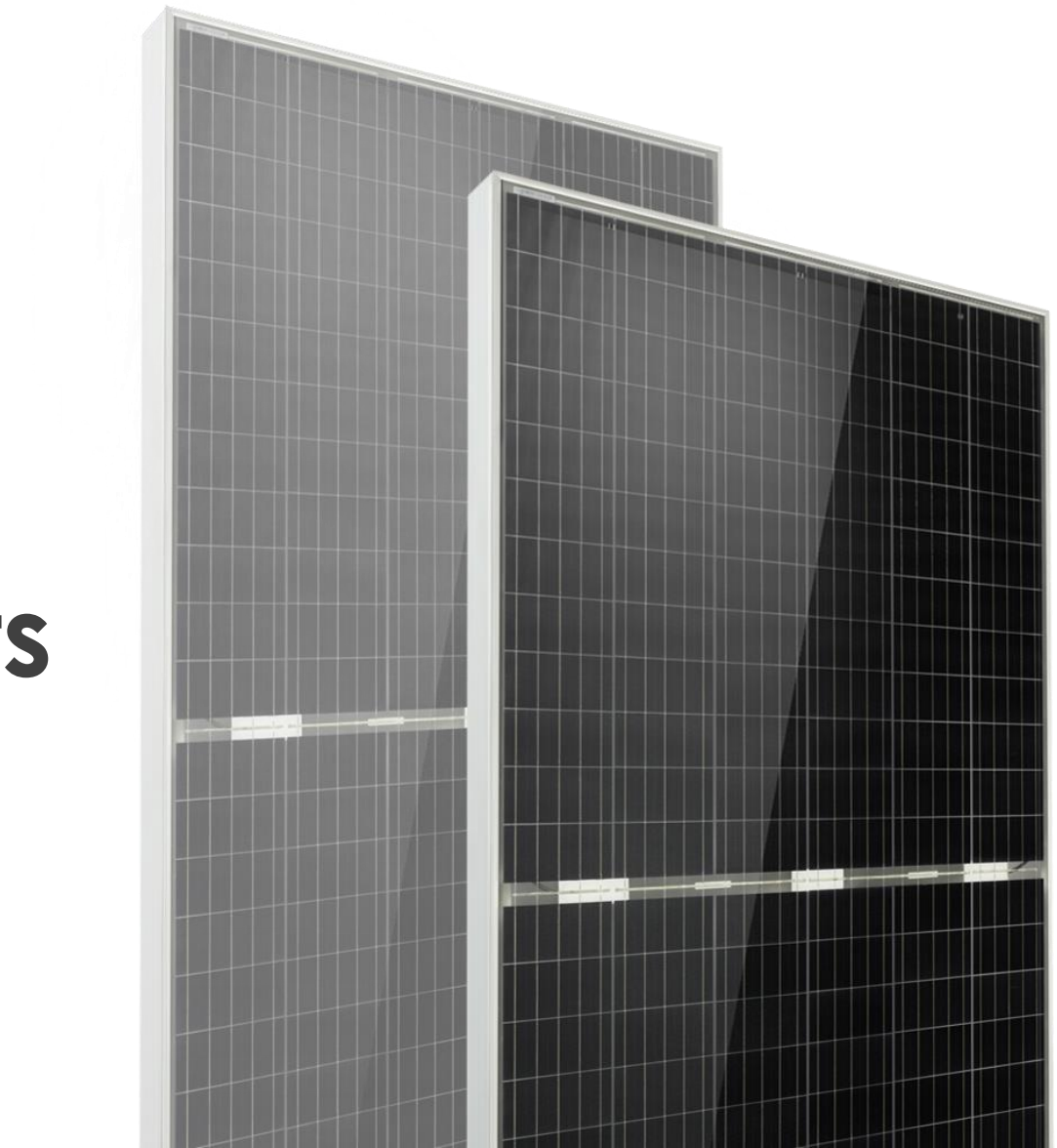
Solar
JinKO

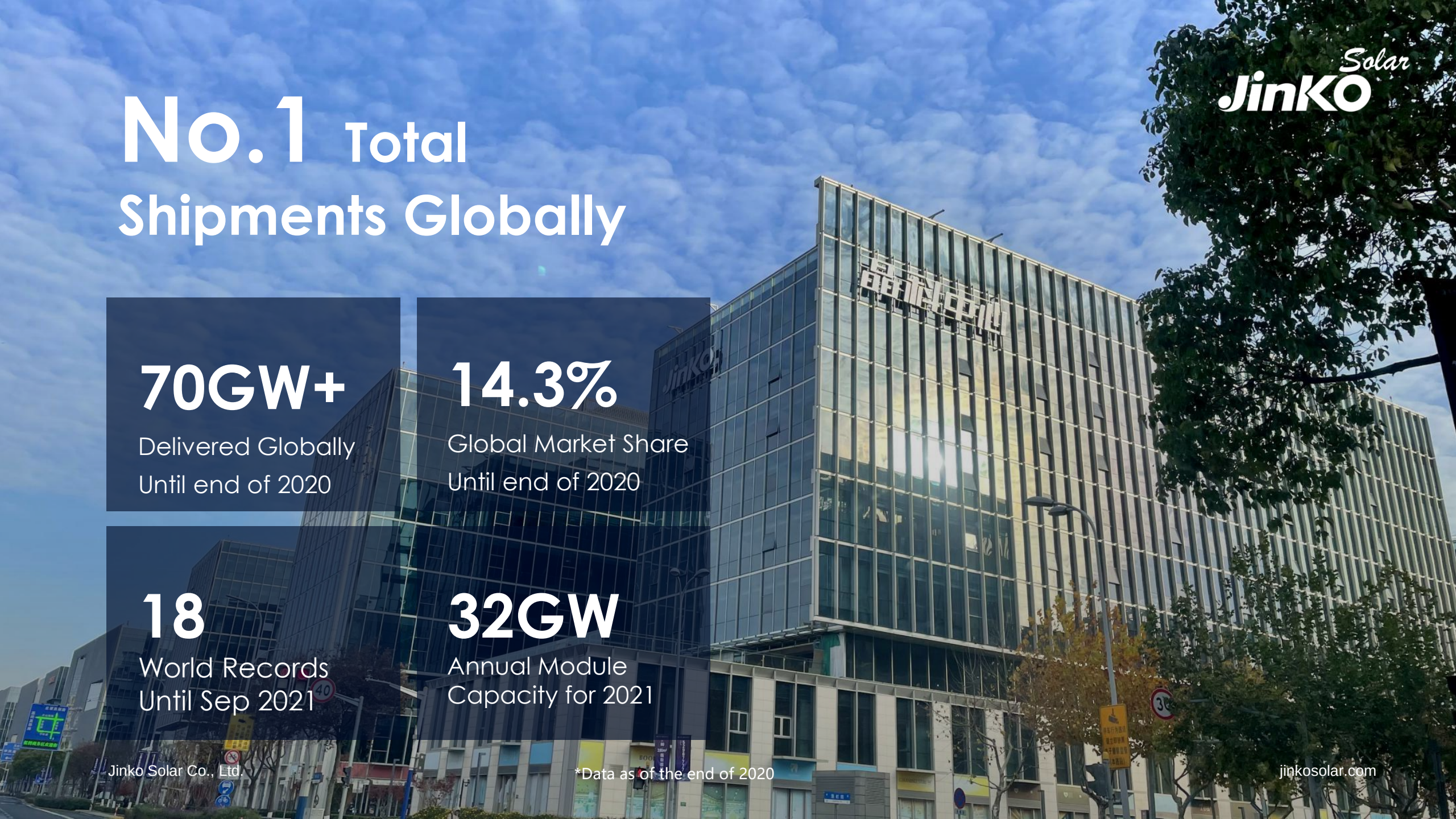
N-Type Technologies Overview & Tiger NEO Introduction

