Sample report · simulated sites and data, for illustration only

SolarDoc
WEATHER DATA, DIAGNOSED

SOLARDOC PRO

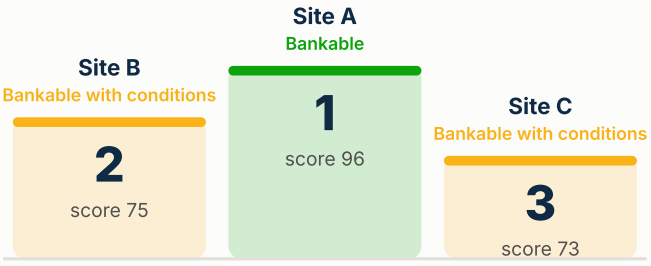
Bankability & Site Ranking Report

Prepared for: Example Solar Developer · Portfolio: 3 candidate sites, India · Report date: 2026-11-20

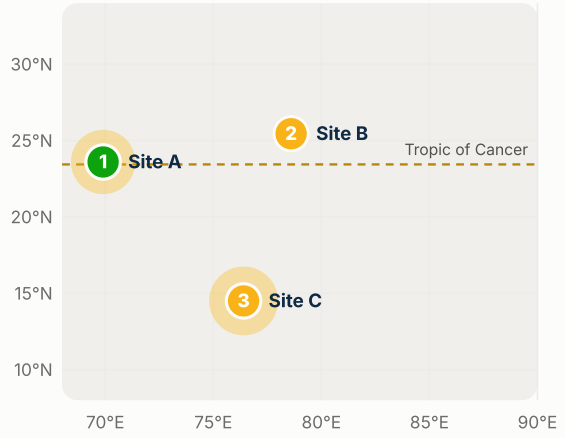
Executive summary

Site A (Kutch, Gujarat) ranks first with a Bankability Score of **96**: bankable. Site C has the highest resource, but its data and documentation gaps lower its score. Site B needs 8 actions before financing. Site C needs 5 actions before financing.

Ranking

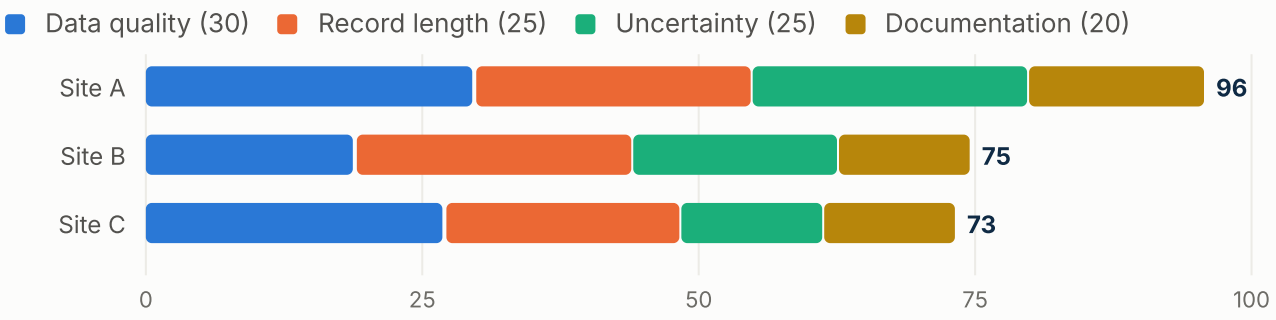


Where the sites are



Halo size shows how sunny the site is.

Bankability Score by component



#1 Site A · Kutch, Gujarat

150 MWp · 23.60°N, 69.90°E · 40 m · Class A thermopile pyranometers and pyrheliometer on a sun tracker

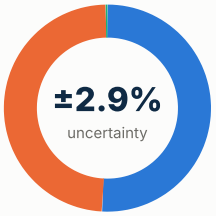
96
Bankable

How much sun to bank on



Bars are to scale. P50 is 1,992 kWh/m² a year.

