Iran Solar Magazine

LONGi

Hi-MO 5

Shaping the future. Once again.



Delivering true value
Higher power, lower LCOE

Propelling the **transformation**

Since its founding 20 years ago, LONGi has been deeply involved in the photovoltaics industry and has continuously promoted its breakthrough innovations.

Every LONGi’ s successive technological innovation had brought about an industrial transformation.

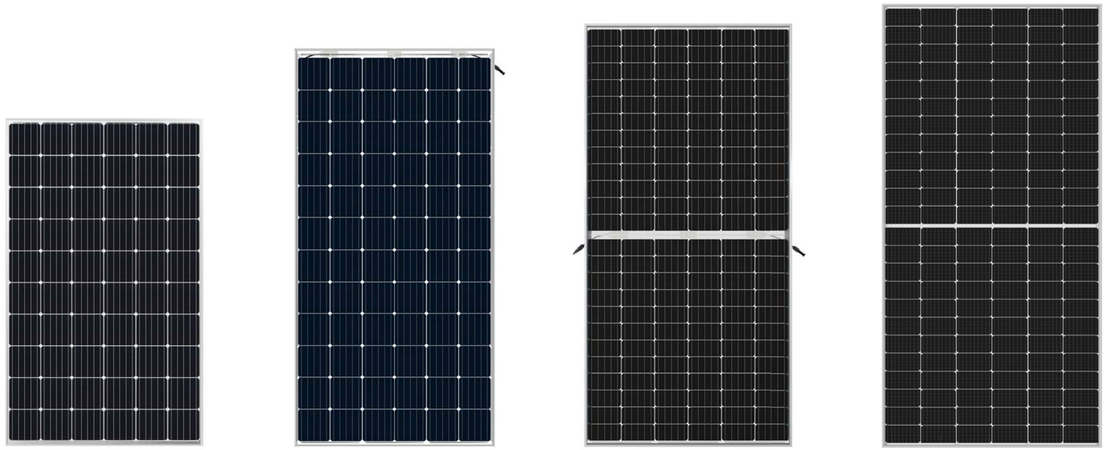
LONGi believes that the value of every innovation lies in real world applications. With scale, volume production of the product delivers true value. LONGi is committed to delivering maximum value for our global partners and customers.