Mohammed Saady Dweik
Head of Technical Services -MENA

- ABOUT JKS
- N-type Technology Development
- Tiger NEO Key Benefits



About Jinko Solar



No.1 Total Shipments Globally

70GW+
Delivered Globally
Until end of 2020

14.3%
Global Market Share
Until end of 2020

18
World Records
Until Sep 2021

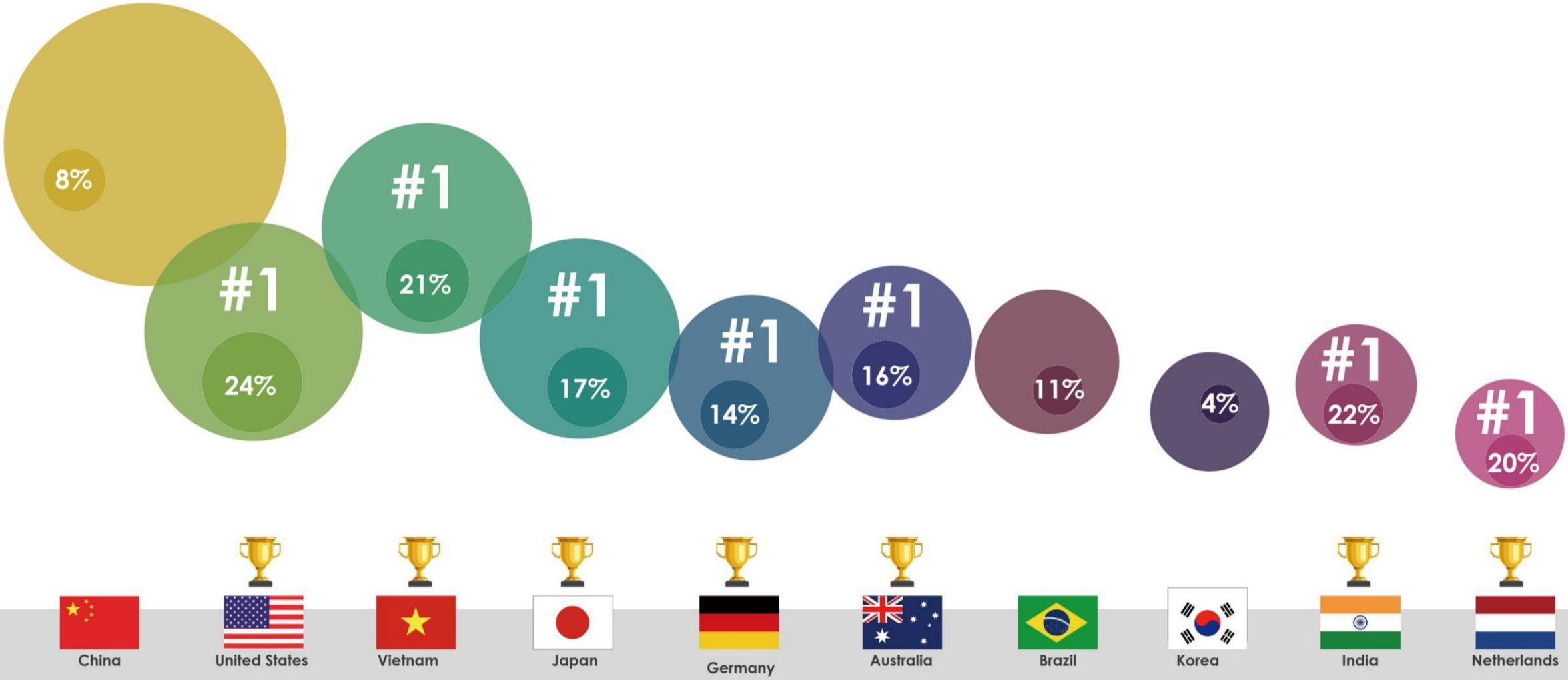
32GW
Annual Module
Capacity for 2021

Jinko Solar Co., Ltd.