Where the uncertainty comes from

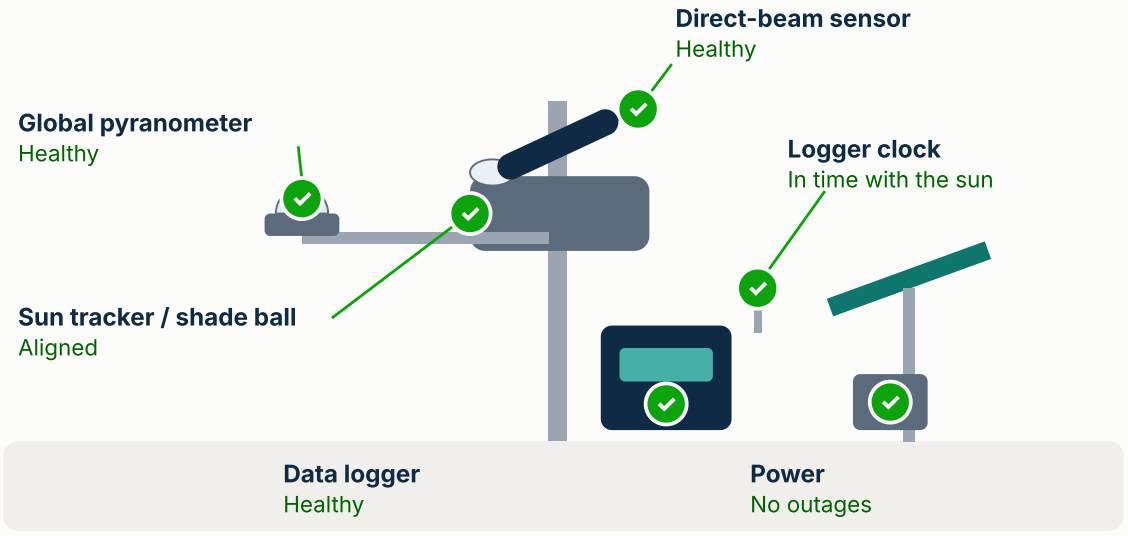


- Sensors & data quality **51%**
- Short on-site record **49%**
- Reference period **0%**

Paperwork lenders ask for

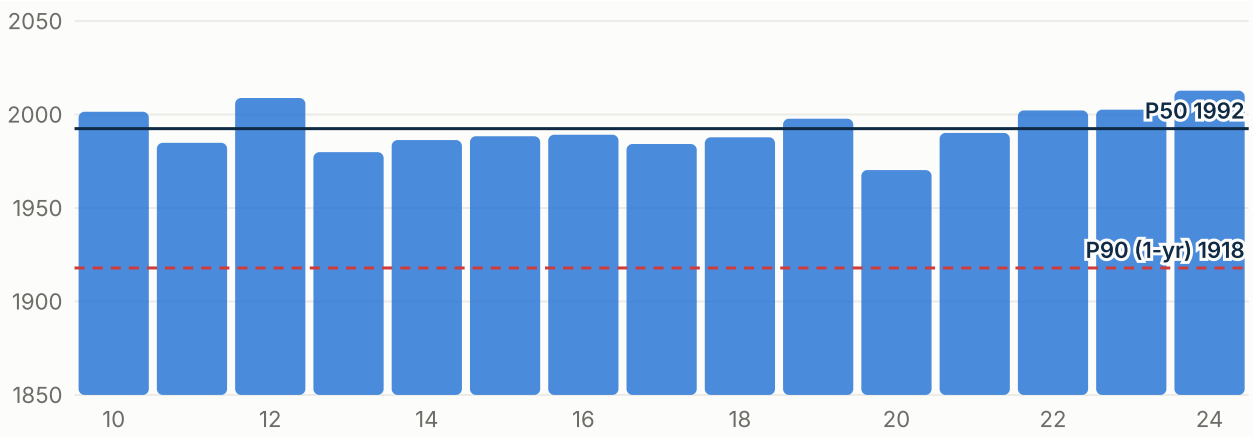
- ✓ Current calibration certificates
- ✓ Cleaning and maintenance log
- ✓ Station metadata (coordinates, mounting, logger program)
- ✓ Sensor make, model and class documented
- × Site photos and horizon survey

Station health





Year-to-year sunshine (15-year reference)



Long-term data check: the provider's typical-year file

98
Ready for a bank report

Typical year, P50, hourly, GHI, DNI and DHI · 1,990 kWh/m² a year · -0.3% against 12 months of station data. Time setting found from the sun: UTC+5:30, with each value stamped at the middle of its period.

