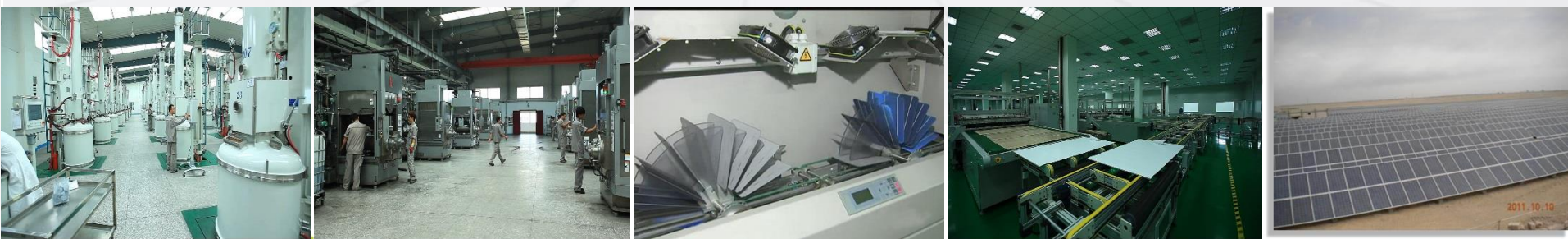




**Solargiga Energy**

# **Solargiga Energy Holdings Limited**

## **陽光能源控股有限公司**





**2018 Annual Results**

**二零一八年度全年業績**

香港聯交所上市股份編號：757，台灣存託憑證代號：9157TT



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# Corporate Overview



# Corporate Overview



- Established in 2001, the largest in Northeast China, high ranked photovoltaic manufacturer of the country. 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.
- Listed in Hong Kong on 31 March 2008 (757.HK); listed in Taiwan on 11 December 2009 (9157.TT)
- 2018 Global New Energy Top 500 Enterprises (236); The First Top 50 Enterprises in China's Electronic Materials Industry (17); Top 3 Industrial Enterprises in Jinzhou City, Liaoning Province, China



# Shareholding Structure as at 31 December 2087





# Manufacturing base



Map note:

-  Manufacturing base
-  Marketing centers
-  Subsidiaries

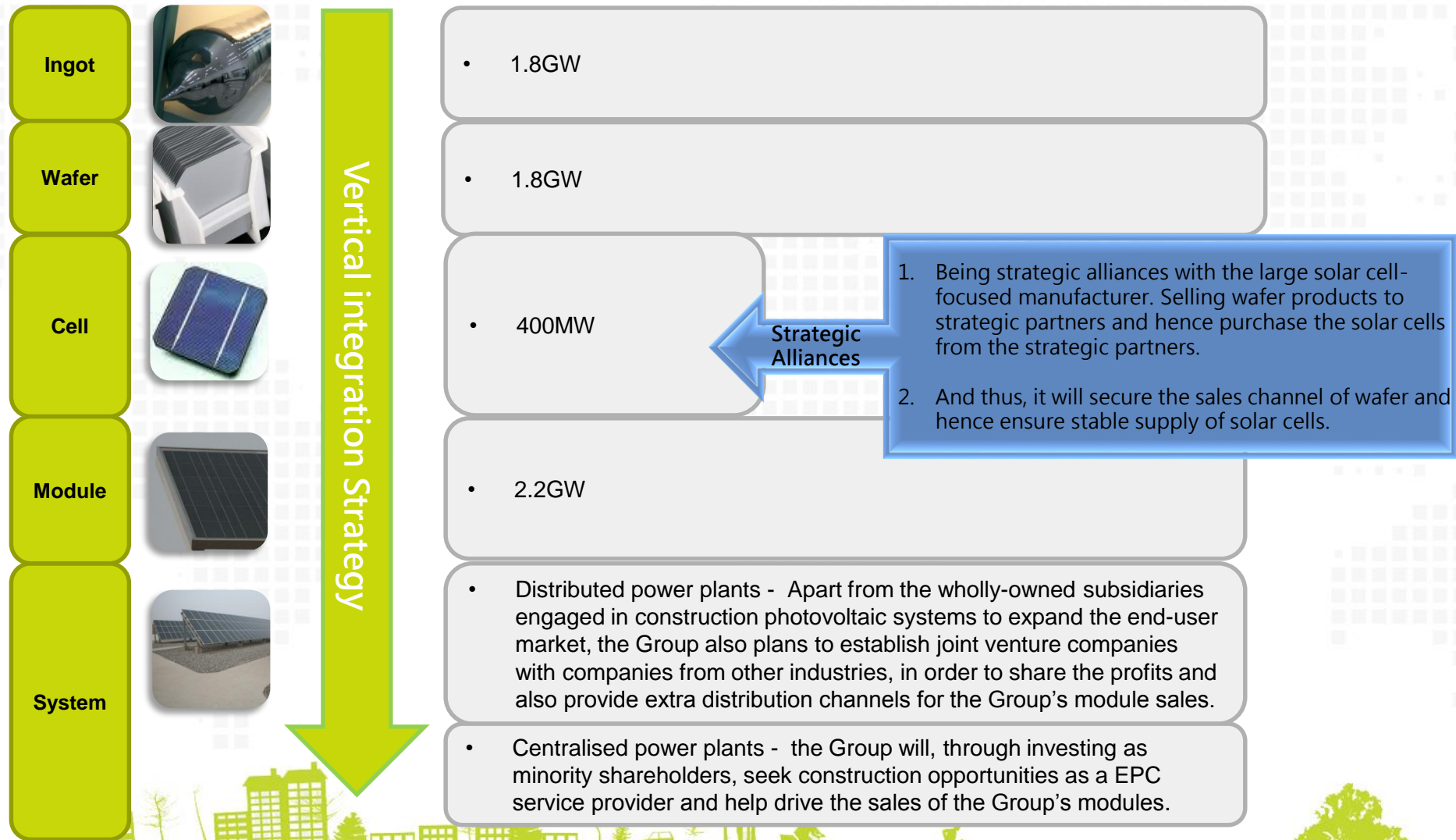
## Others

- Developing EPC business in America, Turkey, Pakistan, Southeast Asia and Africa.











# Production Capacity and Product Range





# Product Procedure: 1. Monocrystalline Silicon Ingots









-  Solargiga Energy focuses on monocrystalline production. So far, it has 20 years of experience in the production of N-type/P-type monocrystalline silicon ingots. The Group is the only monocrystalline silicon manufacturer who has obtained the national product quality exemption certificate. Currently, it has 38 national utility new model patents.
-  In recent years, through the transformation and upgrading of the ingot growing furnace (長晶爐), and participated in the research and design of the CL200T ingot growing furnace (單晶爐), the amount of the material put into production has reached more than 300kg and the entire mono crystalline ingot has been drawn to more than 3000mm. This achieved continuous drawing of multiple output resulted in strengthen the advanced electronic liquid level control system, automatic control process, reducing labour costs and being stable quality of the crystalline ingots. During the research and development process, it obtained 1 invention patent, 14 utility new model patents, and 2 software copyrights.
-  Through the continuous upgrading and optimization of the ingot growing process in these years, it has altered the traditional finishing style, increased the yield of crystalline ingots, improved production efficiency, and achieved industry lead.
-  Monocrystalline silicon ingots are excellent in terms of technical indicators, and oxygen content is controlled to below 16 ppm, forming a strictly reliable crystalline ingot index detection system.
-  According to customer's requirements, the Group provides various specifications and sizes of N-type and P-type monocrystalline products, and also provides the highest quality silicon ingots for downstream components.
-  The existing 1.8GW monocrystalline silicon ingot/wafer production capacity and products production capacity are among the top five in PRC.





## Product Procedure: 2. Monocrystalline Silicon Wafers



-  Solargiga Energy has 13 years of wafer slicing experience and is one of the pioneers of large-size silicon wafers in the industry. According to customer's requirements, the Group provides various specifications and sizes of N-type and P-type monocrystalline products, and also provides the highest quality silicon wafers for downstream modules. Currently, it has 2 national invention patents and 8 national utility new model patents.
-  The 180 $\mu$ m thin-slice technology has matured and has been supplying to the market. It has also developed and put thinner silicon wafers into production, effectively increasing the output rate by more than 11%.
-  All the technological transformations on diamond saw slicing equipment were completed.
-  The research and development of the thin wire technology on the above transformed slicing equipment was completed. The entire production line completed the switch from 70 $\mu$ m electroplated diamond saw wire (金鋼線) to 65 $\mu$ m electroplated diamond saw wire, and the output increased by more than 10% over the same period of last year.
-  The advanced diamond saw cutting fluid recycling technology reduces the cutting fluid cost by 25%.
-  The existing 1.8GW monocrystalline silicon ingot/wafer production capacity and products production capacity are among the top five in PRC.





## Product Procedure: 3. Solar cells

- With an annual capacity of 400MW, focusing on the production of monocrystalline N-type and P-type cell.
- Able to produce large-size monocrystalline cells and anti-PID cells with high conversion rate and consistency, and also produces N-type double-sided cells with a power generation efficiency gain of 20%. It has 2 national invention patents, 23 utility new model patents, and 1 appearance patent.
- It also possess the technology of the Passivated Emitter and Rear Cell (PERC) process of P-type monocrystalline cell and the polysilicon cell black silicon process, which are currently gaining in market share. The "black silicon cell project" has been listed in the National Science and Technology Department's 863 Program.
- Cooperating with world-class perovskite research team of university to jointly develop a perovskite superimposed P-type monocrystalline new generation multi-junction solar cell, which will pave the way for the development of solar cell in the next decade, and also keep abreast of the latest development trend in the photovoltaic industry.
- Long-term cooperation with Sharp in Japan for production of cells. A pioneer in development and production of the comprehensive anti-PID technology, while mastered the stringent cell manufacturing process with control requirements and testing methods equivalent to those on Sharp's own plants.





