
INDUSTRY OVERVIEW

The information set forth in this section was extracted from different official government publications, available sources from public market research and other independent sources. In addition, we engaged Frost & Sullivan to prepare an independent industry report for the Global Offering. We believe that the sources for the information and statistics in this section are appropriate sources for such information and we have taken reasonable care in extracting and reproducing such information. We have no reason to believe that the information presented in this section is false or misleading in any material respect or that any fact has been omitted to render such information materially false or misleading. The information and statistics included below and elsewhere in the prospectus have not been independently verified by the Company, the Joint Sponsors, the Joint Global Coordinators, the Joint Bookrunners, the Underwriters, or any other party involved in the Global Offering or their respective directors, advisers and affiliates, and no representation has been given as to its accuracy. Accordingly, such information should not be unduly relied upon. Our Directors confirm that, after taking reasonable care, there is no adverse change in the market information since the date of the report prepared by Frost & Sullivan, which may qualify, contradict or have an impact on the information set forth in this section.

SOURCES OF INFORMATION

In order to facilitate the Global Offering, we have commissioned Frost & Sullivan, an independent third party, to analyze the current status of selected industries in which we operate. Founded in 1961, Frost & Sullivan conducts industry research and corporate training in various industries, including energy and power systems and environmental technologies. We agreed to pay Frost & Sullivan a fee of RMB600,000 for the preparation of its industry report, regardless of the results of their analysis.

In preparing its report, Frost & Sullivan interviewed industry participants and associations and relied on annual reports of public companies, government databases, independent research journals and literature, as well as its own internal databases built up over the past decades. Projected data are derived from historical data analyses against macroeconomic data as well as specific industry drivers, including technology improvement, policy and regulations. In addition, Frost & Sullivan developed its forecasts based on the following assumptions:

- The social, economic and political environments being examined will remain stable during the forecast period, ensuring the sustained development of China's PV market and renewable energy industry.
- Key drivers that are likely to affect the demand for PV products and renewable energy projects during the forecast period have been examined, such as continued strong government support, urbanization in China, and potential further demand in the downstream industries.

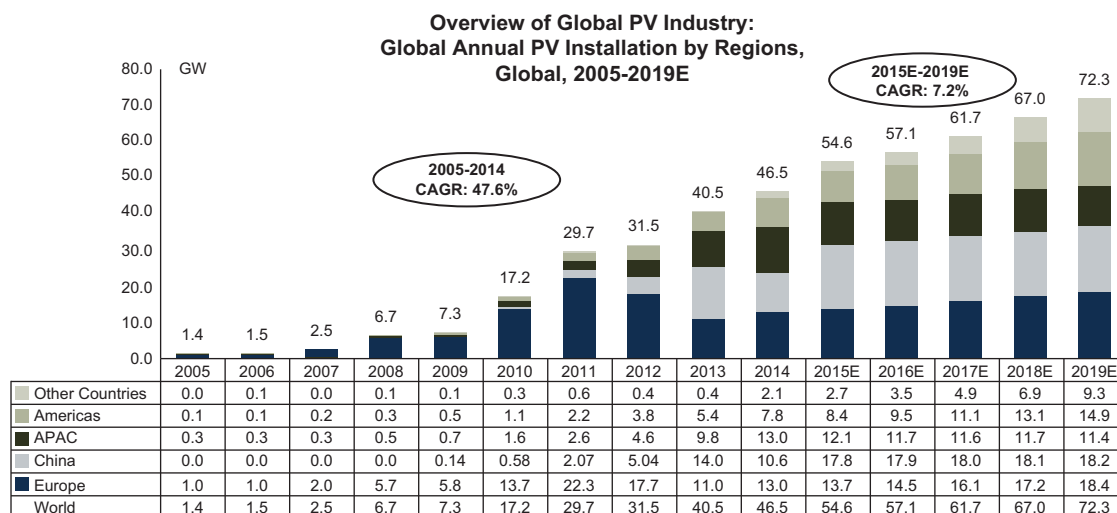
Our Directors and the Joint Sponsors have exercised reasonable care in reviewing and discussing the above assumptions and factors with Frost & Sullivan, and nothing has come to the attention of our Directors and the Joint Sponsors to indicate that the disclosure of projections and industry data relating to future periods in this section is misleading. Unless otherwise indicated, market estimates or forecasts in this section represent Frost & Sullivan's view on the future development in select industries in the PRC and worldwide.