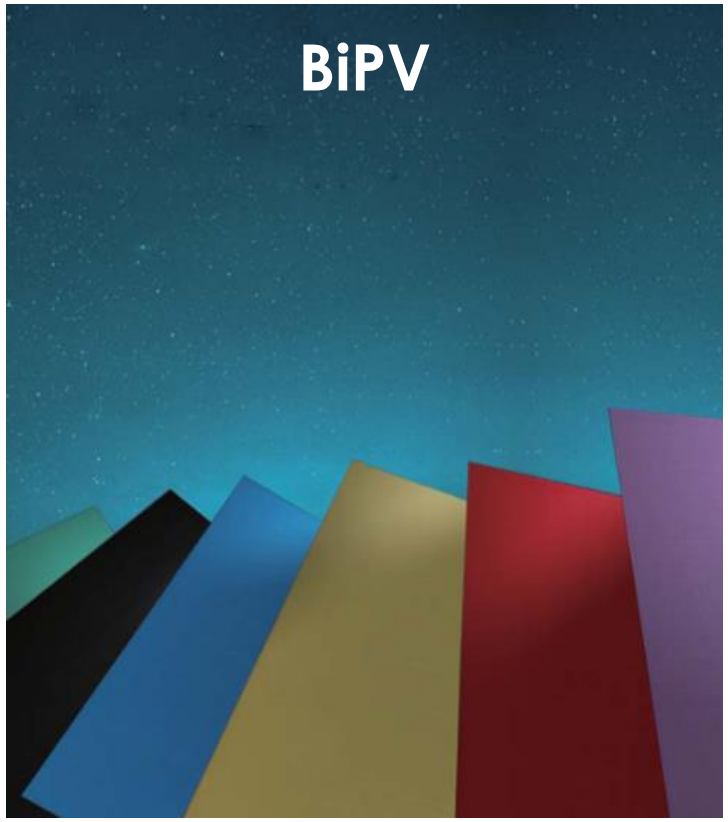
*Data as of the end of 2020

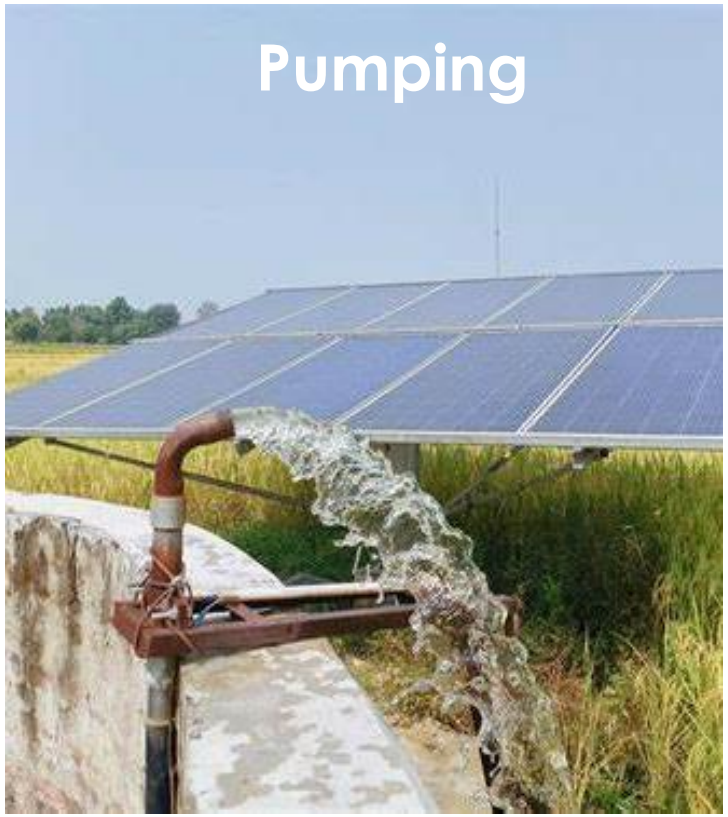
jinkosolar.com

Market Share Rankings in Top 10 Markets – 2020



What We Do – Our Solutions





Solar Solutions

Adding BiPV to existing BAPV with new variety of Energy Storage Systems (ESS) and full turn-key Pumping Systems

What We Do – Our Solutions

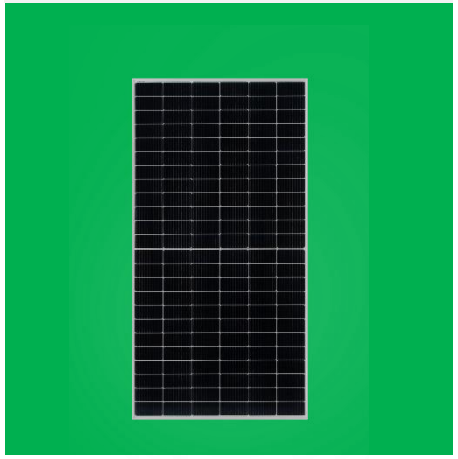
Solar JinKO
Building Your Trust in Solar

Tiger Mono-facial

- Up to 475 Wp
- 66 & 78cells
- 163 mm wafer
- Efficiency up to 21.48%
- 25 Year Linear Power Warranty

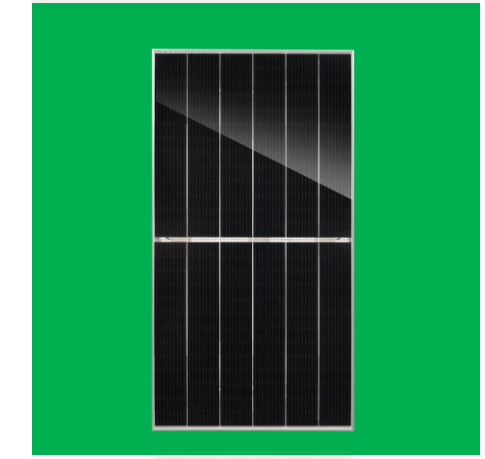
Tiger Pro Mono-facial

- Up to 550 Wp
- 54 & 72 cells
- 182 mm wafer
- Efficiency 21.33%
- 25 Year Linear Power Warranty



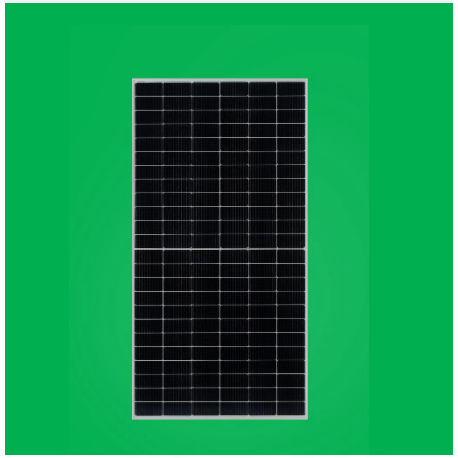
Tiger Pro Bifacial

- Up to 545 Wp
- 72 cells
- 182 mm wafer
- Efficiency 21.13%
- Dual Glass or TB
- 30 Year Linear Power Warranty



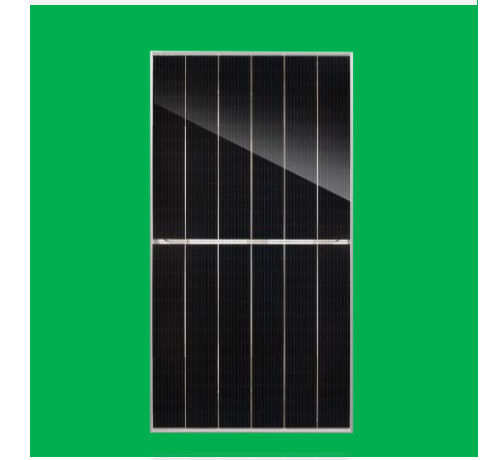
Tiger Neo Mono-facial

- Up to 575 Wp
- 60 & 72 cells
- 182 mm wafer
- Efficiency 22.3%
- 25 Year Linear Power Warranty



Tiger Neo Bifacial

- Up to 615 Wp
- 72 & 78 cells
- 182 mm wafer
- Efficiency 22%
- Dual Glass
- 30 Year Linear Power Warranty