Hi-MO 1 — 4

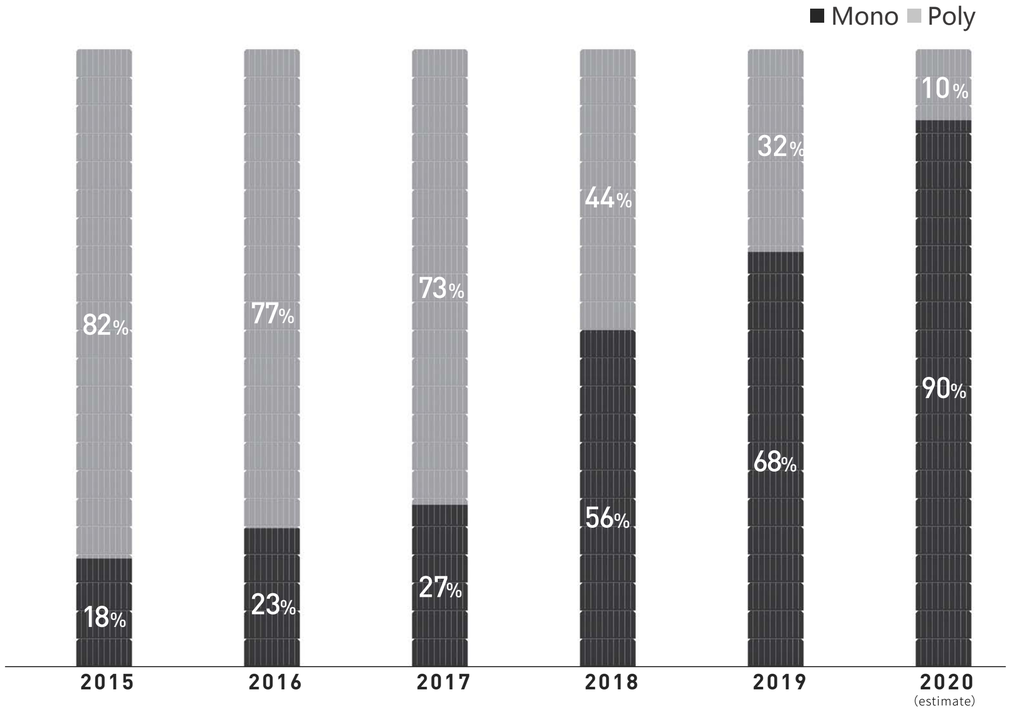
LONGi roadmap **industry benchmark**

From standard monocrystalline to monocrystalline PERC to P-Type PERC bifacial technology and M6 (166mm) size wafer with gallium-doped technology, every LONGi' s new product spearheads the transformation of the photovoltaics industry and becomes a new benchmark for the entire industry.

Global Monocrystalline market share up to 90%



Hi-MO 1 Hi-MO 2 Hi-MO 3 Hi-MO 4

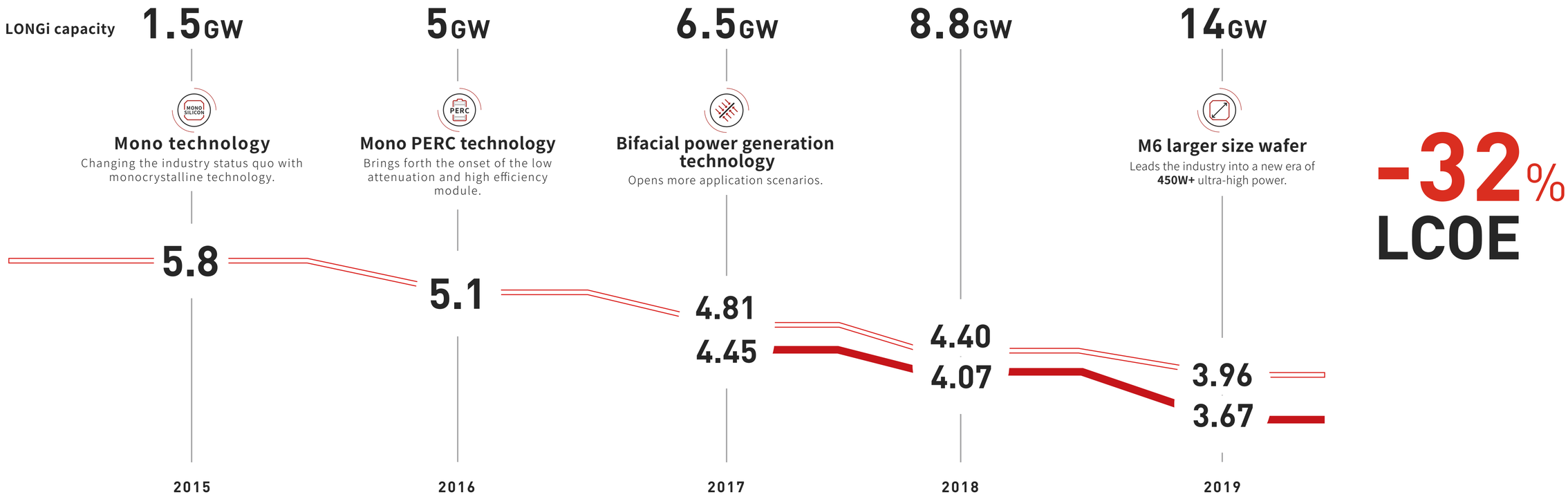


Global market share of crystalline solar product

Hi-MO 1 — 4

Leading LCOE, realizing the value of technological innovation in volume production

LONGi insists on research-based methods to achieve industry breakthroughs and quickly promote the commercialization of every innovation.

