the first year
DAILY AVERAGE

390 kWh

P50 · 336 kWh or better in 9 years out of 10
(P90) · over the first year
MONTHLY AVERAGE

4,683 kWh

P50 · 4,036 kWh or better in 9 years out of 10
(P90) · over the first year
ANNUAL TOTAL

Estimates are based on PVGIS 5.3 (European Commission, JRC) climatology for this location, 5.8 kWh/m²/day irradiance, and 0.6151 performance ratio. Actual output may vary by about 10 percent either way depending on installation quality and weather in a given year.

SYSTEM COMPONENTS OVERVIEW

COMPONENT	SPECIFICATION
Solar Panels	8 × 440W Bifacial Mono PERC
Total Capacity	3.52 kWp
Inverter Size	2.933 kW AC (modelled rating)
Panel Area Required	15.4 sq.m
Mounting Type	Rooftop Fixed Tilt (26.9° South)
Performance Ratio	0.6151
Expected Lifespan	25 Years (25 years (catalogue claim) panel warranty)

SECTION 4

Investment & Subsidy Breakdown

COST BREAKDOWN

Gross System Cost	₹1,76,000
PM Surya Ghar Subsidy	– ₹78,000
State Subsidy	– ₹0
Total Subsidy	₹78,000

YOUR NET COST AFTER SUBSIDY

₹98,000

Subsidy covers 44.3% of system cost

YOUR DISCOM & BILLING

DISCOM	JVVNL / AVVNL / JdVVNL
Tariff	₹7/kWh
Net Metering	Net Billing

SOLAR LOAN OPTION

Interest Rate	Not yet confirmed
Loan Tenure	Ask your bank
Collateral	May be required

MONTHLY COST

Not shown

At 3.52 kW this is outside the collateral-free band, which ends at 3 kW and at ₹2 lakh, whichever binds first. Above it rates are typically higher and the bank may ask for security. If you are choosing between sizes, this is the boundary worth knowing about. We have not confirmed a current interest rate for this band, so no monthly instalment is shown — ask your bank for their rate.

PM SURYA GHAR SUBSIDY SLABS

Up to 2 kW	₹60,000
2 kW – 3 kW	₹78,000
Above 3 kW	₹78,000 (capped)

YOUR SAVINGS ASSUMPTIONS

- We do not yet hold a verified tariff order for your distribution company, so this figure uses your state's average residential rate. Your actual slab rate will differ — check your bill, and your savings will differ with it.
- Your monthly totals come from your own bill. How they are spread across the day assumes the 'Someone home during the day' pattern, which is our best estimate rather than a measurement of your household — tell us if it is wrong and the figures will follow.
- Export compensation is unverified. This estimate credits only electricity used on site; it assumes no export payment. Confirm your DISCOM's settlement terms before relying on the savings.
- We could not find this panel on MNRE's ALMM List-I (2026-08-03), which puts ₹78,000 of subsidy in question. The model code on this quote does not appear on the list. PM Surya Ghar pays the residential subsidy only against modules on ALMM List-I. That does not necessarily mean this panel is ineligible — installers and MNRE often write the same model code differently, and the list is revised roughly monthly. It does mean nobody has confirmed it yet. Ask your installer for the ALMM listing of this exact model in writing before you count on ₹78,000.
- At 3.52 kW this is outside the collateral-free band, which ends at 3 kW and at ₹2 lakh, whichever binds first. Above it rates are typically higher and the bank may ask for security. If you are choosing between sizes, this is the boundary worth knowing about. We have not confirmed a current interest rate for this band, so no monthly instalment is shown — ask your bank for their rate.
- Estimated payback: **7.4 years (P50), up to 8.6 years in a poor year (P90)** .
- Estimated 25-year savings: **₹7,45,688 (P50), ₹6,42,106 or better in nine years out of ten (P90), over 25 years** .