Time zone and time stamps OK
Times line up with the sun. The file is in UTC+5:30, with each value stamped at the middle of its period.

Complete year, no gaps OK
A typical year with 8,760 of 8,760 hours.

Enough years behind it OK
Built from about 20 years of data (2005–2024). Long enough to average out good and bad years.

Right kind of year for P50 OK
Labelled as a P50 (average) year: the right input for the P50 estimate.

Stated uncertainty OK
The provider states ±4% on the yearly sum.

Data is for your site OK
File coordinates (23.600, 69.900) match the site.

Physically possible values OK
Every value is within what the sun can physically deliver, and nights are dark.

GHI, DNI and DHI agree OK
Direct and diffuse add up to the total in almost every hour, as they should.

Believable sunshine for the place OK
On average 59% of the sunshine above the atmosphere reaches the ground over the year, which is normal.

Year-to-year spread (for P90)
NOT KNOWN
A typical year hides how much sunshine changes from one year to the next, which the P90 needs. Ask for the full multi-year time series as well.

Agrees with your station OK
Over 12 months, the long-term data is 0.3% lower than your station measured. Within the normal year-to-year spread.

Questions sent to the data provider:

1. Please also send the full multi-year time series (every year, hour by hour), not only the typical year, and say how much of it is gap-filled.

Data quality findings

No problems found.

Actions to reach "Bankable"

1. Provide: site photos and horizon survey.

#2 Site B · Bundelkhand, Uttar Pradesh

120 MWp · 25.45°N, 78.60°E · 280 m · Class A thermopile pyranometers and pyrheliometer on a sun tracker

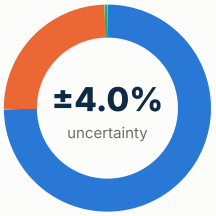
75
Bankable with conditions

How much sun to bank on



Bars are to scale. P50 is 1,834 kWh/m² a year.