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GLOBAL PV INDUSTRY

Global annual PV installation has increased significantly in the last decade, increasing from 1.4GW in 2005 to 46.5GW in 2014, with a compound annual growth rate (“CAGR”) of 47.6%. This was due primarily to the rapid expansion of PV projects in European countries, such as Germany and Italy. The rapid growth of PV installation in Europe ceased in 2012, while China and other Asian countries emerged as a major force driving the further growth of global PV installation.

Increasing global energy demand, improvements in PV technology and continued growth of PV installation in emerging markets, such as China and South Africa, are expected to contribute to the future growth of the global PV market. According to Frost & Sullivan, the global annual PV installation is expected to grow at a CAGR of 7.2% from 2015 to 2019, reaching 72.3GW during 2019.



Source: European Photovoltaic Industry Association, Frost & Sullivan

CHINA'S PV INDUSTRY

Industry Analysis and Growth Drivers

Still in its early stage, China's PV market has experienced rapid growth. According to the European Photovoltaic Industry Association, 43% of the cumulative installed PV capacity in China was installed in 2013.

Such growth is largely attributable to a favorable regulatory environment and continuous technological improvement. Since 2005, the PRC government has initiated multiple incentive programs to ensure sustained growth in the PV industry and to provide an attractive pricing mechanism for solar energy. Since 2014, the NDRC has divided the PRC into three solar resource zones with on-grid tariffs of RMB0.9/kWh, RMB0.95/kWh and RMB1.0/kWh, respectively. The difference between the on-grid tariff on PV projects and the on-grid tariff on local coal-fired power plants will be subsidized by the renewable energy development fund in China. The favorable on-grid tariffs will be valid for 20 years. The continued improvement in PV technologies has also steadily lowered the costs of producing polysilicon and manufacturing PV modules and is expected to contribute to continued growth in the PV industry in China.

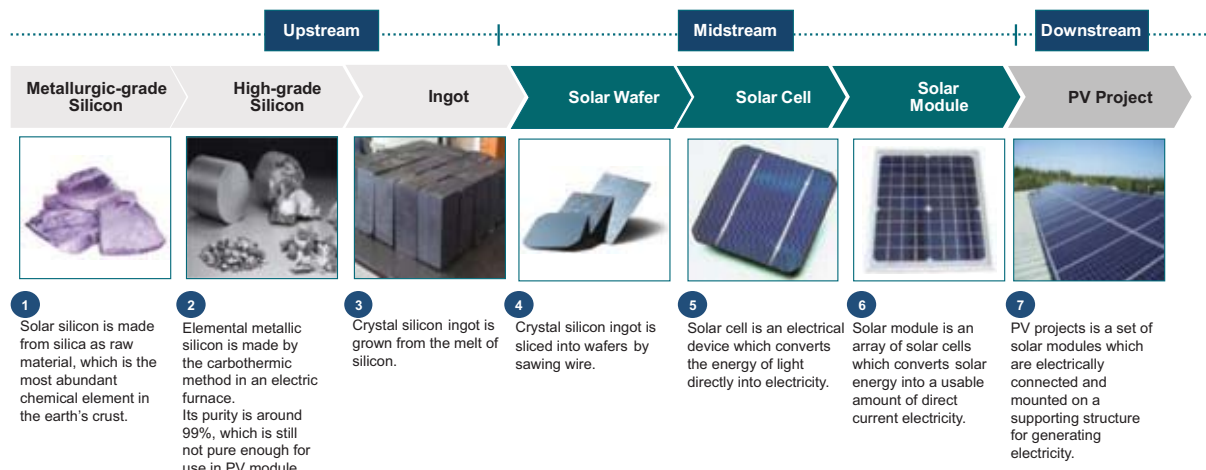
In addition, the advantages of solar energy generation are clear and particularly appealing in the context of the Chinese economy. In addition to being environmentally friendly during production and pollution-free in use, solar energy generation is convenient and flexible in that PV projects can be built

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and employed anywhere as long as there is sunlight. PV projects are also highly modular and can be easily scaled up or down to match the changing demand. Furthermore, solar energy is safe and reliable and does not face problems often associated with conventional energy sources, such as waste disposal and storage and transportation safety.