TAX POSITION

Tax position for a homeowner: there is no income-tax deduction for buying rooftop solar. Section 80C does not cover it. Your benefit is the PM Surya Ghar capital subsidy shown above, not a tax break — anyone telling you otherwise is describing the rules for businesses. One thing that does work in your favour: the money you stop paying the discom is not income, so it is not taxed. A saving of Rs 3,000 a month is worth the full Rs 3,000.

GST is already inside the price shown. A turnkey rooftop contract is taxed at 5% on the equipment and 18% on the installation work, which blends to 8.9% under the 70:30 rule that applies to solar EPC contracts. A homeowner cannot reclaim it; only a registered business can.

SECTION 5

Financial Returns & Savings

₹1,314

P50 · ₹1,132 or better in 9 years out of 10 (P90) · over the first year

MONTHLY SAVINGS

7.4 years

P50 · up to 8.6 years in a poor year (P90) · over the system's 25 years

PAYBACK PERIOD

₹7,45,688

P50 · ₹6,42,106 or better in 9 years out of 10 (P90) · over 25 years

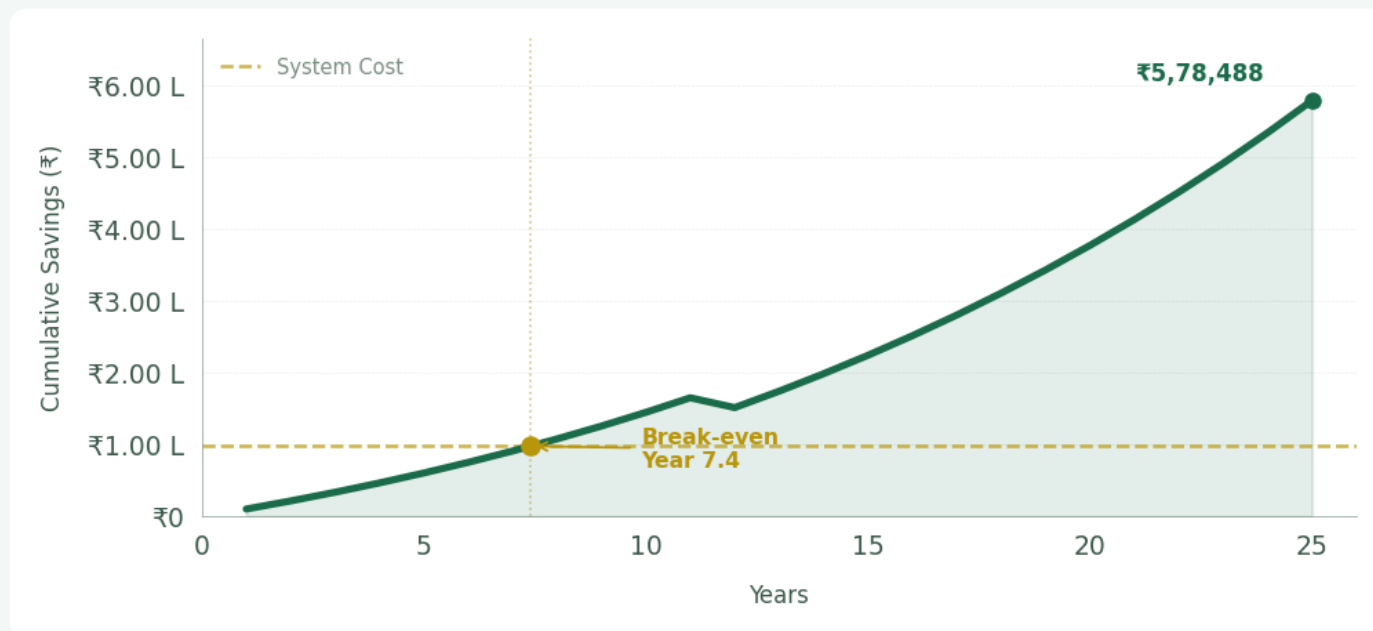
25-YEAR SAVINGS

490.3%

ROI

Your Solar Savings Growth Over 25 Years

Cumulative savings vs system cost · Break-even at 7.4 years (P50), up to 8.6 years in a poor year (P90)



Your system pays for itself in **7.4 years (P50)**, up to **8.6 years in a poor year (P90)**, and saves **₹7,45,688 (P50)**, **₹6,42,106 or better in nine years out of ten (P90)**, over 25 years.