Where the uncertainty comes from

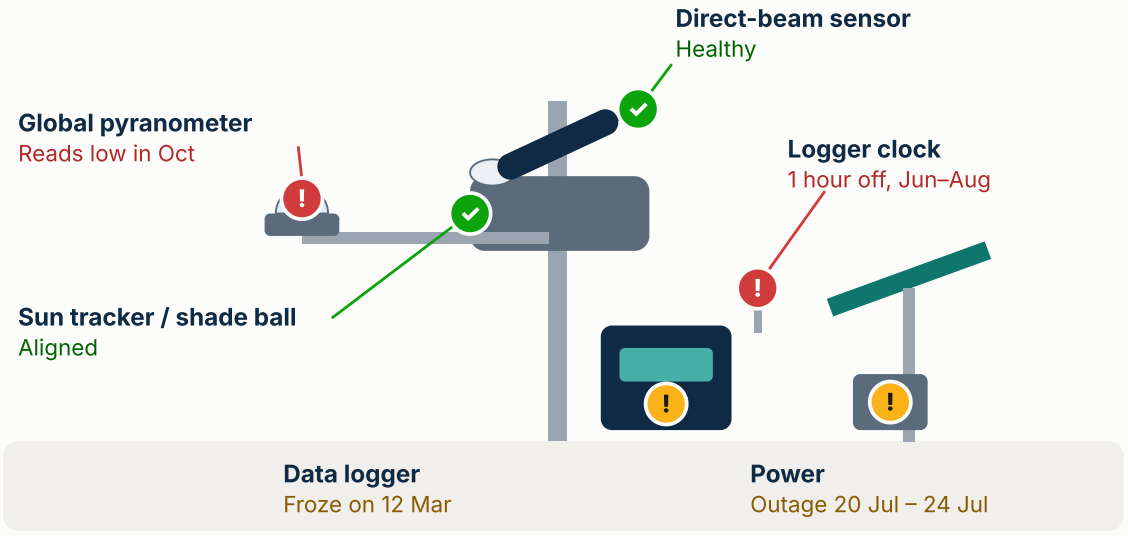


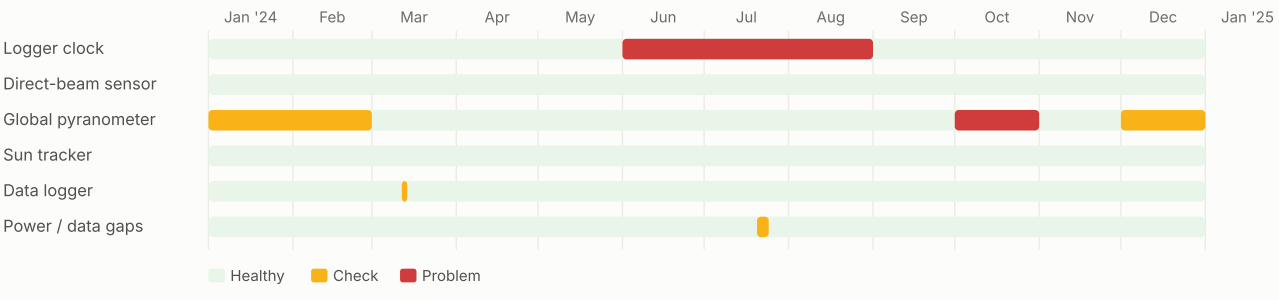
- Sensors & data quality **75%**
- Short on-site record **25%**
- Reference period **0%**

Paperwork lenders ask for

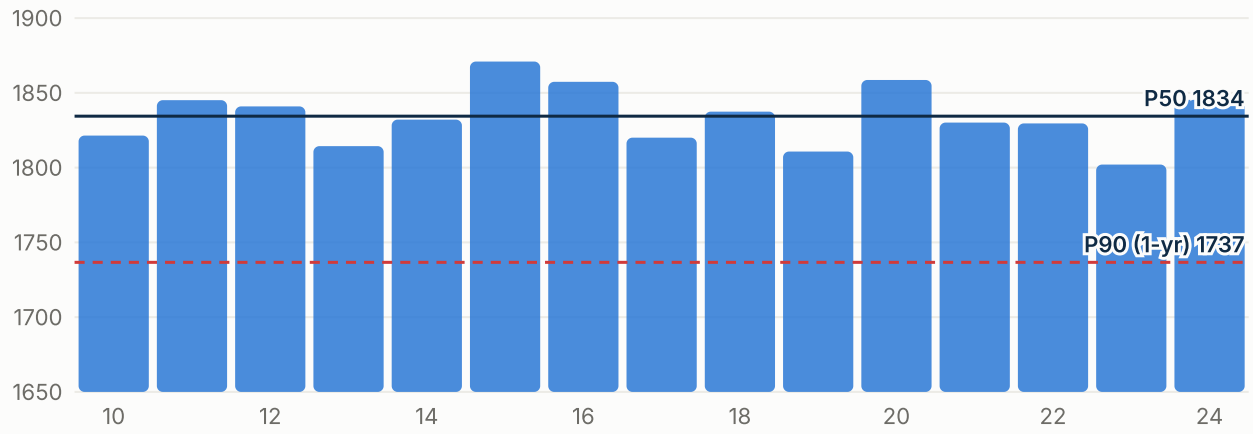
- ✓ Current calibration certificates
- × Cleaning and maintenance log
- ✓ Station metadata (coordinates, mounting, logger program)
- ✓ Sensor make, model and class documented
- × Site photos and horizon survey

Station health





Year-to-year sunshine (15-year reference)



Long-term data check: the provider's typical-year file

82
Usable, after the fixes below

Typical year, P50, hourly, GHI, DNI and DHI · 1,824 kWh/m² a year · +2.9% against 11 months of station data. Time setting found from the sun: UTC, with each value stamped at the middle of its period.

Time zone and time stamps PROBLEM
The header says UTC+5:30, but the sun says the times are UTC. If PVsyst reads it as UTC+5:30, every hour is shifted.

