PV Smart Energy Solution Provider
Yingli Solar, among the earliest Chinese enterprises that engage in the photovoltaic sector, has now developed into a provider of smart photovoltaic energy solutions which focuses on R&D, intelligent manufacturing, and power plant development & operations. Yingli Solar has been engaged in the PV industry for 24 years, with over 30GW products available in more than 100 countries and regions across the world.

Headquartered in Baoding, Hebei Province, Yingli Solar has set up smart manufacturing bases in Baoding, Tianjin, Hengshui, etc. and introduced domestically and internationally advanced instruments and equipment, making its entire production process intelligent, automated, precise and efficient.

Yingli Solar has always highly valued independent R&D and technological innovation. It boasts several national research platforms and PV technology laboratories and has long been an industry leader with regard to the number of patents. Yingli Solar is striving for massive exploration and utilization of green solar energy through the state-of-the-art technologies, and is committed to achieving the carbon peaking and carbon neutrality goals through photovoltaic development.

Yingli Solar has been focusing on:

- high-efficiency cells and modules
- power plant operations
HIGHLIGHTS

1998

1998
Started its engagement in the PV industry and became one of the earliest PV companies in China

1999
Undertook a 3MW/year national demonstration project of polysilicon solar cells and application systems, marking a start of PV industrialization in China

1998

The pioneer in the PV industry

2003
Produced China’s first polysilicon ingot

2005
Participated in the Seminar on the Implementation of the Renewable Energy Law and organized activities to popularize the Law, to facilitate the development of the PV industry

2007
Went public on the New York Stock Exchange in the USA, thus entering the capital market officially

2009
- Became the first Chinese PV company to join the PV CYCLE
- Pioneered the development of n-type technology and named it “PANDA”
- Cumulative ≥1GW shipments
A global leader in the production and application of n-type products

2010
- Became the first PV company and the first Chinese company to sponsor the 2010 FIFA World Cup South Africa™
- Approved to be a “national key laboratory of PV materials and technologies”
- Achieved the production throughout the industrial chain from pulling, slicing, cell production to module production, as China’s first n-type high-efficiency monocrystalline cell manufacturer

2011
- Approved to be a “national key laboratory of PV energy technology”

2012
- PANDA modules secured the second place in TÜV Rheinland’s global “PV module power test”
- Became the world’s first PV company with TÜV Rheinland’s carbon footprint certification

2013
- Ranked first in the world with 3.2GW shipments of PV module

2014
- Continued to sponsor the 2014 FIFA World Cup Brazil™, making “Yingli Solar” shine on World Cup
- Listed among the top 3 in China brand awareness survey by TNS Emnid

A pacesetter for PV innovation through continuous devotion

2015
- Supported the Belt and Road strategy and facilitated the launch of the first China-EU PV train
- Awarded the title of “5-star Module of Rheinland Star”

2018
- Approved to be a “national technical standard innovation base (PV)”
- Enabled its PANDA modules to be the industry’s first product accredited by China’s CQC, the USA’s JL and German TÜV Rheinland

2019
- Won the 2019 high achiever award in quality in PV module from RETC

2020
- Provided 157MW n-type PANDA products for the largest bifacial power plant in the Middle East

2021
- Worked together with Huawei and North China Electric Power University to set up the Huawei Beiding New Energy Power Joint Innovation Lab
- Entered a new stage of development

A global leader through strategic upgrade

2022
- Ranked among Bloomberg New Energy Finance’s tier-1 PV module manufacturers
- Won the Overall High Achievement in Performance from RETC and became one of the world’s top six
GLOBAL PRESENCE AND PROFESSIONAL SERVICES

Owing to its global integrated service network, Yingli Solar can provide customers with timely and accurate services in an all-round manner and strengthen cooperation with key customers. It has branches and offices in Europe, Oceania, North America, Latin America and Asia. Such local service teams and after-sales service centers around the world can respond quickly to customer needs within 48 hours.