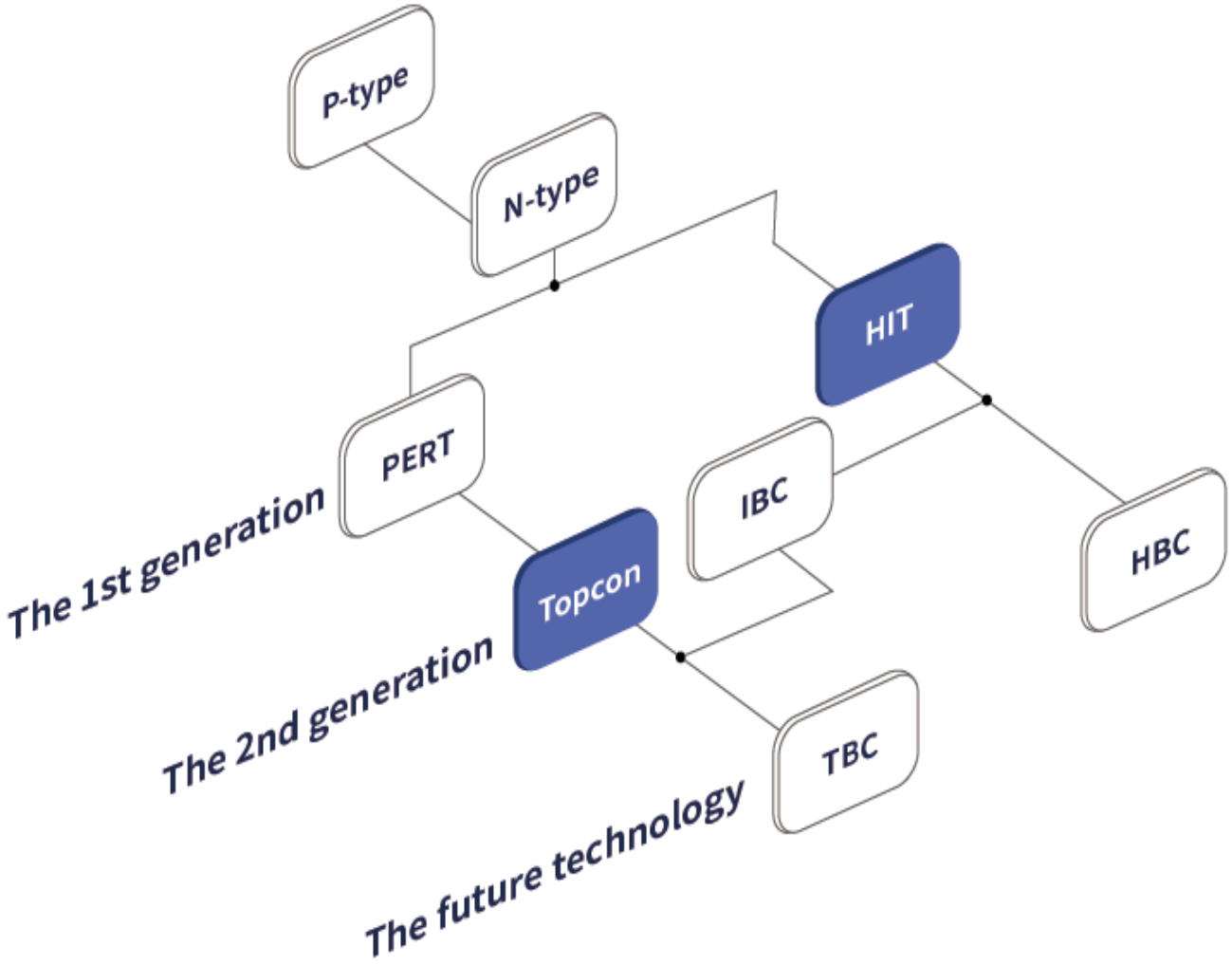
Tiger Series

Tiger Pro Series

Tiger Neo Series

N-Type Technologies

N-type Technology Generations



TOPCon

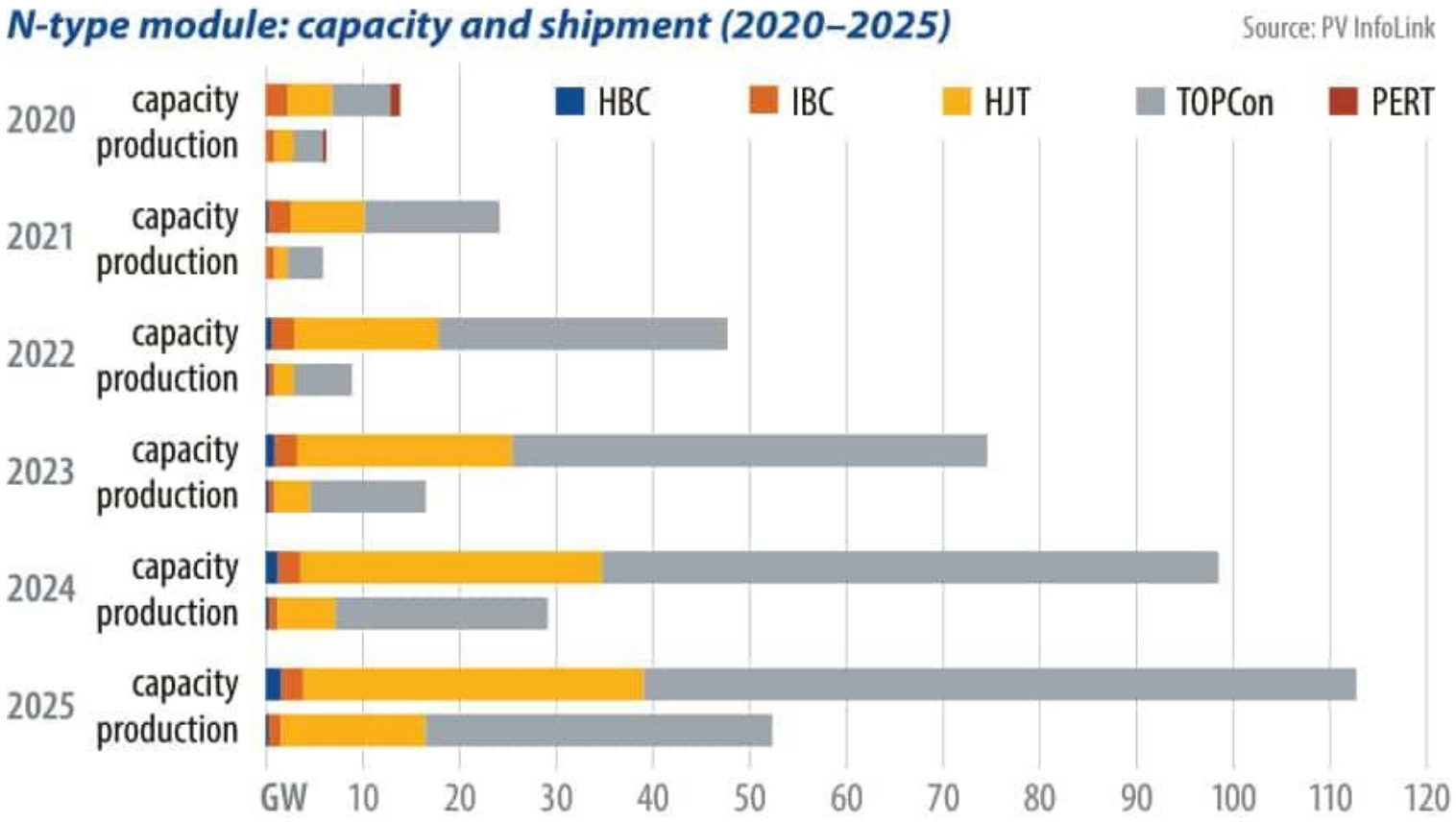
Tunnel Oxide Passivated Contact

HOT

Heterojunction Oxide Tunneling

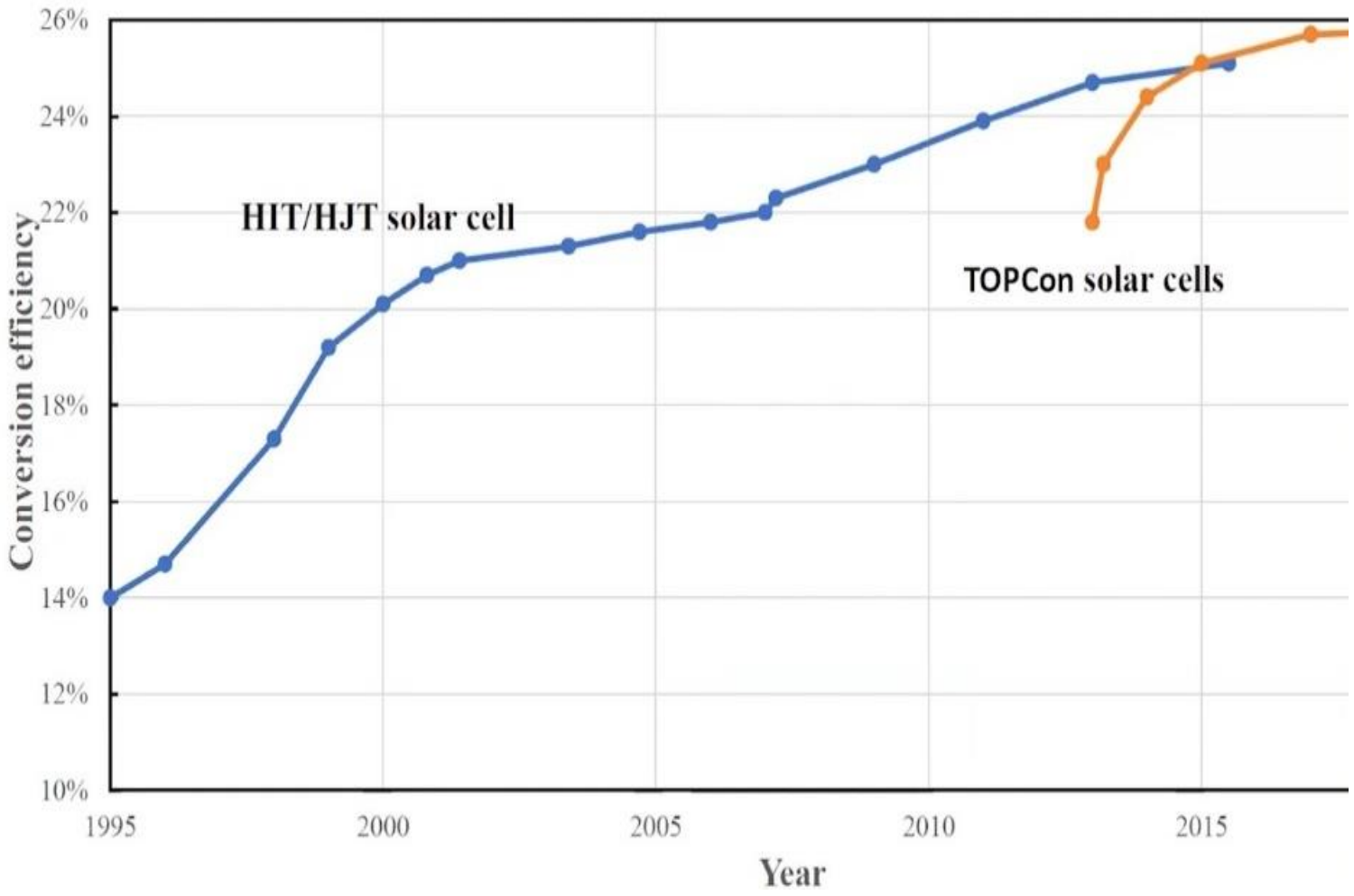
- Both HIT and TOPCon are considered the mainstream second generation technologies for N-Type.
- TOPCon technology requires minimum CAPEX to improve the PERC production line.
- Although HIT has shorter production line but it needs more CAPEX since it cant use the existing PERC line.

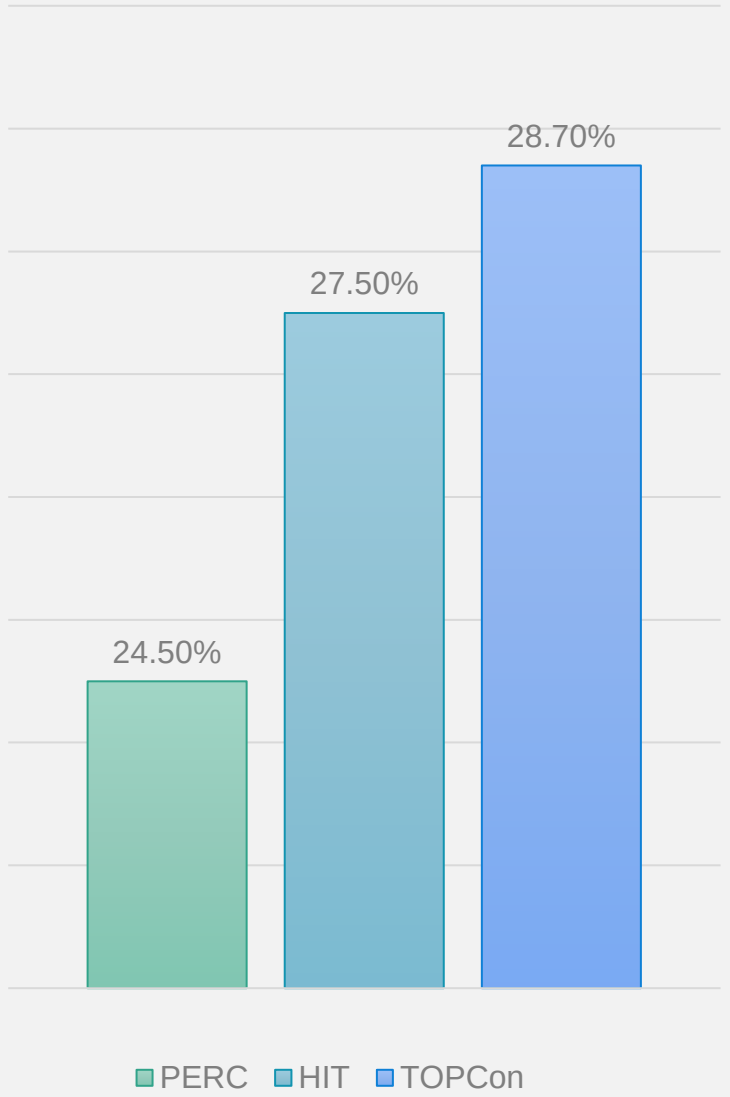
N-type Market share Projections



- Many suppliers have started increasing their capacity for N-type modules in 2022.
- TOPCon is expected to dominate the N-type market and will be the next transition since PERC.
- Jinko's main focus is TOPCon technology but still researching HJT and IBC.
- PV Tech estimates that N-type will have 50% market share in 2026.

The Breakthrough of Cell Efficiency





JinkoSolar sets new record for n-type solar cell efficiency

Manufacturing giant JinkoSolar has set another world record for n-type solar cell efficiencies with its TOPCon technology, this time pushing to 25.4%. The new world record was confirmed by JET laboratories in Japan, and surpasses JinkoSolar's previous record of 25.25% set back in May.

OCTOBER 13, 2021 MARK HUTCHINS

JinkoSolar claims 23.53% efficiency for n-type, TOPCon, monocrystalline panel

The PV module relies on Jinko's TOPCon mono cell technology, for which a record efficiency of 25.25% was announced in late May. TÜV Rheinland has confirmed the result.

JULY 12, 2021 EMILIANO BELLINI

JinkoSolar reaches record 25.25% efficiency with n-type monocrystalline TOPCon solar cell

The Chinese module manufacturer said the 0.35% improvement in efficiency was obtained through material upgrades integrated into the cell process and fabrication. The result was confirmed by China's National Institute of Metrology.

