

# JinkoSolar Academy

NeoGreen

TIGER Neo



# PORTFOLIO

*Padua, April the 09<sup>th</sup>, 2024*

01

**JINKO SOLAR AT GLANCE**

02

**MAINSTREAM MODULES**

**PORTFOLIO**

03

**SPECIAL MODULES**

# +230GW

Delivered at Q1 2024

## +100GW

Delivered in 18 months

\* 2024 Q1

## No.1

By shipment volume

## +12 GW

First PV module manufacturer to have a vertically integrated 12GW Production line certified Zero Carbon by TÜV Rheinland.

## 26

World records

## AAA

Pv Tech Bankability Report.

\* 2024 Q1

## Top Brand Pv

EUPD Research 2024  
per l'Italia



Wafers

120GW

Cells

110GW

Modules

130GW

## Vertical Integration

More than **80%** integrated capacity matching

More than **80GW** N-type integrated capacity

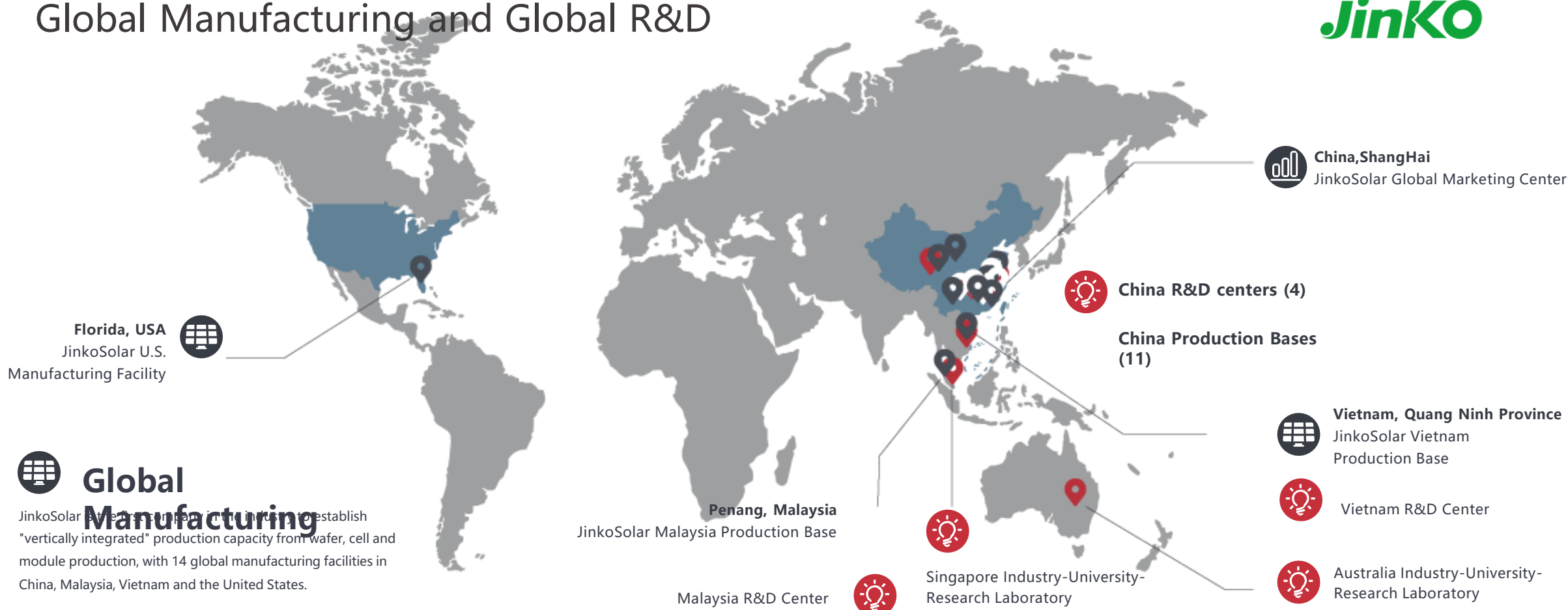
Stable supply chain with large orders

Cost control creates profitability advantage

Overseas integrated supply chain

\* As of the end of 2024

# Global Manufacturing and Global R&D

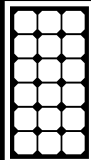


**Global Manufacturing**  
JinkoSolar is leading the industry in the United States to establish "vertically integrated" production capacity from wafer, cell and module production, with 14 global manufacturing facilities in China, Malaysia, Vietnam and the United States.

**Global R&D**  
JinkoSolar has global R&D capabilities, with R&D centers in Haining, Zhejiang Province, Shangrao, Jiangxi Province, Leshan, Sichuan Province, Xining, Malaysia and Vietnam, as well as joint R&D labs in Singapore and Australia.