4 intelligent manufacturing bases

- Tianjin
- Lixian, Hebei
- Hengshui, Hebei
- Mancheng, Hebei

5 Satellite factories

- Yantai, Shandong
- Tongxin, Ningxia
- Jiujiang, Jiangxi
- Haining, Zhejiang
- Zhenjiang, Jiangsu
48h
Quickly respond to customer needs

30GW+
Its PV modules are working around the world

100+
Countries and regions covered

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Innovative in Science and Technology

Relying on its national research platforms, academician workstation, and post-doctoral workstation, Yingli Solar has made continuous efforts in independent innovation to sharpen its core competitiveness.

Yingli Solar is named National Technical Standard Innovation Base (PV), which is the only of its kind at the national level in China’s PV industry. As the leader, it has developed China’s first bifacial PV power generation standard and the industry’s first clean production evaluation index system, which play a crucial role in enhancing the voice and competitiveness of China’s PV technology.

118

Presided over and participated in the compilation of 118 Chinese and international standards
Yingli Solar has continued to make heavy investment in R&D and innovation. It has introduced and trained research talents in relevant high-end industries, and further explored R&D. Yingli’s technology laboratories have been accredited by China National Accreditation Service for Conformity Assessment (CNAS), China General Certification Center (CGC) and Shanghai Dekra Quality Certification. There are more than 400 sets of instruments and equipment which are advanced both domestically and internationally in these laboratories, with a total investment of 200 million Yuan. This enables the company to test over 300 items related to the whole industry chain ranging from silicon wafers, cells, modules to power plants while meeting the requirements of many international standards, including IEC, UL and IEC/EN.25

Leading-edge technologies make Yingli Solar more competitive

- Independent R&D


- Industry-academia-research Cooperation

Yingli Solar has entered into long-term cooperation with over 20 top universities and research institutes across the world to build interactive and mutually beneficial high-level industry-academia-research cooperation centers. Its PV module products represent the highest level of the industry.
With the industry-leading equipment and technology, Yingli Solar has achieved a high degree of automation in manufacturing management, quality management and energy management of its industrial bases, and formed intelligent interconnection and digital operation of production lines and equipment. Moreover, Yingli has production lines that apply internationally leading technology, and as a result, an intelligent industrial park towards low-carbon, green and intelligent manufacturing has taken shape.

Three management systems form a closed loop of intelligent manufacturing

- Rigorous quality system
  - Raw material control
  - Production control
  - Outgoing quality control

- Comprehensive certification system
  - CCC, TUV, UL, IEC, BIS

- Compete after-sales system
  - Module information inquiry
  - Technology consulting
  - Product technology information sharing

Intelligent manufacturing

- Big Data
- AI
- Intellectual Analysis
- Digital connections
- Cloud
- Zero Carbon

Labor efficiency up 30%
Module capacity in 2024 20GW+
N-Type solar cell capacity in 2024 15GW+

Management efficiency up 100%

Module conversion efficiency 22%
As a pioneer in developing and producing the first batch of n-type cells in China, Yingli Solar is the first company to achieve large-scale application of PANDA Bifacial N-Mono Module products by using its self-developed core technology and national-level laboratories with the support of the 863 Program, 973 Program and other national key scientific research programs. As a result, the first testing standard is then established. Yingli continued efforts to increase the power generation of n-type cells and reduce the LCOE have made it possible to apply n-type cells in diverse climates nearly everywhere in the world.

**PANDA technology**

- The first batch of foreigners in China
  - To make R&D and mass production of n-type cells

- The world’s first bifacial product supplier
  - Accredited by CQC, UL and TUV

- The world’s first company
  - To make large-scale application of power generation technology of Bifacial N-Mono Module

- The industry’s first test standard
  - For bifacial power generation

Able to perform in diverse complex climates and environments

- Utility power plant project under the Top Runner Program in Delang
  - The first bifacial power plant project under the Top Runner Program
  - The world’s largest application project of high-efficiency bifacial N-mono module

- Brilli utility power plant project in Oman
  - Significant reduction in LCOE in the high-temperature desert

- Fishery and PV power plant project in Zhejiang
  - Full absorption of the reflections on the water surface for power generation in humid subtropical areas

- Multi-energy hybrid power plant project on Nansha Islands
  - Stable operation under high temperature, high humidity, high salt spray and high load

**HIGHER ENERGY YIELD**
- Outstanding bifaciality
- Low light induced degradation

**LOWER LCOE**
- Good low light performance
- Good temperature coefficient

**BEETTER ENVIRONMENTAL ADAPTABILITY**
- Makes the modules even more resistant to snow loads, low temperatures, humidity and heat, and salt mist corrosion
With the business development model integrating "innovation, technology, industry, and services", Yingli Solar is committed to providing its clients with industry-leading integrated solutions for clean energy, that is, one-stop efficient services.

