



N-type TOPCon for MENA Region

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- **About Jinko Solar**
- **N-type Technology Development**
- **Tiger NEO Key Specs**
- **Case Studies**

About Jinko Solar



No.1 Total Shipments Globally

90GW+

Delivered Globally
Until end of 2021

14.3%

Global Market Share
Until end of 2021

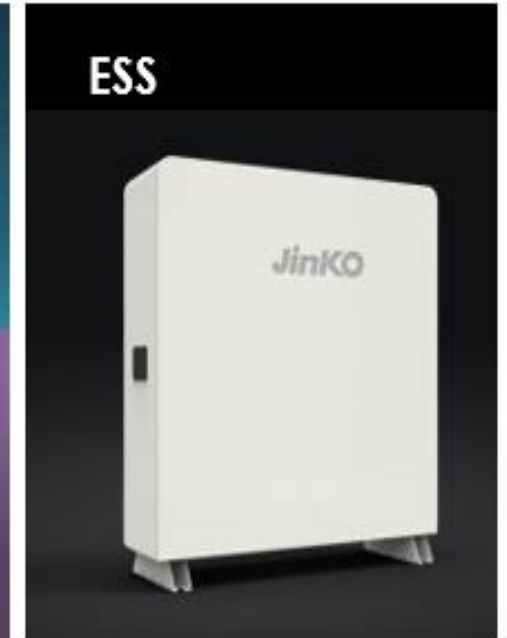
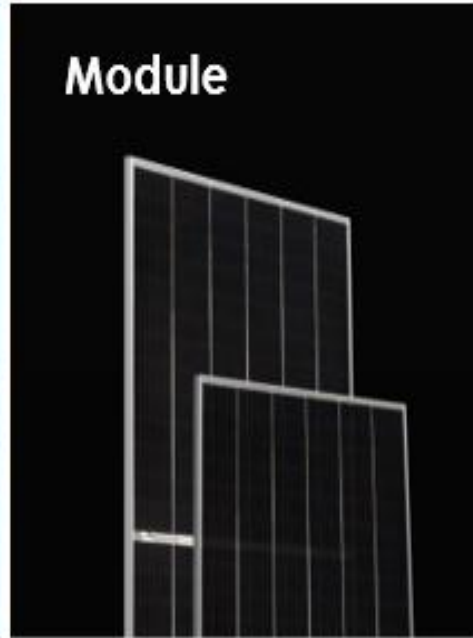
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World Records
Until end of 2021

40GW+

Annual Module
Capacity for 2022

What We Do – Our Products



Solar Business

We are continuously expanding the production capacity of silicon wafers, cells and modules to create a vertically integrated PV industrial chain

Our Solutions

BIPV+BAPV to foster the development of green buildings
Solar+ Solutions and Energy Storage

Our Products: P-Type Solar Modules

Tiger 66 Cell

- Up to 410 Wp
- 66 cells
- 164mm wafer
- Efficiency up to 21.48%
- 25 Year Linear Power Warranty



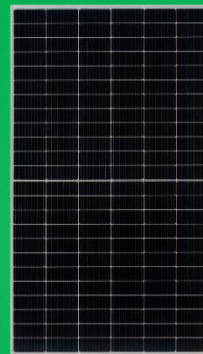
Tiger 78 Cell

- Up to 480 Wp
- 78 cells
- 164mm wafer
- Efficiency up to 21.38%
- 25 Year Linear Power Warranty



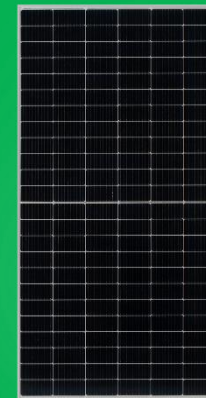
Tiger Pro 54 Cell

- Up to 415 Wp
- 54 cells
- 182 mm wafer
- Efficiency up to 21.25%
- 25 Year Linear Power Warranty



