## New Study Suggests More Careful Investment in China's PV Industry

## **BY BUSINESSWIRE**

DUBLIN, Ireland, BUSINESS WIRE -- Research and Markets (http://www.researchandmarkets.com/reports/c77155) has announced the addition of Global & China Solar Polysilicon Industry Chain Report, 2007 to their offering. Polysilicon is the base for global electronic industry and PV industry, and 100% of the semiconductor chip and 95% of solar battery chips are made of silicon (including the silicon and polysilicon). The polysilicon is divided into two grades by silicon content, one is solar grade silicon (SG) with the silicon content of 99.9999%, which is mainly used for the production and manufacturing of the solar battery chip; the other is electronic grade silicon (EG) with the silicon content of 99.99999999999, which is used for the manufacturing of semiconductor chips.

The EG and SG output accounted for 55% and 45% in the polysilicon output in the world in 2006 respectively. With the rapid development of solar PV industry, the growth pace of the polysilicon demand by the solar battery chip was far higher than the development of semiconductor polysilicon, and it is forecasted that the demand of the solar polysilicon will exceed the EG soon. Currently, the crystalline silicon is key PV materials, accounting more than 90% in the market; in addition, it will be the main raw materials for the solar battery for a long time in the future. The total output of solar polysilicon in the world amounted to 21 thousand tons in 2006, while the global market demand amount was 28 thousand tons, so the price rose sharply from USD 9 per kilo in 2000 to USD 70-80 per kilo in Dec, 2006. Meanwhile, the production and supply of SG restrict the development of solar batteries in the world.

Divided from silicon material to solar battery industry, solar PV generating industry structure shows a pyramid structure, with the upstream industry the smallest and the downstream the utmost. Also the profit distribution appears some kind of imbalance, the profit rate of the solar battery industry decreases gradually from upstream to downstream.

Demand in the polysilicon market in China is brisk, and the quartz reserve is rich as well. The annual industry silicon output in China has amounted to more than 400 thousand tons since 2000, accounting for 1/3 in the total output of industry silicon in the world, and the annual export amount has exceeded 300 thousand tons. Currently, the industry silicon output capability, output, and export amount all ranked the first place in the world. Although the industry silicon export has been large for many years in China, the performance was low. As Renewable Energy Law of People's Republic of China took effect on Jan 1, 2006, which provided the legal guaranty for the utilization and development of renewable energy in China, in addition, the opportunity brought by the development of renewable energy in China has drawn wide attention of the world. The polysilicon industry is known for its high input, high consumption as well as high risk and long payback period. In a long period in the future it is still profitable. However, the problems followed shall be paid with more attention:

Firstly, irrational investment in the domestic PV industry, low-level and repeated construction have caused serious shortage of polysilicon raw materials and a price increase in the international market, as well as vicious competition among the enterprises. However, the bottleneck for the development of PV industry is not technology and raw materials, but that the market in China has not started up so far. Presently, the dramatic increase of the market price has attracted many investors. But we herein suggest rational investment, or profit expected will not be earned.

Secondly, there are many defects of the polysilicon technology in China behind the polysilicon investment wave. Although many domestic enterprises have entered the field, or expanded the output capability, due to the backward technology, developing the polysilicon is also faced with many problems. The polysilicon production countries in the world are seeking for new technique, new equipment and new technology, which signify that a new leap in the global polysilicon industrialization production technology will come soon, so if China wants to seize this opportunity, it should make breakthrough in technology.

In the next five to ten years, China would solve the supply of electric power in remote areas, and PV generation system shall be largely used and small PV power station shall be built; In addition, Chinese cities shall refer to foreign roof systems to wildly use PV power in lighting public places like roads, parks and bus stops.

**Companies Mentioned:** 

- -- Sharp
- -- Q-CELL
- -- KYOCERA
- -- Sanyo
- -- Mitsubishi
- -- RWE SCHOTT SOLAR
- -- BP SOLAR
- -- SUNTECH
- -- Taiwan Motech
- -- SHELL SOLAR
- -- ISOFOTON
- -- DEUTSCHE CELL
- -- PHOTOWATT
- -- ERSOL
- -- GE ENERGY
- -- UNITED SOLAR

-- SUNWAYS

- -- E-TON SOLAR
- -- Baoding Tianwei Yingli
- -- Nanjing China Power PV
- -- Shenzhen Topray Solar Co., Ltd
- -- Yunnan Tianda Photovoltaic Co., Ltd
- -- Ningbo Solar Energy Power Source Co., Ltd
- -- Shanghai Solar Energy S&T Co., Ltd
- -- SHANGHAI TOPSOLAR GREEN ENERGY CO., LTD
- -- Wuxi Shangpin Solar Energy Science & Technology Co.,Ltd
- -- Taiwan E-Ton
- -- Jiangsu Linyang Solarfun Co., Ltd

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