Complete year, no gaps OK
A typical year with 8,760 of 8,760 hours.

Enough years behind it OK
Built from about 17 years of data (2008–2024). Long enough to average out good and bad years.

Right kind of year for P50 OK
Labelled as a P50 (average) year: the right input for the P50 estimate.

Stated uncertainty NOT KNOWN
No uncertainty figure in the file. The P90 calculation needs it; ask the provider for the uncertainty of the yearly GHI.

Data is for your site OK
File coordinates (25.450, 78.600) match the site.

Physically possible values OK
Every value is within what the sun can physically deliver, and nights are dark.

GHI, DNI and DHI agree OK
Direct and diffuse add up to the total in almost every hour, as they should.

Believable sunshine for the place OK
On average 55% of the sunshine above the atmosphere reaches the ground over the year, which is normal.

Year-to-year spread (for P90)
NOT KNOWN
A typical year hides how much sunshine changes from one year to the next, which the P90 needs. Ask for the full multi-year time series as well.

Agrees with your station OK
Over 11 months, the long-term data is 2.9% higher than your station measured. Within the normal year-to-year spread.

Questions sent to the data provider:

1. Which time zone are the times in, and is each value stamped at the start, middle or end of its hour?
2. What is the uncertainty of the yearly GHI (in %) at this site?
3. Please also send the full multi-year time series (every year, hour by hour), not only the typical year, and say how much of it is gap-filled.

Data quality findings

One-hour time shift in some months

Sensors drift out of balance in 2024-10

GHI reads down to -7.6 W/m² at night (thermal offset)

GHI physically possible limit: 14% of checked records fail

DHI physically possible limit: 14% of checked records fail

Actions to reach "Bankable"

1. Correct the one-hour clock shift (Jun–Aug) and set the logger to a fixed standard time with GPS/NTP sync.
2. Apply a night-time offset correction to GHI and DHI, and fit ventilation units to the pyranometers.
3. Flag May DNI as soiled; increase cleaning frequency in the dust season and keep a cleaning log.
4. Exclude DNI/DHI for 3–14 Nov (tracker misalignment) and add a tracker alignment check to the O&M routine.
5. Gap-fill the 20–24 Jul outage from the long-term reference and add UPS backup to the logger.
6. Provide: cleaning and maintenance log.
7. Provide: site photos and horizon survey.
8. Long-term file: The header says UTC+5:30, but the sun says the times are UTC. If PVsyst reads it as UTC+5:30, every hour is shifted.

℞ Prescription: equipment to prevent these problems

Logger clock shifts by one hour in some months

Kipp & Zonen RaZON+

Get a quote

all-in-one solar monitoring system with built-in GPS for time and position

Global pyranometer reading low in some months (soiling, levelling or shading)

Kipp & Zonen SMP12

Get a quote

Class A pyranometer with integrated ventilation and heating to keep the dome clean and dry

Kipp & Zonen DustIQ

Get a quote

soiling monitor that shows when cleaning is due

Sun tracker or shade ball misaligned

Kipp & Zonen SOLYS2

Get a quote
sun tracker with GPS, with sun sensor kit for active tracking

Kipp & Zonen RaZON+

Get a quote
compact tracker system measuring DNI and DHI

1 outage of a day or more

Solar + battery power supply (UPS) and a cellular / satellite remote-monitoring modem

Large night-time thermal offset on the pyranometers

Kipp & Zonen SMP12

Get a quote
Class A pyranometer with integrated ventilation and heating

Kipp & Zonen SMP10

Get a quote
Class A smart pyranometer with low thermal offset (pair with a CVF4)

Kipp & Zonen CVF4

Get a quote
ventilation unit for existing pyranometers

Logger freezes or electrical spikes

Surge protection and grounding kit; industrial data logger with remote diagnostics

#3 Site C · Deccan Plateau, Karnataka

200 MWp · 14.50°N, 76.40°E · 600 m · Single Class B thermopile pyranometer (GHI only)

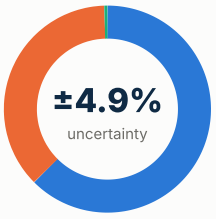
73
Bankable with conditions

How much sun to bank on



Bars are to scale. P50 is 2,019 kWh/m² a year.