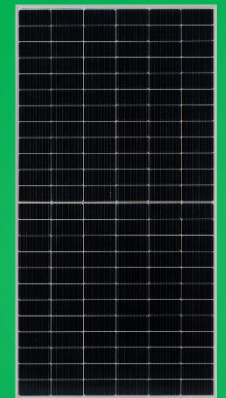
Tiger Pro 72 Cell

- Up to 550 Wp
- 72 cells
- 182 mm wafer
- Efficiency up to 21.29%
- 25 Year Linear Power Warranty



Tiger Pro 72 Cell

- Up to 550 Wp
- 72 cells
- 182 mm wafer
- Efficiency up to 21.29%
- Dual Glass or TB
- 30 Year Linear Power Warranty



Monofacial

Bifacial

Our Products: N-Type Solar Modules

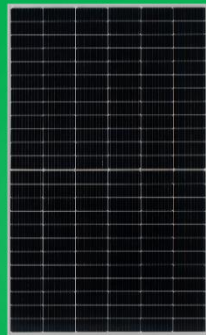
Tiger Neo 54 Cell

- Up to 430 Wp
- 54 cells
- 182mm wafer
- Efficiency up to 22.02%
- 30 Year Linear Power Warranty



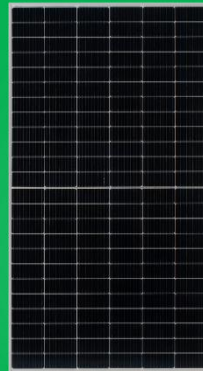
Tiger Neo 60 Cell

- Up to 480 Wp
- 60 cells
- 182mm wafer
- Efficiency up to 22.24%
- 30 Year Linear Power Warranty



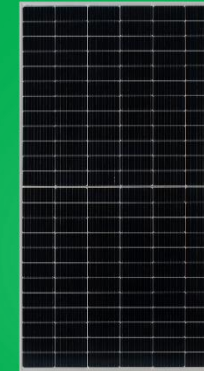
Tiger Neo 72 Cell

- Up to 575 Wp
- 72 cells
- 182 mm wafer
- Efficiency up to 22.26%
- 30 Year Linear Power Warranty



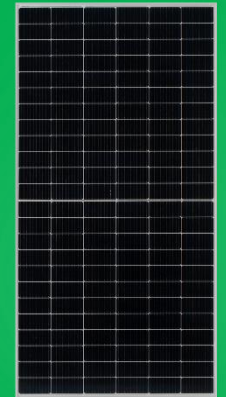
Tiger Neo 72 Cell

- Up to 570 Wp
- 72 cells
- 182 mm wafer
- Efficiency up to 22.07%
- 30 Year Linear Power Warranty



Tiger Neo 78 Cell

- Up to 610 Wp
- 78 cells
- 182 mm wafer
- Efficiency up to 21.82%
- 30 Year Linear Power Warranty



