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**JINNENG CLEAN ENERGY
TECHNOLOGY LTD**



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Leader of PV Manufacturing
Innovator of Business Model

Jinneng Group Co., Ltd.



Jinneng Group Co., Ltd. (Jinneng Group), merged and reorganized with original Shanxi Coal Transportation and Sales Group Co., Ltd. and Shanxi International Electricity Group Limited Company, is a large state-owned integrated energy group.

Jinneng Group aims to build itself into one of the first-class modern energy groups with the pattern of "clean use of traditional energy and efficient development of clean energy". By deepening enterprise reform and business upgrading, Jinneng Group have established and improved the industrial system featured by "clean energy as main business, coal, electricity and real estate as supplementary, modern service and finance as new industry".

In 2019, Jinneng Group reported revenue of USD 15.4 billion (RMB 105.8 billion) and profit of USD 609 million (RMB 4.18 billion). In clean energy business sector, installation capacity in service and under construction has achieved 2.65GW, power generation reached 2.26 TWh and PV manufacturing technology reached world advanced level.



USD 15.4 billion
(RMB 105.8 billion)



Electricity Sold
12 TWh



Clean Energy Installation Capacity
in Service and under Construction
2.65 GW



Clean Energy Power
Generation
2.26TWh



Jinneng Clean Energy Technology Ltd.

Founded on December 31, 2013, Jinneng Clean Energy Technology Ltd. (Jinergy) is a global leading PV manufacturer and clean energy provider incorporated under Jinneng Group's clean energy sector.

Consisting of PV experts from home and abroad, Jinergy's management and R&D teams follows the core strategy of technology iterations. And through continuous technological innovation and lean production, Jinergy has reached the goal of edging into global top 5% most advanced and cost-effective cell & module production capacity. With commitment to global coverage, Jinergy extends business in China, India, Japan, Pakistan, Mexico, Argentina, Australia, Ukraine, etc. and supplies customers with high quality and reliable Poly C-Si, PERC Mono C-Si and HJT modules. Under technological innovation for industrial progress, Jinergy is bringing advanced PV manufacturing technology to the world and driving global energy structure transformation.

BloombergNEF

Tier 1
PV module supplier



Approved as one of the
first "Front Runners"



