

## I Overview of polysilicon industry in China

In past three years, China is working hard on establishing a complete polysilicon industrial chain, from silicon ore, industrial grade silicon, polysilicon, silicon ingot and silicon wafer to solar cell.....

## II Soaring capacity and existent problems

### II-2 Key producers

With rapid development of solar cell production in China, increasing numbers of new entrants have entered into polysilicon production.....

Table II-2-1 Domestic key active polysilicon producers, as of Oct. 2009

No.	Name	Ownership	Technology	Capacity '08 (t/a)	Capacity Oct. '09 (t/a)	Output '08 (t)
1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2	[REDACTED]	Private	[REDACTED]	0	[REDACTED]	[REDACTED]
3	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
4	[REDACTED]	[REDACTED]	Siemens	[REDACTED]	[REDACTED]	[REDACTED]
5	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	200
6	Luoyang Zhonggui High-tech Co., Ltd.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
7	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
8	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
9	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
11	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
12	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
13	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
14	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
15	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
16	[REDACTED]	[REDACTED]	UMG	[REDACTED]	[REDACTED]	0
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
17	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
18	[REDACTED]	[REDACTED]	[REDACTED]	100	[REDACTED]	[REDACTED]
	Others	-	-	[REDACTED]	[REDACTED]	[REDACTED]
	<b>Total</b>	-	-	[REDACTED]	[REDACTED]	[REDACTED]

Source: CCM International

Note: ①Siemens represents modified Siemens process

②UMG represents upgraded Metallurgic Grade from Apolli Technology

### III Influencing factors from government

The attitude of Chinese government towards polysilicon industry, in the long run, is to support its development, though the government has released some policies to restraint China's overheated investment in polysilicon projects recently.....

### IV Trade analysis on polysilicon

In the past, China's polysilicon consumption has greatly depended on import and little Chinese product has been exported due to China's small output.....

Table IV-1 Import and export situation of silicon products under HS code 28046190<sup>①</sup>, 2004-2009<sup>②</sup>

Year	Import volume (kg)	Import value (USD)	Import price (USD/kg)	Export volume (kg)	Export value (USD)	Export price (USD/kg)
2004		80,802,210				
2005				521,857		
2006			89.89			
2007	9,211,024				87,895,356	
2008						29.18
2009						

Source: CCM International

Note: <sup>①</sup> Products under HS code 28046190 include silicon whose silicon content of at least 99.99%, containing solar grade polysilicon, electric grade polysilicon and other silicon.

<sup>②</sup> The situation of 2009 is as of August 2009

### V Competition among polysilicon, monocrystalline silicon and non-crystalline silicon market in China

Taking production cost and conversion rate into account, core competition of different silicon products in solar cell application, focuses on polysilicon and non-crystalline silicon.

Table V-2-1 Comparisons between polysilicon and non-crystalline silicon, as of Oct. 2009

Item	Polysilicon	Non-crystalline silicon
Electricity cost, USD/kw		
Average conversion rate		
Pollution		

Source: CCM International

## VII Market outlook of polysilicon in China's solar PV industry

### ➤ Influence on market

### ✓ Influence on price

Table VII-1-1 Price of polysilicon and its unit cost in solar cell, 2005-2009

Year	2005	2008	2009
Price of polysilicon, USD/kg	■	■	■
Unit cost in solar cell, USD/kg	■	■	■

Source: CCM International

Decreasing polysilicon price in China will facilitate price reduction of domestic solar cell, thus enhancing its market competitiveness in global stage.

### ✓ Influence on product structure

Table VII-1-2 Market share of solar cell with different silicon as raw material, 2008

Solar cell	Polysilicon solar cell	Monocrystalline silicon solar cell	Non-crystalline silicon solar cell
Market share	■	■	■

Source: CCM International

## VII-2 Outlook of polysilicon application in solar PV industry

### VII-2-1 Development of China's solar cell industry

#### ➤ Current situation of Chinese solar photovoltaic industry

Promoted by the world's booming solar PV industry, China's solar cell industry has been developing rapidly since 2005.....

Table VII-2-1-1 Domestic crystalline silicon solar cell<sup>①</sup> production

No.	Name	Capacity '08 (MW)	Capacity '09 (MW)	Output '08 (MW)
1	Wuxi Suntech Power Co., Ltd.	■	■	■
2	■	■	■	■
3	■	■	■	■
4	■	■	■	■
5	■	■	■	■
6	■	200	■	■
7	■	■	■	■
8	■	■	200	■
9	■	■	■	■

10	ET Solar Group			
11				
12				
13				
14				50
	Others			
	<b>Total</b>			

Source: CCM International

Note: ①Crystalline silicon solar cell includes polysilicon and monocrystalline silicon solar cell

## VIII Competition and opportunity

### ➤ Opportunity

✓ Industrial integration: .....

✓ Investment institution: .....

✓ No encouragement on importing polysilicon: .....