<b>14</b> Production Sites	<b>3</b> Overseas Sites	<b>46000+</b> Global Staff	<b>8000+</b> Overseas Staff	<b>8</b> R&D Centers	<b>4</b> Overseas R&D
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# PRODUCT STRATEGY



**Modules**



**EFFICIENT**

**RELIABLE**

**INTELLIGENT**



**BIPV**



**ESS**

Solar  
**Jinko**



# ESG COMMITMENT

## RE100 EP100

We've set a goal to become carbon neutral by 2035 and reach our science-based emissions reduction target :

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Low-carbon design  
EP100 Energy efficiency  
RE100 Renewable electricity  
Direct emissions abatement  
PV recycle  
Advocating for strong climate policies

**Footprint**



We enhanced the performance of traceability systems and improved information transparency to map the supply chain.

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Integrated production base  
Information-based traceability system  
Professional traceability team  
Third-party independent audit system

**Traceability**



**UNGC**

We're aligning with UN Guiding Principles on business and operation

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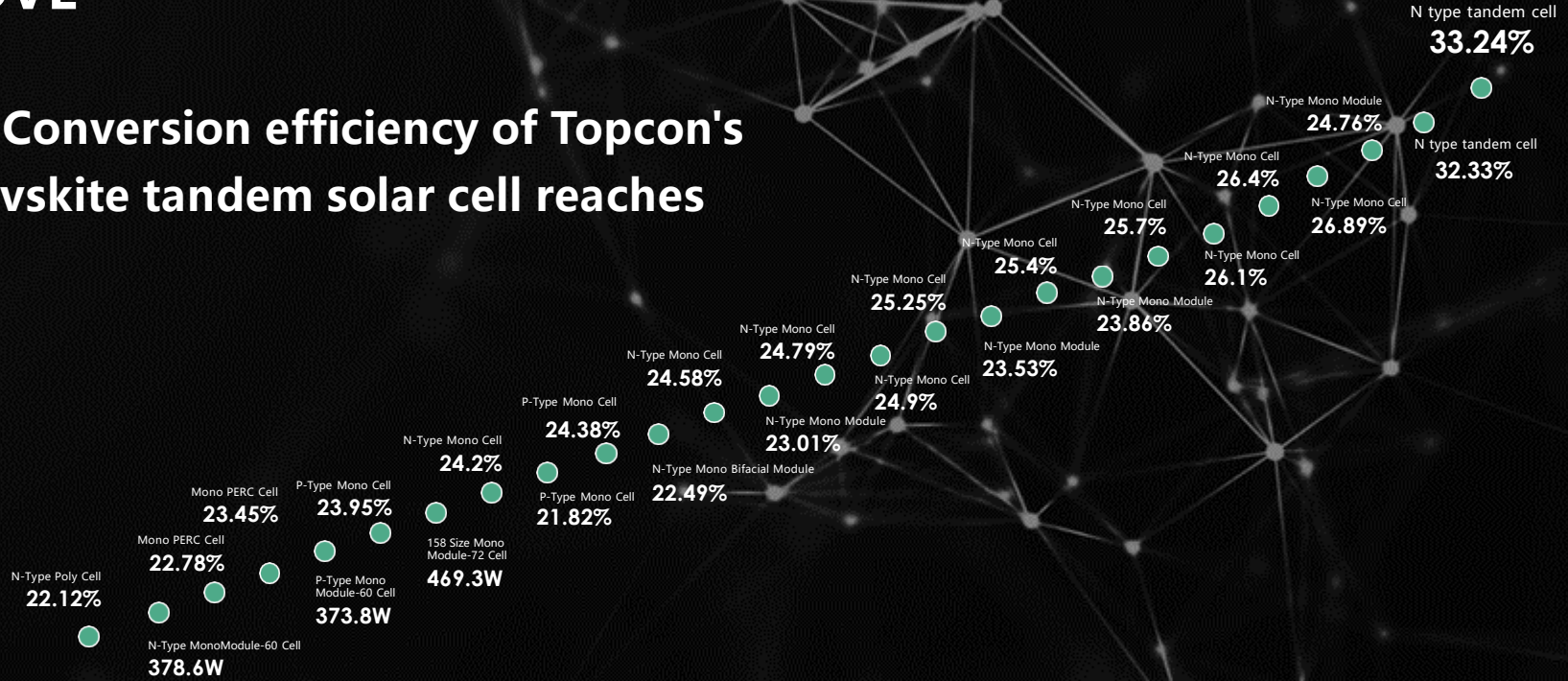
Uphold labor and human rights  
Responsible labor recruitment  
Responsible material sourcing  
Health, safety & wellness programs  
Supplier engagement & management

**UNGC**



# A NOTCH ABOVE

26<sup>th</sup> World Record Conversion efficiency of Topcon's N-type based Perovskite tandem solar cell reaches **33.24%**