Where the uncertainty comes from

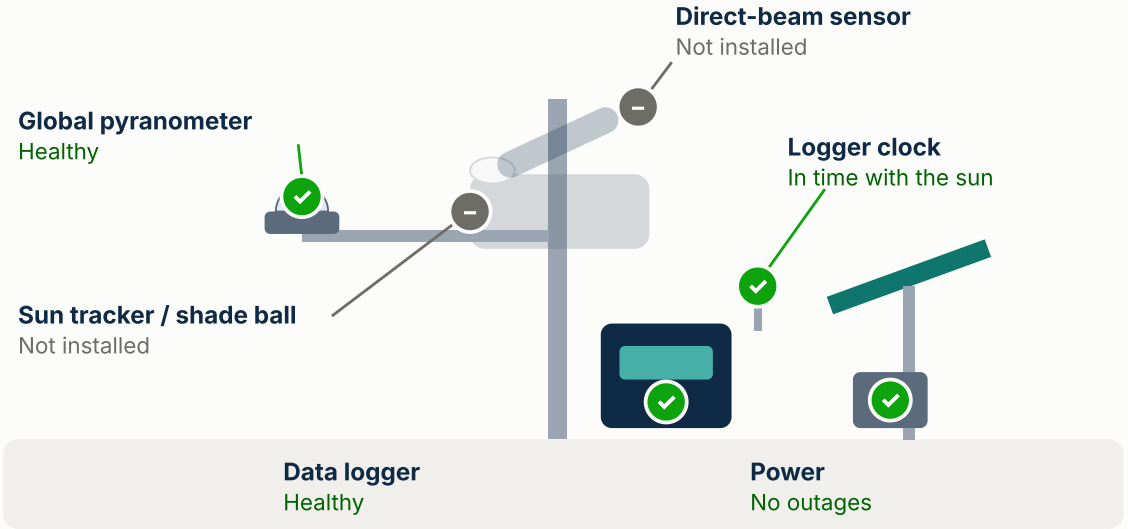


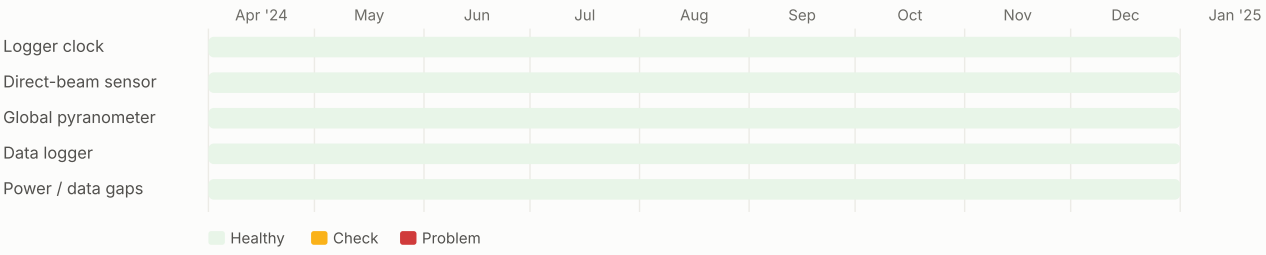
- Sensors & data quality **63%**
- Short on-site record **37%**
- Reference period **1%**