Industry Composition

China's PV industry covers three segments: upstream, midstream and downstream. Upstream participants produce silicon and polysilicon, the most important raw materials for PV industry. Middle-stream participants transfer the raw materials into PV wafers, manufacture PV cells with wafers, and assemble PV cells into PV modules. Downstream participants build and/or operate power stations with the middle-stream products.



Sources: Frost & Sullivan

Various degrees of entry barriers exist in the PV market in China. The levels of barriers to upstream and downstream segments are often higher, and as a result, upstream producers and downstream contractors are more likely to realize profit than middle-stream participants. The following table sets forth the range of gross profit margin for leading players in China by segment:

Segment	Industry	Gross Profit Margin for Leading PRC Companies in 2014
Upstream	Polysilicon production	15 – 25%
Midstream	PV product and equipment manufacturing	10 – 20%
Downstream	Project construction under EPC model	5 – 20%
	Project construction under BT and BOT models	10 – 30%
	Project operations	40 – 50%

CHINA'S SOLAR-GRADE POLYSILICON INDUSTRY

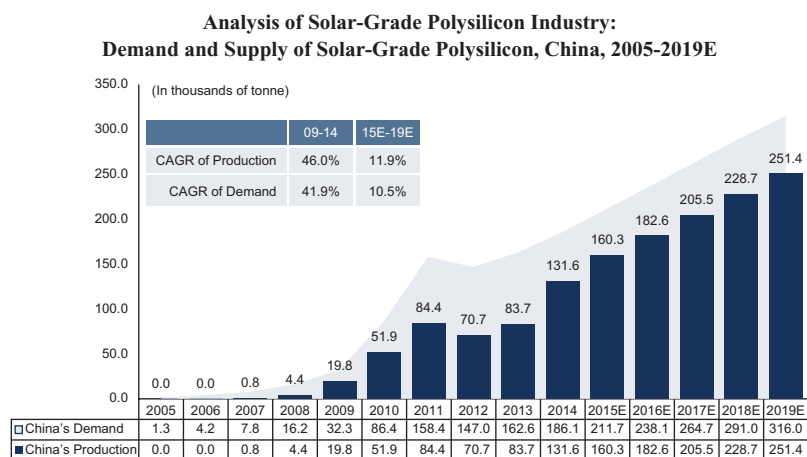
Solar-grade polysilicon refers to polysilicon that can be directly used in the manufacture of PV ingots and silicon rods, usually with a high level of purity between 6N (99.9999%) and 9N (99.9999999%). Polysilicon is the most widely used material for manufacturing PV wafers and modules as the crystalline silicon module accounts for more than 90% of the market. Polysilicon is necessary in the production of both monocrystalline and polycrystalline silicon modules.

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China's polysilicon market is young and evolving. It is also highly competitive and capital intensive, with high entry barriers. Main customers include enterprises engaging in the midstream PV industry. Key players include international corporations, such as Hemlock Semiconductor Corporation ("Hemlock") and Wacker Chemie AG ("Wacker"), and domestic manufacturers, such as GCL-Poly Energy Holdings Limited ("GCL-Poly") and Xinte Energy.

China's Demand and Supply

Since 2009, polysilicon production in China has expanded rapidly, driven by the booming PV industry. The supply still falls short of the demand, and, as a result, China relies heavily on the importation of polysilicon. China's demand for polysilicon in 2014, for instance, has reached 186,100 tonnes, well in excess of its domestic production of 131,600 tonnes. According to Frost & Sullivan, the increasing PV module production is likely to further increase the Chinese demand for polysilicon in the next five years.