YEAR-WISE SAVINGS BREAKDOWN

Year	Annual Savings	Cumulative
Year 1	₹15,768	₹10,488
Year 3	₹17,364	₹33,839
Year 5	₹19,121	₹60,621
Year 10	₹24,328	₹1,44,948
Year 15	₹30,949	₹2,24,217
Year 20	₹39,364	₹3,77,000
Year 25	₹50,062	₹5,78,488

The cards show uncertain gross bill savings. The chart and table use the baseline model: annual savings are gross; cumulative savings deduct maintenance and inverter replacement, before recovering the upfront cost.

Savings assume 5.0% annual tariff escalation and 0.5% annual panel degradation.

SECTION 6

Environmental Impact

Your contribution to a cleaner, greener future

YEARLY ENVIRONMENTAL IMPACT

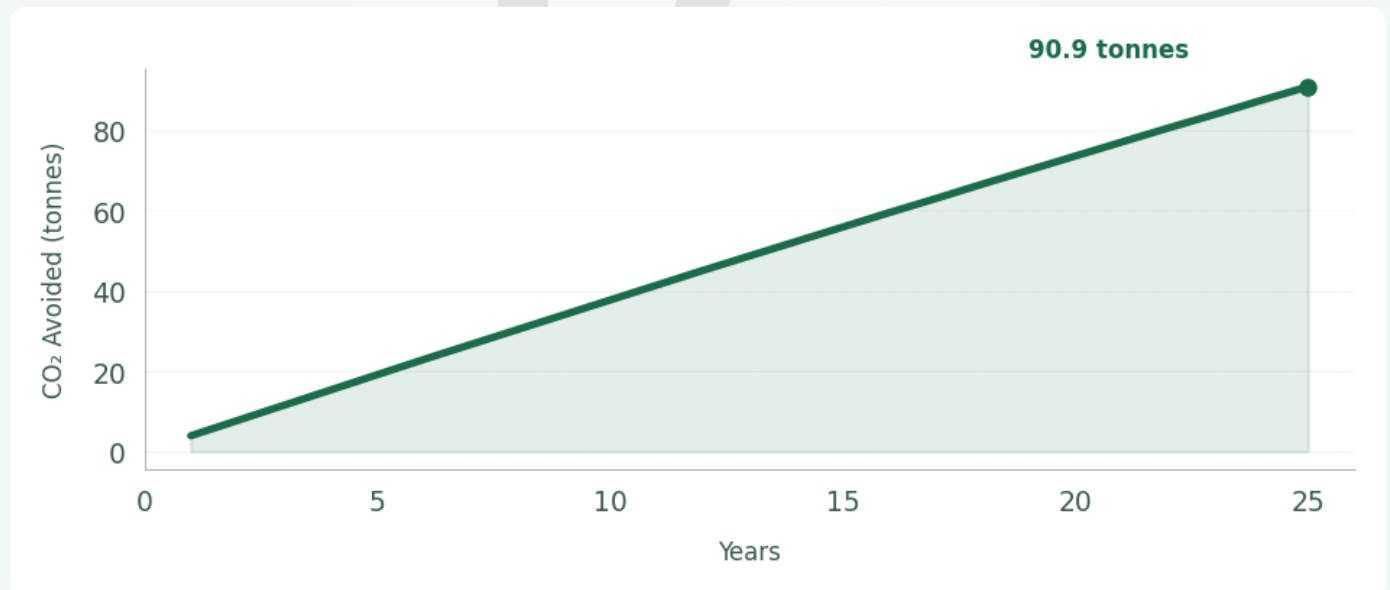


YOUR LIFETIME ENVIRONMENTAL CONTRIBUTION



CO₂ Savings Growth Over 25 Years

Environmental equivalents use the baseline generation model. P50 and P90 on the cover describe the uncertainty distribution and may differ from that baseline.