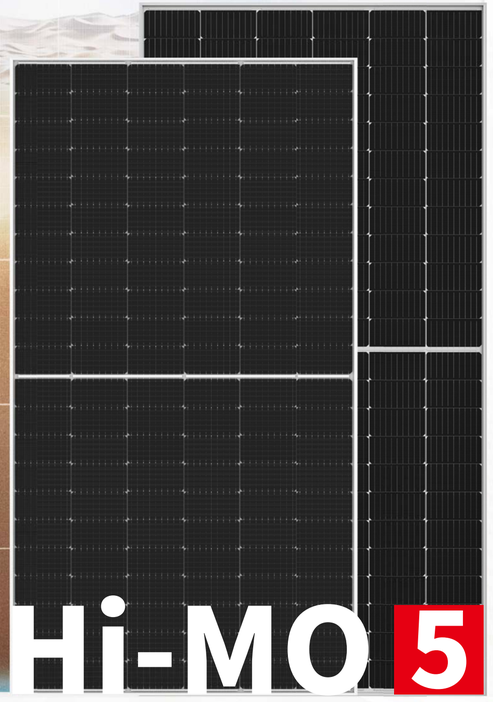


Data source: ITRPV.
*LCOE calculation: 1500kWh/kWp first-year power generation for monofacial modules (bifacial gain: 8%); 80% debt with 4% interest rate; 2% discount rate; 20-year straight line depreciation.

LONGi

Shaping the future.
Once again.

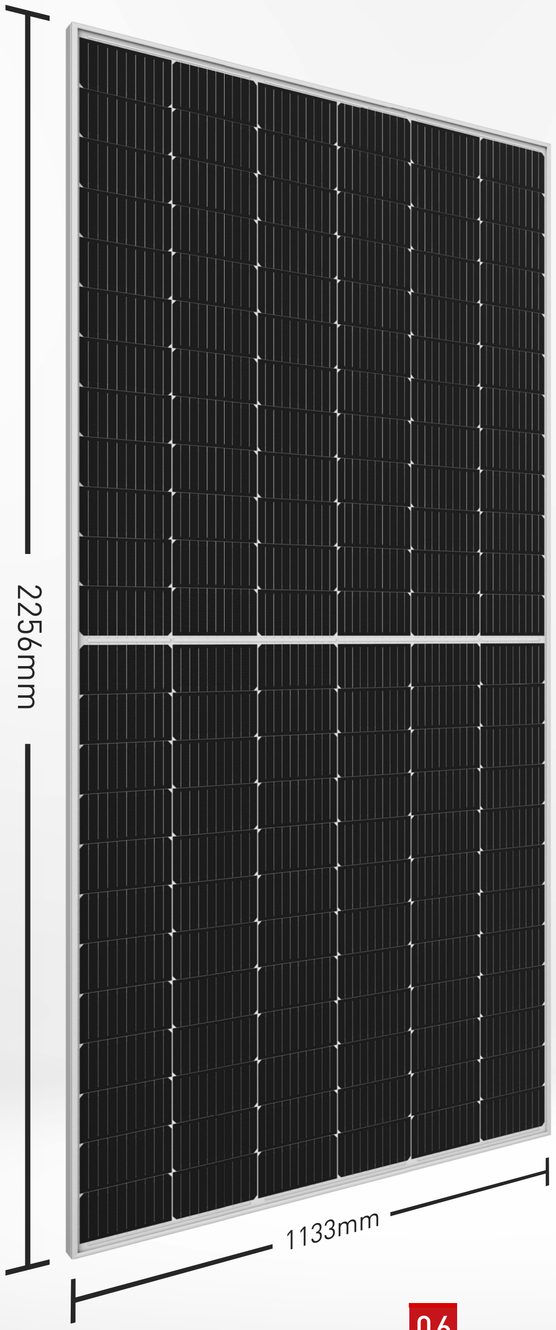
Delivering true value | Higher power, lower LCOE



Hi-MO 5

Product specifications

540W LR5-72HBD



540W

Power output

- M10 wafer with gallium-doped technology
- P-PERC cell technology
- Half-cut cell with multi-busbars
- 72-cell format

21%+

Module efficiency

- Voc: 49.5V
- Imp: 13.0A
- Power temperature coefficient: -0.35%/°C
- Weight: 32.3kg

Hi-MO 5

Lowest LCOE solutions

for ultra-large power plants

Hi-MO 5

Lowest LCOE solutions for ultra-large power plants



Lower logistics cost

Optimizes use of containers space in transport.
Logistics costs 10% lower than mainstream products.

Improved system capacity ratio

Matched with string inverters, cost per watt on the AC side is reduced.

