

# Analysis of the Status and Prospect of Silicon for Solar Cell

by RTS Corporation – May 2008 –

**Executive Editor: Osamu IKKI, President, RTS Corporation, Tokyo**

The total worldwide PV cell production reached more than 3.7 GW in 2007. While existing polysilicon manufacturers have been working on capacity expansion and new projects have been emerging PV status and prospects of silicon feedstock are still important issues for the global PV industry. 4<sup>th</sup> edition of our report gives overview of current status and prospects on silicon feedstock for solar cell. This report based on our monthly publication, "Silicon information" and our expertise for 25 years in this industry provides a comprehensive status and prospect of the market of silicon for solar cell with visual graphs, charts and tables.



## Contents

Introduction	
1 Trends and prospects of production volume of polysilicon feedstock for solar cell	
1.1 World production capacity of polysilicon	
(1) World production capacity of polysilicon	
(2) Trends and plan of production capacity of polysilicon manufacturers	
1.2 Silicon for solar cell	
(1) World consumption volume of silicon for solar cell (estimate)	
(2) Source of silicon feedstock for solar cell	
(3) Flow chart of polysilicon, ingot and wafer for solar cell	
(4) Distribution channel of silicon for solar cell	
(5) Market price of silicon feedstock for solar cell	
(6) Prospects of supply and demand of silicon for solar cell	
(7) Overview of supply and demand of polysilicon for solar cell in 2007	
(8) Activities of manufacturers in 2007	
2 Status of the market of polysilicon and wafer for solar cell in Japan	
2.1 Trends of production and imported volume of polysilicon for solar cell	
(1) Trends of production and imported volume of polysilicon for solar cell	
(2) Import volume and average price of polysilicon in Japan	
(3) Single crystalline silicon	
2.2 Market price of silicon feedstock for solar cell	
(1) Market price of polysilicon in Japan	
(2) Market price of single crystalline silicon wafer in Japan	
3 Overview and strategies of PV silicon manufacturers	
3.1 Overview of PV Silicon / Wafer	
3.2 European Manufacturers of polysilicon, Si ingot and wafer	
3.2.1 Deutsche Solar (SolarWorld group) (Germany)	
3.2.2 Elkem Solar ASA (Norway)	
3.2.3 Joint Solar Silicon GmbH & Co. KG (JSSi) (Germany)	
3.2.4 MEMC Electronic Materials (Italy)	
3.2.5 Nitel Solar (Russia)	
3.2.6 Pillar JSC (Ukraine)	
3.2.7 Podolsky Chemical & Metallurgical Plant (PCMP) (Russia)	
3.2.8 PV Crystalox Solar (Germany/ UK)	
3.2.9 ScanWafer (REC Group) (Norway)	
3.2.10 Wacker-Chemie (Germany)	
3.2.11 Other European manufacturers	
3.3 American manufacturers of polysilicon, Si ingot and wafer	
3.3.1 AE Polysilicon Corporation (USA)	
3.3.2 Bécancour Silicon (Timminco) (Canada)	
3.3.3 Dow Corning (Brazil)	
3.3.4 Hemlock Semiconductor (HSC) (USA)	
3.3.5 Hoku Scientific (USA)	
3.3.6 MEMC Electronic Materials (USA)	
3.3.7 Mitsubishi Polycrystalline Silicon America Corporation (USA)	
3.3.8 REC ASiMI LLC (Former Advanced Silicon Materials (ASiMI)) (USA)	
3.3.9 REC SGS LLC (Former Solar Grade Silicon LLC (SGS)) (USA)	
3.3.10 Sanyo Solar USA (former Solec International) (USA)	
3.3.11 Other American manufacturers	
3.4 Japanese manufacturers of polysilicon, Si ingot and wafer	
3.4.1 Japan Solar Silicon (JSS)	
3.4.2 JFE Steel Corporation (former Kawasaki Steel Corporation)	
3.4.3 M. Setek Co., Ltd.	
3.4.4 Mitsubishi Materials Corporation	
3.4.5 Space Energy Corporation (SEC)	
3.4.6 SUMCO (former Sumitomo Mitsubishi Silicon Corporation)	
3.4.7 OSAKA Titanium technologies Co., Ltd (former Sumitomo Titanium)	
3.4.8 Tokuyama Corporation	
3.4.9 Other Japanese manufacturers	
3.5 Manufacturers in ROW	
3.5.1 DC Chemical (DCC) (South Korea)	
3.5.2 Green Energy Technology (GET) (Taiwan)	
3.5.3 LDK Solar (China)	
3.5.4 ReneSola (China)	
3.6 New projects for polysilicon manufacturing	
3.7 Polysilicon manufacturing in China	
(1) Trends in silicon feedstock industry	
(2) Ingot and wafer	

