COMPAREPV · LONG-TERM ANALYSIS

Which PV panel gives the best long-term value?

2026-05-04 14:02 | 30-year simulation

Simulation assumptions

Temperature: **55°C** | Installation: **South-facing roof**

Baseline yield: **1,050 kWh/kWp/yr** | Horizon: **30 years** | Currency: **$ USD**

RANKING LEADER

Jinko Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin)

Score 70.0/100

HIGHEST 30-YEAR YIELD

19,623 kWh

Δ vs worst: 0 kWh

LOWEST LCOE

0.012 $/kWh

23.3% cheaper than worst

CO_2 AVOIDED (LEADER)

8.8 t

EU grid mix ~450 g/kWh

PANELS COMPARED

2 units

Top score: 70.0

LONGEST POWER WARRANTY

30 years

Set average: 30.0 years

Best choice

BEST LONG-TERM CHOICE

Jinko Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin) (730 Wp)

- Lowest LCOE in the set ($0.012 / kWh)
- Highest 30-year energy yield (19 623 kWh)
- Longest power warranty (30 years)

SCORE: **22.5** 30yr yield (45%) + **40.0** LCOE (40%) + **7.5** warranty (15%) = **70.0/100**

70
SCORE
in this set

ONLINE: **https://comparepv.com/panel-report/64f93f5a-041f-4f3c-94ee-21d77dbeeec2**

2 FULL COMPARISON TABLE

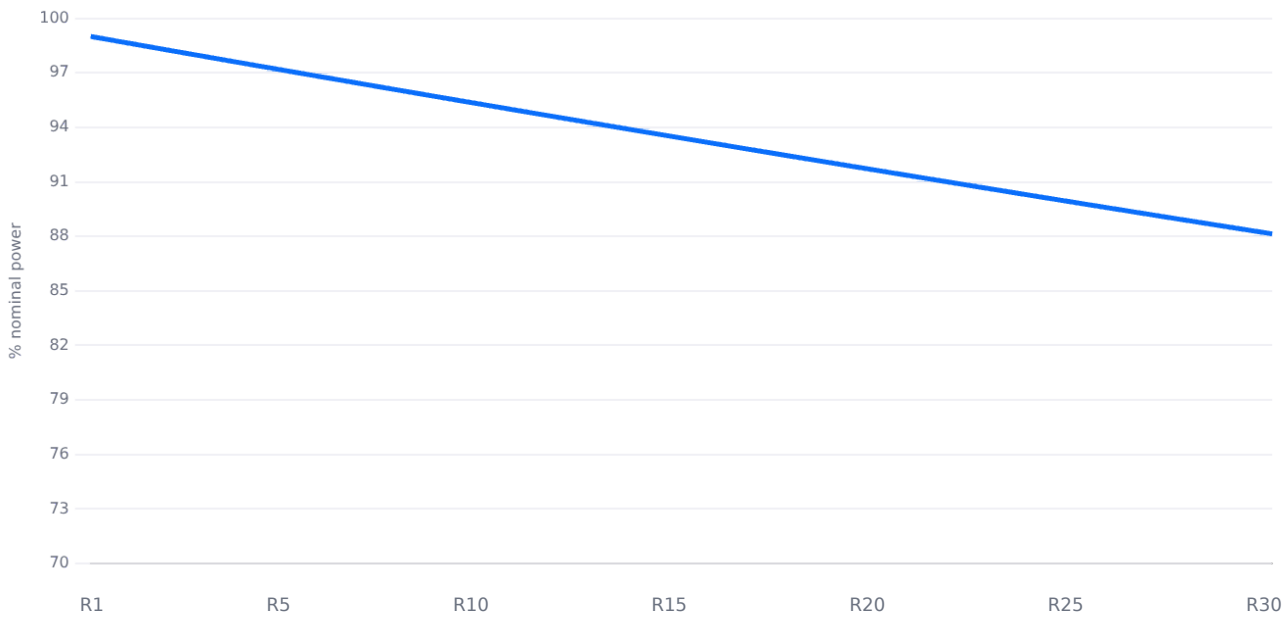
#	MANUFACTURER / MODEL	POWER	PRICE	Y1 KWH	30-YEAR KWH	LCOE	SCORE
1	JinKO Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin)	730 Wp	230.00 $	693	**19,623**	0.012 $	**70.0/100**
2	JA SOLAR JAM66D46-730/LB	730 Wp	300.00 $	693	**19,623**	0.015 $	**34.0/100**

