
Solargiga Energy Holdings Limited

# 陽光能源控股有限公司

# 2016 Annual Results Presentation

## 全年業績公告

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# Corporate Overview

# Corporate Profile

Focus on vertical integration for monocrystalline products, providing one-stop solutions from ingots, wafers, cells, modules to the development, design, construction, operation and maintenance of PV System

Cross-listed in Hong Kong (00757.HK) and Taiwan (9157.TT)

# Shareholding Structure as at 31 December 2016

**Tan Wenhua and his associates 22.18%**

Hiramatsu International Corp. 10.87%

Wafer Works Corp. 7.75%

Other Directors 0.43%

Public shareholders - Hong Kong 55.12%

Public shareholders - Taiwan (TDR) 3.65%

**Solargiga Energy Holdings Limited**
**陽光能源控股有限公司**

***Number of issued shares 3,211,780,566***

# Manufacturing Base – China & Taiwan

Jinzhou, Liaoning

Xining, Qinghai

Shanghai

Taiwan

**Jinzhou, Liaoning**

- Main production base
- 1.2GW monocrystalline silicon ingots
- 900MW monocrystalline silicon wafers
- 350MW photovoltaic cells
- 1.2GW photovoltaic modules

**Xining, Qinghai**

Joint venture project of 400MW monocrystalline silicon ingots which is 51% owned by the Group.

**Shanghai**

- Group marketing center, also includes multicrystalline silicons recycling and upgrading facilities

**Taiwan**

Established regional office, focusing on serving the local cell manufacturers and module manufacturers with silicon wafer.

# Manufacturing Base – Overseas


## Germany

- A joint venture company DCH Solargiga GmbH with power plant construction company in Germany, which is mainly engaged in photovoltaic systems business

## Other Regions

- Assigned silicon wafer/module sales representatives to Japan and North America
- Developing EPC business in Turkey. Southeast Asia and Africa.

## Ghana

A joint venture company with Savannah Accelerated Development Authority (“SADA”).

# Customers Distribution

# Major Customers

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SHARP 夏普

国家电投 SPIC

BG北控 北京控股集团有限公司 BEIJING ENTERPRISES GROUP COMPANY LIMITED

中广核 CGN

中国华电集团公司 CHINAHUADIANCORPORATION

信義玻璃 XINYI GLASS 信义玻璃控股有限公司

通威太阳能 TW SOLAR

MOTECH 茂迪新能源有限公司

SUNTECH 尚德太阳能

GINTECH 台湾昱晶能源

Aikosolar 广东爱康太阳能科技有限公司

# Photovoltaic System Business

Mainly focus on the development and construction of distributed power plants. Currently, 21 projects have been contracted in PRC and overseas, with a total installed capacity of 80MW.

Qinghai Golmud 20MW Power Plant

Liaoning Jinzhou 300KW Power Plant

Liaoning Jinzhou 10MW Power Plant

Liaoning Jinzhou 3MW Power Plant

Liaoning Jinzhou 5MW Distributed Power Plant

Liaoning Jinzhou 930KW distributed Power Plant

Germany 215KW distributed Power Plant

Germany 165KW distributed Power Plant

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# Market Overview

# Market Overview

## China

- China continues to take the lead in the global solar market. The annual newly-added installed photovoltaic capacity was 34.54GW in 2016 (2015: 15.13GW) in China and its cumulative installed capacity reached 77.42GW, both of which ranked first worldwide.

- Due to technical improvement in the production process and enhancement of production efficiency, the average selling price of photovoltaic products declined gradually during the past years while the gross profit margin of the industry remained stable. The China market is expected to maintain a sound development trend in 2017.

- The National Energy Bureau launched the “Super Runner Program”, focusing on large-scale and advanced technology companies. “Super Runner Program” sees efficient product development as its main focus, the main products include double-sided photovoltaic modules, black silicon battery components, intelligent components. The Group’s high-end product N-type double-sided photovoltaic modules are expected gain attention from the market.