Reduce equipment & material cost

Hi-MO 5 enables higher power per string, significantly reducing racking, pile foundation, cable, combiner box and land cost.

Saves labor cost

Reduce installation costs for modules, cables, etc.

Power generation

- High module power and excellent power generation performance under low light.
- Low power temperature coefficient.
- Reliable bifacial module power. generation gain.
- Industry-leading power warranty.

Hi-MO 5

BOS analysis : scenario 01

Location: Jiuquan, China. 100MWdc solar plant with 1500V central inverters, each standard solar subarray with a 3125kVA transformer, and a DC-to-AC ratio of 1.2 for different types of solar modules.

Labor cost **-20.9%**

Land cost **-5.3%**

BOS **BOS cost** **-4.1%**

LCOE **-2.9%**

BOS analysis

(Fixed-tilt racking with 4L solar modules -21℃ for design lowest temperature, 110kV utility grid voltage)

Product		158.75, 72C	163.75, 78C	210, 50C	Hi-MO 5 72C
Power		410W	465W	495W	**540W**
No. of Module / String		27	25	26	**27**
Power / String		11.07kW	11.625kW	12.87kW	**14.58kW**
BOS	Mounting system	Reference	-3.1%	-6.0%	**-8.1%**
	Combiner box	Reference	-6.7%	-13.4%	**-26.8%**
	Cable	Reference	+0.5%	-7.2%	**-9.3%**
	Labor	Reference	-8.66%	-13.91%	**-20.9%**
	Land	Reference	-2.8%	-3.6%	**-5.3%**
	Total BOS	Reference	-1.2%	-2.6%	**-4.1%**
LCOE		Reference	-0.6%	-1.0%	**-2.9%**

*Considering difference in power degradation warranty but not the difference in bifacial energy yield.

Hi-MO 5

BOS analysis : scenario 02

Location: Qatar, Middle East. 100MWdc solar plant with 1500V central inverters, each standard solar subarray with a 6250kVA transformer, and a DC-to-AC ratio of 1.06 for different types of solar modules.

Labor cost **-10.6%**

Land cost **-4.9%**

BOS **BOS cost** **-2.9%**

LCOE **-2.4%**

BOS analysis

(Horizontal single-axis tracker with 2P solar modules, 9.8℃ for design lowest temperature, 132kV utility grid voltage).

Product		163.75, 78C	210, 50C	Hi-MO 5 72C
Power		465W	495W	**540W**
No. of Module / String		28	29	**30**
Power / String		13.02W	14.355kW	**16.2kW**
BOS	Mounting system	Reference	0.5%	**5.7%**
	Combiner box	Reference	9.0%	**-18.2%**
	Cable	Reference	-11.2%	**-18.4%**
	Labor	Reference	-5.2%	**-10.6%**
	Land	Reference	-1.1%	**-4.9%**
	Total BOS	Reference	-1.0%	**-2.9%**
LCOE		Reference	-0.5%	**-2.4%**

*Considering difference in power degradation warranty but not the difference in bifacial energy yield.

