



***Global and China Solar Polysilicon Industry Chain
Report, 2008***

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Industry Development Plan

With the development of PV industry, the demand for polycrystalline silicon has become increasingly strong. According to the forecast of experts, the gap between supply and demand will reach the widest in 2008. In addition, along with the output expansion plan of main global manufacturers, the contradiction between supply and demand will be gradually weak.

China's Solar Utilization Development, 2006-2020

	Middle and Long-term Plan of Renewable Energy (Aug, 2007)			the 11th Five-year Plan of Renewable Energy (Mar, 2008)		
	Accumulative Installed Capacity(KW)		Newly-added Investment(CNY)	Newly-added Installed Capacity	2006-2010 KW %	
	2010	2020			Accumulative Capacity	CAGR
Hydropower	190 million	300 million	1.3 trillion	73 million	190 million	10.18%
Biological Mass Energy	5.5 million	30 million	200 billion	2.2 million	5.5 million	10.76%
Wind Energy	5 million	30 million	190 billion	9 million	10 million	58.49%
Solar Energy	300,000	1.8 million	130 billion	285,000	300,000	80.86%
Total	200.8 million	3.618	1.82 trillion	84.2 million	208.5 million	10.89%

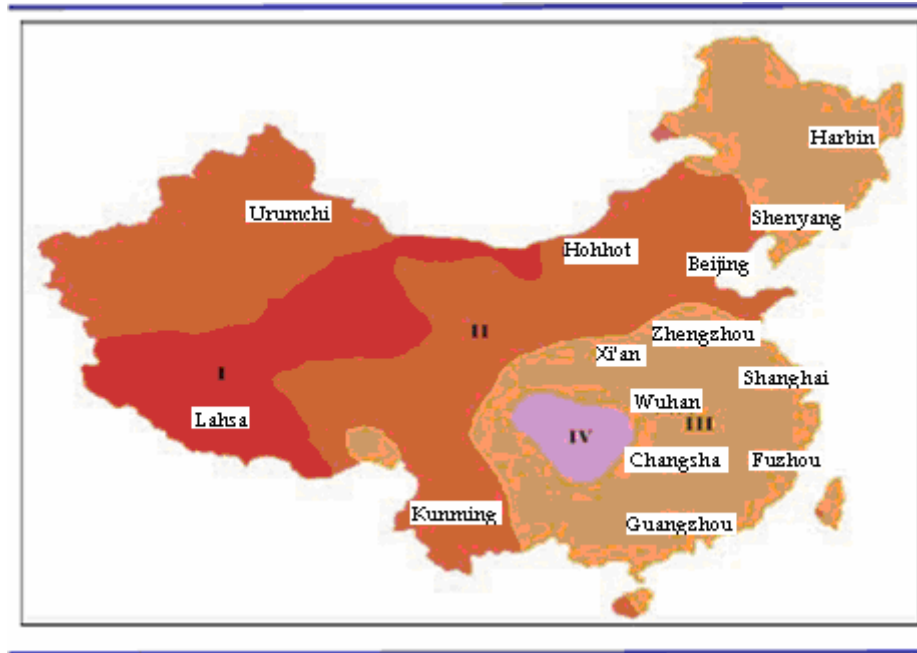
Source: Northeast Securities Research Institute

China's Solar Installed Capacity and Power Generating Amount Plan, 2004-2050

Industry Plan	2004	2010E	2020E	2030E	2050E
Installed Capacity	65,000 KWp	300,000 KWp	1.8 mln KWp	10 mln KWp	1 bln KWp
Annual Generating Amount	78 mln KWH	420 mln KWH	2.16 bln KWH	14 bln KWH	150 bln KWH
Generating Ratio	3%	4.20%	8%	14.60%	22.50%

Source: Northeast Securities Research Institute

Geographic Distribution of China's Solar Energy



Symbol	Resource Features	Annual Radiation Amount KWH/m ² *a	Ratio to China's Land	Distribution Region
I	Richest	≥1750	17.40%	Most parts in Tibet, south of Xinjiang, Qinghai, Gansu and West of Inner Mongolia
II	Very Rich	1400-1750	42.70%	North and northeast of Xinjiang, east of Inner Mongolia, North China, North of Jiangsu, Loess Tableland, Qinghai, east of Gansu, west of Sichuan, coastal belt of Fujian and Guangdong, Hainan Island
III	Rich	1050-1400	36.30%	Hill regions in southeast, Hanjiang River valley, Sichuan, Guizhou, Guangxi
IV	Common	≤1050	3.60%	Sichuan and Guizhou