## Japan

- The Governmental program Zero Energy Homes (“ZEH”) is expected to continue being a major catalyst for solar installation growth in the residential market. The ZEH program was launched in the beginning of 2016, in order to minimize energy consumption and improve the energy efficiency of residential homes with a target of 50% of all new homes to be ZEH by 2020.

# Market Overview

## USA

- The cumulative installed solar photovoltaic capacity has now topped 40GW in USA, up from 25GW in 2015. The photovoltaic installations reached a historic high of 14.6GW, up 95% from 7.5GW in 2015. For the first time, solar energy has also become the top source of new electricity-generating capacity, accounting for 39% of all new power.

- The cumulative solar market in USA is estimated to nearly triple in size over the next five years.

## Emerging markets

- India became the fourth largest solar market in 2016, with an annual installed photovoltaic capacity of 5.8GW. Based on the statistics published by the Ministry of New and Renewable Energy of India (“MNRE”), the cumulative installed solar photovoltaic capacity in India surpassed 9GW by the end of 2016. It is predicted that the annual installed photovoltaic capacity of India may reach 10GW. India’s goal is to increase its solar capacity to 100GW by 2022.

- The cumulative installations in Mexico, Brazil and Chile are expected to reach 26GW by 2021. The Middle East and Turkey will add 19GW from Algeria, Turkey, Jordan, Egypt and the U.A.E, while Thailand, The Philippines, South Korea, Taiwan and Indonesia will add 23GW in total.

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# Business Review

# Operations

## Silicon Ingot and Wafer

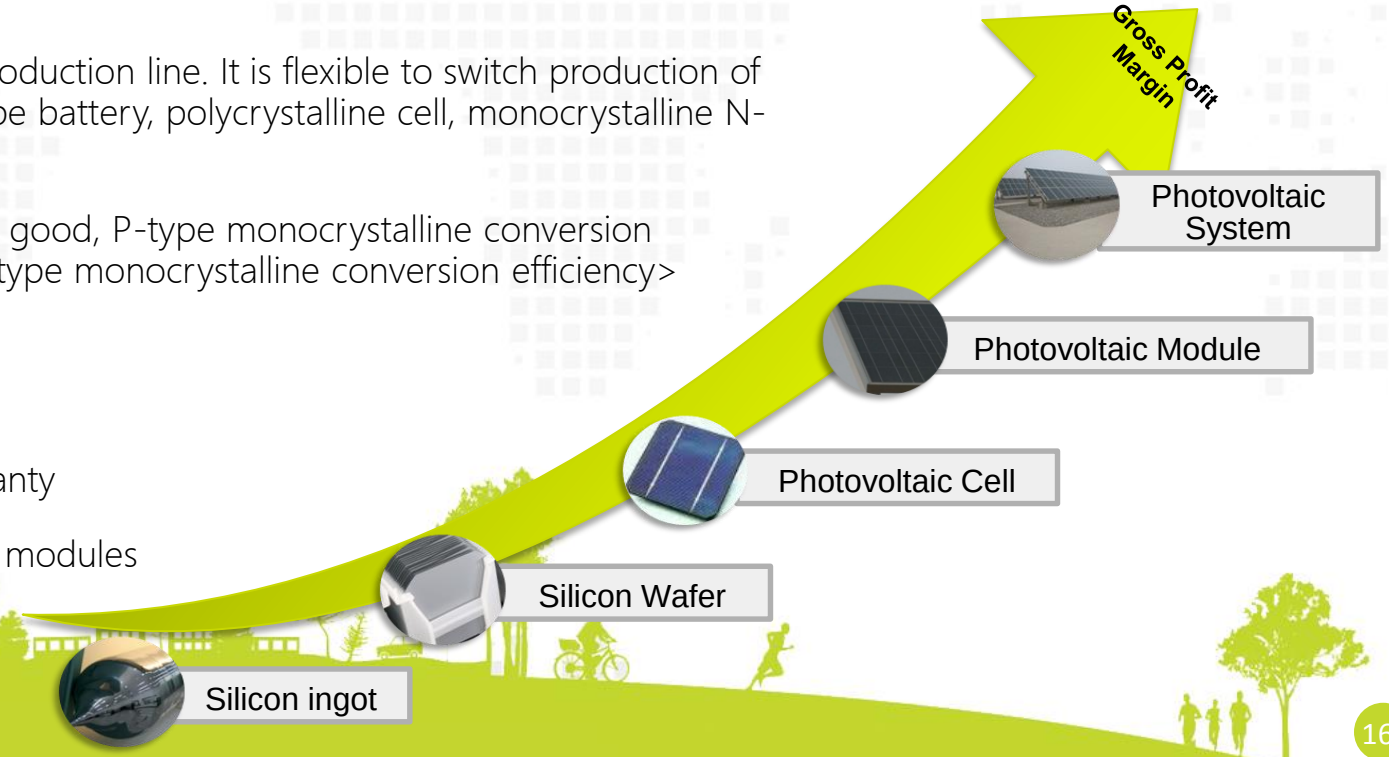
- 462 monocrystalline furnace, 116 slicers, 1.2GW production capacity, monocrystalline production capacity ranked the top three.
- One of the earliest companies engaged in monocrystalline, with 16 years P-type monocrystalline production experience, 15 years N-type monocrystalline production experience.