Hi-MO 5
Outstanding design
Reliable real world applications

Hi-MO 5

Smart soldering

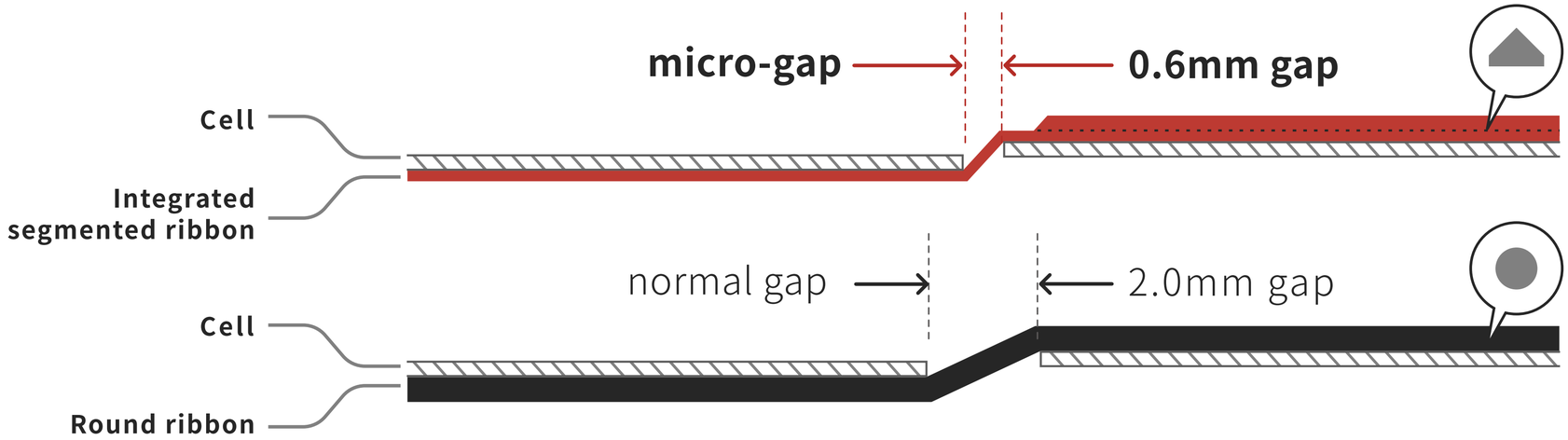
Improved packing density, reliability and conversion efficiency

LONGi's smart soldering technology uses integrated segmented ribbons. The triangular section maximizes light capturing while the flat section reliably connects cells with reduced gap. Smart soldering technology reduces the tensile stress of the cell by 20%, enabling higher reliability.