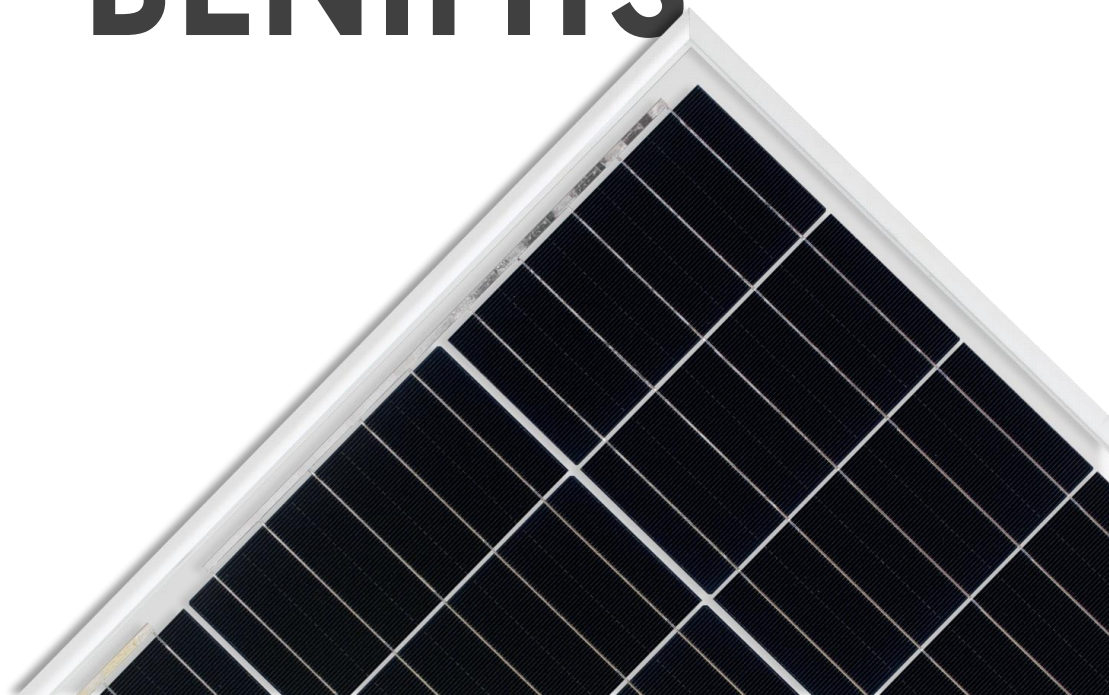
JUNE 1, 2021 EMILIANO BELLINI

JinkoSolar claims 24.9% efficiency for n-type monocrystalline cell

The result was confirmed by Germany's Institute for Solar Energy Research (ISFH).