## Cell

- 8 standard battery production line. It is flexible to switch production of monocrystalline P-type battery, polycrystalline cell, monocrystalline N-type cell.
- Battery consistency is good, P-type monocrystalline conversion efficiency> 19.8%, N-type monocrystalline conversion efficiency> 20.5%

## Modules

- 28 years quality warranty
- N-type double-sided modules



# Product Range

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| | | |
|---|---|---|
| Ingot |   | • 1.2GW (Jinzhou 800MW + Qinghai 400MW) |
| Wafer |   | • 900MW |
| Cell |  | • 350MW |
| Module |  | • 1.2GW (Jinmao 600MW + Yangguang Motech 600MW) |
| System |  | • German and PRC subsidiaries as our overseas and local bases for developing EPC and O&M businesses in emerging markets and locally<br>• Actively searching for solar plant opportunities overseas and locally. |

Vertical Integration Strategy

# Monocrystalline Solar Ingots and Wafers

The Group's all-rounded photovoltaic industry chain with its vertically integrated business model covering both upstream and downstream businesses allows external sales, which mainly included sales to huge state-owned enterprises in China, such as State Power Investment Corporation (中國國家電力投資集團公司) ("SPIC"), CGN New Energy Holdings Co., Ltd. (中國廣核新能源控股有限公司), China Huadian Corporation (中國華電集團公司), Beijing Enterprises Holdings Limited (北京控股有限公司), of its upstream products such as silicon ingots, wafers and cells which are produced and processed in-house, apart from being used in its downstream business.

## Silicon Ingot & Wafer Business

- With the continued realisation of advantages in better improvement in conversion efficiency, stabler decay rate in its photovoltaic systems, continued reduction in unit costs, etc of monocrystalline products, it is expected that the advantage of monocrystalline products will become more obvious in the field of photovoltaic power generation, and the market share of monocrystalline silicon products will increase significantly.

- During the year, certain segment of machinery and equipment was under upgrade and transformation and hence production capacity was less than expected. As a result, the Group was not able to capitalise on the advantages of economies of scale. Further, to complement the upgrade and transformation, the Group has incurred an increased amount of research and development expenses for the continuous enhancement of manufacturing process and existing and new products. Although the production capacity was affected and was not fully utilized as mentioned above, the Group expects the production capacities and production volume to resume normal in 2017.