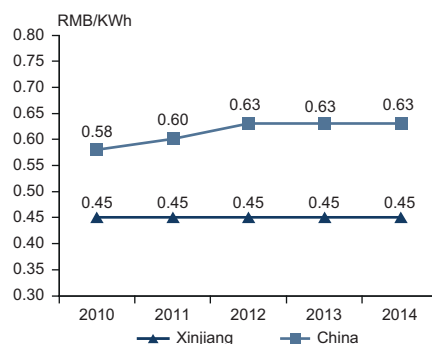


Source: Frost & Sullivan

Production Cost Analysis

Electricity accounts for almost 40% of the total polysilicon production cost. The reduction process is the most electricity-intensive process, consuming 60 to 65 kWh/kg of polysilicon on average. During the past five years, the national average for the industrial electricity price was RMB0.61/kWh. During the same period, the industrial electricity price remained stable at RMB0.45/kWh in Xinjiang.

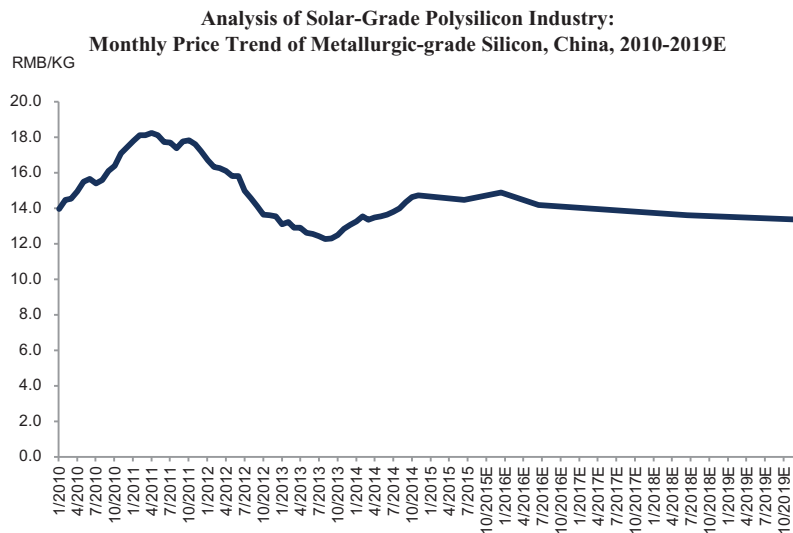
**Analysis of Solar-Grade Polysilicon Industry:
Average Price of Industrial Electricity,
Xinjiang and China, 2010-2014**



Source: Xinjiang Development and Reform Commission, Frost & Sullivan

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The key raw material in polysilicon production is metallurgic-grade silicon. The price of metallurgic-grade silicon has been stable for the past three years and is expected to remain at its current level.

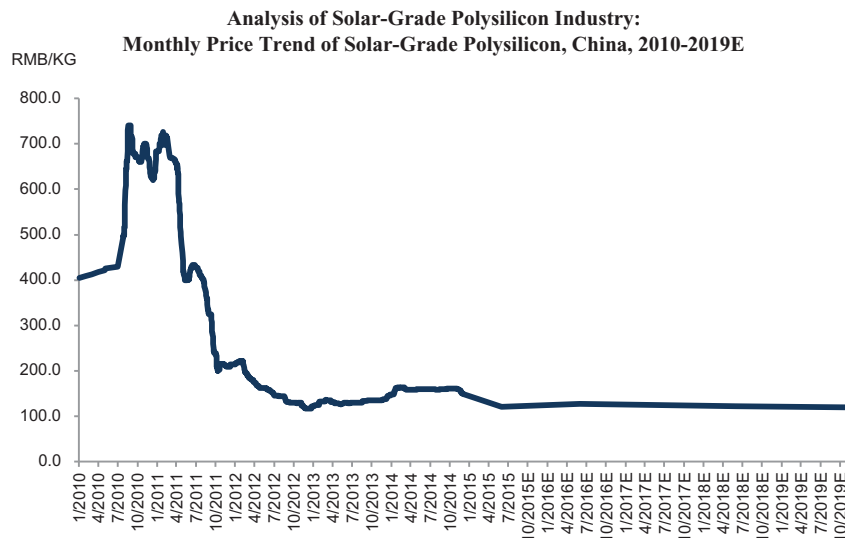


Source: Frost & Sullivan

Polysilicon Price Trend and Forecast

The shortage of supply as well as the rising demand for polysilicon together drove up price for solar-grade polysilicon prior to 2010. After reaching its peak in 2011, the average price (including VAT) of polysilicon dropped rapidly, declining nearly 70% to RMB167.6/kg in 2012 from RMB481.2/kg in 2011. The decline in price is mainly due to (i) the Europe-led global slowdown of PV installation and (ii) the global production overcapacity due to the increasing number of polysilicon producers in China and the continuous expansion of production by polysilicon producers overseas.

