A close run between four modules

JKM440N-54HL4R-B delivers 11,264 kWh over 30 years at 0.48 c/kWh, which makes its energy 26% cheaper per kilowatt-hour than the dearest module in this report.

BEST LONG-TERM CHOICE

JKM440N-54HL4R-B 440 Wp

- **Cheapest energy in the set.** 0.48 c/kWh, 26% below the dearest module in the set.
- **Runs cooler under load.** -0.29 %/°C against -0.34 %/°C, worth 1.5 points of output at 55 °C.

75 OF 100

COST PER KWH
0.48 c/kWh

RANKING LEADER	HIGHEST 30-YEAR YIELD	LOWEST COST PER KWH	MODULES COMPARED
JKM440N-54HL4R-B Score 75 of 100	11,392 kWh 168 kWh above the lowest module	0.48 c/kWh 26% cheaper than the dearest	4 Prices entered by the requester

ASSUMPTIONS Cell temperature 55 °C · Installation Pitched, equator · Baseline yield 1,000 kWh/kWp · Horizon 30 years · Currency EUR

01 · SIDE BY SIDE

#	MANUFACTURER / MODEL	POWER	PRICE	YEAR 1	30-YEAR	PER KWH (C)	SCORE
1	JinKO Solar JKM440N-54HL4R-B	440 Wp	€53.63	398	11,264	0.48	75
2	JinKO Solar JKM440N-54HL4-B	440 Wp	€56.90	398	11,264	0.51	69
3	JinKO Solar JKM445N-54HL4R-B	445 Wp	€73.47	402	11,392	0.64	42
4	LONGi LR4-72HPH-460M	460 Wp	€68.52	405	11,224	0.61	31

better worse — Colours and scores are relative to the 4 modules in this report only.

What this report does not model

Energy price inflation, inverter and installation cost, local irradiance, weather, shading, or a degradation curve worse than the datasheet promises. Prices were entered by whoever requested this report, not quoted or verified by ComparePV. This compares modules against each other, not a full system business case.

02 · WHERE THE DIFFERENCE COMES FROM

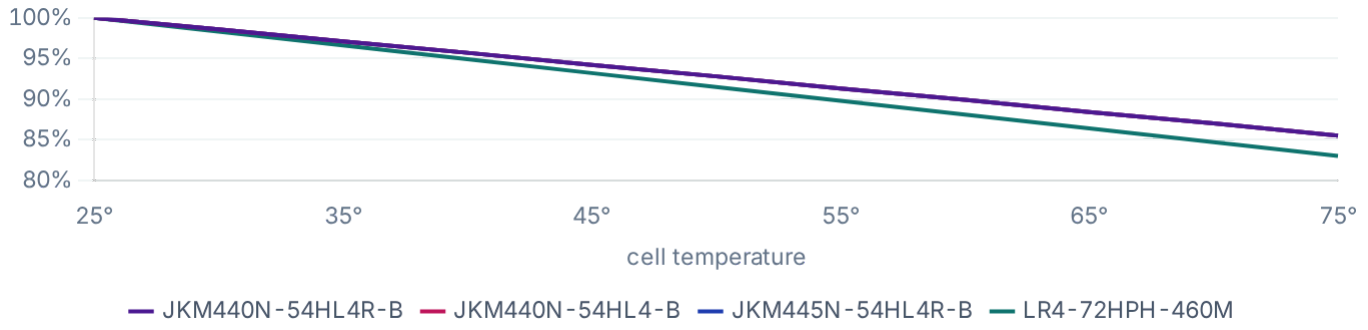
Cumulative energy over 30 years

Kilowatt-hours added up year by year. The gap widens with every year - by year 30 it is 168 kWh between the highest and lowest module.



Output retained as the cell heats up

A module is rated at 25 °C; a working roof sits well above it. At 55 °C the -0.29 %/°C module still delivers 91.3% of nameplate, the -0.34 %/°C module 89.8%.

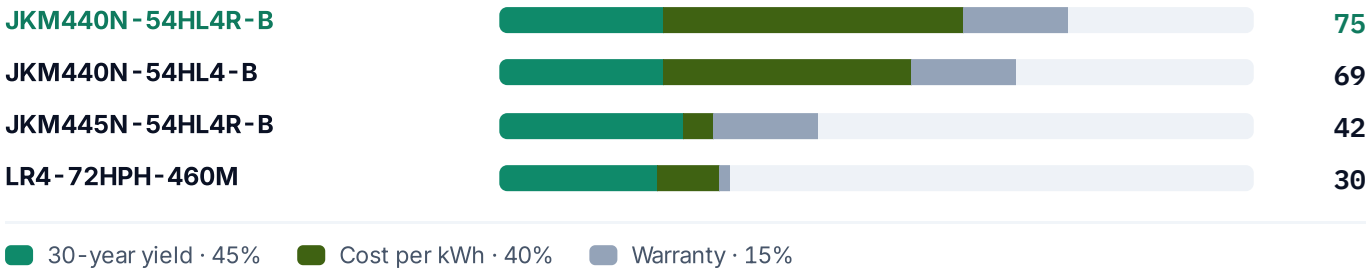


03 · MILESTONES

Cumulative kWh per module

MODULE	Y5	Y10	Y15	Y20	Y25	Y30
JKM440N-54HL4R-B	1,973	3,906	5,801	7,659	9,480	11,264
JKM440N-54HL4-B	1,973	3,906	5,801	7,659	9,480	11,264
JKM445N-54HL4R-B	1,995	3,951	5,867	7,746	9,587	11,392
LR4-72HPH-460M	2,002	3,949	5,844	7,687	9,480	11,224
Difference, best to worst	+-7	+1	+23	+59	+108	+168

04 · WHAT DRIVES EACH SCORE



05 · HOW EACH FIGURE IS BUILT

1 Annual yield

Panel watts times the installation baseline of 1,000 kWh/kWp, times a temperature factor from the module's own coefficient at 55 °C, times whatever degradation has left that year.

2 Degradation

Each module ages at its own datasheet rate - JKM440N-54HL4R-B loses 1% in year one, then 0.4% a year. Where a manufacturer publishes no curve, the 2% / 0.55% convention is used.

3 Cost per kWh

Offer price divided by the thirty annual yields added together. The only figure that lets a dearer module win, and often it does.

4 Score

A 0-100 composite: lifetime energy 45%, cost per kWh 40%, warranty 15%, each normalised across this report's modules. A dimension they all tie on splits evenly.

06 · TERMS USED IN THIS REPORT

Cost per kWh (LCOE)
Offer price divided by lifetime yield. What one kilowatt-hour from this module actually costs. Lower is better.

Baseline yield
Energy one kWp produces per year. Set by installation type: ground mount around 1,100, pitched equator-facing 1,050, east-west 950.

Tc Pmax
Temperature coefficient of maximum power, %/°C. How much output drops per degree above 25 °C. Smaller is better in heat.

Score
Relative ranking of this offer within this set only. The same module at the same price scores differently against different competition.

The live version stays online

Change the temperature, the installation type or the prices and the comparison recomputes. Anonymous and shareable.

comparepv.com/panel-report/612b27d3-de12-44b8-ab09-6929714116fe