LR5-54HTB-425M wins this comparison

LR5-54HTB-425M delivers 15,697 kWh over 30 years at 0.40 c/kWh, which makes its energy 46% cheaper per kilowatt-hour than the dearest module in this report.

BEST LONG-TERM CHOICE

LONGi **LR5-54HTB-425M** 425 Wp

- **Cheapest energy in the set.** 0.40 c/kWh, 46% below the dearest module in the set.
- **Runs cooler under load.** -0.29 %/°C against -0.30 %/°C, worth 0.3 points of output at 55 °C.

58 OF 100

COST PER KWH
0.40 c/kWh

RANKING LEADER	HIGHEST 30-YEAR YIELD	LOWEST COST PER KWH	MODULES COMPARED
LR5-54HTB-425M Score 58 of 100	16,649 kWh 953 kWh above the lowest module	0.40 c/kWh 46% cheaper than the dearest	2 Prices entered by the requester

ASSUMPTIONS Cell temperature **55 °C** Installation **Pitched, equator** Baseline yield **1,450 kWh/kWp** Horizon **30 years** Currency **EUR**

01 · SIDE BY SIDE

#	MANUFACTURER / MODEL	POWER	PRICE	YEAR 1	30-YEAR	PER KWH (C)	SCORE
1	LONGi LR5-54HTB-425M	425 Wp	€62.50	554	15,697	0.40	58
2	JA SOLAR JAM54D41 LB 450W	450 Wp	€122.29	588	16,649	0.73	47

better worse — Colours and scores are relative to the 2 modules in this report only.

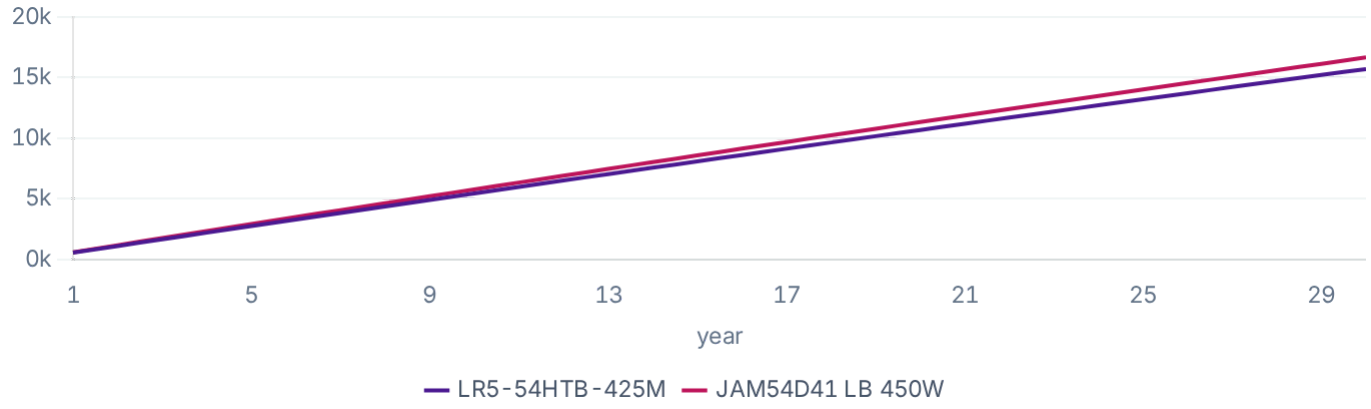
What this report does not model

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

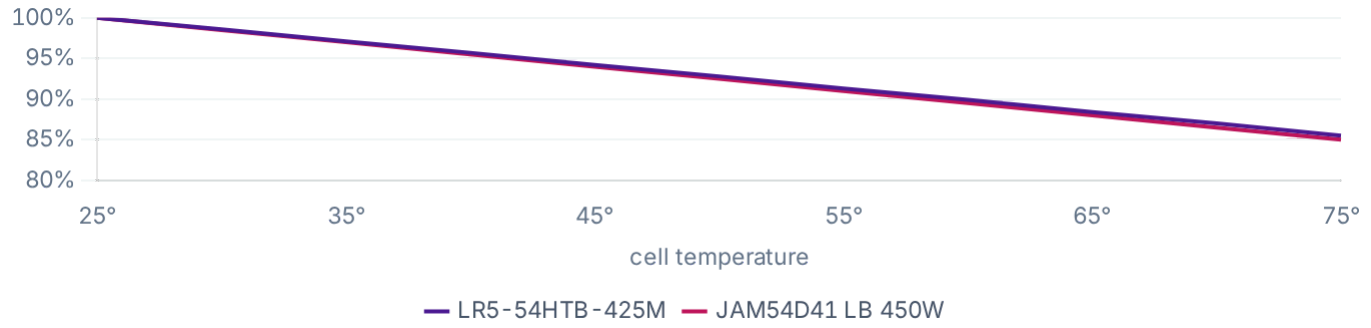
Cumulative energy over 30 years

Kilowatt-hours added up year by year. The gap widens with every year - by year 30 it is 953 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 -0.30 %/°C module 91.0%.

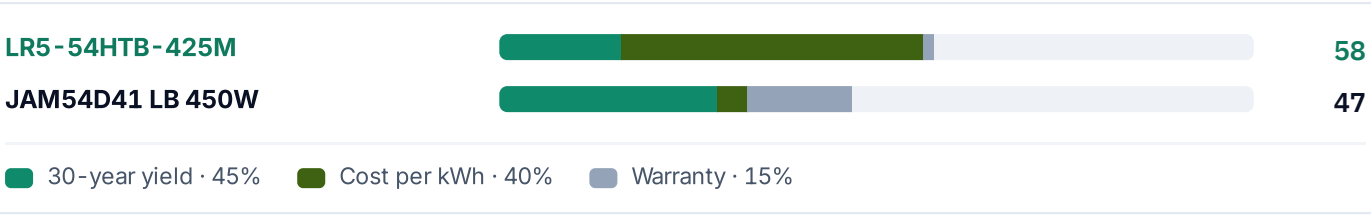


03 · MILESTONES

Cumulative kWh per module

MODULE	Y5	Y10	Y15	Y20	Y25	Y30
LR5-54HTB-425M	2,749	5,443	8,084	10,673	13,210	15,697
JAM54D41 LB 450W	2,916	5,774	8,575	11,321	14,012	16,649
Difference, best to worst	+167	+330	+491	+648	+802	+953

04 · WHAT DRIVES EACH SCORE



05 · HOW EACH FIGURE IS BUILT

1 Annual yield
Panel watts times the installation baseline of 1,450 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 - LR5-54HTB-425M loses 1.5% 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.

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

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.

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/b4687c24-e527-48e0-abc9-027dff311d82