After hitting its five-year low in 2013, the price of polysilicon began to recover slowly, mainly due to (i) increased demand, particularly from PV installation in Asia, and (ii) decreased production, as the sharp decline in price during 2011 and 2012 forced several producers out of business. Frost & Sullivan expects the polysilicon price to decline slowly in the next five years as technological advances continue to reduce manufacturing costs, assuming that supply and demand remain stable.



Source: Frost & Sullivan

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Entry Barriers to the Upstream PV Market

- *Technology.* Technology is an important factor affecting the profitability of polysilicon production. Various technologies, such as those applied in processing raw materials, low-temperature hydrogenation and FBR, are introduced to reduce production costs. These are complex technologies and create entry barriers for new entrants in two aspects: (i) the leading global players have accumulated patented technologies which help reduce the production cost, and (ii) the length of time required for new entrants to fully leverage a widely accepted technology makes it more difficult to reduce production costs and operate the business at a competitive level.
- *Economies of scale.* Existing players have already achieved economies of scale, discouraging new entrants from attempting to reach a production capacity large enough to offer a competitive price.
- *Capital requirement.* Polysilicon production requires significant initial investment to build production lines and purchase equipment. Furthermore, producers have to wait before recouping their investments because it normally takes several years to complete construction of new facilities and reach full utilization.
- *Vertical integration.* When a firm vertically integrates (e.g. by gaining control over different stages of an industry) and successfully reduces transaction costs and risks, it may create entry barriers by strengthening its own position against competitors. Several middle-stream module producers, such as GCL-Poly and ReneSola Ltd. (“ReneSola”), have expanded into polysilicon production and in turn polysilicon producers, such as Xinte Energy and ReneSola Ltd., have entered into the downstream PV market. Such attempts to integrate vertically may help consolidate their positions in the overall PV market and form barriers for new players to enter the business.

Competitive Analysis of China’s Polysilicon Industry

- *Designed Capacity.* According to Frost & Sullivan, the top five solar-grade polysilicon producers in China accounted for 59.7% of the market share in terms of the designed production capacity in 2014.

Rank	Company	Designed Production Capacity (Tonne)	Market Share
Top five solar-grade polysilicon producers			
1	GCL-Poly	65,000.0	38.0%
2	Xinte Energy	15,000.0	8.8%
3	China Silicon Corporation Ltd. (“China Silicon Co.”)	10,000.0	5.8%
4	DQ New Energy Corp. (“DQ”)	6,150.0	3.6%
5	ReneSola	6,000.0	3.5%
Subtotal		102,150.0	59.7%
Others		68,850.0	40.3%
Total		171,000.0	100%

Source: Company Annual Report, Frost & Sullivan

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- *Production output.* According to Frost & Sullivan, the top five solar-grade polysilicon producers in China accounted for 79.6% of the market share in terms of the total production output in 2014.

Rank	Company	Total Production Output (Tonne)	Market Share
Top five solar-grade polysilicon producers			
1	GCL-Poly	65,582	49.8%
2	Xinte Energy	17,505	13.3%
3	China Silicon Co.	9,500	7.2%
4	DQ	6,369	4.8%
5	ReneSola	5,825	4.4%
Subtotal		104,781	79.6%
Others		26,852	20.4%
Total		131,633	100.0%

Source: Company Annual Report, Frost & Sullivan

Competitive Analysis of Global Polysilicon Industry

- *Designed Capacity.* According to Frost & Sullivan, the top five global solar-grade polysilicon producers accounted for 55.2% of the market share in terms of the designed production capacity in 2014. We ranked seventh among the top ten global solar-grade polysilicon producers with a market share of 3.6% in terms of the design production capacity in 2014.