**3800+**  
Patent application



**3500+**  
Granted Patents



**330**  
Core TOPCon Patents



**2143**  
Number of Patents



**2320**  
R&D Team



**6.9 Billion RMB +**  
R&D Investment in 2023

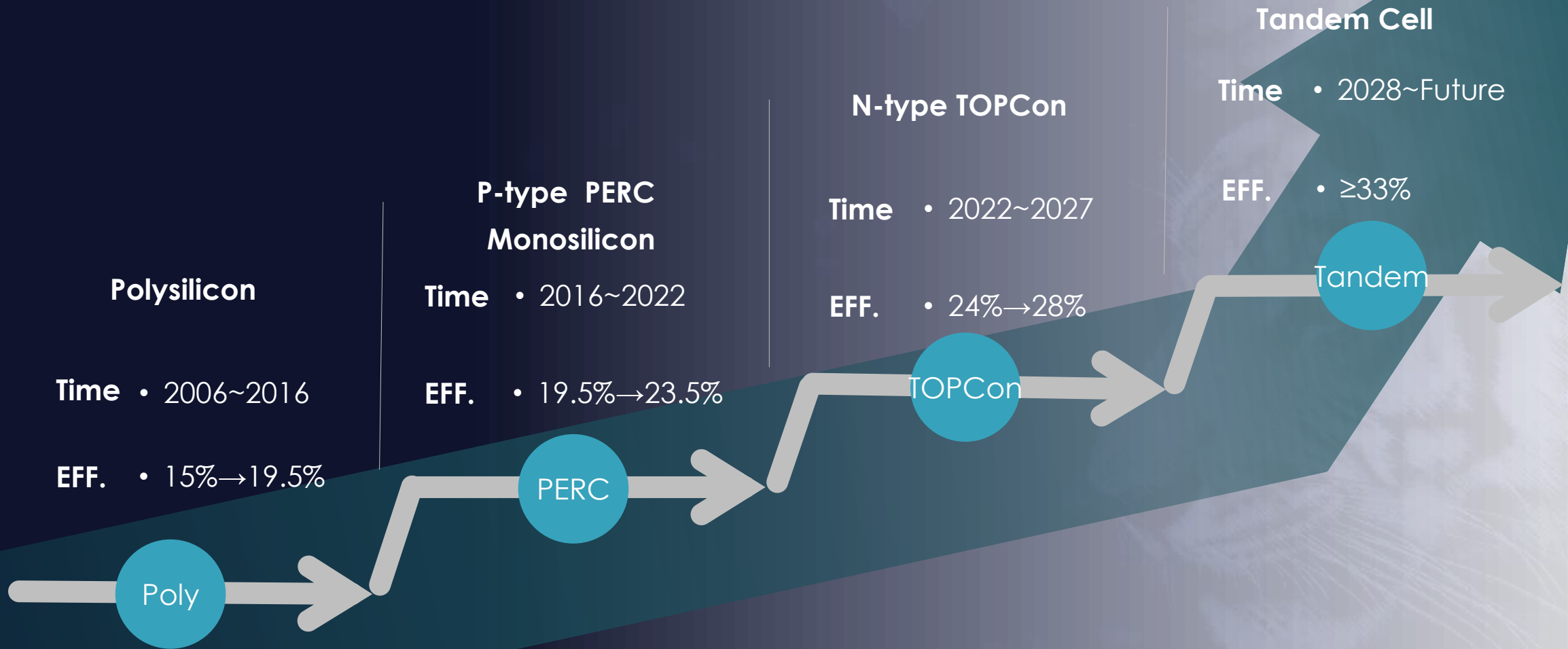
## Core Technology

- Low Oxygen and Low Concentric Circles Rate N-type Monocrystalline Technology
- N-type Silicon Wafer Thinning Technology
- N-type HOT 2.0 Cell Technology
- N-type IBC Cell Technology
- Tiger Neo Module Technology
- BIPV technology, etc.
- Integrated PV+Storage Technology

## R&D Concepts

- Exploration of a new generation
- R&D of a new generation
- Mass Production of a new generation

# TIGER Neo Cell Technology Development Trend



**NeoGreen**



❑ **Module type:**

182N-72-BDV, 182N-72-V available;

2024.Q3, cover 182N-54 module series & 182N-78-BDV;

❑ **Planned Capacity:**

5GW + 2024.Q2

12GW+ 2024.Q3

❑ **Region covered:** Latin America, Italy, and Europe

**Zero Carbon Standard**

T/CECA-G 0171-2022,  
Rheinland Standard

**Factory Certified**

Crystal-pulling/Wafer Cut/Cell/  
Module Certification Complete



**Crystal Pulling  
(Leshan)**



**Wafer Cut  
(Leshan)**



**Solar Cell  
(Chuxiong)**



**PV Module  
(Shangrao)**

**100% Zero Carbon Factory Production**

**Module Capacity: 5GW**

**Starting From: 2024 Q2**

# Neo Green - Basic Information



## □ Module type:

182N-54-V/B, 182N-54-BDB

182N-72-BDV, 182N-72-V, 182N-78-BDV;

## □ Capacity & Order accepted:

182N-54: **7GW/per year (available for placing production from the end of 2024.Q3)**

182N-72+78: **4.7GW/per year available at present, 2.2GW extra capacity by the end of 2024.Q3**

## □ Region covered:

Latin America, Italy, and Europe as the core regions, while continuously promoting globally

## □ Production line:

182N-72/78: Leshan crystal pulling, Leshan wafer cut, Chuxiong Cell, Shangrao module.