# Photovoltaic Cells, Modules and Power Plant Projects

## Cell Business

- The Group's production lines of solar cells are located at the manufacturing base of the Group in Jinzhou, Liaoning. During the year, the annual production capacity of solar cells was 330MW. Such solar cells are on the one hand sold internally to provide high-quality raw materials supply for the downstream module business of the Group, and also sold to the customers in China and Japan.

- The Group's solar cell manufacturing capacity is highly flexible, products range was hence extensive, which include monocrystalline, multicrystalline, P-type high end, N-type double sided solar cells, etc. Focusing on the implementation of the vertical integration strategy, most of the solar cells have been reserved for internal utilisation.

## Module Business

- During the year, external shipment of the Group reached 769MW, compared to 616MW for the year ended 31 December 2015, representing an increase of 25%. The increase in external shipment was mainly made possible with the progressive commissioning of the additional module manufacturing capacity during the year in order to satisfy more of the orders.

- As the production capacity commissions progressively, the Group expects the advantage of economy of scale to be demonstrated progressively in 2017 onwards. Photovoltaic module capacity becomes compatible with that of upstream capacity. This will strengthen the upstream and downstream supply and demand stability.

## Photovoltaic Power Plant Projects

- The Group actively expanded the business of end-user market apart from its efforts in stabilizing its upstream and midstream business development, thereby driving demand for products from downstream to upstream. Various projects of different sizes located in PRC are under development.