(Size A4, about 90 pages)

**RTS Corporation** is a Japanese comprehensive consultancy exclusively engaged in photovoltaic (PV) power generation. Our research and investigation contribute to Ministry of Economy, Trade and Industry (METI), New Energy and Industrial Technology Development Organization (NEDO), National Institute of Advanced Industrial Science and Technology (AIST), Japan PV Energy Association (JPEA), leading PV cell/module manufacturers in Japan and overseas, major electric utilities, major silicon manufacturers, users of PV system and electric power equipment companies. Our reports have been acquiring an international reputation.



**RTS Corporation**

5th Floor, 2-3-11 Shinkawa, Chuo-ku, Tokyo 104-0033, Japan

TEL: +81-3-3551-6345 FAX: +81-3-3553-8954 e-mail: order@rts-pv.com URL: www.rts-pv.com

FAX: +81-3-3553-8954 / E-mail: order@rts-pv.com

# Analysis of the Status and Prospect of Silicon for Solar Cell

by RTS Corporation – May 2008 –

## ORDER FORM

DD / MM / YY

Please fill in block letters.

Date: \_\_\_\_\_

First Name Prof / Dr / Mr / Ms		Family Name	
_____		_____	
Title			
_____			
Company / Organization			
_____			
Address			
_____			
City		State	
_____		_____	
Postal code		Country	
_____		_____	
Telephone		Facsimile	
_____		_____	
E-mail			
_____			

❖ **Order:** (Please check and fill the blanks)

- 1) Duplication of the publication (e.g., by printing, photocopying) for the benefit of third party is prohibited.  
2) Circulation of the original printed version or the PDF version outside of your division of the organization is also prohibited.

I agree with the conditions and purchase Printed version with PDF file (70000 JPY\*)

\*The price including *shipping cost*, **\*not including Japanese consumption tax for Japanese companies**

Number of Copies \_\_\_\_\_ Total Amount \_\_\_\_\_ JPY

The sample issues of ***“PV Activities in Japan and Global PV Highlights”*** for 3 months (free of charge)\*

\* **Purchasers of “Analysis of the Status and Prospect of Silicon for Solar Cell” are eligible for sample issues.**

“PV Activities in Japan and Global PV Highlights”, which has been issued since August 1995, is covering the monthly trends of all PV-related sectors – the national government, local governments, utilities, PV cell/ module manufacturers, housing and PV-related industries, PV applications, non-profit organizations, etc.

❖ **Payment Options:**

**Credit Card** ( VISA or  Master Card) **\*for international customers only**

Credit Card number	
_____	
Card Holder	
_____	
Expiry Date <month> <year>	Signature
_____ / _____	_____

**Bank Transfer\*** (Customer is responsible for the bank transfer fee.)

\* If you would like to pay through a bank transfer, we will send you the invoice with our bank account details.



**RTS Corporation**

5th Floor, 2-3-11 Shinkawa, Chuo-ku, Tokyo 104-0033, Japan

TEL: +81-3-3551-6345 FAX: +81-3-3553-8954 e-mail: order@rts-pv.com URL: www.rts-pv.com