182N-54-V/B: Leshan crystal pulling, Shangrao wafer cut, Yuanhua Cell, Chuzhou module

182N-54-BDB: Leshan crystal pulling, Shangrao wafer cut, Yuanhua Cell, Feidong module

# Zero Carbon Factory

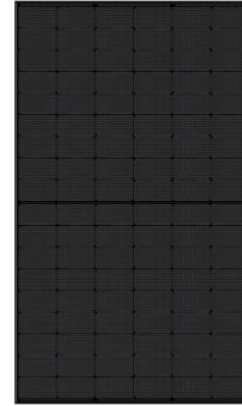
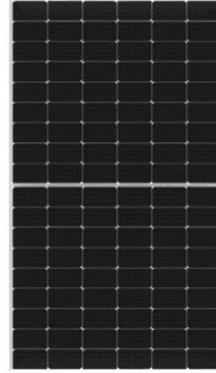
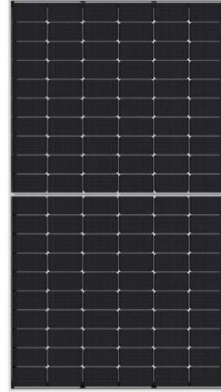
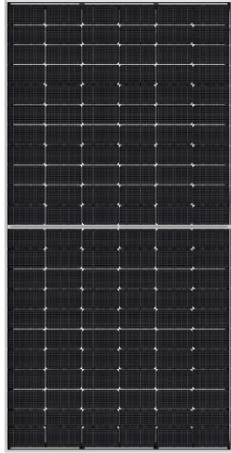


The zero carbon standard effectively connects with the national green factory evaluation standard, and fully connects with the relevant international standards and norms for carbon neutral evaluation (PAS2060), aiming to ensure the overall coordination of the green and low-carbon overall work system.



Zero Carbon Factory Type	Level	Score	Requirement
Type I (Scope 1&2)	3	70~80	The offset ratio of the remaining emissions after the independent emission reduction shall be over 50%
	4	80~90	~over 80%
	5	90~100	100% renewable electricity, 100% carbon offsets
	6	100	100% renewable electricity, 100% carbon clear
Type II (Scope 1~3)	3	70~80	The offset ratio of the remaining emissions after the independent emission reduction shall be over 50%
	4	80~90	~over 80%
	5	90~100	100% renewable electricity, 100% carbon offsets
	6	100	100% renewable electricity, 100% carbon clear

# MONOFACIAL PRODUCTS



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JKMxxxN-66HL4M-V

JKMxxxN-72HL4-(V)

JKMxxxN-60HL4-(V)

JKMxxxN-54HL4R-(V)

JKMxxxN-54HL4R-B

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610-630W

585-605W

480-495W

440-455W

435-450W

22.58-23.51%

22.65%~23.42%

22.21-22.90%

22.05-22.77%

21.77-22.52%

2382\*1134 mm

2278\*1134 mm

1906\*1134mm

1762\*1134mm

1762\*1134mm

66P

72P

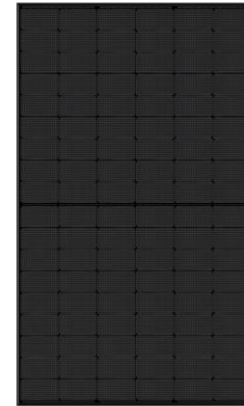
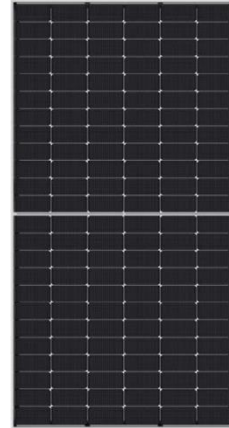
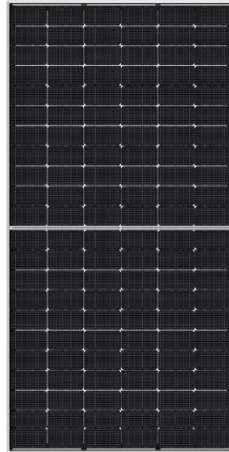
60P

54P

54P ALL-BLACK

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# BIFACIAL PRODUCTS



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<b>JKMxxxN-78HL4-BDV</b>	<b>JKMxxxN-66HL4M-BDV</b>	<b>JKMxxxN-72HL4-BDV</b>	<b>JKMxxxN-54HL4R-BDB</b>
<b>625-650 W</b>	<b>605-630W</b>	<b>580-600 W</b>	<b>435-450W</b>
22.36-23.25%	22.40-23.32%	22.45-23,23%	21.77-22.52%
2465*1134 mm	2382*1134 mm	2278*1134 mm	1762*1134mm
78P	66P	72P	54P ALL-BLACK
<b>BIFACIAL DUAL GLASSS</b>	<b>BIFACIAL DUAL GLASSS</b>	<b>BIFACIAL DUAL GLASSS</b>	<b>BIFACIAL DUAL GLASSS</b>