Cell gap reduction **2/3**

Cell stress reduction **20%**

Gain in module efficiency **0.3%**



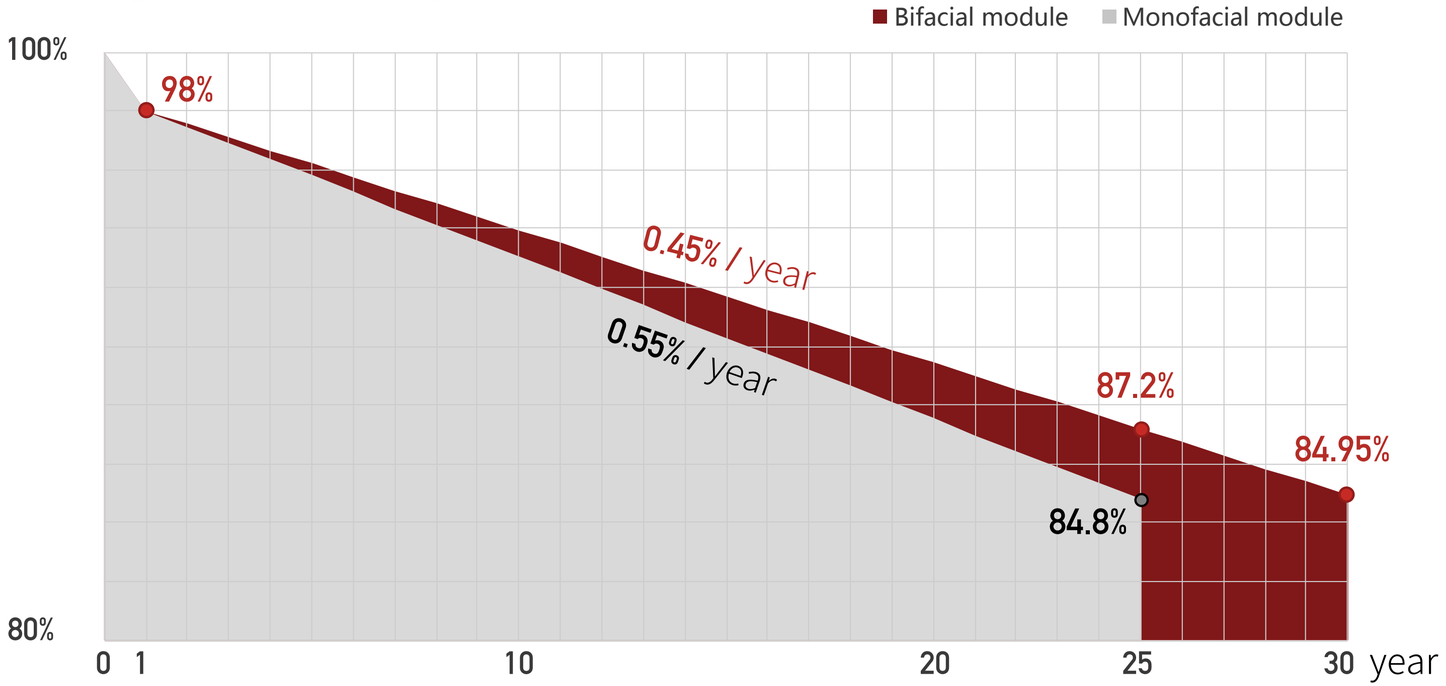
Hi-MO 5

Gallium-doped technology

P-type module with lowest LID

LONGi products use gallium-doped PERC cells.
Better LID performance with stable, long-term power generation.

Leading power warranty



⩽2%
1st year degradation

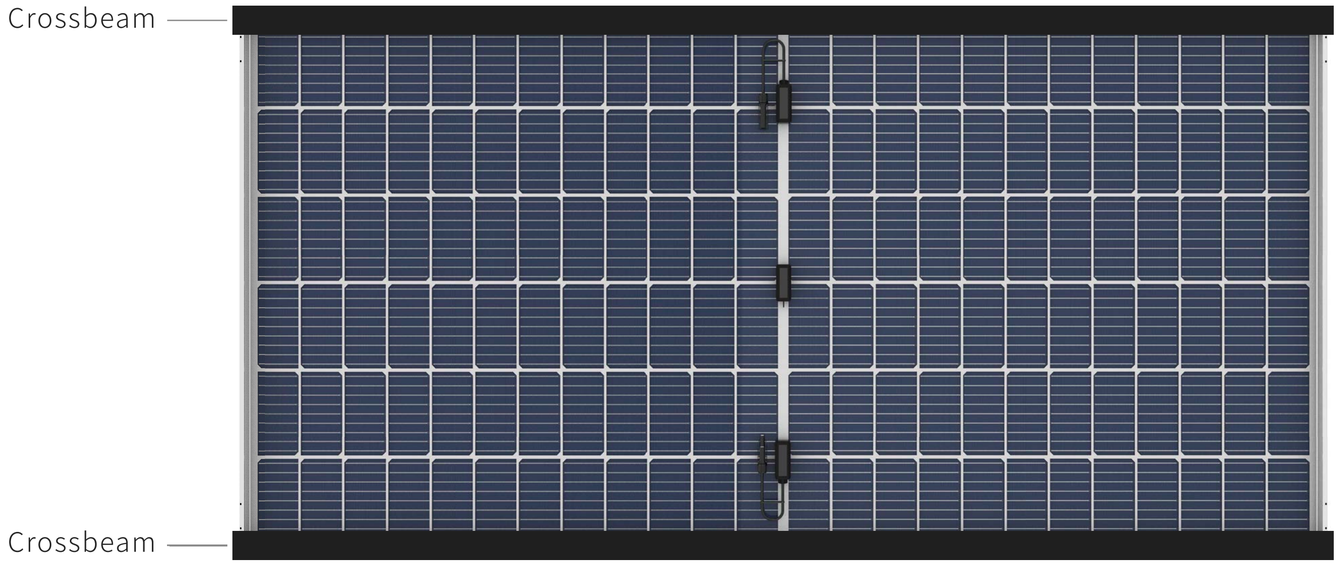
-0.45%
Linear annual degradation after the 1st year

Hi-MO 5

Double-glass with frame

The strongest bifacial module

Hi-MO 5 adopts bifacial double-glass with frame which provides exceptional strength for higher load capacity.
Qualified for 5400Pa static load on the front when there is no cross-beam on the back of the module (as shown in the figure).
Avoids shading loss due to cross-beam at the back of the module.