Industry 4.0
manufacture base

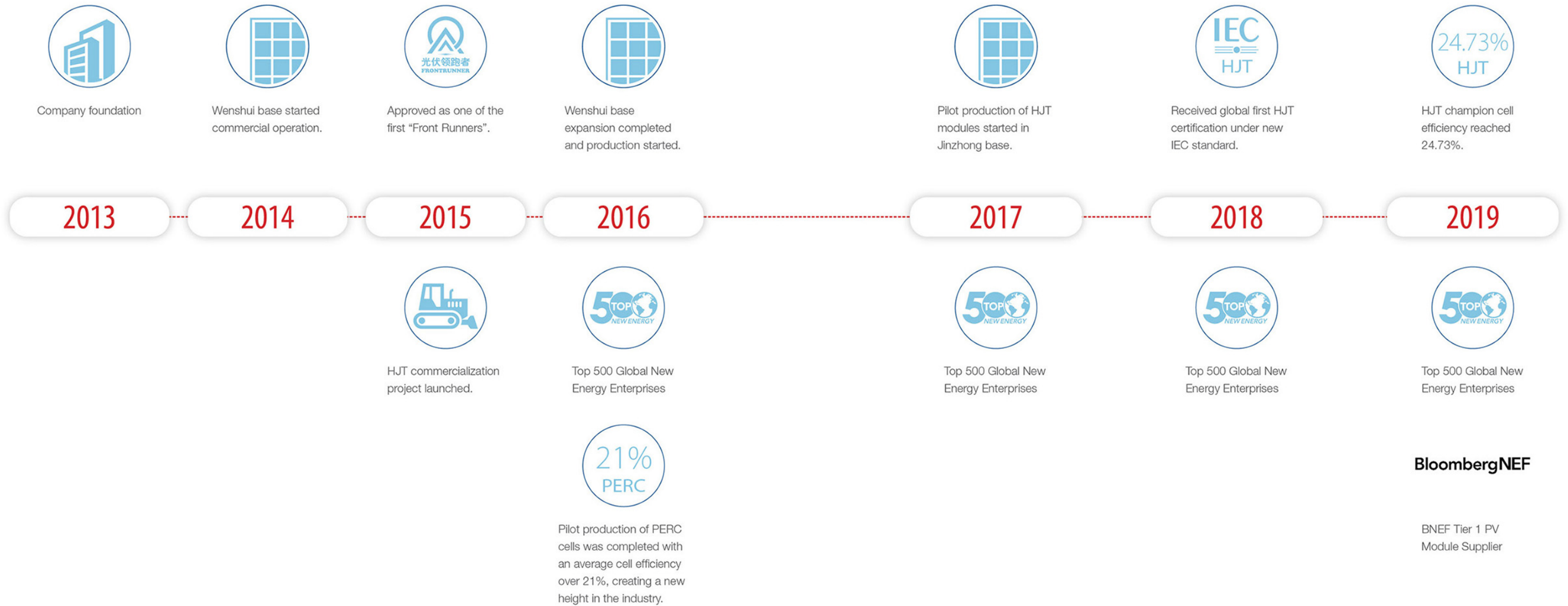


Awarded
"Top 500 Global
Clean Energy Enterprises"
in four consecutive years



First China-based manufacturer
to commercialize
HJT technology

Milestones



Industry 4.0 Manufacture Base and Technology Roadmap

Quality

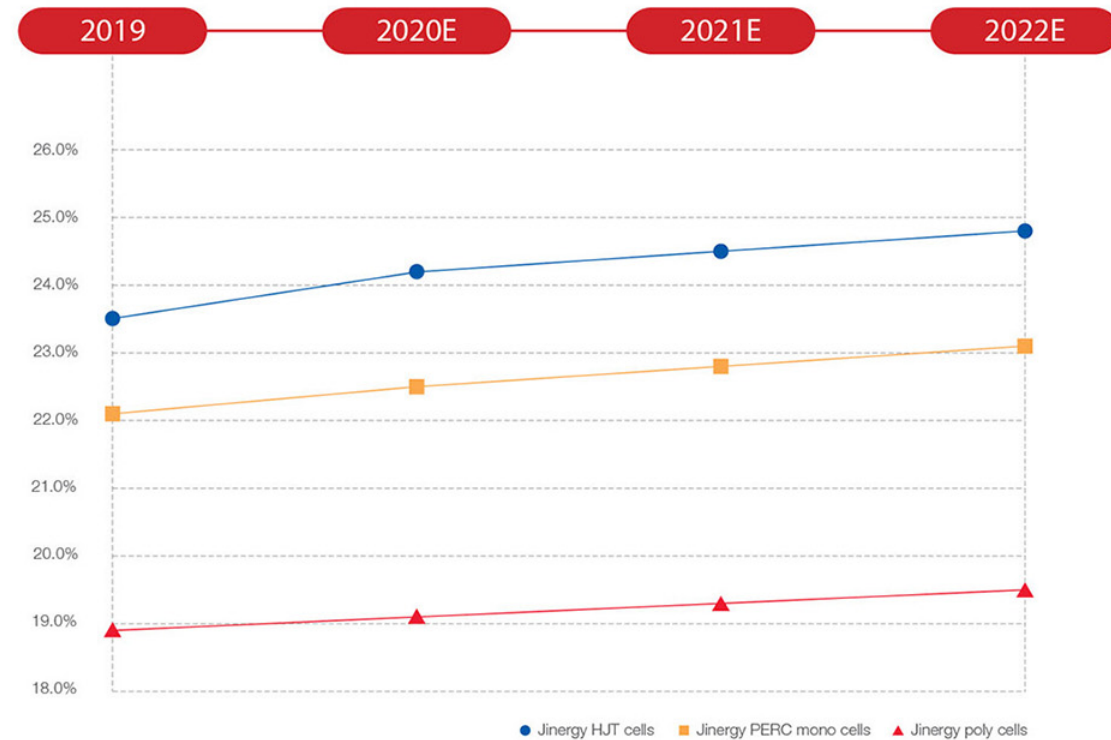
4.5GW High Efficiency PV Cell & Module Capacity

Edge-cutting technology roadmap and equipment for mass production, to build top 5% most competitive capacity in the world.
Market-overturning N-type heterojunction technology will bring breakthrough to LCOE reduction and lead the future of PV manufacturing technologies.