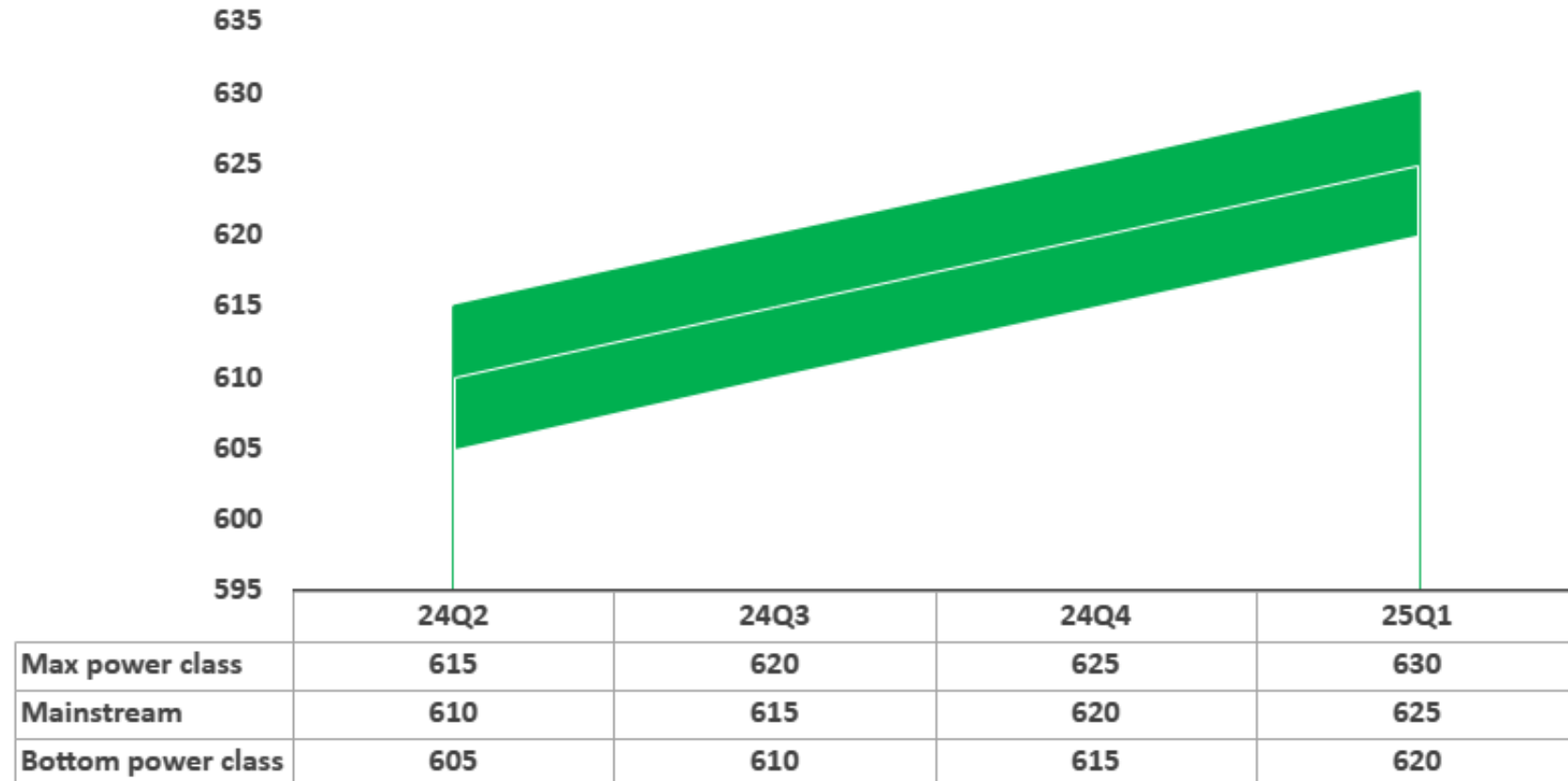
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# Tiger Neo Series

**JKM\*\*\*N-66HL4-BDV**

- HC+66p
- HOT 3,0 Technology
- N-type 182\*210mm wafer
- 1st year degradation  $\leq 1\%$
- Linear degradation  $\leq 0.40\%$

Tiger NEO66HM – Bifacial



\*Maximum power is based on the highest efficiency BOM.

\*The data is released for regional orders' preliminary guidance. The specific contract review output is subject to the PMC information.



# Tiger Neo Series

## JKM\*\*\*N-66HL4-V

- HC+66p
- HOT 3,0 Technology
- N-type 182\*210mm wafer
- 1st year degradation  $\leq 1\%$
- Linear degradation  $\leq 0.40\%$

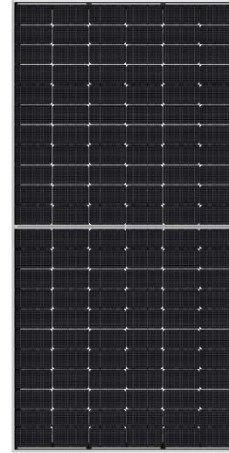
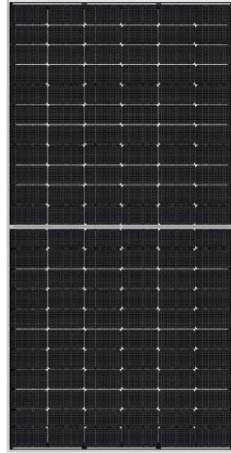
Tiger NEO66HM – Monofacial



\*Maximum power is based on the highest efficiency BOM.