3 POWER DEGRADATION OVER TIME

Power degradation over time

Some panels share identical degradation parameters — 1 of 2 curves visible (same values = same color)

JA Solar JAM66D46-730/LB · Jinko Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin)



#	PANEL	R5	R10	R15	R20	R25	R30
1	Jinko Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin)	97.4%	95.5%	93.6%	91.7%	89.9%	88.1%
2	JA Solar JAM66D46-730/LB	97.4%	95.5%	93.6%	91.7%	89.9%	88.1%

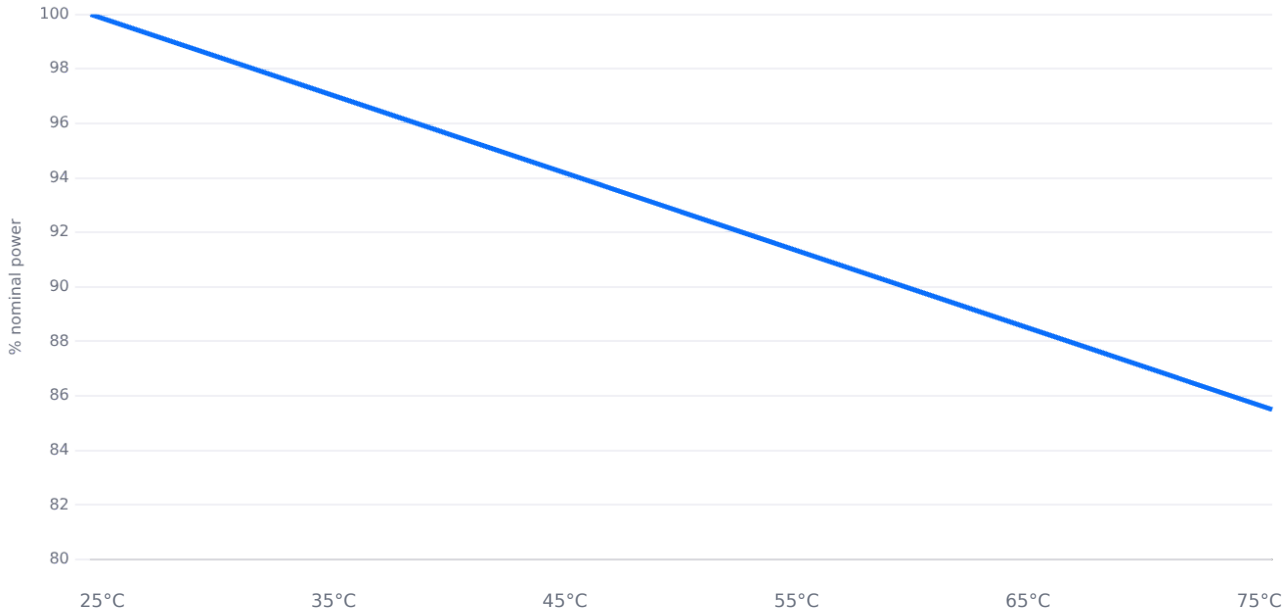
Higher curve = less output loss over time. Y1 + annual degradation. Panels with identical degradation share overlapping curves — exact values in the table below.

4 POWER LOSS AS A FUNCTION OF TEMPERATURE

Power loss: STC 25°C → 75°C

Some panels share identical Tc Pmax — 1 of 2 curves visible (same values = same color)

JA Solar JAM66D46-730/LB · Jinko Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin)