JANUARY 6, 2021 EMILIANO BELLINI

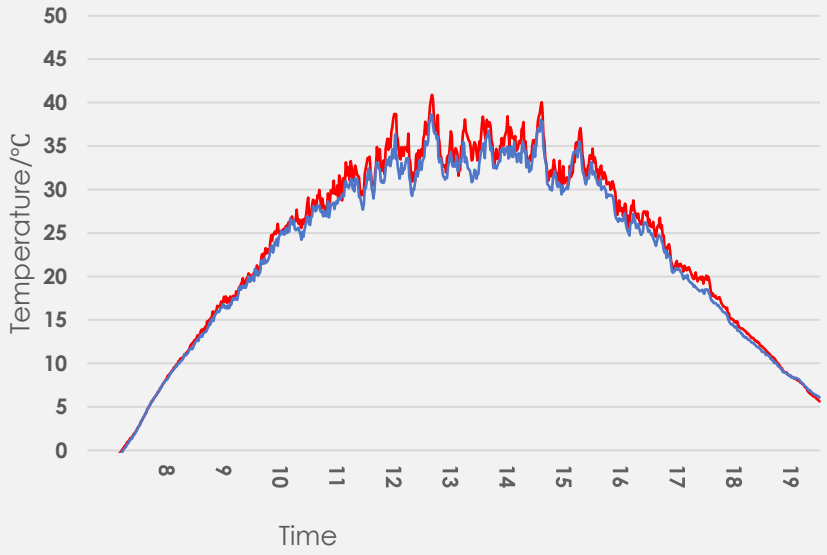
TIGER NEO KEY BENIFITS



Optimized Temperature Coefficients

-0.30%/ ℃

Real-time operating temperature



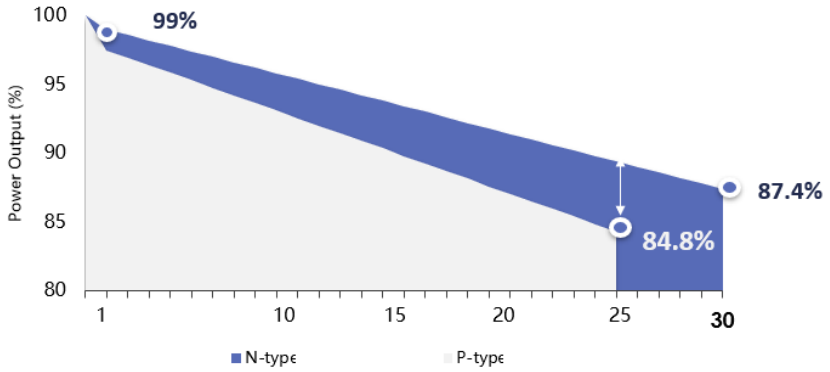
Optimized Degradation Advanced Warranty

≤ 1%

First year degradation

-0.4%

Linear degradation



Solar JinKO

Bifacial Factor

85%

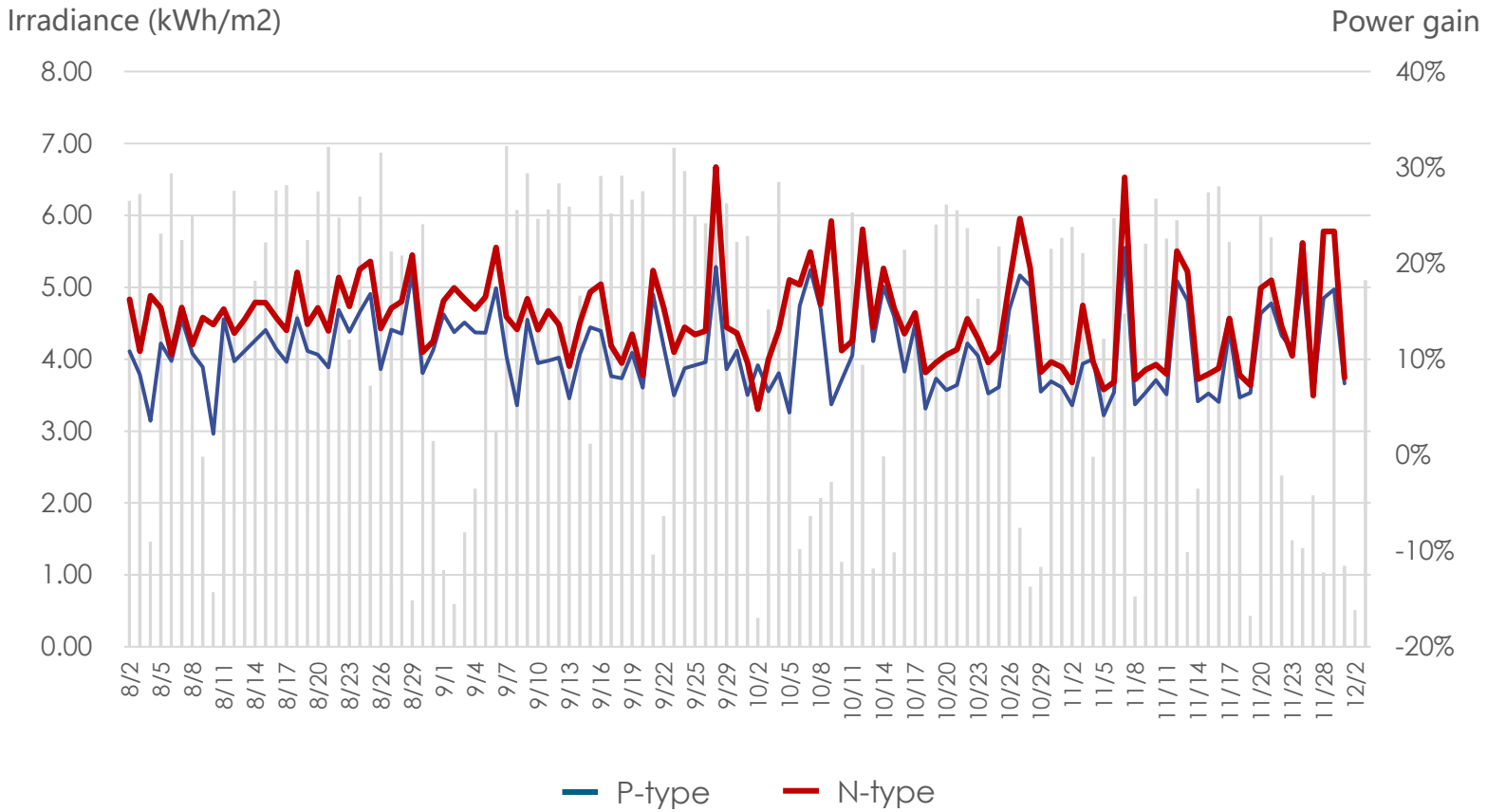
N-type's higher bifacial factor will bring significant power gain around **2.03%**

Power gain contrast：

PERC: BSI*70%=**9.45%**

HOT: BSI*85%=**11.48%**

Outdoor Project Data Support——TOPCon VS PERC



* Location：Haining　　Height：0.7m　　Capacity：P-TV 6.93kWp

Angle：30°　　Ground : cement　　N-TV 7.2kWp

P-type bifacial module

Power gain

9.7%

N-type bifacial module

Power gain

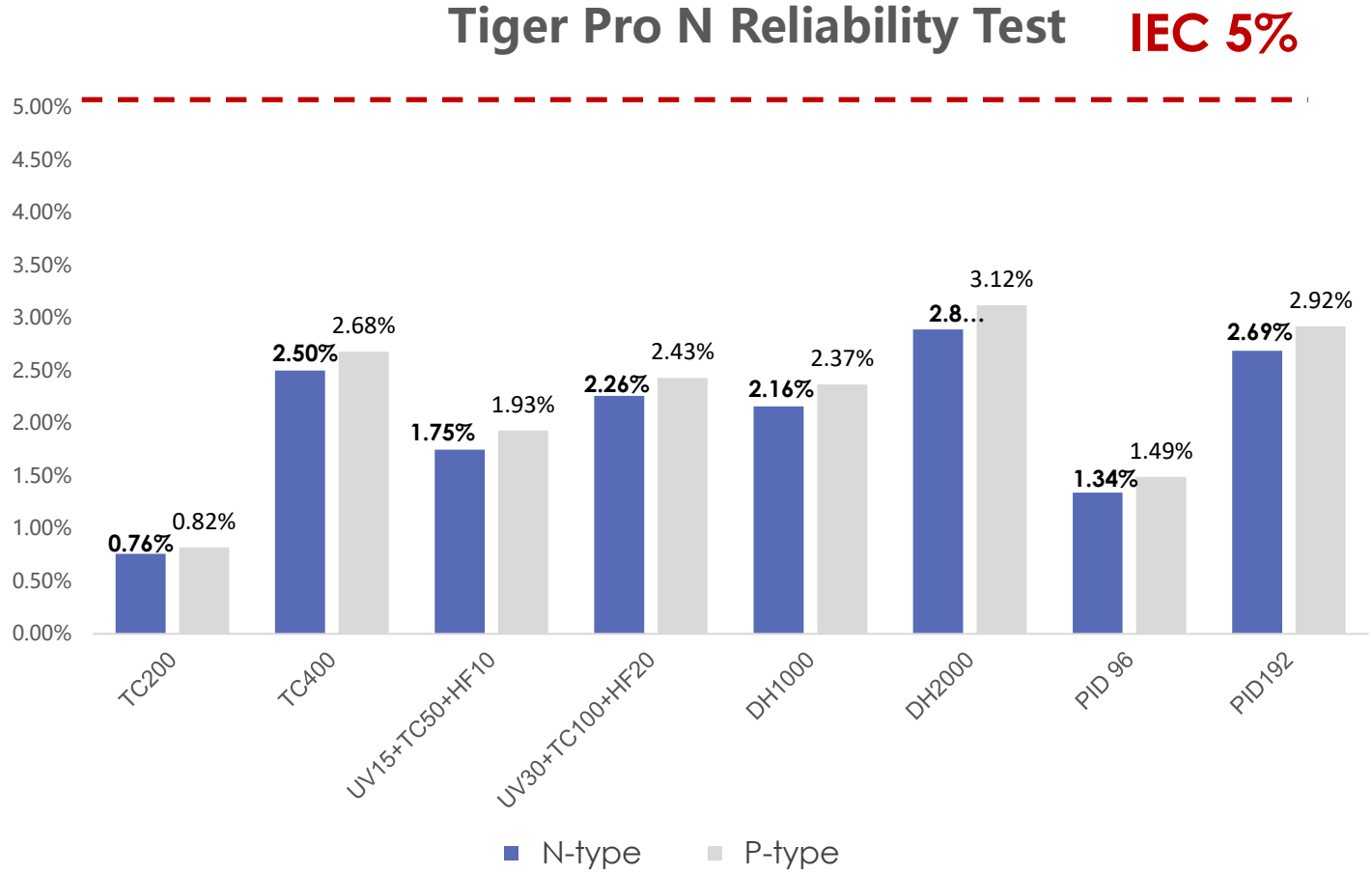
12.7%

The power generation difference reaches 3%

Product Advantage Ⅱ

Enhanced Reliability

The N-type modules have better indicators than normal IEC standard and performs excellent during test process.



