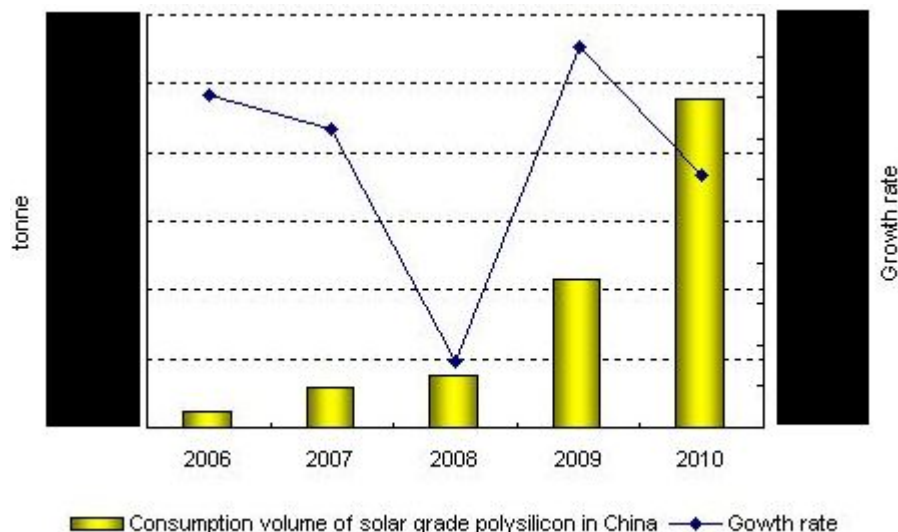


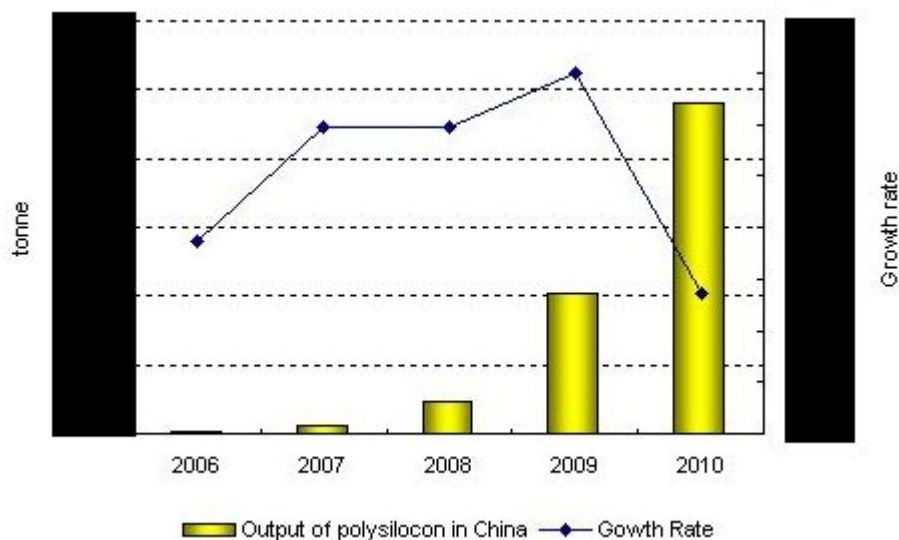
Note: Key data/information in this sample pages is hidden, while in the report is not.

### I-1 Consumption of polysilicon in recent 5 years



### I-2 Production of polysilicon in recent 5 years

In 2010, announced annual capacity of Chinese polysilicon producers was about [redacted] thousand tonnes with actual output of [redacted] tonnes and operating rate of only 40%. Lack of experienced technical personnel and advanced production processes lead to high production cost and damage to environment, which further leads to weak market competitiveness. In 2010, the average production cost in China was [redacted], comparing with about [redacted] of Hemlock and Wacker.