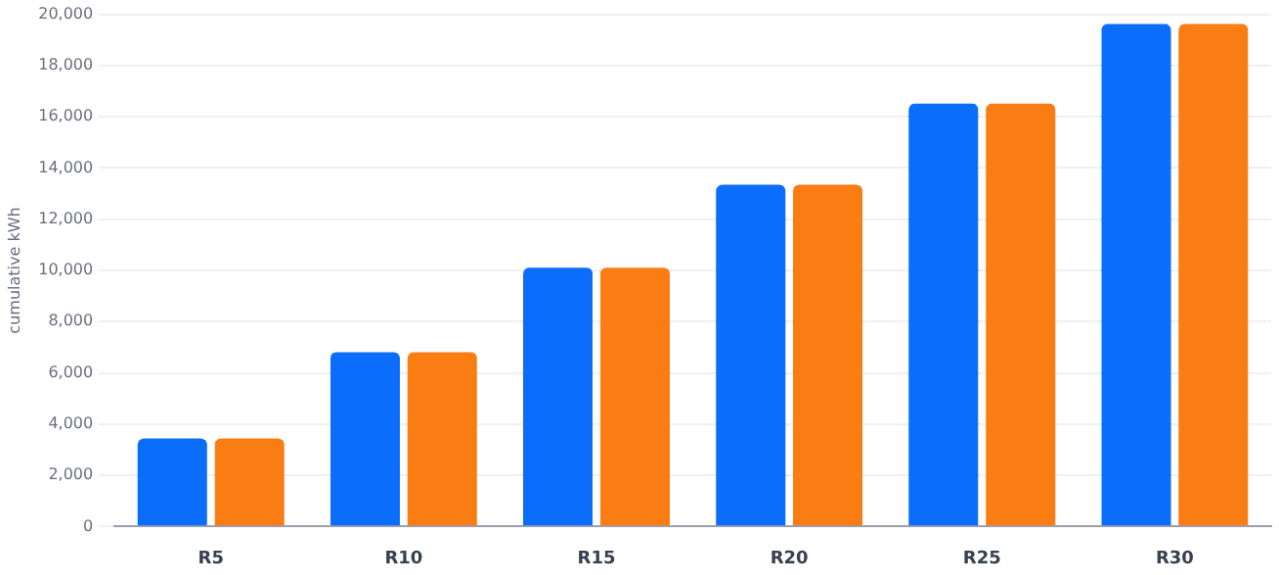
#	PANEL	TC PMAX	25°C	35°C	45°C	55°C	65°C	75°C
1	Jinko Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin)	-0.29%/°C	100.0%	97.1%	94.2%	91.3%	88.4%	85.5%
2	JA Solar JAM66D46-730/LB	-0.29%/°C	100.0%	97.1%	94.2%	91.3%	88.4%	85.5%

Higher curve = less power lost in heat. Formula: P(T) = 100% + Tc Pmax × (T − 25). Tc Pmax is negative, so power decreases as cell temperature rises. On hot days (50–70°C panel surface), the gap between panels can reach 3–5% of nominal power.

5 CUMULATIVE ENERGY YIELD

Cumulative energy yield

JA Solar JAM66D46-730/LB Jinko Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin)