Installation method
double glass bifacial module

5400/2400 Pa

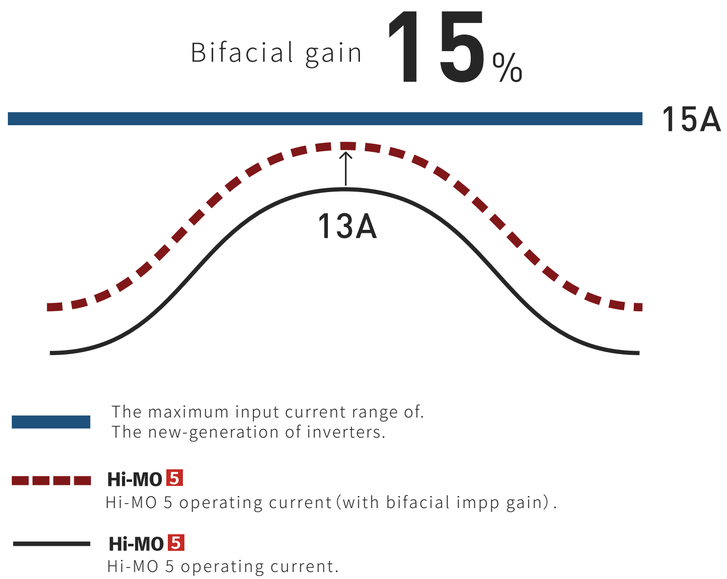
Front/rear side loading

Hi-MO 5

Optimized electrical parameters

Fully compatible with inverters

The operating current of LONGi Hi-MO 5 module is about 13A.
Including bifacial gain, the operating current remains within the maximum input current range of advanced inverters, hence there is no power generation loss.

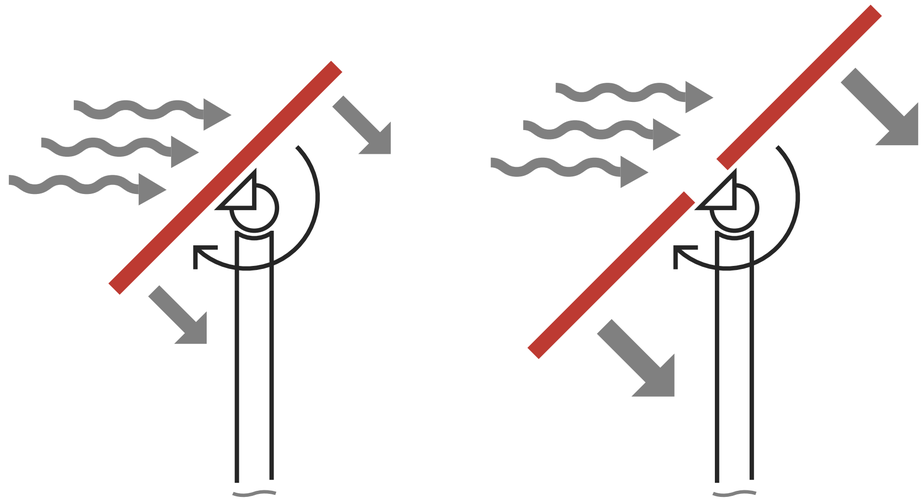


Hi-MO 5

Optimized module size

Perfectly matched with tracking systems

A Hi-MO 5 module length is about 2.25 meters.
Compatible with mainstream 1P and 2P horizontal single axis tracking system.
Bifacial module + tracking system can achieve the lowest LCOE in low latitude areas.



1P
Horizontal single axis tracker

2P
Horizontal single axis tracker

Hi-MO 5

We embrace innovations with our global customers

LONGi partners with global customers to build demonstration power plants around the world to jointly prove the superior value of Hi-MO 5 system solutions.

adani
Azure Power
BORREGO SOLAR
大唐集团公司 CHINA DATANG
國家能源集團 CHN ENERGY
中国华能 CHINA HUANENG
Clēnera Renewable Energy
CLEANTECH SOLAR
Constellation. An Exelon Company
Downer Relationships creating success
GPG Naturgy Group
greenyellow SHIFT TO PROFITABLE ENERGY!
广东能源集团 GUANGDONG ENERGY GROUP
HERO FUTURE ENERGIES planet positive power
IBERDROLA
INES International New Energy Solution
中国电建 POWERCHINA
Invenergy
JGC
ReNew POWER
SOLATIO
susten By Mahindra
VENA ENERGY 韋能能源
X-ELIO

* Sort in alphabetical order.