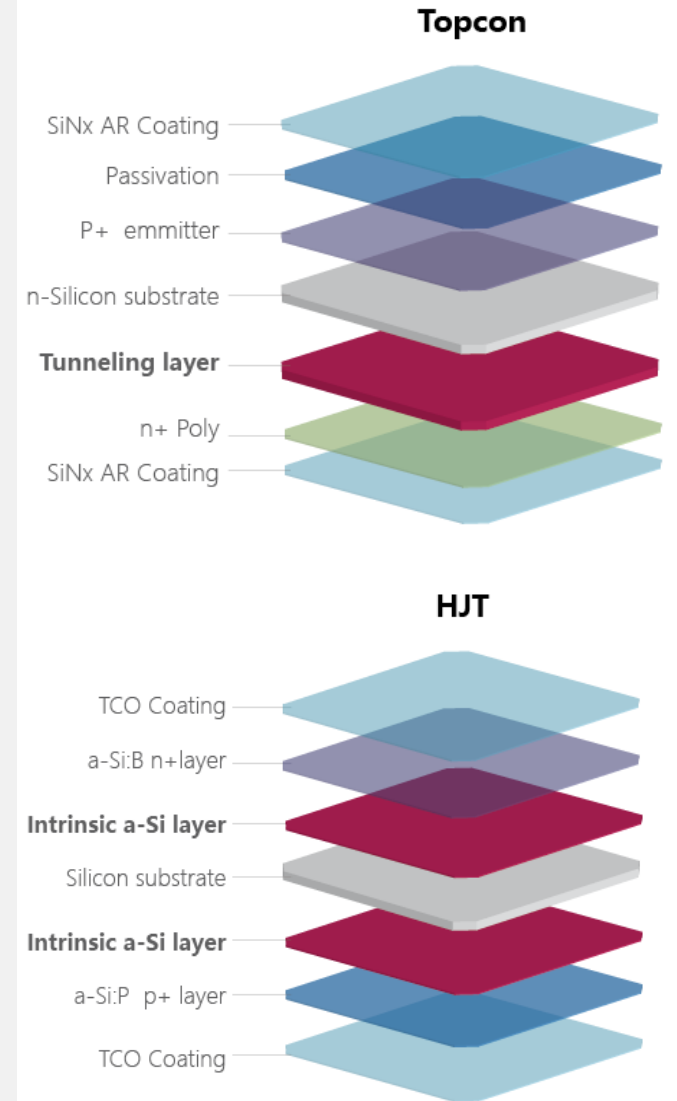
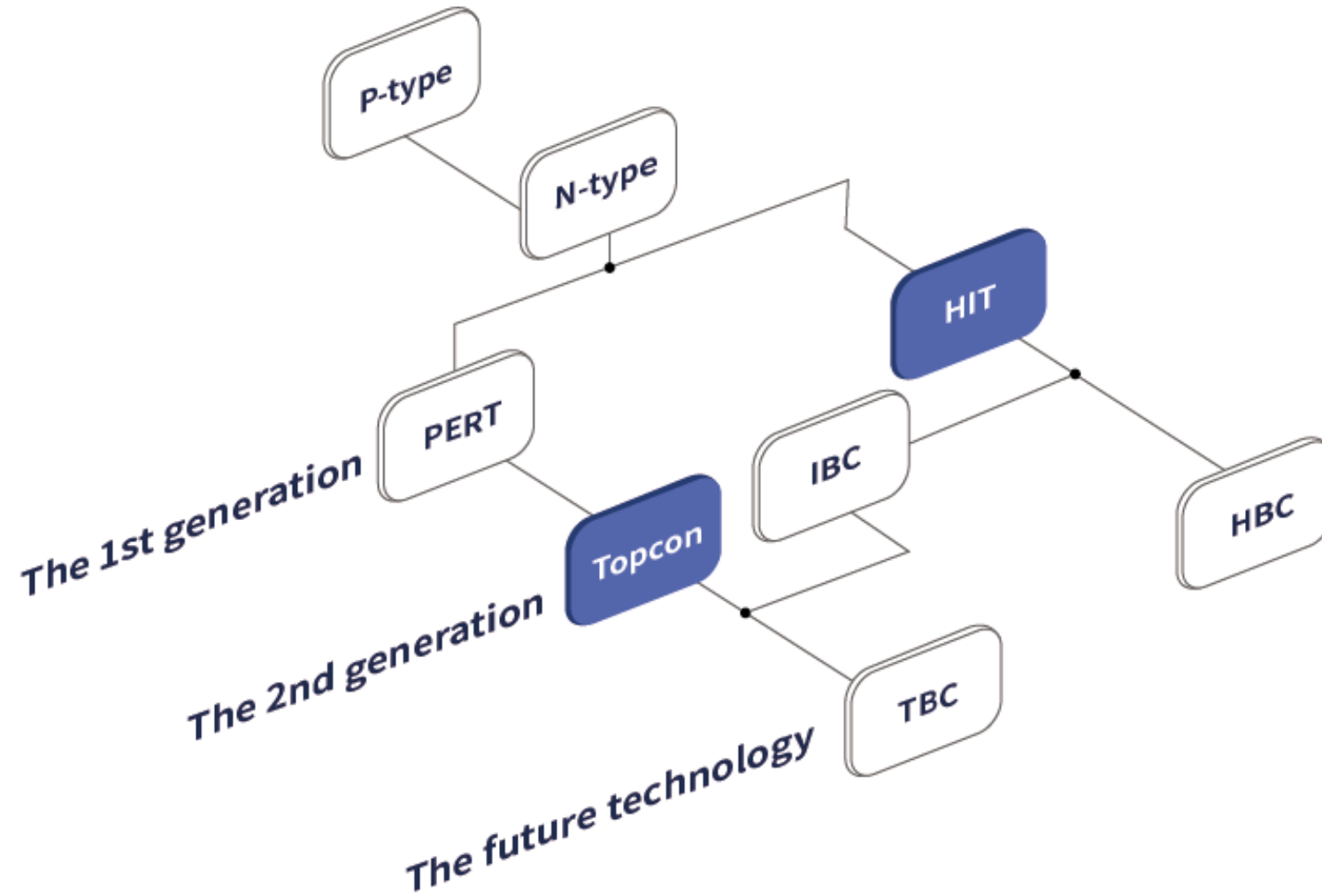
Monofacial