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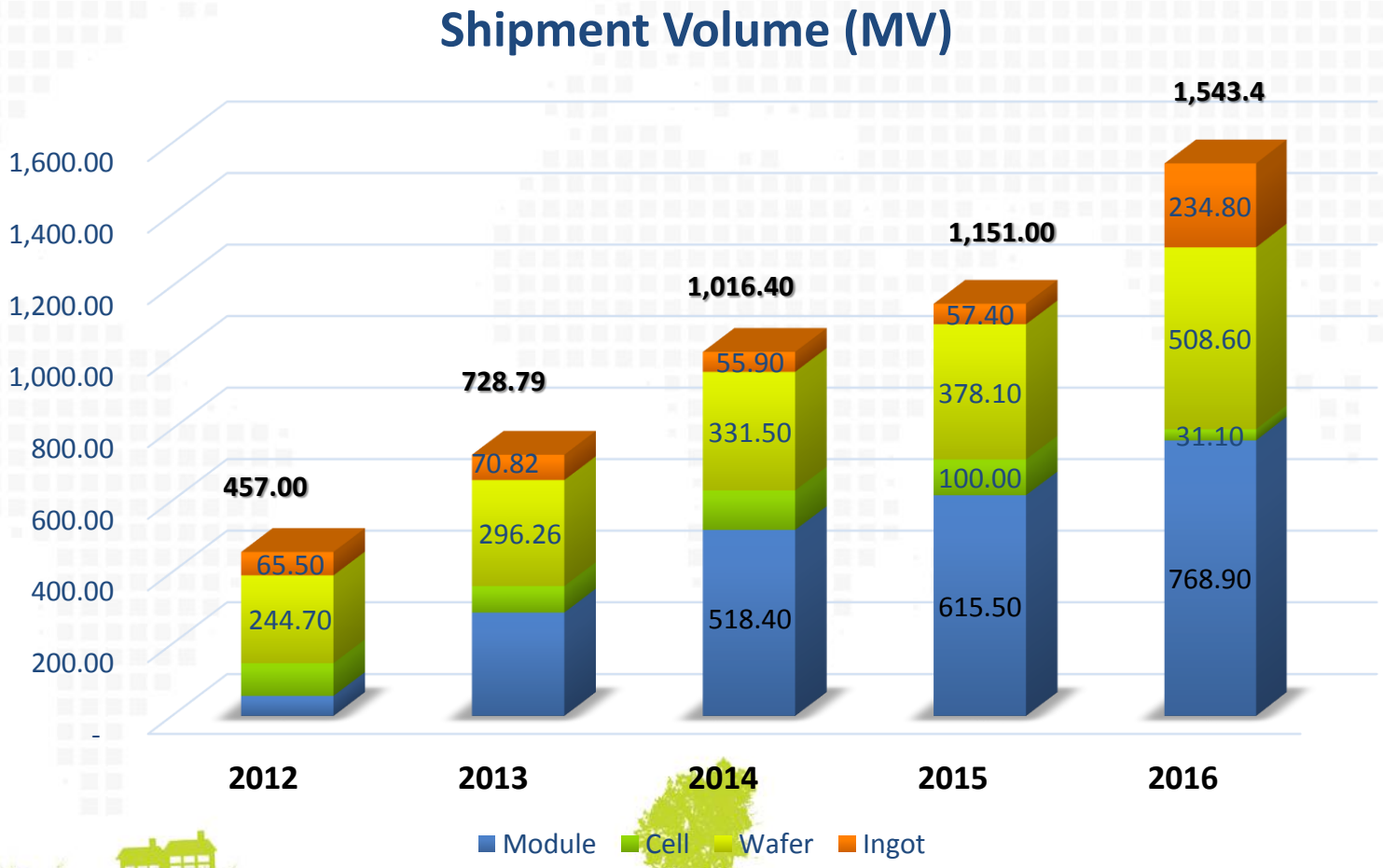
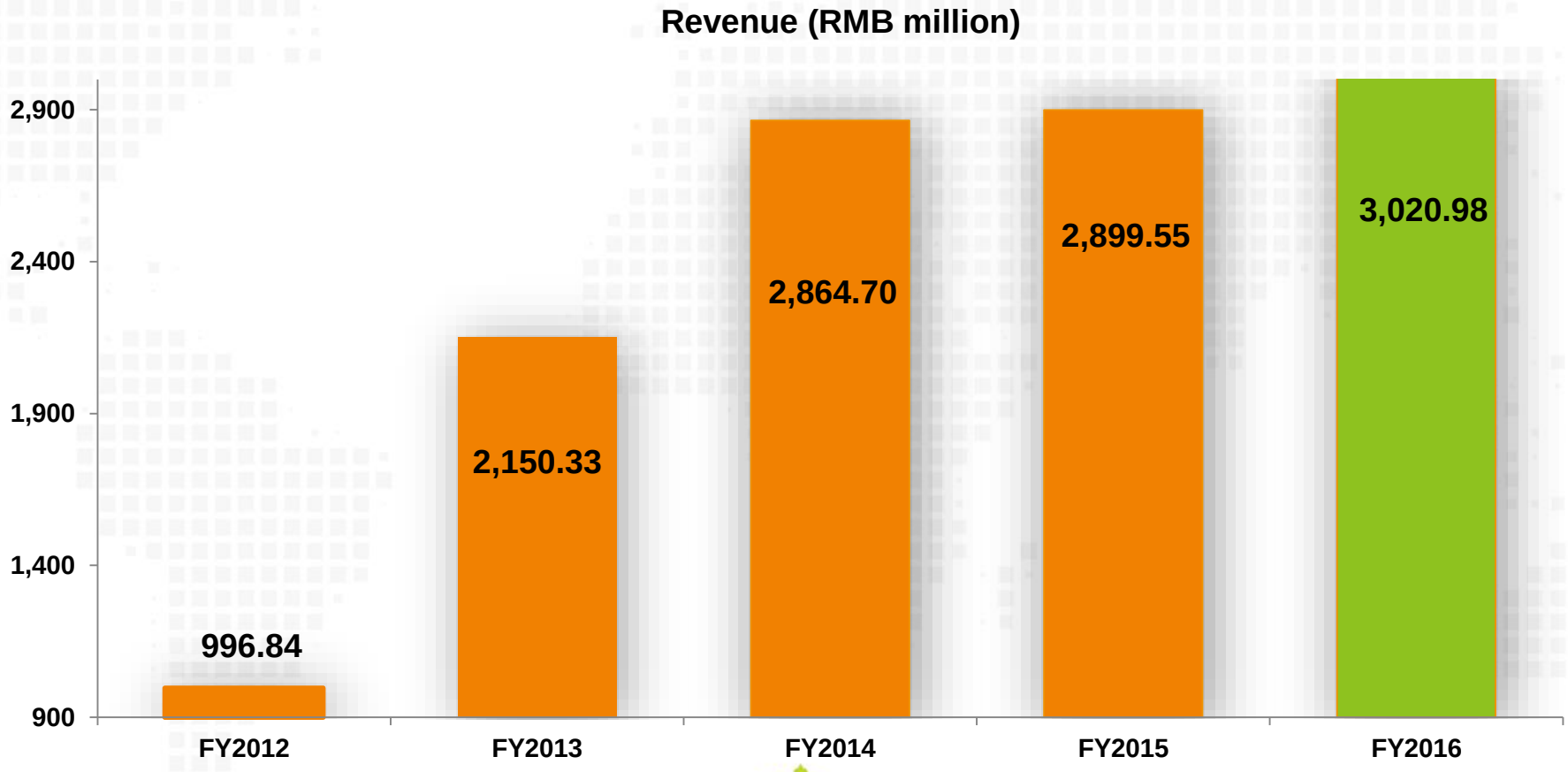
# Financial Performance