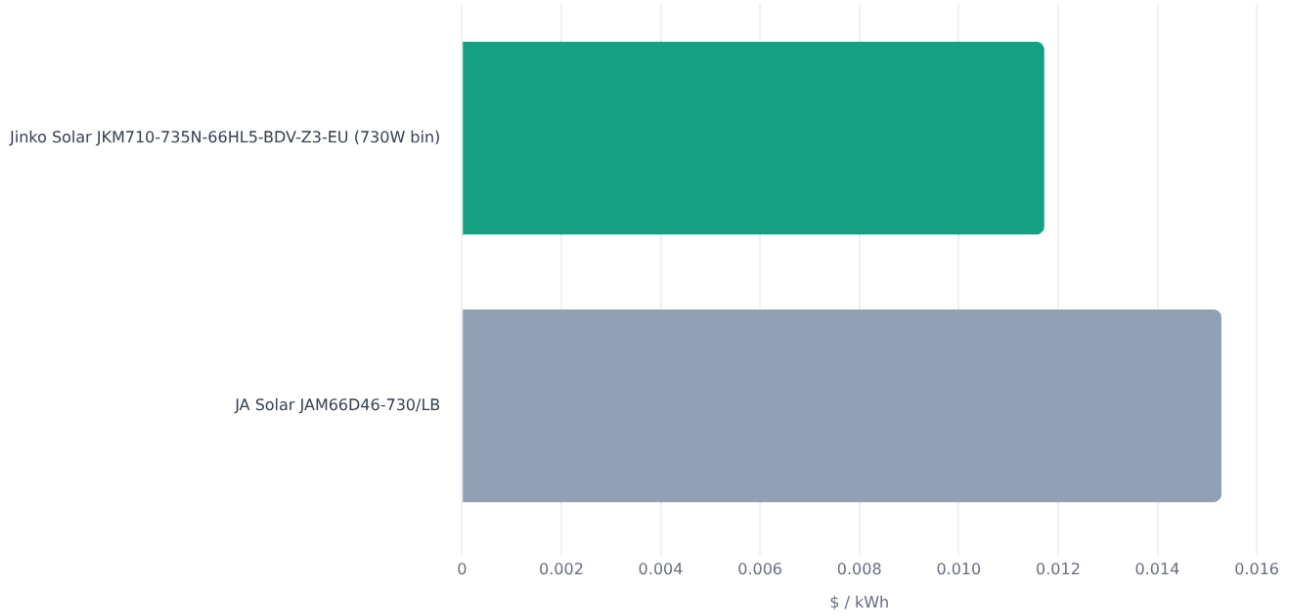


#	PANEL	R5	R10	R15	R20	R25	R30
1	Jinko Solar JKM710-735N-66HL5-BDV-Z3-EU (730W bin)	3,436 kWh	6,805 kWh	10,106 kWh	13,342 kWh	16,514 kWh	19,623 kWh
2	JA Solar JAM66D46-730/LB	3,436 kWh	6,805 kWh	10,106 kWh	13,342 kWh	16,514 kWh	19,623 kWh

Total cumulative kWh at selected milestones (R5, R10, R15, R20, R25, R30). Taller bar = higher energy volume.

6 ENERGY COST AND SCORE BREAKDOWN

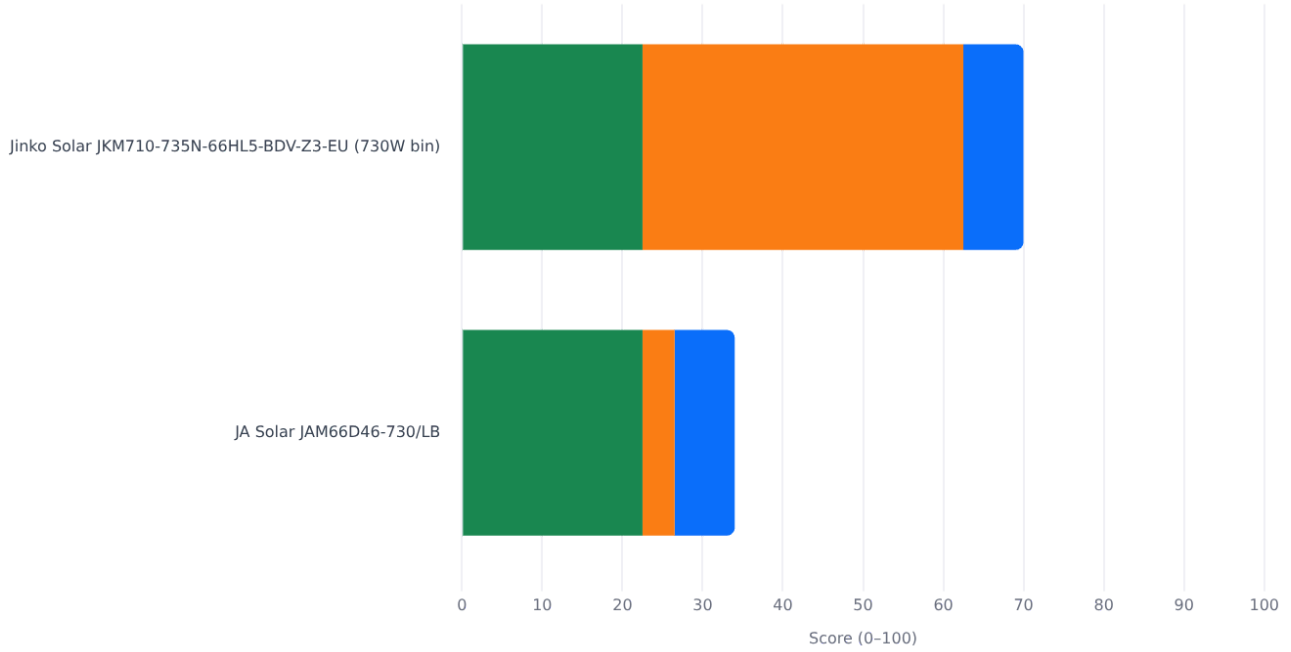
LCOE — levelized cost of energy



Levelized Cost of Energy = price ÷ 30-year yield. Lower bar = better financial choice.

Score breakdown (0–100) — what drives the ranking

30yr yield (45%) Low LCOE (40%) Warranty (15%)



Each bar = "Offer Score" for that panel (0–100). 30-year yield, low LCOE and warranty are normalized min-max within the set with a 10% floor (the worst panel in a dimension receives 10% weight, not 0, so the segment stays visible). Weights: yield 45% · LCOE 40% · warranty 15%.