Source: China PV Development Report, 2007; Northeast Securities Research Institute

Listed Companies of PV Industry, 2007

Performance Comparison of China's PV Listed Companies, 2007 Unit: CNY100 million; CNY; %

Code	Listed Company	Operating Revenue	Growth Margin of Operating Revenue	Net Profit	Growth Margin of Net Profit	EPS	Static PE	Gross Profit Margin	ROE	Ratio of Debts to Assets
600550	Tianwei Baobian	31.56	0.43%	4.498	106.58%	0.39	88.18	20.02%	18.11%	65.57%
600674	Chuantou Energy	3.41	7.11%	0.64	17.86%	0.096	252.29	28.83%	4.15%	65.22%
600438	Tongwei	67.49	40%	1.3	-11.20%	0.189	76.35	8.37%	13.51%	62.53%
002218	Topray Solar	2.04	19.10%	0.76	12.67%	0.36	65.44	42.10%	35.59%	13.00%
002006	Jinggong	4.89	17.40%	0.052	30.00%	0.04	276.5	21.35%	1.55%	65.80%
Average Value		109.39	16.81%	1.45	22.27%	0.215	151.75	24.13%	14.58%	54.42%
A Share Market		95438.2	26.16%	9333.2	43.89%	0.423	42.4	14.79%	27.32%	83.63%

Note: EPS was calculated by profit distribution in 2007

Source: Annual Report of Listed Companies; Northeast Securities Research Institute

Estimated Value Comparison of China's PV Listed Companies, 2007-2008 Unit: CNY100 million;

CNY; %

	Total Assets	ROE	EPS		PE		PEG	Last Price
			2007	2008E	2007	2008E		
WACKER	7570.47M	24.68%	8.82	9.825	16.46	14.77	1.04	145.16 EUR
REC	494.315M	11.91%	2.903	3.757	47.36	36.6	0.66	137.5 NOK
MEMC	14065M	51.61%	2.79	4.262	22.14	14.49	0.66	61.76 USD
TOKUYAMA	275.67M	10.07%	65.59	65.3	10.85	11.44	1.12	747 JPY
LDK	4130.44M	38.4%	1.55	1.724	25.13	22.59	0.46	38.95 USD
YGE	2284.62M	14.37%	0.58	0.97	31.3	18.61	0.27	18 USD
SUNTECH	5780.45M	22.24%	1.19	1.57	31.72	24.09	0.68	37.75 USD
TSL	912.5M	13.32%	1.72	3.06	21.27	11.94	0.48	36.54 USD
Tianwei Baobian	39478.4M	18.11%	0.39	0.92	88.18	36.74	0.42	33.8 CNY
Chuantou Energy	14750.56M	4.15%	0.096	0.52	252.29	44.16	0.26	23.12 CNY
Tongwei	10216.55M	13.51%	0.189	0.31	76.35	47.87	0.59	14.86 CNY
Topray Solar	5203.2M	35.59%	0.36	0.63	65.44	43.02	0.7	27.1 CNY

Source: ResearchInChina

China's Industry Monitoring Policy

The polycrystalline silicon production generally requires 150,000-200,000 kwh per ton, and the comprehensive power consumption is about 230,000-300,000 kwh per ton, and comprehensive energy consumption is about 110-140 tce/ton. From the silica to solar cell PV components, 1MWp solar cell PV component will consume about four million kwh, and the comprehensive energy consumption will be about 1,800 tce.

The high energy consumption and severest pollution during the polycrystalline silicon production process makes China's central government have to strictly control the project while encouraging it to develop. China has been cautious on the project approval to prevent the industry from becoming overheated. However, many projects either have not received the approval from central government, or can not continue without the capital and government support.

Since China's polycrystalline silicon consumption market has not been mature, most of the products have been sold to the foreign countries. Practically, China's companies are acting as the role of high energy consumption and high pollution OEMs, Currently, the relevant departments have announced to slow down the encouragement to PV industry or even to eliminate it. If such happens, China's market shrinkage will probably be a calamity for many polycrystalline silicon companies.