# Yearly Shipment Volume



# Yearly Revenue



# Results Highlight

- External shipment volume of production business for the year was approximately 1,543.40MW, increased substantially by 34.1% from approximately 1,151.10MW for 2015. Revenue increased by 4.2% to RMB3,020.976 million (2015: RMB2,899.550 million).

- Gross profit amounted to RMB329.077 million (2015: RMB242.538 million). Gross profit margin was approximately 10.9% (2015: 8.4%). Since the second half of 2015, driven by the construction of power plants in the PRC market and abroad, demand for photovoltaic modules continues to shoot up.

- Through the continuous technological improvement in the production process, cost of sales has decreased during the year. However, since certain technical upgrading work was being performed on the equipment, part of the production capacity was affected and was hence less than expected. As a result, the benefits of economy of scale could not be fully reflected in the increment of gross profit margin.

| (RMB'000) | **FY2016** | FY2015 | FY2014 |
|---|---|---|---|
| **Turnover** | **3,020,976** | 2,899,550 | 2,864,699 |
| **Reported Gross Profit** | **329,077** | 242,538 | 363,917 |
| **Gross Profit Margin (%)** | **10.9%** | 8.4% | 12.7% |
| **Profit/(Loss) from Operations** | **(74,289)** | 152,548 | 171,085 |
| **Profit/(loss) for the year** | **(227,406)** | 16,441 | (60,371) |
| **Basic earnings/(loss) per share (RMB cents)** | **(7.45)** | 0.49 | (1.99) |
| **EBITDA** | **130,914** | 344,806 | 258,244 |

# Financial Position

| As at 31 December (RMB '000) | FY2016 | FY2015 | Change |
|---|---|---|---|
| **Current Assets** | **2,284,503** | 2,554,539 | (10.6%) |
| **Current Liabilities** | **2,937,233** | 2,949,853 | (0.4%) |
| **Total Assets** | **4,274,548** | 4,709,217 | (9.2%) |
| **Total Liabilities** | **3,395,860** | 3,549,904 | (4.3%) |
| **Net Assets** | **878,688** | 1,162,863 | (24.4%) |

# Financial Ratio

- During the year ended 31 December 2016, the inventory turnover days of the Group were 86 days (2015: 89 days). The Group is putting in enormous effort toward maintaining a level of lower inventory turnover days. During the year, a long-term purchase contract with a polysilicon supplier has expired. Not only will the pressure to purchase from this supplier be lowered dramatically, the purchase bargaining power with suppliers will also improve. And so, polysilicon inventory would decrease, inventory turnover days will come down and working capital increase.
- As a result of stable business development in an upward market, the property of module to overall sales has increased, which led to an increase in solar cell purchases. The solar cell purchases usually has a shorter payment terms. Accordingly, trade payable turnover days during the year decreased to 102 days (2015: 108 days).