Bifacial

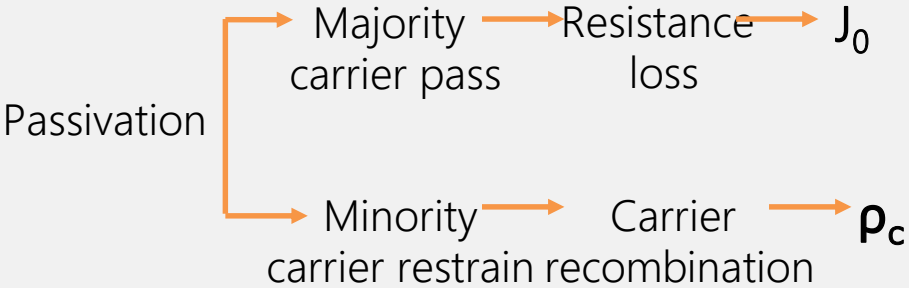
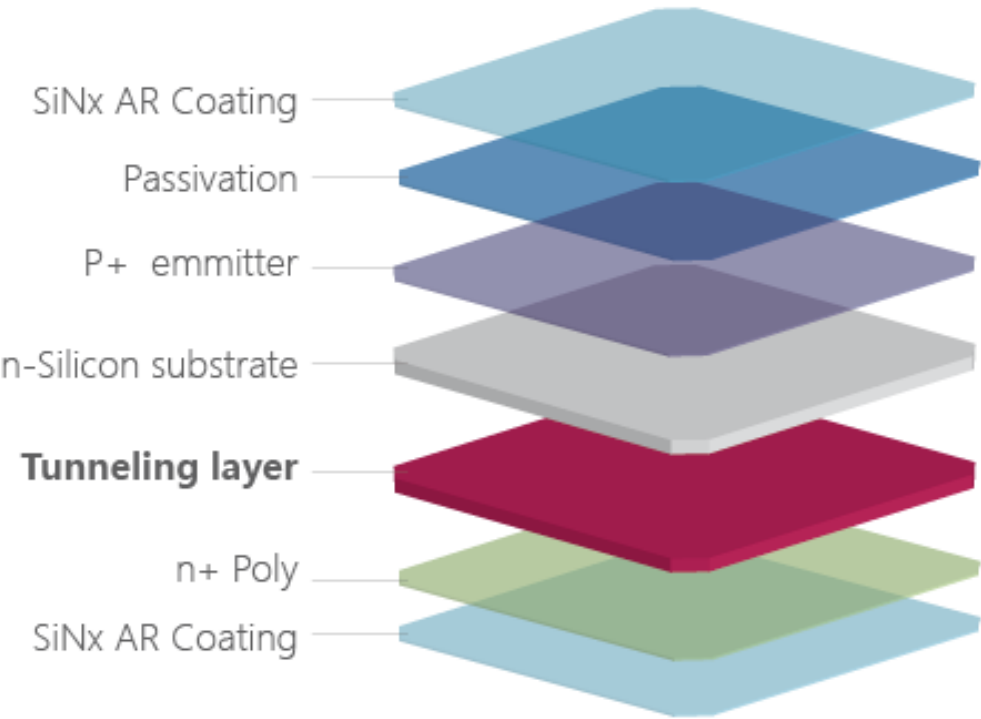
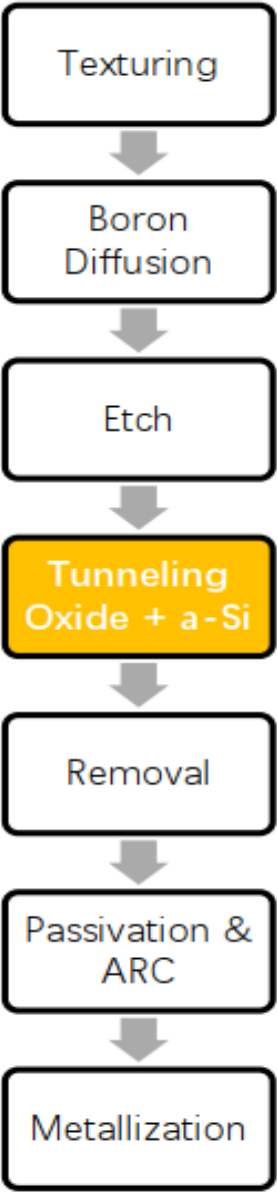
N-Type Technologies