*Jinko R&D Data
Testing Sample: Jinko N-type mono Module
Jinko P-type mono Module

LCOE Analysis for Utility——Jinko N 605W VS XXP 660W

* 200MW AC power station in Inner Mongolia N：39.74°，E：99.21°

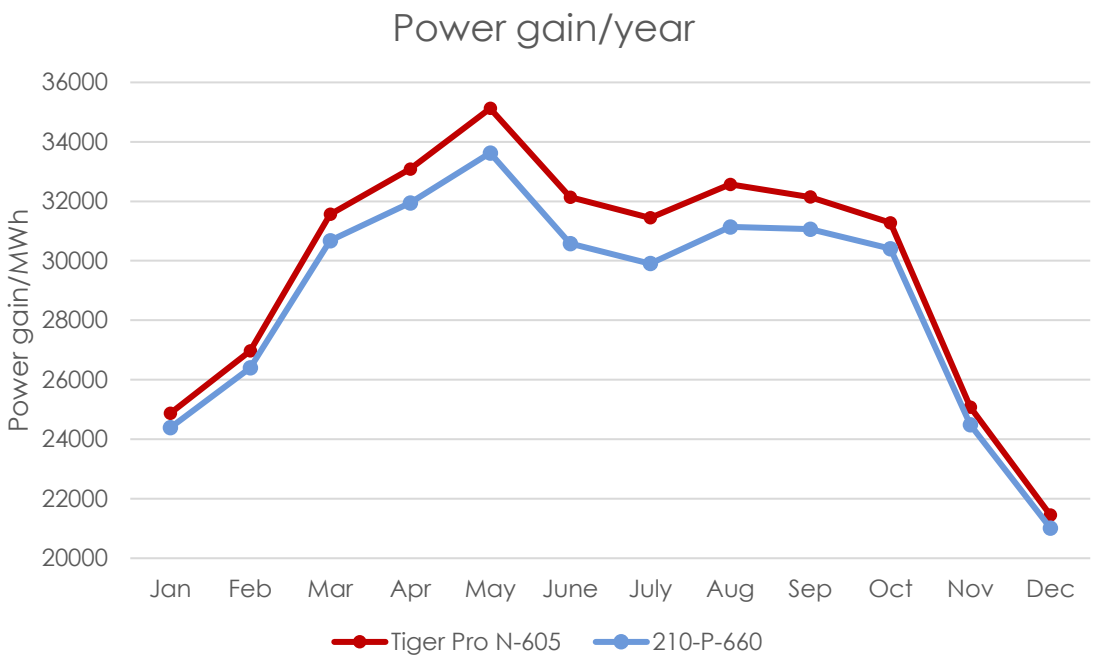
1. Initial- 0.35% lower than P-type

The table below shows the design of the project (tracker)

Cell	Jinko-N-605W	210-P-660W
Power	605W	660W
Efficiency	21.64%	21.25%
Length (mm)	2465	2384
Width (mm)	1134	1303
Voc (V)	54.76	45.90
1500V single series/pcs	25	30
Tracker installation fee	76.21%	80.19%
String/ tracker	4	3
No. of tracker	Base	101.9%
Power/ tracker (W)	**60500**	**59400**
Tracker length (m)	Base	Base+4m
No. of column	Base	Base+1
Percentage (All column)	74%	80%

Tracker-theroy (/W)	Base	103.2%
BOS cost	Base	**100.35%**

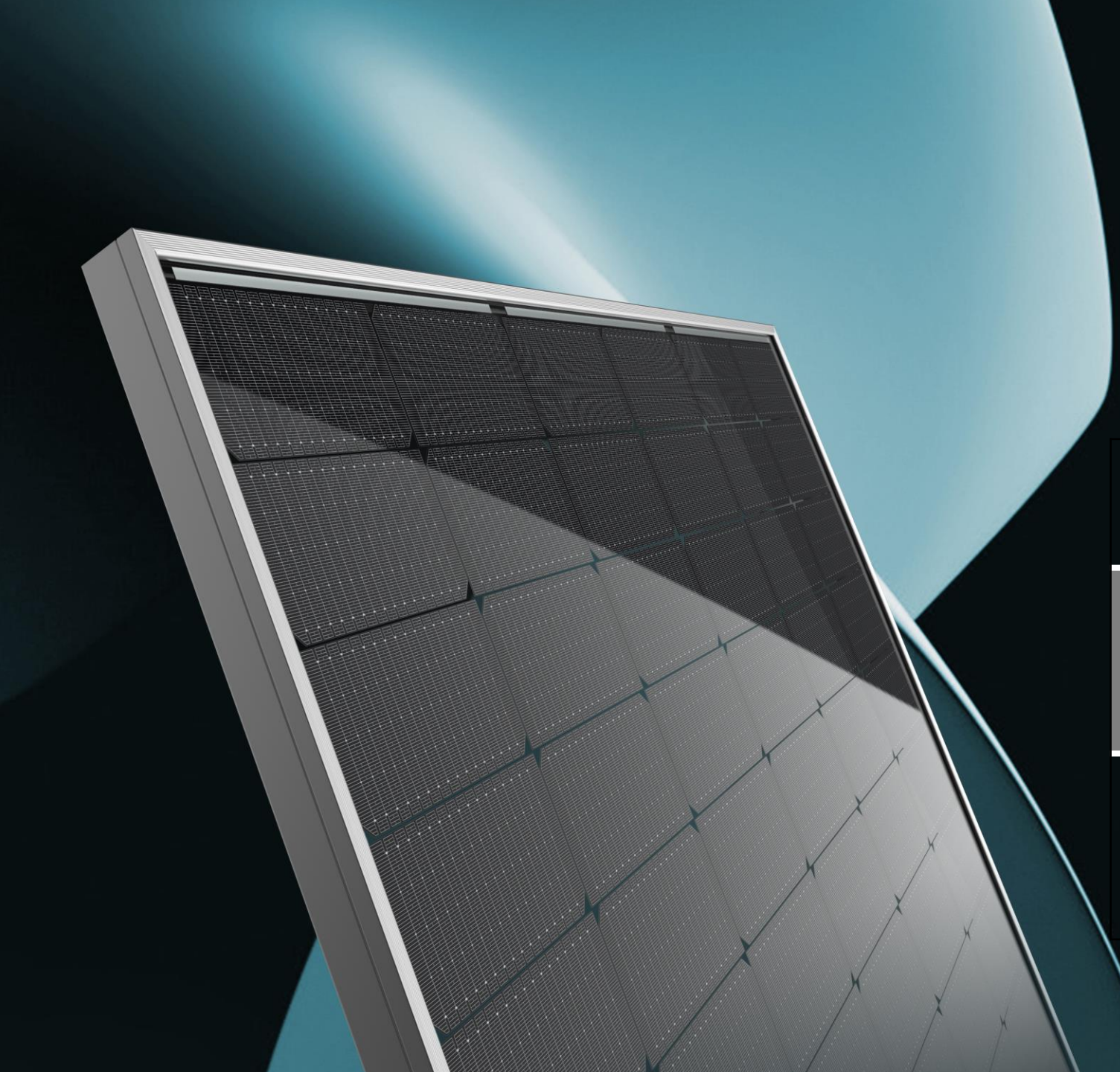
2. Power Gain-Around 12096 MWh/Y than P-type



BOS **-0.35%**

IRR **3.31%**

LCOE **5%**



JinKO Solar

Tiger NEO

78 cells Bifacial	620 Wp	22.18%
72 cells Mono/Bifacial	575 Wp	22.20%
60 cells Mono-facial	480 Wp	22.23%

Jinko Solar

Building Your Trust in Solar

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