| As at 31 December | **FY2016** | FY2015 | **Change** |
|---|---|---|---|
| **Turnover Day Analysis** | | | |
| Trade Receivables Turnover (Days) | **63** | 53 | 10 |
| Trade Payable Turnover (Days) | **102** | 108 | (6) |
| Inventory Turnover (Days) | **86** | 89 | (3) |
| **Gearing Analysis** | | | |
| Current Ratio (Times) | **0.78** | 0.87 | (0.09) |
| Net Debt to Equity Ratio (%) | **175%** | 129% | 46PP |

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# Future Plans and Strategies

# Post Balance Sheet Events

## Aquisition

- Jinzhou Yangguang Energy Co., Ltd. (“Jinzhou Yangguang”), a wholly-owned subsidiary of the Company, and Liaoning Oxiranchem, Inc. (“Liaoning Oxiranchem”) entered into the Agreement, pursuant to which Liaoning Oxiranchem has conditionally agreed to sell and Jinzhou Yangguang has conditionally agreed to purchase from Liaoning Oxiranchem 63% equity interest in Jinzhou Aoke New Energy Co., Ltd. (“Jinzhou Aoke”) for a consideration of RMB53,000,000. Based on the valuation prepared by an independent valuer appointed by the parties, the appraised value as at 31 December 2016 of Jinzhou Aoke is approximately RMB104,696,000. Upon Completion, Jinzhou Yangguang will own 100% interest in Jinzhou Aoke which will become a wholly-owned subsidiary of the Company.

## Disposal

- Further, pursuant to the Agreement, Jinzhou Yangguang has conditionally agreed to sell and Liaoning Oxiranchem has conditionally agreed to purchase from Jinzhou Yangguang the 100% equity interest in Golmud Solargiga Energy Electric Power Co., Ltd. (“Golmud Solargiga”) for a consideration of RMB155,400,000. Based on the valuation prepared by an independent valuer appointed by the parties, the appraised value as at 31 December 2016 of Golmud Solargiga is approximately RMB155,973,000.

# Action Plans in 2017

**Policy Guidance**

2016 is the first year of the Thirteenth Five-Year Plan of China. After the successful implementation of the Twelfth Five-Year Plan of China and the "Notice relating to the Issuance of the Implementation Plan of Photovoltaic Power Generation Infrastructure in 2015" (《關於下達2015年光伏發電建設實施方案的通知》) published by the National Energy Administration in March 2015, market confidence was greatly boosted, which created favorable conditions for photovoltaic growth and development in China.

**Plans**

- The Group agreed to dispose of a wholly-owned subsidiary, Golmud Solargiga Energy Electric Power Co., Ltd. after the year end date (subject to shareholders' approval), which engaged in the operation and maintenance of a photovoltaic solar plant located in Qinghai Province, China. After the disposal, the Group's financial structure will be improved as a result of the offsetting of respective fixed assets and bank loans. The Group will look for investment opportunities with higher IRRs than this project under Golmud Solargiga to improve investment returns. Through building these new projects, it will create huge demands for our photovoltaic modules.

- In addition to the existing long-term local key customers State Power Investment Corporation (中國國家電力投資集團公司) ("SPIC"), through expanding its production capacity and rigorous efforts in developing new customers in the PRC, the Group has strengthened its ties with large-scale state-owned enterprises, others of the big-five major power companies and other large listed companies. These include CGN New Energy Holdings Co., Ltd. (中國廣核新能源控股有限公司) and China Huadian Corporation (中國華電集團公司), etc. Without compromising its overseas shipment volume and sales, the Group has successfully improved its proportion of local to overseas sales from a 31:69 ratio in 2015 to a 48:52 ratio in 2016, and expects to maintain at a sustainable ratio of 50:50.

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# Q & A