Paperwork lenders ask for

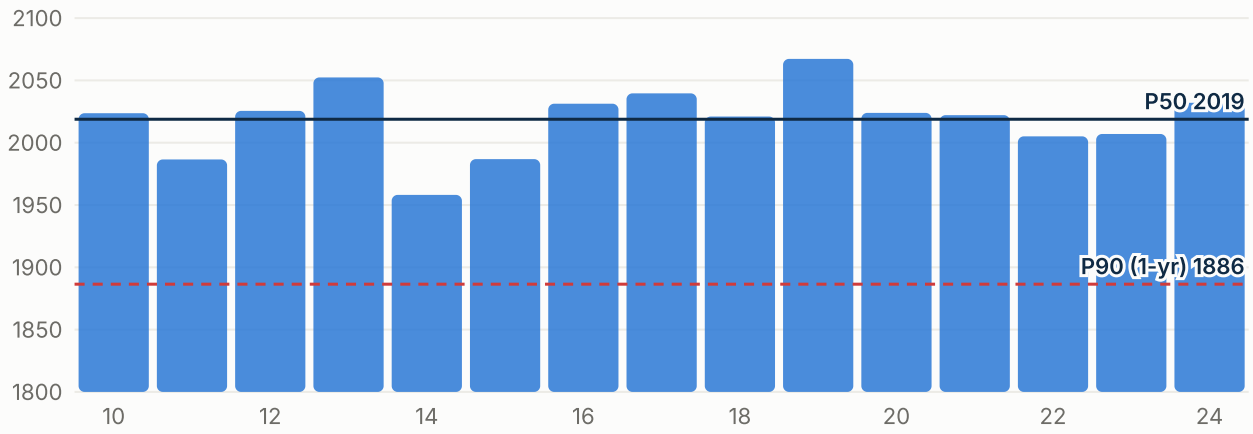
- ✓ Current calibration certificates
- ✓ Cleaning and maintenance log
- × Station metadata (coordinates, mounting, logger program)
- ✓ Sensor make, model and class documented
- × Site photos and horizon survey

Station health





Year-to-year sunshine (15-year reference)



Long-term data check: the provider's typical-year file

77
Usable, after the fixes below

Typical year, P90, hourly, GHI only · 1,922 kWh/m² a year · -4.3% against 9 months of station data. Time setting found from the sun: UTC+5:30, with each value stamped at the middle of its period.

Time zone and time stamps OK
Times line up with the sun. The file is in UTC+5:30, with each value stamped at the middle of its period.

Complete year, no gaps OK
A typical year with 8,760 of 8,760 hours.

Enough years behind it CHECK
Only about 8 years of data. Sunshine varies a few percent from year to year, so fewer than 10 years can sit noticeably above or below the true long-term average.

Right kind of year for P50 CHECK
This is a P90 year (a deliberately poor year). Use it to test the downside, but the P50 energy estimate needs the P50 (average) year.

Stated uncertainty OK
The provider states ±5.5% on the yearly sum.

Data is for your site OK
File coordinates (14.500, 76.400) match the site.

Physically possible values OK
Every value is within what the sun can physically deliver, and nights are dark.

GHI, DNI and DHI agree NOT KNOWN
Only GHI in the file. Energy software then estimates direct and diffuse itself, which adds uncertainty for tilted modules and trackers. Ask for DNI and DHI too.

Believable sunshine for the place OK
On average 54% of the sunshine above the atmosphere reaches the ground over the year, which is normal.

Year-to-year spread (for P90)
NOT KNOWN
A typical year hides how much sunshine changes from one year to the next, which the P90 needs. Ask for the full multi-year time series as well.

Agrees with your station CHECK

Over 9 months, the long-term data is 4.3% lower than your station measured. That is more than year-to-year swings usually explain. Check the station, then correct the long-term data to it ("site adaptation").

Questions sent to the data provider:

1. Which years is the typical year built from? We need at least 10.
2. Please send the P50 typical year as well (we have the P90).
3. Please include DNI and DHI, from the same model run as GHI.
4. Please also send the full multi-year time series (every year, hour by hour), not only the typical year, and say how much of it is gap-filled.
5. Can the long-term data be corrected with our on-site measurements (site adaptation)?

Data quality findings

Cannot cross-check sensors: DNI and DHI not found

Actions to reach "Bankable"

1. Add DNI and DHI measurement (or a rotating shadowband irradiometer) so sensors can be cross-checked.
2. Extend on-site measurement to at least 12 months (currently 9) to reduce long-term correction uncertainty.
3. Provide: station metadata (coordinates, mounting, logger program).
4. Provide: site photos and horizon survey.
5. Long-term file: This is a P90 year (a deliberately poor year). Use it to test the downside, but the P50 energy estimate needs the P50 (average) year.