\*The data is released for regional orders' preliminary guidance. The specific contract review output is subject to the PMC information.

# SPECIAL PRODUCTS



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**JKMxxxN-72HL4-V-L**

**JKMxxxN-72HL4-BDV-U**

**JKMxxxN-72HL4-BDX**

**JKMxxxN-66HL5-BDV**

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**580-605 W**

**570-590 W**

**575-600 W**

**700-720 W**

22.42-23.39%

22.07-22.84%

22.26-23,23%

22.54-23.18%

2281\*1134\*30 mm

2278\*1134\*30 mm

2278\*1134\*30 mm

2384x1303x33mm

72P

72P

72P

66P

MONOFACIAL SINGLE  
GLASS

BIFACIAL DUAL GLASS

BIFACIAL DUAL GLASS

BIFACIAL DUAL GLASS

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# TIGER Neo Jinko Anti-dust Products

Jinko<sup>Solar</sup>



## Nuovo Design

Previene accumulo di neve e detriti



45mm

## Resistenza Grandine

Testato fino a 45mm di grandine



Classic



## Alta Efficienza

3%

Incremento Potenza medio 3%

- Massimo incremento 8%



## Caratteristiche Meccaniche

+6000Pa /  
- 3000Pa Carico ammissibile

\*Jinko installation method

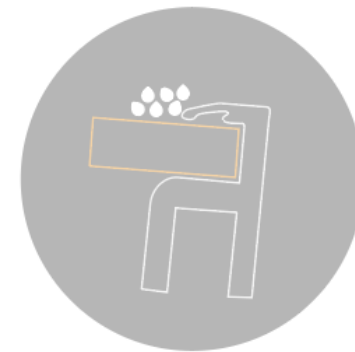


Anti-dust



## ANTIDUST: JKMxxx-N-72HL4- V-L

- Frame speciale per evitare accumulo di polvere e neve
- Aumento di potenza del 3%
- Dimensioni: 2281\*1134\*30 mm
- Capacità: 720pcs/40HQ



Normal



Anti-dust



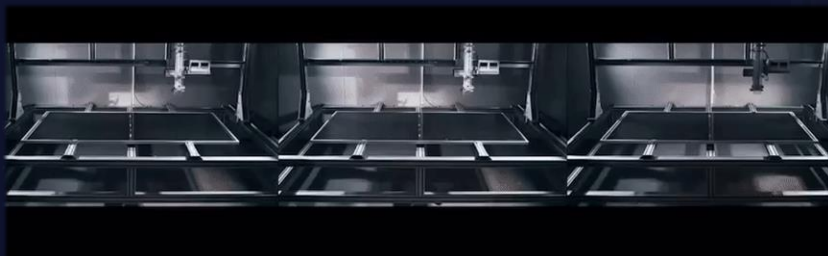
## OFFSHORE Module: JKMxxxN-72HL4-BDV-U

- **BOM speciale per applicazioni offshore**
- **Altissima resistenza alla corrosione**
- **Dimensioni: 2278\*1134\*30 mm**
- **Capacità: 720pcs/40HQ**

