A close run between six modules

AIKO-A475-MAH54Mw delivers 12,368 kWh over 30 years at 0.38 c/kWh, which makes its energy 41% cheaper per kilowatt-hour than the dearest module in this report.

BEST LONG-TERM CHOICE

AIKO AIKO-A475-MAH54Mw 475 Wp

- **Cheapest energy in the set.** 0.38 c/kWh, 41% below the dearest module in the set.
- **Runs cooler under load.** -0.26 %/°C against -0.29 %/°C, worth 0.9 points of output at 55 °C.

76 OF 100

COST PER KWH
0.38 c/kWh

RANKING LEADER	HIGHEST 30-YEAR YIELD	LOWEST COST PER KWH	MODULES COMPARED
AIKO-A475-MAH54Mw Score 76 of 100	12,800 kWh 1,536 kWh above the lowest module	0.38 c/kWh 41% cheaper than the dearest	6 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	AIKO AIKO-A475-MAH54Mw	475 Wp	€47.13	434	12,368	0.38	76
2	LUXEN LNDB-500ND	500 Wp	€62.98	452	12,800	0.49	67
3	JA SOLAR JAM54D40-465/LB	465 Wp	€59.12	420	11,904	0.50	50
4	JA SOLAR JAM54D40-470/LR	470 Wp	€61.90	425	12,032	0.51	50
5	LONGi LR7-54HVH-490M	490 Wp	€82.56	447	12,759	0.65	47
6	JinKO Solar JKM440N-54HL4R-B	440 Wp	€53.63	398	11,264	0.48	42

better worse — Colours and scores are relative to the 6 modules in this report only.

02 · WHERE THE DIFFERENCE COMES FROM

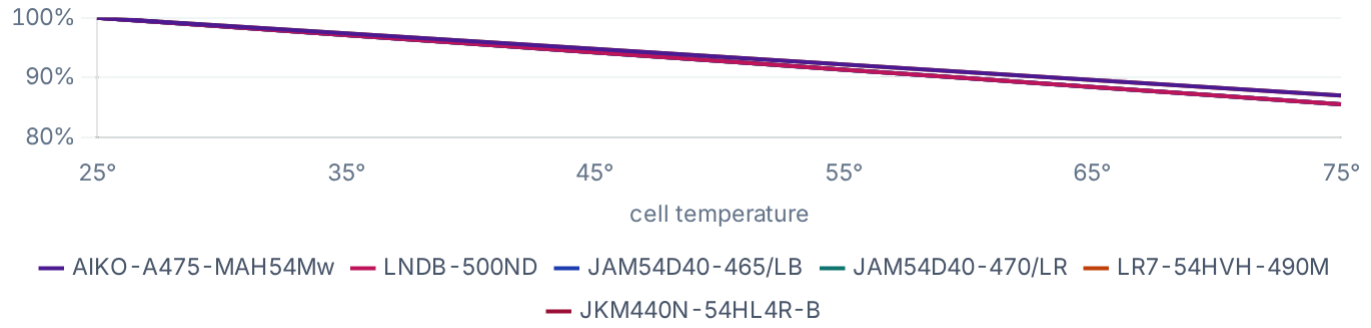
Cumulative energy over 30 years

Kilowatt-hours added up year by year. The gap widens with every year - by year 30 it is 1,536 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 -0.26 %/°C module still delivers 92.2% of nameplate, the -0.29 %/°C module 91.3%.



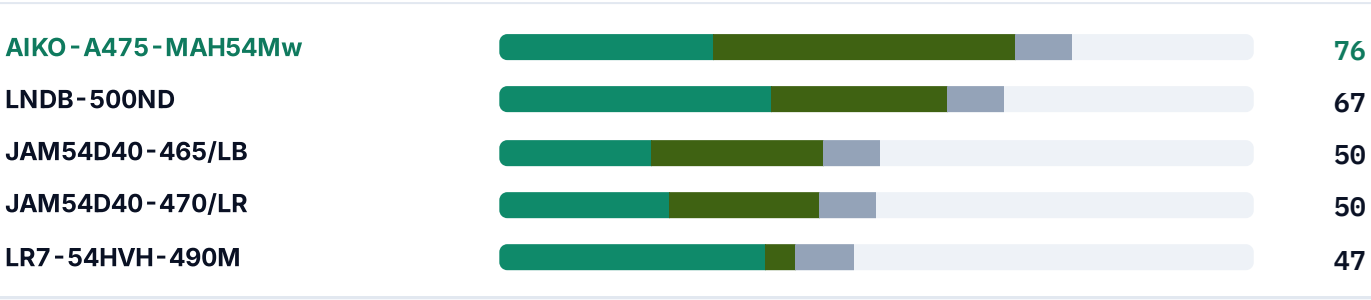
03 · MILESTONES

Cumulative kWh per module

MODULE	Y5	Y10	Y15	Y20	Y25	Y30
AIKO-A475-MAH54Mw	2,153	4,268	6,347	8,389	10,396	12,368
LNDB-500ND	2,242	4,439	6,592	8,703	10,772	12,800
JAM54D40-465/LB	2,085	4,128	6,131	8,094	10,018	11,904
JAM54D40-470/LR	2,107	4,173	6,197	8,181	10,126	12,032
LR7-54HVH-490M	2,221	4,403	6,547	8,654	10,724	12,759
Difference, best to worst	+269	+533	+791	+1,044	+1,293	+1,536

Ranks 1 to 5 shown. The remaining 1 module(s) are in the table on page 1.

04 · WHAT DRIVES EACH SCORE



Ranks 1 to 5 shown. The remaining 1 module(s) are scored in the table above.

30-year yield · 45% Cost per kWh · 40% Warranty · 15%

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 - AIKO-A475-MAH54Mw loses 1% in year one, then 0.35% 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.

⚠ 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.

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/f4fbc3ff-1293-476d-8700-cc4960eccc0f