℞ Prescription: equipment to prevent these problems



Only GHI measured: sensors cannot be cross-checked

Kipp & Zonen RaZON+ Get a quote
adds DNI and DHI at low cost, so all three components can be cross-checked

Kipp & Zonen SOLYS2 + SHP1 + SMP10 Get a quote
reference-grade tracker station

Kipp & Zonen SMP3 Get a quote
second smart pyranometer as a redundant GHI check

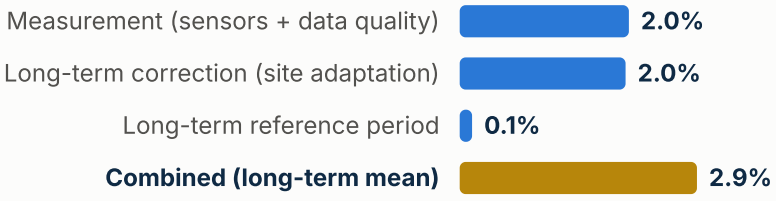
Appendix: detailed numbers

Rank	Site	Bankability	Status	P50 GHI	P90 10-yr	P90 1-yr	Uncertainty	Data quality	Months on site
1	**Site A** Kutch, Gujarat	**96**	**Bankable**	1,992	1,919	1,918	±2.9%	99 (A)	12
2	**Site B** Bundelkhand, Uttar Pradesh	**75**	**Bankable with conditions**	1,834	1,739	1,737	±4.0%	63 (C)	12
3	**Site C** Deccan Plateau, Karnataka	**73**	**Bankable with conditions**	2,019	1,891	1,886	±4.9%	90 (A)	9

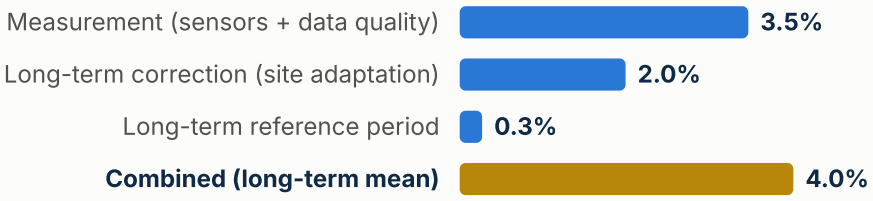
GHI in kWh/m²/yr. P90 10-yr: value exceeded with 90% probability by the 10-year average. P90 1-yr: exceeded in 9 years out of 10.

Uncertainty budget

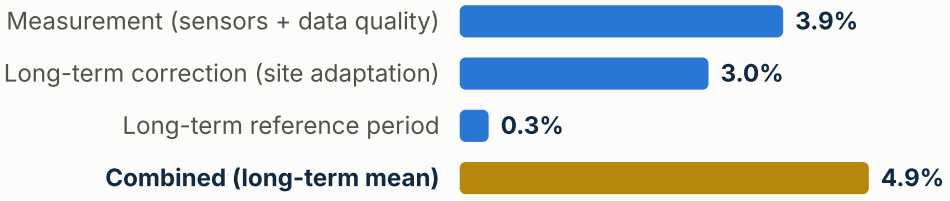
Site A



Site B



Site C



Method

- **Data quality:** every on-site record is screened with SolarDoc's automated checks (physical limits, sensor consistency, equipment faults, time-stamp diagnostics, long-term sensor balance). The Data Quality Score (0–100) feeds the Bankability Score.
- **Long-term resource:** on-site measurements are used to correct a 15-year long-term reference series at the site. P50 is the long-term mean.

- **Probabilities of exceedance:** P-values combine the uncertainty of the long-term mean with interannual variability, assuming a normal distribution: P90 = P50 × (1 − 1.282·σ).
- **Uncertainty budget:** measurement (sensor class, adjusted for data quality), long-term correction (depends on months of on-site data), and the finite length of the reference period, combined in quadrature.
- **Bankability Score:** data quality 30, record length 25, uncertainty 25, documentation 20 points.

Product suggestions are independent recommendations; product names are trademarks of their owners.

This sample uses simulated stations and a simulated long-term reference. Real Pro reports use your measurements and a commercial long-term dataset. Automated analysis complements, not replaces, an independent engineer's review.