Rank	Company	Designed Production Capacity (Tonne)	Market Share
Top five solar-grade polysilicon producers			
1	GCL-Poly	65,000	16.8%
2	Wacker	46,800	12.1%
3	OCI Corporation (“OCI”)	42,000	10.9%
4	Hemlock	39,500	10.2%
5	Renewable Energy Corporation (“REC”)	20,000	5.2%
Subtotal		213,300	55.2%
Others		173,700	44.8%
Total		387,000	100.0%

Source: Company Annual Report, Frost & Sullivan

- *Production Output.* According to Frost & Sullivan, the top five global solar-grade polysilicon producers accounted for 70.1% of the market share in terms of the total production output in 2014.

Rank	Company	Total Production Output (Tonne)	Market Share
Top five solar-grade polysilicon producers			
1	GCL-Poly	65,582	23.4%
2	Wacker	45,900	16.4%
3	OCI	42,000	15.0%
4	Hemlock	25,500	9.1%
5	Xinte Energy	17,505	6.2%
Subtotal		196,487	70.1%
Others		83,970	29.9%
Total		280,457	100.0%

Source: Company Annual Report, Frost & Sullivan

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Competitive Factors in China's Solar-Grade Polysilicon Industry

- *Research and development.* Polysilicon producers should be equipped with strong research and development capacity to further improve product quality and lower production costs.
- *Low-cost energy.* Electricity represents 30-40% of total production cost. Using low-cost electricity or self-supplied electricity may help lower the costs. For example, in 2014, Xinte Energy's electricity cost in its polysilicon production business was over 40% lower than the open market rates in Xinjiang for industrial use, which rate was also lower than the national average rate in China.
- *Financial strength.* The polysilicon industry is capital-intensive. Producers should thus maintain strong financial positions and banking facilities.
- *Long-term customer relationship.* Fostering a long-term relationship with customers will ensure a stable demand, reduce operating risks and help save on marketing and sales expenses.
- *Industry insight.* Producers must understand downstream demands in order to establish effective development strategies.

Future Trends in China's Solar-Grade Polysilicon Industry

- *Technology development.* The quality of PV modules depends heavily on the quality of the polysilicon. As customers seek a higher conversion rate (PV module efficiency) for PV modules, producers have continued incentive to invest in production technology to further improve the quality of their polysilicon products.
- *Increasing market demand.* Assuming the continued favorable regulatory environment and increasing environmental awareness in the PRC, Frost & Sullivan expects that domestic PV installation will increase rapidly in the foreseeable future. Crystalline silicon PV modules, the most widely used commercial PV products, are expected to be in high demand in the near future, driving up the demand for polysilicon.

CHINA'S PV AND WIND POWER PROJECT CONSTRUCTION INDUSTRY

Engineering and Construction Project Arrangements in China: EPC and BT

Under the EPC model, the contractor is in charge of designing, procuring and carrying out the construction project. Although the exact percentage of PV contracts employing the EPC model cannot be estimated, Frost & Sullivan believes that the EPC model is the most common form of contracting in China's PV industry, since the integration of designing and construction facilitates overall project efficiency and the EPC contractor has an incentive to optimize the construction processes to increase profit margin. Under the BT model, the contractor serves as the project investor (by setting up a project company as its subsidiary) and undertakes the financing and development of the project. The BT contractor eventually transfers and sells the equity interest in the project company to the third-party purchaser, thereby recovering the construction, subcontracting and/or financing costs on the project.