N-Type Technology Generations

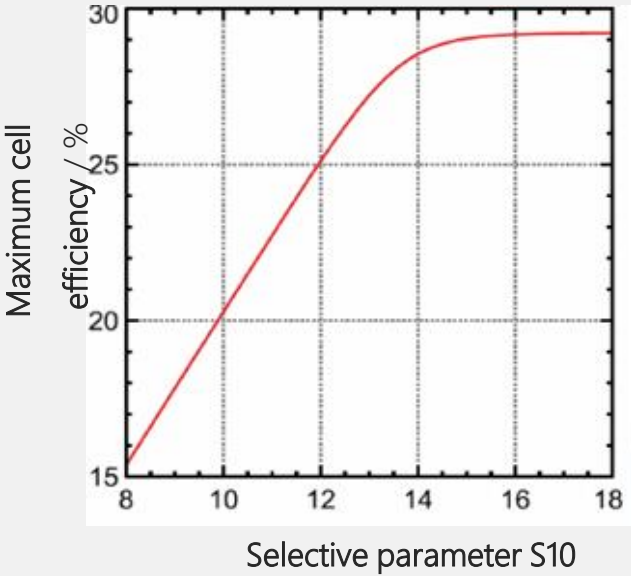


TOPCon Process



$$S_{10} = \log_{10} \left(\frac{V_{th}/J_0}{\rho_c} \right)$$

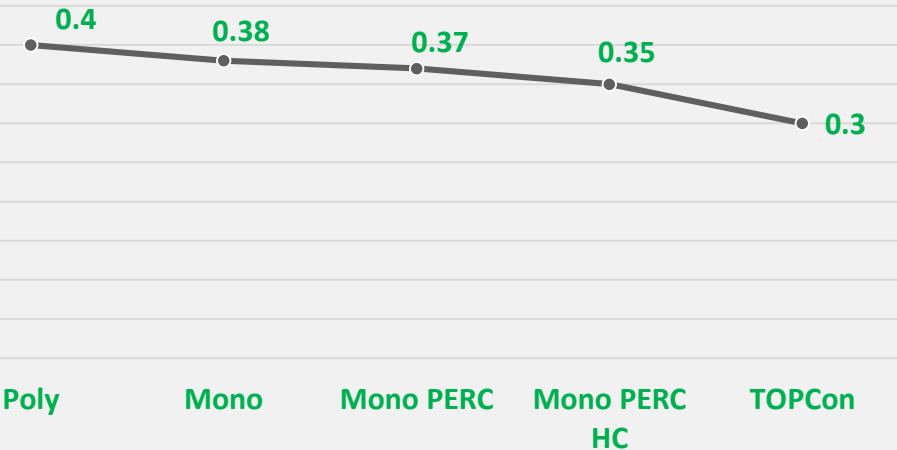
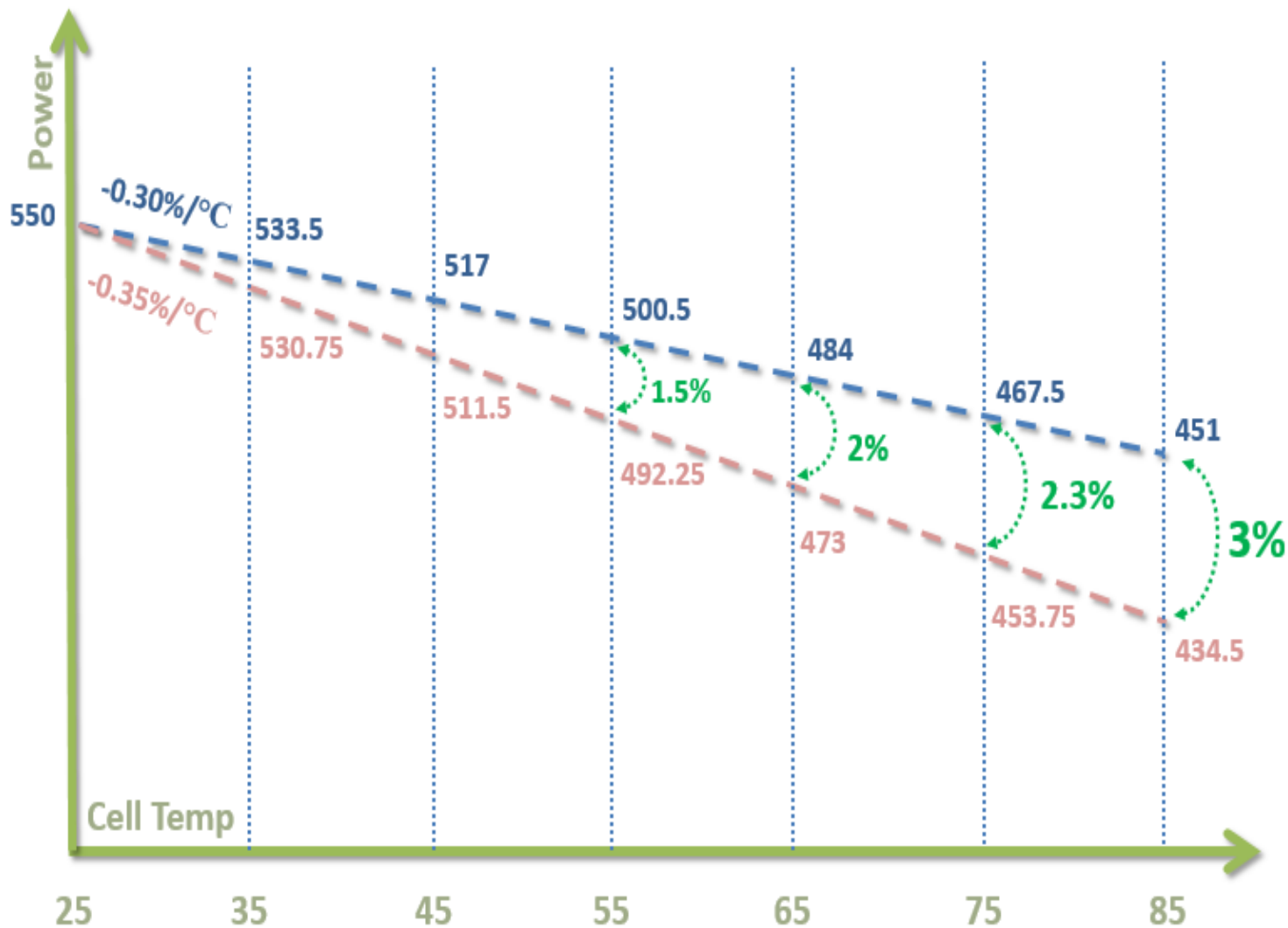
Maximum cell efficiency increased



Tiger Neo Key Specs



Temperature Coefficient Improvement



- MENA region is considered one of the hottest areas globally
- The temp coefficient has improved with every generation of PV technology, but the switch from PERC to TOPCon will further improve it by +15%.