# TIGER Neo Three Advantaged Module

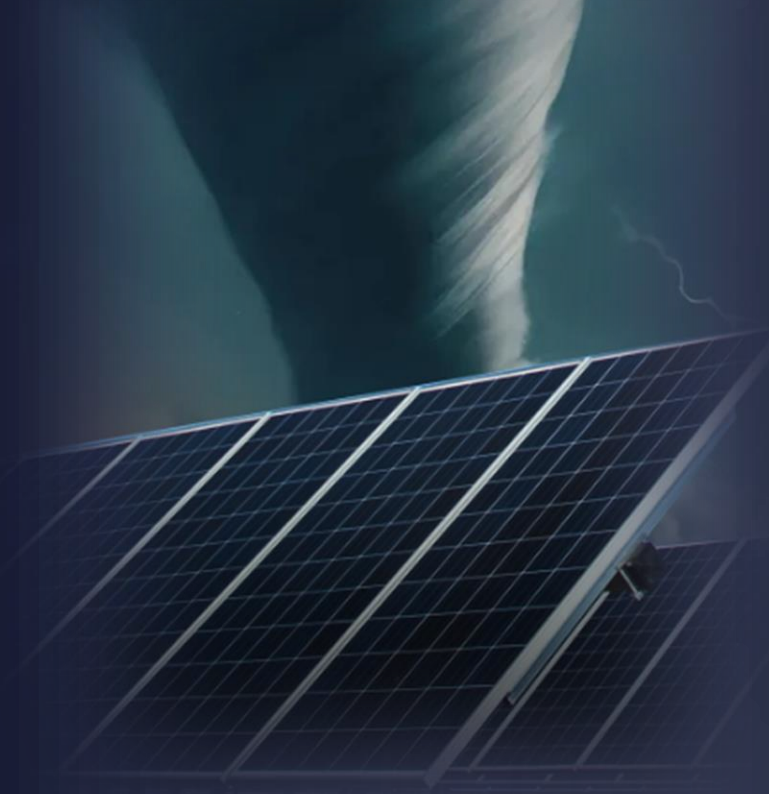
Jinko<sup>Solar</sup>  
**Jinko**

Ball diameter : 55mm  
Ball's speed : 33.9m/s



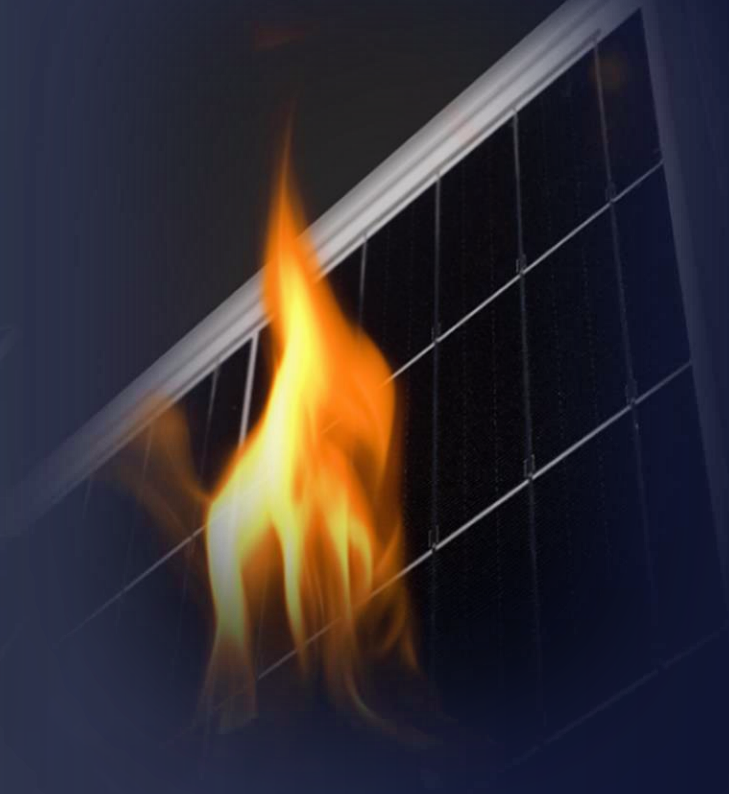
**ESTREMA RESISTENZA  
ALLA GRANDINE**

FINO A 55 mm A PIU' DI 120 km/h



**ALTA RESISTENZA AL VENTO**

- FINO A 5400 Pa



**CLASSE 1  
RESISTENZA AL FUOCO**

## XL Module: JKMxxxN-66HL5-BDV

- **66cell TOPCON 210x210mm**
- **Potenza: 725W - 24Q4**
- **Dimensioni: 2384x1303x33mm**
- **Capacità: 594pcs/40HQ**



# JinKO MODULES CERTIFICATIONS

- IEC 61215 – 2021 & IEC 61730 – 2023
- IEC 62716 AMMONIA
- IEC 60068-2 SAND&DUST
- IEC 62759 TRANSPORTATION
- IEC 62782 DYNAMIC LOAD
- IEC 63126 2020 HIGH TEMPERATURE
- IEC63342 LETID
- IEC62804 PID
- HAIL TEST

# QUALITY PROCESS

JinKO is ISO 9001 certified, all the production stages and the raw material acceptance follow the Quality Control Plan with high standard Quality criteria

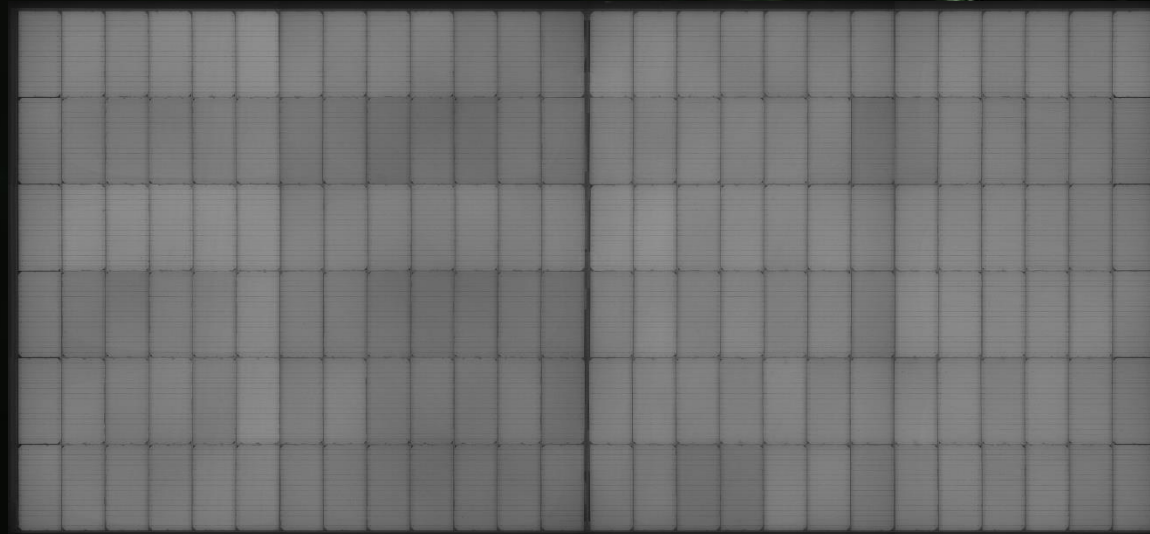
Every JinKO module needs to pass various test before entering the market:

- EL test pre lamination
- EL test post lamination
- IV curve test
- Visual inspection

Whenever one of the module tested fails one of these test it is downgraded and in any case it won't be sold

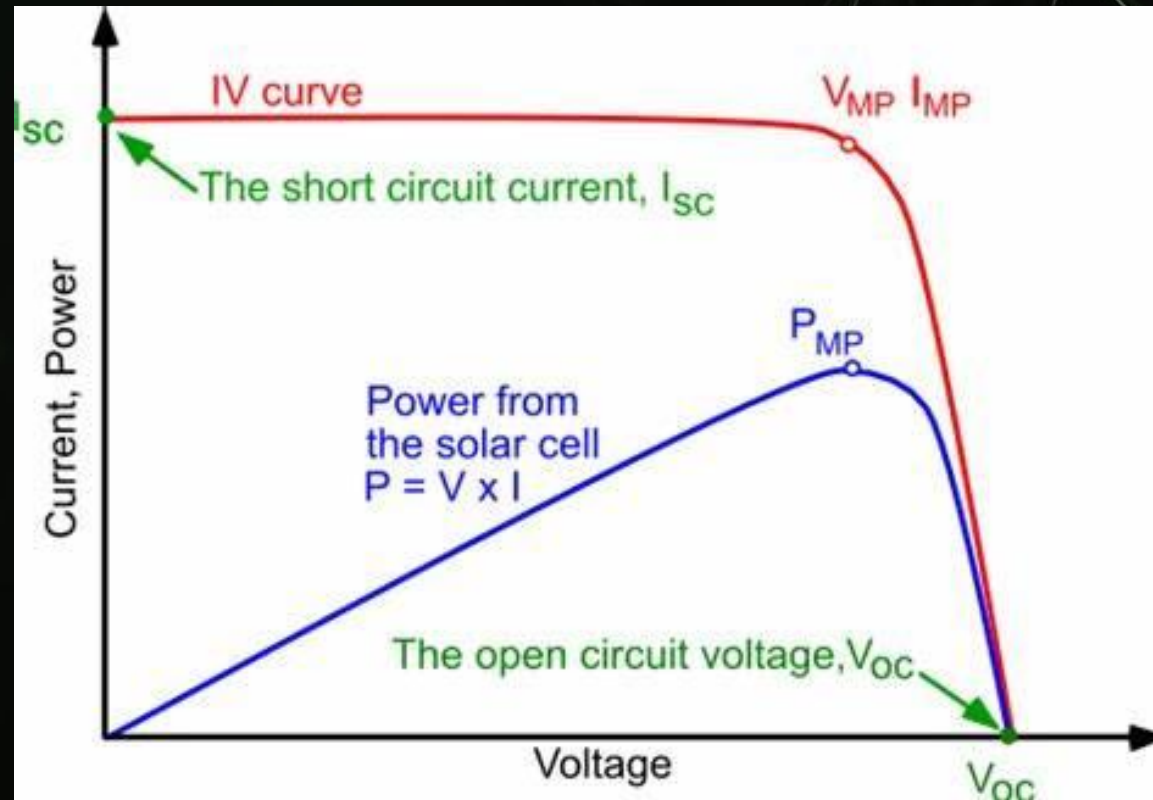
# ELECTROLUMINESCENCE

Electroluminescence (EL) testing is a non-invasive method used to assess the performance and quality of solar cells or modules. When current passes through photovoltaic (PV) cells, light emission occurs a phenomenon known as Electroluminescence. This testing method allows to detect hidden defects in the structure of PV cells like microcracks, hotspots, and irregularities.



# IV CURVE TEST

The IV test is performed to detect the typical curve of the module, it helps to detect the maximum power output, the short circuit current and the open circuit voltage. These values must lie within pre-determined parameters.



# VISUAL INSPECTION

Thanks to VI the visual defects can be detected.

These defects could be:

- Frame scratches
- Frame gaps
- Stains
- EVA Bubbles Delamination
- Overflow of white EVA
- Glass breakage
- Non conductive foreign body
- Ribbon deviation

ESS Product

*Solar*  
**Jinko**



## Energy Storage

Self-developed liquid-cooled energy storage system

JinkoSolar proposes "safe and smart energy storage", using its self-developed liquid-cooled thermal management system to break the traditional energy storage dilemma of low efficiency, high risk and difficult operation and maintenance, and has designed and manufactured the SunTera large-scale energy storage system and SunGiga commercial and industrial liquid-cooled energy storage system, which are "highly sensitive, high perception, self-management, self-judgment and self-decision".



# Energy Storage

100+

Completed Projects



Optimize the energy portfolio and  
take responsibility for enabling a  
sustainable future.





**Thanks !**