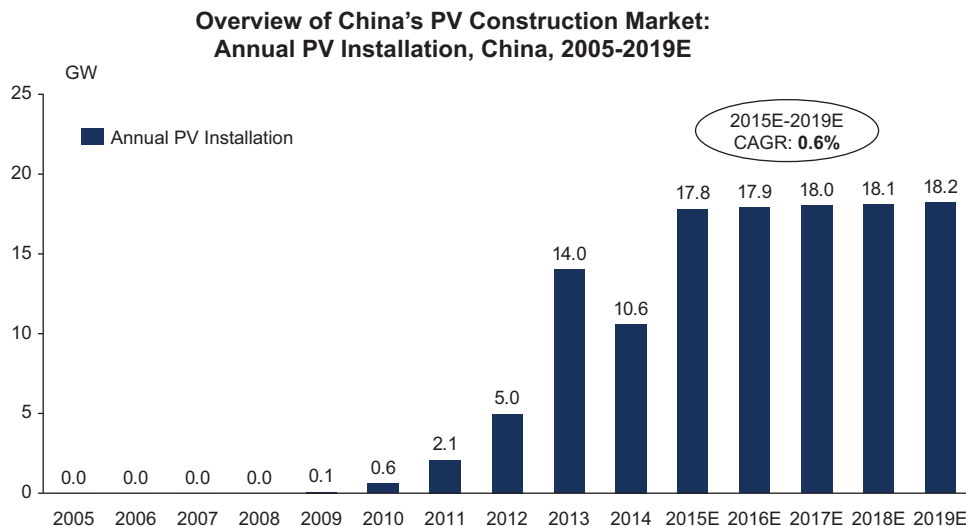
PV Project Construction Industry

According to the Strategic Plan of Energy Development (2014-2020) (《能源發展戰略行動計劃(2014-2020年)》) issued in 2014, the PRC government announced a target of reaching cumulative PV

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installation of 100GW in 2020. In the beginning of 2015, the NEA also made an announcement of annual PV installation target of 17.8GW for the year of 2015. Given the strong support from both central and provincial government, the annual PV installation is expected to increase from 10.6 GW in 2014 to 18.2 GW in 2019.

The graph below provides an overview of PV construction projects in China from 2005 onwards. Based on the PRC government’s plan to develop the PV industry, Frost & Sullivan expects the annual installed capacity of the PV projects will increase from 10.6GW in 2014 to 18.2GW in 2019, with a CAGR of 0.6% from 2015 to 2019.



Source: NEA, China Electricity Council, Frost & Sullivan

- **Competitive Analysis.** Top five contractors accounted for 19.8% of the total annual PV installed capacity in China in 2014, with the top three representing 6.3%, 3.5%, and 3.4%, respectively, of the market share. In 2014, Xinte Energy ranked first among China’s PV contractors, with a market share of 6.3%.

Rank	Company	Completed installed capacity (MW)	Market Share
1	Xinte Energy	664.7	6.3%
2	Shanghai Solar Energy Science & Technology Co., Ltd. (“Shanghai Solar Energy”)	371.5	3.5%
3	Astronergy	360.0	3.4%
4	Zhongli TaleSun Solar Co., Ltd	358.0	3.4%
5	GD Solar (Jiangsu) Co., Ltd.	265.3	2.5%
	Others	8,580.5	80.9%
	Total	10,600.0	100.0%

Source: Company Annual Report, Frost & Sullivan

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In terms of completed and constructing installed capacity of PV projects, Xinte Energy ranked second among the global PV project contractors in 2014.

Rank	Company	Completed and constructing installed capacity (MW)
1	First Solar, Inc.	1,544.0
2	Xinte Energy	1,279.3
3	SunPower Corporation	1,256.0
4	SunEdison, Inc.	783.0
5	Shanghai Solar Energy	681.5

Source: Company Annual Report, Frost & Sullivan

Competitive Factors in China's Renewable Energy Industry

- *Reputation and industry experience.* Since quality and timely construction are crucial to profitability, project owners will select experienced contractors in good standing to guarantee smooth operation.
- *Low-cost financing.* Under both the EPC and BT arrangements, the contractor's requirement of advance capital to proceed with construction and thus its profit margin depend on its ability to obtain low-cost financing.
- *Relations with leading suppliers.* To ensure quality construction, the contractor should maintain secure relations with leading suppliers.
- *Ready reserve of development rights.* Obtaining government approval is a precondition for launching new energy projects in China. Given the limited quota for PV and wind power projects in China and limited locations suitable for profitable development of PV or wind power projects, BT contractors should have a sufficient reserve of project rights.
- *Skilled personnel.* Building a team of skillful professionals is important to deliver quality and reliable results.