EMISSION FACTORS USED

Electricity Emission Factor	0.82 kg CO ₂ /kWh
Source	CEA India Grid 2024
Coal Equivalence	0.4 kg/kWh
Tree Absorption Rate	20 kg CO ₂ /tree/year

Used to estimate carbon savings based on national grid emission data.

INDIA'S CLIMATE GOALS

India targets 500 GW renewable energy capacity by 2030 and net-zero emissions by 2070.

- 50% electricity from renewables by 2030
- 1 billion tonnes CO₂ reduction by 2030
- Net zero carbon emissions by 2070

Your system contributes directly to these national targets.

Estimated carbon avoidance assumes the stated grid emission factor and annual panel degradation. Tree-years describe equivalent carbon absorption, not trees planted.

SECTION 7

Your Next Steps

Follow these steps to install your rooftop solar system smoothly.

- 1 **Register on PM Surya Ghar Portal**
Visit pmsuryaghar.gov.in and register with your electricity consumer number and Aadhaar.
10-15 minutes
- 2 **Apply to Your DISCOM**
Submit net metering application to JVVNL / AVVNL / JdVVNL. They will verify your connection and approve feasibility.
3-7 working days
- 3 **Choose an Empanelled Installer**
Select an MNRE-empanelled installer from the portal. Compare quotes for your 3.52 kWp system.
1-3 days
- 4 **Arrange Financing If Needed**
Ask your bank for their current solar loan rate. At 3.52 kW this is outside the collateral-free band, which ends at 3 kW and at ₹2 lakh, whichever binds first. Above it rates are typically higher and the bank may ask for security. If you are choosing between sizes, this is the boundary worth knowing about. We have not confirmed a current interest rate for this band, so no monthly instalment is shown — ask your bank for their rate.
2-5 working days
- 5 **Installation and Commissioning**
Installer sets up 8 panels (Vikram Solar SOMERA 440BF Bifacial) on your rooftop with inverter and wiring.
2-3 days
- 6 **Net Meter Installation**
DISCOM installs bi-directional net meter. After inspection, your system goes live on the grid.
3-7 working days
- 7 **Start Saving**
Your system generates a daily average of **13 kWh (P50), 11 kWh or better in nine years out of ten (P90), over the first year**. Monthly savings of **₹1,314 (P50)** start from Day 1. Subsidy is credited directly to your bank account.

Check this assessment yourself

Every input behind these figures — the irradiance source, the panel, the loss assumptions, the reference data version and the code version — was recorded and sealed when this report was issued. Enter the code below at solarsight.in/verify to see exactly what we used. The record cannot be edited afterwards, and a code altered by even one character will not open.

6423816d596e9bd7522e07d18b9d67162508b6dca9c6a7a048d715fa5b183f22

SolarSight assessment methodology v1.3 (2026-09-10) · DOI pending — published at solarsight.in/methodology

Performance ratio is calculated against plane-of-array irradiance following the IEC 61724 reference-plane interpretation. It is not comparable to a horizontal-irradiance empirical PR.

YOUR SOLAR SNAPSHOT

System Size	3.52 kWp
Net Cost	₹98,000
Monthly Savings	₹1,314 (P50), ₹1,132 or better in nine years out of ten (P90), over the first year
Payback Period	7.4 years (P50), up to 8.6 years in a poor year (P90)
25-Year Savings	₹7,45,688 (P50), ₹6,42,106 or better in nine years out of ten (P90), over 25 years
CO ₂ Saved/Year	3,859 kg

NEED HELP? OFFICIAL RESOURCES

PM Surya Ghar Portal
pmsuryaghar.gov.in

MNRE Helpline
1800-180-3333 (Toll Free)

Your DISCOM
JVVNL / AVVNL / JdVVNL

SolarSight Support
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CIN U63111BR2026PTC086044

Report Validity: This report is valid for 90 days. Tariffs and subsidy slabs change; run a fresh assessment after that.



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