Tiger Neo Specs



Advanced Warranty

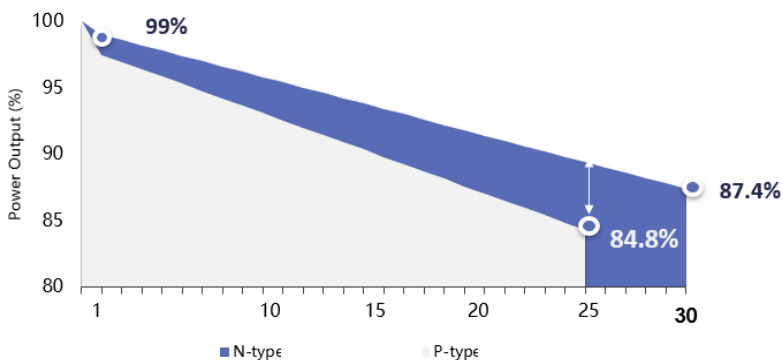


$\leq 1\%$

First year degradation

-0.4%

Linear degradation



Improved Bifacial Factor

80%



N-type's higher bifacial factor will bring significant power gain

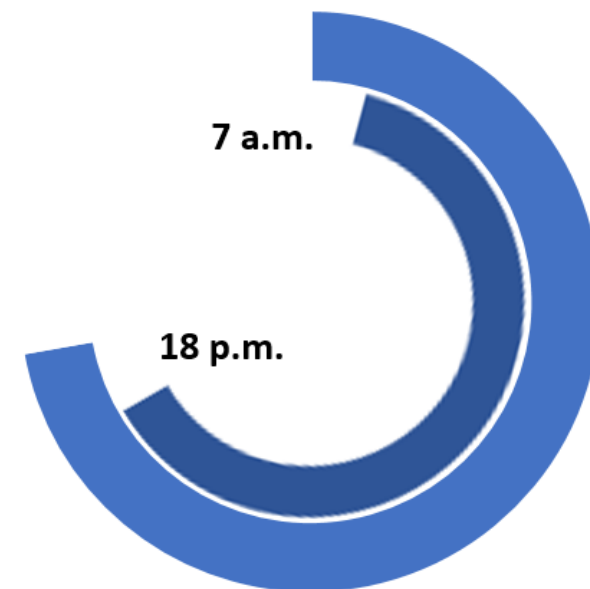
around **1.35%**

Power gain contrast :

PERC: $BSI \times 70\% = 9.45\%$

HOT: $BSI \times 80\% = 10.80\%$

Better Low Light Performance



Case Studies



N-Type Technologies Generations



10 MWp in Hainan province - LCOE

tropical marine monsoon climate

TOPCon modules generated 3.4% higher than PERC modules annually

	Unit	Conventional module	Tiger Neo 78	Gain rate
Power	W	590	605	-
Efficiency	%	21.1	21.68	-
Module size	mm	2465*1134	2465*1134	-
Weight	kg	30.6	30.6	-
Capacity	MWp	9.8	10.05	2.55%
Operation hours in the first year	h	1397	1445	3.44%
Cumulative operation hours in 25 years	h	325729.1	343734.8	5.53%
LCOE	RMB/kwh	0.331	0.3188	-3.69%
Investment return		14.67%	15.12%	3.27%