### I-3 Main producers

	Company	Location	Capacity in July 2011, '000 tonnes	Planning Capacity in 2012, '000 tonnes	Planning Capacity in 2013, '000 tonnes	Output in 2009, tonne	Output in 2010, tonne
1	Golden Concord Holdings Limited						17,500
2	LDK Solar Hi-Tech Co., Ltd.						
3	China Silicon Corporation Ltd.	Henan, Inner Mongolia	10.00	15.00			
4	Daqo New Energy Corp.	Chongqing, Xinjiang					
5	ReneSola Solar Energy Co., Ltd.	Sichuan					
27	Hebei Dongming Sino-silicon Technology Co., Ltd.	Hebei					
...	...	...	...	...	...	...	...
28	Zhejiang Zhongning Silicon Industry Co., Ltd.	Zhejaing					
29	Jiangxi Jingda Silicon Co., Ltd.	Jiangxi		0.10	0.10		
50	Shanxi Sanjin Silicon Co., Ltd.	Shanxi					
51	Yiyang Guojing Silicon Industry Co., Ltd.	Hunan					
52	Zhongxing Energy Co., Ltd.	Inner Mongolia					
53	Bosideng Silicon Industry Co., Ltd.	Jiangsu			3.00	0	
54	Sanmenxia Dijiu Mining Industry Co., Ltd.	Henan					
	<b>Total</b>	/					

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### I-5 Technology and device providers

Company	Advantage	Main Chinese clients
		Daqo, Ledian Tianwei, GCL
		GCL,
	Optimized mono-silane route	Puxin Chengda, Dijiu Minig Indstry.
...	...	...
	Large-volume reactors, Cold conversion technology	
	Mature technology	

Xinguang	Mature technology	
		Zhejiang XCSI

## II-1 Analysis on cost

Power consumption takes up about 45% of the total production cost of polysilicon, and unit power consumption mainly depends on the performance of reduction reactor and STC (SiCl<sub>4</sub>)-to-TCS (SiHCl<sub>3</sub>) converter. So we mainly investigated the two processes.

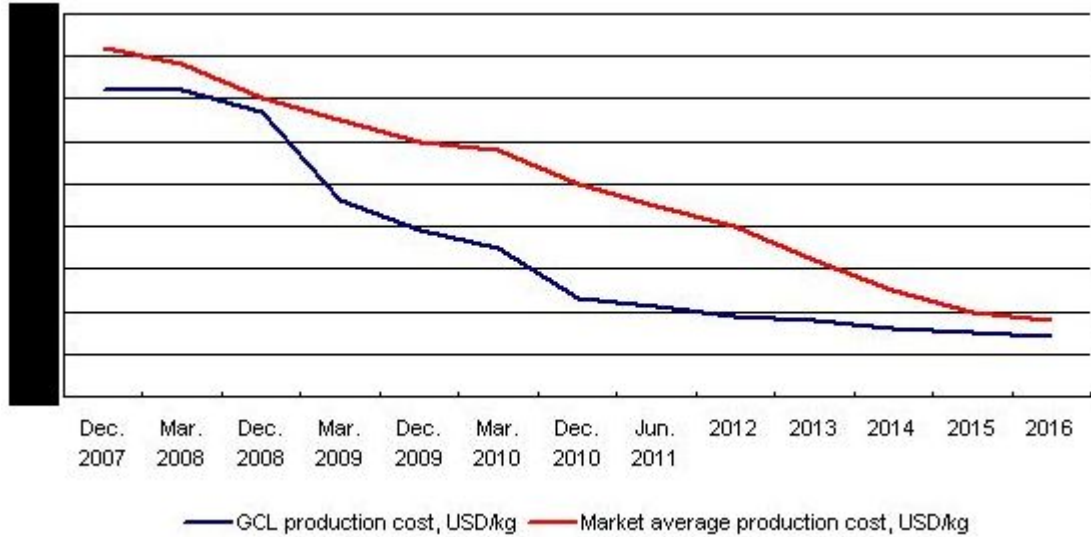
Features (at June 2011)	Depositing process	Converting process	Capacity	Cost appraisal
GCL		Cold conversion process operating at with conversion capacity of  Single-pass conversion rate 25%.		USD /kg. Comprehensive power consumption: KWH/kg.
...	...	...	...	...
LDTW	Mainly using double-rod reduction furnace of PPP. Power consumption KWH/kg.	Thermal conversion process operating at with conversion capacity of 10,000 t/a. Power consumption  Single-pass conversion rate		USD /kg. Comprehensive power consumption: KWH/kg.

