

## Research Report on Photovoltaic (PV) Industry in China, 2014-2018

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## Abstracts

The photovoltaic industry develops rapidly in China in recent years. China became the world's largest producer of photovoltaic products in 2007 with the export value of USD 2,838 million. In 2013, the export value of photovoltaic products exceeded USD 10 billion. The export of photovoltaic products from China is hindered by anti-dumping measures taken by developed countries and some emerging markets.

After nearly 10 years of rapid development, Chinese photovoltaic industry entered into a difficult period as overseas photovoltaic market shrank in 2011. Chinese government issued a series of policies to support the photovoltaic industry. In 2011, the National Energy Administration raised the expected production of photovoltaic electric power during the Twelfth Five-Year (2011-2015) for twice. Meanwhile, the Ministry of Industry and Information Technology of China issued documents to support development of BIPV technology. On February 1, 2012, the Ministry of Finance of China published the Circular on the Implementation of "Golden Sun" Demonstration Project to promote large-scale application of photovoltaic power generation and industrial development. The State Council of China issued the Suggestions on Promoting the Healthy Development of Photovoltaic Industry and a series of supportive policies in 2013. Photovoltaic power generation developed rapidly in China in recent years. The output volume of photovoltaic cell modules was 26 GW in China in 2013, accounting for over 60% of the global number. The export volume was 16 GW while the export value was USD 12.7 billion. As domestic market grew rapidly, new installation volume exceeded 12 GW while the total volume exceeded 20 GW. The proportion of sales volume of cell modules in domestic market increased from 15% in 2010 to 43%.

By the end of 2013, the installed capacity of power generation in grid-connected operation reached 19.42 GW, including 16.32 GW in photovoltaic power stations and



3.1 GW of distributed PV. Total annual power generating capacity was 9 billion kWh. New photovoltaic power generation capacity was 12.92 GW, including 12.12 GW in photovoltaic power stations and 0.8 GW of distributed PV. In early 2013, State Grid started to provide qualified photovoltaic power generation projects (run by individuals or organizations) with free grid connection services. Photovoltaic power generation project with the capacity below 6 MW can apply for grid connection in local power grid companies. The companies will complete the installation for free within 45 days and purchase the surplus electric power of photovoltaic power generation projects with the price of 1 CNY/kWh, which is over twice of that of thermal power.

According to available data, 22 regions, mainly in Southwest China, completed the grid connection of over 700 large-scale photovoltaic power generation projects by the end of 2013. Gansu, Qinghai and Xinjiang were the top 3 regions with the installed capacity of 4.32 GW, 3.1 GW and 2.57 GW respectively. The total capacity of the 3 regions accounted for over 60% of the total number in photovoltaic power stations.

In China, distributed PV is mainly concentrated in eastern areas with large consumption of electric power. The grid-connected capacity in East China and North China was 1.45 GW and 0.49 GW, which accounted for 60% of national distributed PV. Zhejiang, Guangdong and Hebei were the top 3 regions with the grid-connected capacity of 160 MW, 110 MW and 70 MW respectively. The total capacity of the 3 regions accounted for over 40% of the total number of distributed PV.

Average cost of photovoltaic power generation exceeded 4 CNY/kWh in China in 2006. The number in some enterprises decreased to 1 CNY/kWh in 2013. Once grid parity of photovoltaic power generation is realized, Chinese photovoltaic industry will transform from government subsidies to market-driven industry and embrace great opportunities for development.

The number of photovoltaic enterprises increased from dozens in early 21st century to hundreds and decreased to 50 or so in global financial crisis in 2008. The amount of investment increased in the industry as Chinese economy recovered and global demand increased. By the end of 2013, the number of photovoltaic enterprises exceeded 100 in China.

However, not all photovoltaic enterprises can gain further development though Chinese government reinforced the support for industrial development and boosted promising prospect. Many problems exist in Chinese photovoltaic industry. Key technologies, such as materials and equipment, and basic development lack further improvement



compared with international advanced level. Financial and policy support lays particular stress on application while R&D is neglected. Moreover, related policies such as grid-connected power generation lack specific operation methods.

#### Through this report, the readers can acquire the following information:

Policy and Economic Environment in China Photovoltaic Industry

Major Photovoltaic Manufacturers and the Operation Status in China

Development Status of Photovoltaic Power Stations and Distributed PV in China

Supply and Demand in China Photovoltaic Industry

Import and Export of PV

Forecast on Development of China Photovoltaic Industry

#### The following enterprises and people are recommended to purchase this report:

Enterprises Related to Industry Chain of PV

Investors/Research Institutes Concerned About China Photovoltaic Industry



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