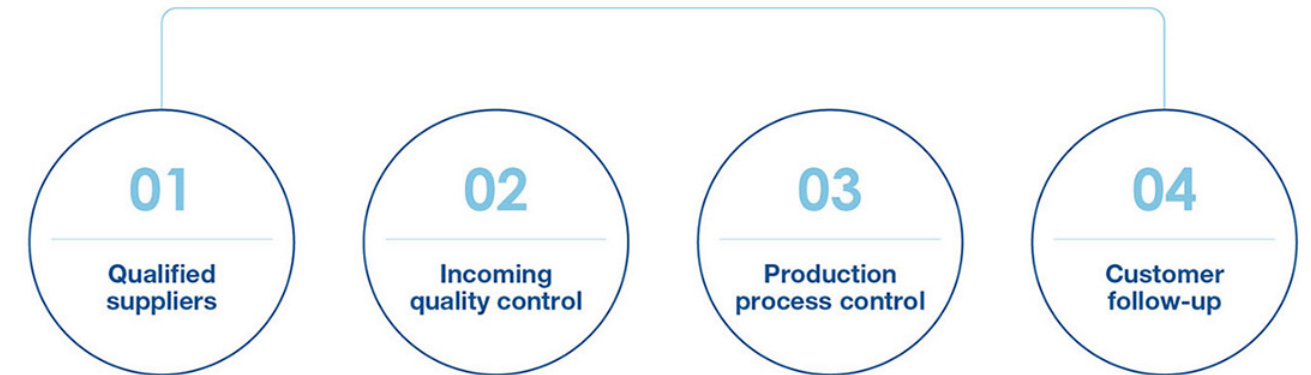
Wenshui, Shanxi Province



Jinzhong, Shanxi Province



Quality Assurance Chain



Management System Certifications

- ISO9001: 2015 Quality Management System
- ISO14001: 2015 Environmental Management System
- OHSAS18001: 2007 Occupational Health and Safety Assessment Series

Product Certifications

Certifications: TUV, CQC, MCS, BIS, KS, and CE.
Listings: CEC (AU) listing, INMETRO listing, JPAC listing, and DEWA listing.
High efficiency mono module, high efficiency poly module and super high efficiency HJT module approved as Chinese Front Runner modules.
Super high efficiency HJT module received global first new IEC certificate.

10-YEAR

Product Materials and Workmanship Quality Warranty

25-YEAR

Linear Power Output Warranty

30-YEAR

Linear Power Output Warranty

* For dual glass products.



Products



ADVANCED PRODUCTION PROCESS

Edge-cutting production process
Technology iterations
MBB and half-cut technology adopted



SUPERIOR QUALITY CONTROL

Full-auto production line
Certificated by ISO 9001:2015
MES and ERP digitizing logistics management



EXCELLENT POWER PERFORMANCE

0~+5W positive power tolerance
Half-cut cell effectively reduces loss and improves power generation
Low degradation and excellent low-light performance improves power generation



STABLE MECHANICAL PERFORMANCE

Rigorous hail test approved
MBB design effectively reduces affected area of microcrack
Withstanding 2400Pa wind and 5400Pa snow loads

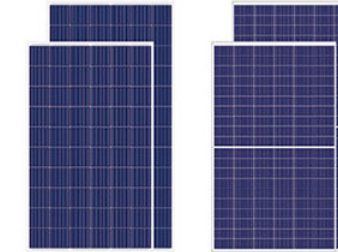


STRONG WEATHERABILITY

Excellent anti-PID and anti-LID performance
Fireproofing certified
Dual-glass structure enhances weather resistance

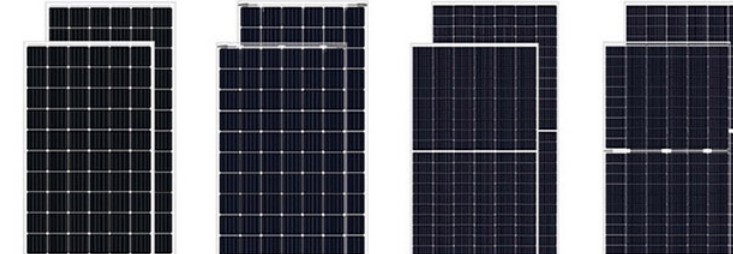
High Efficiency Poly Module JNMP60/72 JNMP120/144