Wind Power Project Construction Industry

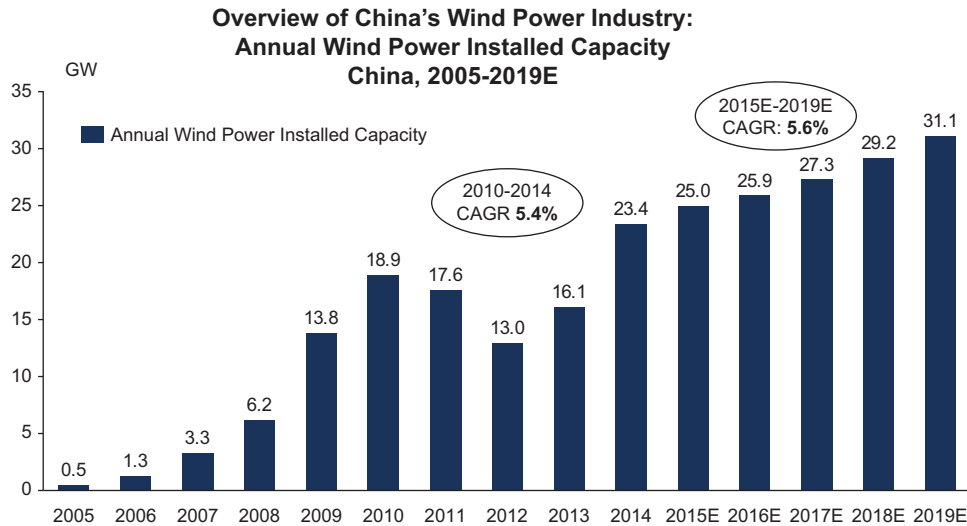
With a global market share of 45.2%, China had the largest wind power market in 2014. China's accumulated installed wind power capacity amounted to 114.8GW in 2014, ranking first globally with a market share of 31.1%. China's wind power project construction market is highly fragmented, with the top five constructors accounting for 13.1% of the market, in terms of completed installed capacity in 2014. Xinte Energy had less than 1% of market share in 2014.

In 2013 to 2014, China's annual wind power installation has recovered from the 2010 to 2012 recession. In 2014, annual installed wind power capacity in China was 23.4GW, representing a substantial increase of 45.1% from 2013. According to Frost & Sullivan, annual installed wind power capacity has increased from 18.9GW in 2010 to 23.4GW in 2014, with a CAGR of 5.4%, and is expected to grow at a CAGR of 5.6% from 2015 to 2019, reaching 31.1GW in 2019, assuming that the PRC government continues its favorable policy to encourage wind power projects and the cumulative installation target set by the government will be met in advance. According to the Strategic Plan of Energy Development (2014-2020) (《能源發展戰略行動計劃 (2014-2020年)》) issued in 2014, the PRC government announced its aim to substantially promote the development of renewable energy and a

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target of reaching cumulative wind power installation of 200GW in 2020. China is expected to achieve its 2020 target of 200GW for installed wind power capacity in advance since its target for 2015 has already been met in 2014.

The following diagram provides an overview of China's wind power industry in terms of annual installed wind power capacity.



Source: Chinese Wind Energy Association, Frost & Sullivan

Entry Barriers to China's Renewable Energy Project Construction Industry

- *Qualification.* Certain qualifications are required to undertake PV or wind power plant construction. A company must have the required experiences and its key personnel must be certified in relevant areas.
- *Capital requirement.* It is common in China that project owners make payments beginning several months after the project is initiated. EPC and BT contractors are thus required to provide their own financing, partly or wholly, in advance of construction. Those lacking financial resources will not stay in business to the extent that renewable energy power plants require large initial investments.
- *Expertise and reputation.* PV or wind power plant construction requires expertise and extensive experience in engineering and procuring high-quality equipment.

Future Trends in the Renewable Energy Construction Industry

- *Integrated value chain.* China's PV and wind project markets are promising. As contractors enter the industry and develop expertise in project management and plant operations, they are likely to expand their business into the downstream industry, particularly into project operations, and become owners of the PV or wind power projects in order to earn larger profits and avoid delays in payment from project owners.
- *Overseas opportunities.* The Chinese government has pushed for the New Silk Road Economic Belt initiative, also known as the "One Belt, One Road" strategy, to promote economic cooperation among countries in Eurasia. Financial support from the Asian Infrastructure Investment Bank and government infrastructure funds is expected to stimulate renewable energy plant construction along the "New Silk Road", benefiting China's PV and wind power construction contractors.