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## IV-1 Forecast on production cost

In June 2011, the production cost of GCL which represents the lowest cost in China is USD /kg and market average cost is USD /kg. As the reduction reactor becomes larger and

more companies adopt cold conversion system to deal with tail gas, the market average unit cost is bound to keep decline in following years. It is predicted that in [REDACTED] the the market average unit cost may decline to USD [REDACTED].



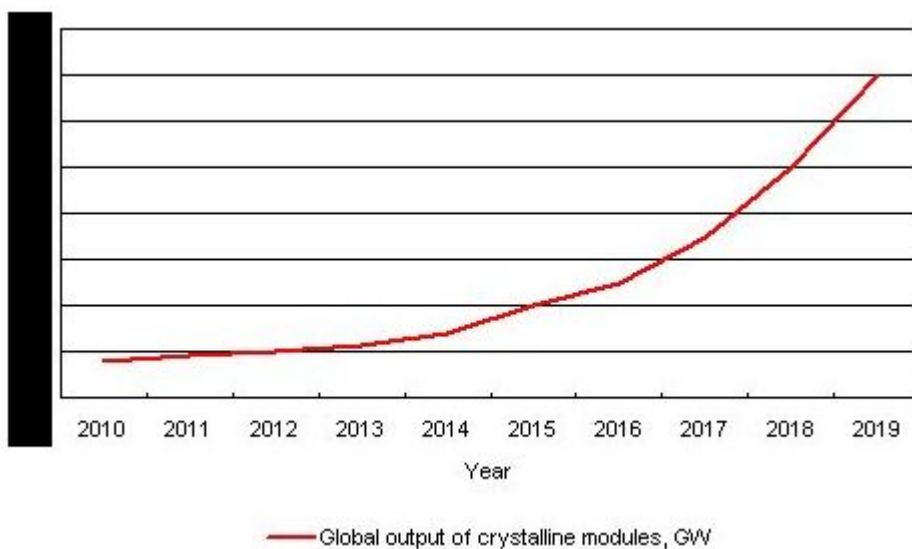
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#### IV-4 Forecast on output of crystalline cells

The annual output of crystalline cells mainly depends on the following factors: 1, the development situation of global economy; 2, the production cost of solar energy; 3, the competition from other power, such as fossil energy, wind power, and film solar cells.

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#### IV-6 Forecast on consumption volume and output

Based on the above analysis on global output of crystalline modules, Chinese share in global market of crystalline modules, combined with the prospect of falling unit consumption of polysilicon by modules and rising polysilicon self-sufficiency rate of China, we make the Forecast on consumption volume and output of polysilicon in China.

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Year	Global output of crystalline modules, GW	Chinese share in global market of crystalline modules	Crystalline Cells output of China, GW	Polysilicon consumption, g/w	Polysilicon consumption volume of China, '000 tonnes	Polysilicon self-sufficiency rate of China	Polysilicon output of China, '000 tonnes
2010	16	■	■	■	■	■	48
2011	■	80%	■	■	■	■	■
2012	■	■	■	■	■	■	■
2013	■	■	19.55	■	■	■	■
2014	■	■	■	■	■	75%	■
2015	■	■	■	7.0	■	■	■
2016	■	■	■	■	■	■	■
2017	■	■	■	■	273	■	■
2018	■	■	■	■	■	90%	■
2019	■	■	■	■	■	■	■

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#### VII-1 Effective competition strategy

Currently, there are two types of successful competition strategy: upstream integration strategy and mono-production strategy. LDK is the representative of the first stype, GCL, Sinosico, Daqo are the representatives of the second type. So far, most of the successful polysilicon producers are practitioner of second strategy. This fact shows that successful polysilicon production is based on long term experience accumulation and enormous input of research and capital.

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