Front Runner
Excellent anti-PID, anti-LID performance
Demonstrated extremely low degradation
Full-size and half-cut cells optional



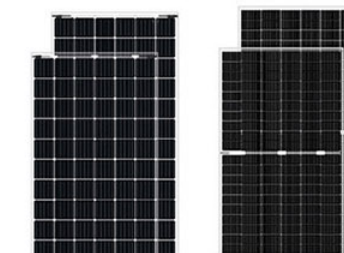
High Efficiency PERC Mono Module JNMM60/72 JNBMM60/72 JNMM120/144 JNBMM120/144

Advanced process to reduce extra degradation of PERC cell
Bifacial module provides 5%-25% extra power from backside in various installation scenarios
MBB and half-cut design to improve module reliability and reduces loss
Higher power output effectively reduces BOS and LCOE



Super High Efficiency HJT Module JNHM60/72 JNHM120/144

Free from PID and LID
Providing 10%-35% extra power from backside in different scenarios
Featuring low temperature coefficient, low degradation and excellent low light performance
MBB and half-cut design to improve module reliability and reduces loss



Cases

- 01 3.3MW Solar Storage Project in Okinawa, Japan
- 02 6MW Solar Project in South Australia, Australia
- 03 435MW Solar Project in Jodhpur District, India
- 04 5.3MW Solar Farm in Singapore



- 05 110MW Solar Project in Macheng, Hubei Province, China
- 06 175MW Solar Project in Tianzhen, Shanxi Province, China
- 07 70MW Solar Project in Yanggao, Shanxi Province, China
- 08 70MW Solar Project in Datong Front Runner Base Phase I, Shanxi Province, China
- 09 100MW Fishery-Solar Hybrid Project in Tianchang, Anhui Province, China
- 10 20MW Solar Project in Huli, Sichuan Province, China
- 11 100MW Solar Project in Shanyin, Shanxi Province, China



Power Alleviating Projects

Power alleviating projects are closely related to people's livelihood and as a SOE (state-owned-enterprise), Jinery is responsible to take the lead. With strong weatherability in harsh environments, Jinery's high efficiency modules are able to provide sustainable income for poverty-stricken regions.

- 01 10.1MW Solar Farm in Tianzhen, Shanxi Province, China
- 02 2MW Animal Husbandry-Solar Hybrid Project in Linxian, Shanxi Province, China
- 03 1MW Solar Project in Lanxian, Shanxi Province, China
- 04 8.51MW Solar Project in Ningwu, Shanxi Province, China
- 05 18MW Solar Farm in Fangshan, Shanxi Province, China



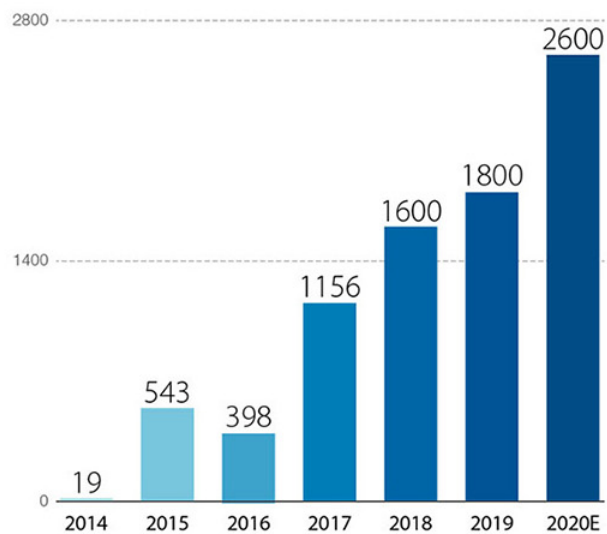
Constructed by Jinneng Clean Energy PV Construction Co., Ltd.: 1, 2, 3, 5

Sales Network

By the end of 2019, Jineryg has supplied 5.6 GW solar modules to 16 countries globally.



Module Shipment (MW)



Clean Power Generated (GWh)