In the future, Yingli Solar will seize the opportunity of the green transformation of global energy structure, stay innovation-driven, and focus on the development of clean energy, to actively build a green energy system, and thus contribute to China’s goal of carbon neutrality.

**Power plant development and construction**

- Large and medium-sized utility PV power plants
- Fishery and PV power plants
- Industrial and commercial flat rooftops
- Agri-PV power plants
- County-wide distribution
- PV + Application Scenarios

**01** Project Development

**02** Project Design

**03** Construction

**04** Assets Management

**Integrated solutions for clean energy**
Efforts in carbon neutrality

A Chinese brand with global reputation
The Company sponsored 2020 and 2022 FIFA World Cups, aiming to promote the concept of clean energy on international platforms.

Making PV power more valuable for a shared green future
Yingli Solar has made positive efforts in carbon neutrality. It took the lead in releasing the White Paper on “Carbon Neutrality” Action Plan, announcing its carbon neutrality goal and action plan. Moreover, it joined hands with nearly 100 enterprises in the new energy industry chain to release the Green Supply Chain Initiative for “Carbon Neutrality.”

Lighting up people’s life through PV power
Since its inception, Yingli Solar has been living up to its social responsibility and commitment. It has been working hard to boost environmental protection and bring a more promising future through PV power.
Utility PV power plants

Bifacial project of national advanced PV technology demonstration base in coal mining subsidence area
Project Capacity: 500MW
Location: Dehong, Yunnan

Internet + Smart energy demonstration project in Zhangbei
Project Capacity: 249MW
Location: Zhangbei, Hebei

1. Power plants in Malaysia
2. Utility power plants in Germany
3. Bifacial project of national advanced PV technology demonstration base in coal mining subsidence area
4. “Internet + Smart energy” demonstration project in Zhangbei
Utility PV power plants

Power plants in Algeria
Project Capacity: 133MW
Location: Algeria

Bifacial power plants in Oman
Project Capacity: 157MW
Location: Oman

1. Power plants in Ecuador
2. Power plants in Algeria
3. Power plants in French
4. Power plants in Japan
5. Bifacial power plants in Oman
Utility PV power plants

Power plants in Mora, Portugal
Project Capacity: 4.8MW
Location: Portugal

1. Power plants in Mora, Portugal
2. Power plants in Ysua, Shanxi
3. Power plants in Germany
4. Power plants in Japan
Commercial projects

Great Wall Factory
- Project Capacity: 43MW
- Location: China

IKEA, Switzerland
- Project Capacity: 300kW
- Location: Switzerland

- Great Wall Factory
- IKEA, Switzerland
- Antwerp
- Anaheim Exhibition Center
Commercial projects

Rio de Janeiro
Project Capacity: 390kW
Location: Brazil

1. Rio de Janeiro
2. Commercial projects in Switzerland
3. Commercial projects in Japan
4. Commercial projects in Costa Rica
PV Distributed and Integration Projects

Shanghai Hongqiao
Project Capacity: 6.24MW
Location: Shanghai

1. PV distributed projects in French
2. PV distributed projects in El Salvador
3. Shanghai Hongqiao

4. PV-Electric Heating systems

In order to optimise the energy structure, continuously improve air quality and improve clean heating, Yingu Solar installed 36.27MW PV-Electric Heating Systems for 7153 households in 38 villages in four counties of Baoding.
PV Distributed and Integration Projects

- Xiongan train station
- Project Capacity: 6MW
- Location: Xiongan

- Floating power plants in Switzerland
- Siemen Lerne College
- PV distributed projects in Malaysia
- GuanZhi Solar Agriculture
- PV distributed projects in Singapore