100 MWp in Shanxi Province - Simulation

Desert mountain slope

TOPCon modules generated 4.5% higher than PERC modules annually

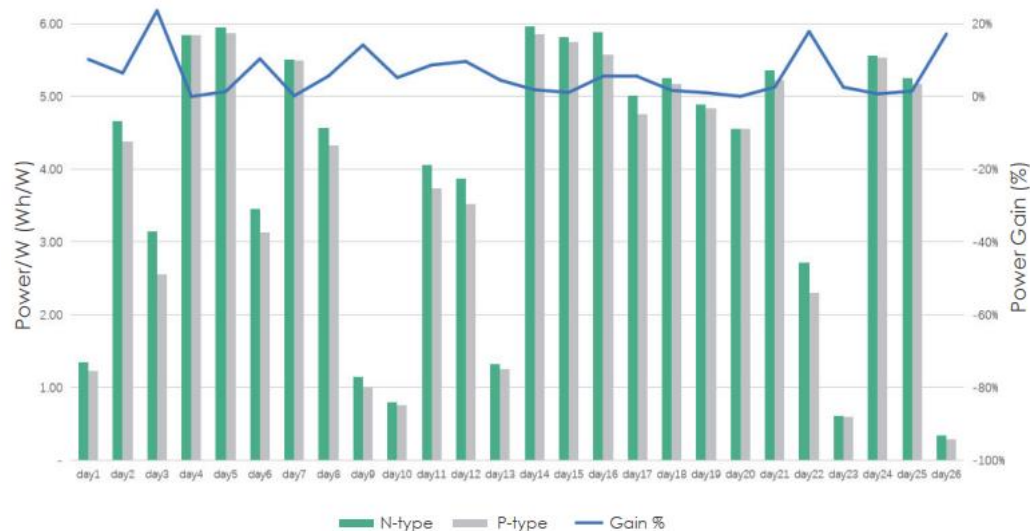
	P-type Bifacial	Tiger Neo Bifacial
Module Power	540W	560W
Module Efficiency	21.1%	21.68%
Peak sun hour	1268h	1325h
Module size/mm	2256*1134	2278*1134
Number of half cell	144	144
Yearly energy generation	126800MWh/year	132498 MWh/year
Yield gain	100%	104.5%

N-Type Technologies Generations

1.5 MWp in rooftop in Shandon Liao Cheng - China

Carport structure

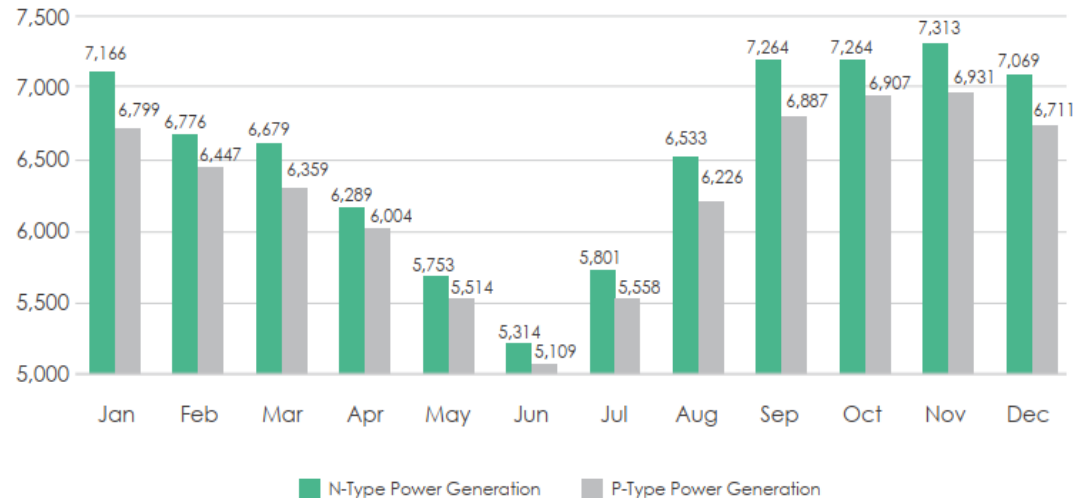
TOPCon modules generated an average of 4.2% higher than PERC modules



1.5 MWp in rooftop in Queensland – Australia

White paint steel structure

TOPCon modules generated 5.5% higher than PERC modules during the summer months and 4.3% during winter months



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