Hi-MO 5

Once again, we take the lead in volume production

LONGi believes that the core value of innovation lies in real world application, and volume production of the technology delivers visible value.
LONGi is committed to creating the maximum value for our global partners and customers.

Hi-MO 5

12.0GW

Global capacity
(Except U.S. market)

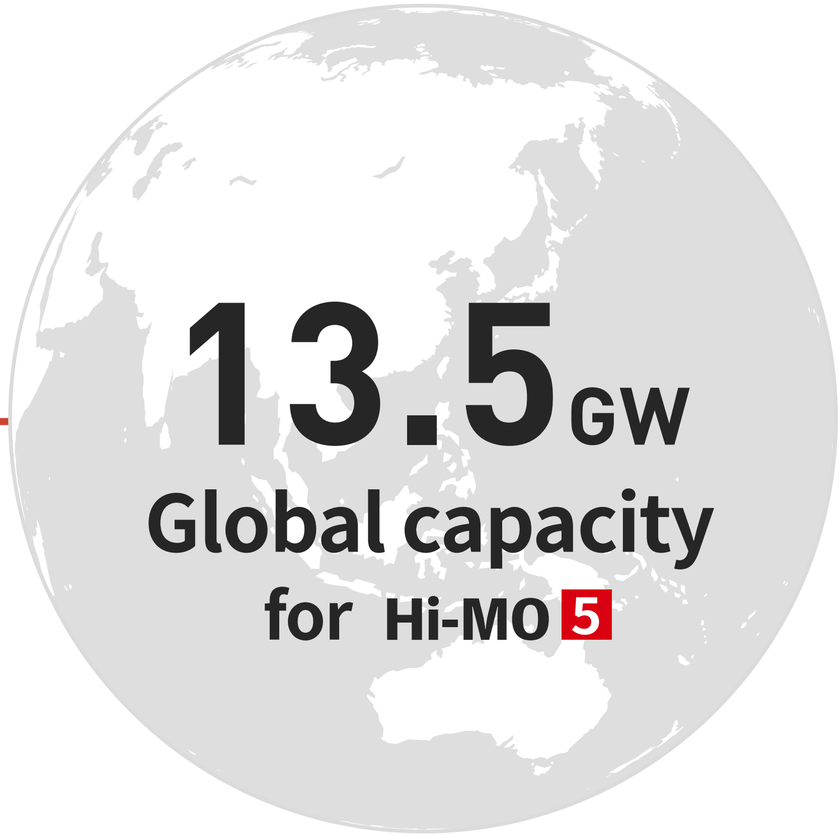
2020 Q3

Hi-MO 5

1.50GW

U.S. market

2021 Q1



13.5GW

Global capacity
for Hi-MO 5

LONGi product portfolio

Hi-MO 5 extends the Hi-MO series of LONGi’s high performance module products.
Concurrently available with Hi-MO 4, LONGi’s product portfolio is suited for a wide range of photovoltaic applications.



Hi-MO 4
60c

Best for rooftop DG projects

Residential rooftop

C&I rooftop



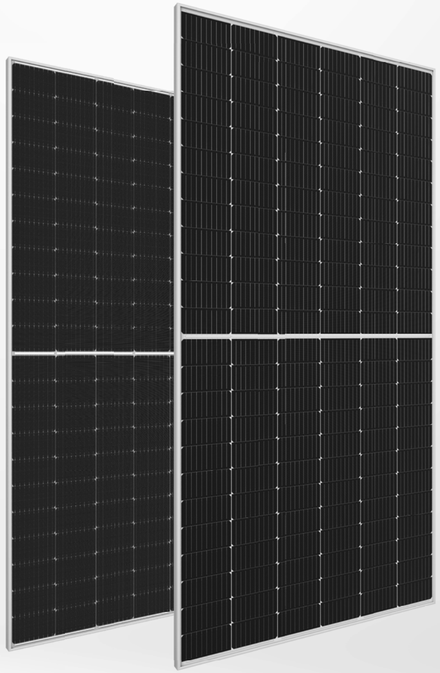
Hi-MO 4
72c

Most cost-effective mainstream product

C&I rooftop

Large ground power station

Floating power station



Hi-MO 5
66c/72c

Optimal choice for ultra-large power plants

Ultra-large power station

LONGi

Propelling the transformation

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