7 MODULE CARDS

JKM710-735N-66HL5-BDV-Z3-EU (730W bin)

1

TOPCON | BIFACIAL

LOWEST LCOE | CHEAPEST $/W

Power:	**730 Wp**
Price:	**230.00 $**
Tc Pmax:	**-0.29%/°C**
Warranty:	**30 yrs**
Y1 / annual:	**1.00% / 0.40%**
Y1 yield:	**693 kWh**
30-year kWh:	**19,623 kWh**
% at yr 30:	**88.1%**
LCOE:	**0.012 $**
Score:	**70.0/100**

STABLE

+10% → **70.0** Δ 0.0 pts **70.0** ← −10%

Price has little effect on ranking — this panel stays put regardless of a discount.

JAM66D46-730/LB

2

TOPCON | BIFACIAL

HIGHEST ENERGY YIELD

LONGEST POWER WARRANTY

Power:	**730 Wp**
Price:	**300.00 $**
Tc Pmax:	**-0.29%/°C**
Warranty:	**30 yrs**
Y1 / annual:	**1.00% / 0.40%**
Y1 yield:	**693 kWh**
30-year kWh:	**19,623 kWh**
% at yr 30:	**88.1%**
LCOE:	**0.015 $**
Score:	**34.0/100**

STABLE

+10% → **34.0** Δ 0.0 pts **34.0** ← −10%

Price has little effect on ranking — this panel stays put regardless of a discount.

8 GLOSSARY — WHAT EACH METRIC MEANS

Tc Pmax — temperature coefficient of maximum power [%/°C]. How much the panel output drops per degree above 25°C (STC). Typically −0.30 %/°C. *Smaller absolute value = better in heat.*

Y1 / annual — power degradation in the first year of operation / in each subsequent year. Datasheet typical: 2% Y1 + 0.55% annual. *Lower values = slower aging.*

Y1 yield — how many kWh one panel produces in year one at the specified operating temperature and installation type.

30-year kWh — total yield of one panel over 30 years, accounting for degradation and temperature losses.

% at year 30 — what percentage of the nameplate power remains after 30 years of operation. E.g. 85% means a 400 Wp panel delivers 340 Wp.

LCOE — *Levelized Cost of Energy* = panel price ÷ 30-year yield [currency/kWh]. Shows "how much does 1 kWh cost" from this panel. *Lower LCOE = better financial choice.*

Score (0–100) — *ranking of this specific offer within this set, relative*. Combines 3 dimensions with weights: 30-year yield (45%) + low LCOE (40%) + warranty (15%). Yield/LCOE/warranty are min-max normalized within the set with a 10% floor (the worst panel keeps 10% weight instead of 0, so the segment stays visible). **The same panel with the same price may have a different Score in a different set** (because the competition changes).

Price sensitivity ±10% — mini-bar on the module card (Module cards section) showing how the panel's Score would change if its price fell or rose by 10% (other panel prices held constant). Red→yellow→green gradient = range of possible scores; green tick = current score. **Narrow range = stable ranking**. **Wide range = worth negotiating** a discount — 10% off meaningfully lifts the panel in the ranking.

Baseline yield [kWh/kWp/year] — how much energy 1 kWp of installation produces per year under average conditions. Depends on installation type (ground ~1100, south-facing roof ~1050, E-W roof ~950).

How to read "Price sensitivity ±10%" on module cards?

The bar under each module card shows how **this panel's Score** changes if you negotiate the price ±10% (other panel prices unchanged). **The wider the colored gradient and the larger the numeric difference, the more price affects the ranking** — and the more worthwhile it is to fight for a discount.

A · STABLE RANKING

+10% → **92.5** Δ 2.3 pts **94.8** ← −10%

Price has little effect on position — this panel stays where it is regardless of a discount. **Negotiation won't change much.**

B · MODERATE SENSITIVITY

+10% → **78.2** Δ 6.1 pts **84.3** ← −10%

Negotiation can lift the panel ~6 pts — possibly enough to close the gap to the one above, but won't change the ranking drastically.

C · WORTH NEGOTIATING!

+10% → **62.0** Δ 13.3 pts **75.3** ← −10%

10% off significantly lifts the panel in the ranking — it may jump several positions. **Push for a better price.**

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