## Product Procedure: 4. Solar modules



- ■ Highly automated production, with the industry's most advanced automatic splicing welding (拼接焊接), automatic junction box welding (接线盒焊接) and other supporting functions to achieve less labour, low cost, stable and reliable quality.
- ■ The first largest OEM module manufacturer in PRC supplied to Sharp Japan for five consecutive years. Developed the anti-PID technology of module and mastered the design and production of high-end module in the Japanese market. Its OEM module accounted for more than 90% of the Sharp shipments of module in Japan.
- ■ The unique quality control standards for Japanese production include a total of 104 inspection items from the auxiliary materials, process control requirements, and 3 to 10 times the finished module products in the environmental testing system requirements of the IEC standard.
- ■ Master core technologies for the design and production of different modules such as lightweight components, ski components, and high-load components. Mastered the design and production technology of two-sided cell (P-PERC, N-PERT.HIT) module, and shipment for double glass components for four consecutive years.
- ■ Developed and mastered half-slice modules, multi-gate cell modules, double-sided cell modules, high-efficiency ribbon (reflective film) modules, MBB modules, N-type double-glazed glass modules, smart photovoltaic modules, half-cell modules, and Other design techniques related to Super Top Runner Program high-end products.
- ■ Master the capabilities of manufacturing IBC cell modules. IBC cell modules have high output performance, open circuit voltage, fill factor and other electrical performance advantages. The same-surface interconnected module process, the perfect appearance of almost black also meets the aesthetic requirements of mass consumers. It will become one of the Group's main module products in 2019.
- ■ One of the first 17 module certified enterprises of Super Top Runner Program.
- ■ Owned 17 national utility model patents.
- ■ Existing 2.2GW module production capacity.



# Products: Module Product Certification

TUV、VDE、UL Certification

First batch of Photovoltaic Power Generation Top Runner Program (领跑者) certified enterprises



VDE认证



# Major Customers



Solargiga Energy

**SHARP**

夏 普



国家电投  
**SPIC**



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

**信義玻璃**  
**XINYI GLASS**

信义玻璃控股有限公司



**中国华电集团公司**  
CHINAHUADIAN CORPORATION



三信電気株式会社  
SANSHIN ELECTRONICS CO., LTD.



**通威太阳能**  
TW SOLAR



茂迪新能源有限公司



**中来股份**  
**JOLYWOOD**

**GINTECH**

台湾昱晶能源



爱旭太阳能





# Market Overview



## China

- Chinese photovoltaic companies are affected by the “531 New Policy” and accelerated their expansion of overseas markets in 2018. More than 20 Chinese photovoltaic companies have deployed capacity overseas through joint ventures, mergers and acquisitions, and investment, hence gradually increasing the industrial supporting capacity of overseas bases. Chinese photovoltaic companies have also expanded their power station development, EPC, operational services, and energy storage businesses overseas.
- According to preliminary statistics from CPIA, China’s newly-installed capacity for photovoltaic power generation exceeded 43GW in 2018. Although it dropped 18% year-on-year, it continues to rank first in the world. Distributed photovoltaic power plants accounted for 20GW (5% increase year-on-year) while centralised photovoltaic power plants accounted for 23GW (down 31% year-on-year). Accumulated photovoltaic capacity reach exceeds 170GW. On the other hand, polysilicon production exceeded 250,000 tons (over 3.3% increase year-on-year), silicon wafer production was 109.2GW (19.1% increase year-on-year), cell production was 87.2 GW(approximately 21.1% increase year-on-year), and the module production was approximately 85.7GW (14.3% increase year-on-year).
- According to the China “13th Five-Year Plan for Solar Energy Development”, it is expected that by the end of 2020, the cumulative installed capacity of photovoltaic power generation in China will reach 250GW. Photovoltaic targets and subsidy policies for 2019 are currently under rigorous discussions. Direction of development for projects reaching photovoltaic grid parity is becoming more clear. Unsubsidised photovoltaic projects are expected to materialise during the year in price biddings of the fourth batch of “Top Runners Program”. According to the National Energy Administration’s “Guidance on Energy-related Work for 2018” (二零一八年能源工作指導意見) issued by the National Energy Bureau (中國國家能源局), installation of village-level photovoltaic poverty-alleviation\* (光伏扶貧) power stations will be spread out in three years (2018–2020). In 2018, the village-level photovoltaic poverty-alleviation power stations will be around 15GW and is expected to benefit population of around 2 million from poverty-stricken households.
- Mono-crystalline silicon technology has already been regarded as the mainstream of the future by the market. Enhancement of technology to effectively reduce costs has led to a rapid reduction in the cost of mono-crystalline silicon. Strong demands drives the effect of economies of scale. The future development trend towards mono-crystalline silicon has become clearer. Global demand for mono-crystalline silicon products is increasing rapidly. The global market share of mono-crystalline silicon ratio was 18% in 2015, 27% in 2016 and 36% in 2017. It is expected that the market share of mono-crystalline silicon will increase at a steeper rate in 2018, leading to mono-crystalline silicon modules, in 2019, overtaking multi-crystalline silicon modules in market share.



# Market Overview

## USA

- ■ In the third quarter of 2018, U.S. new photovoltaic installations reached 1.7GW. It is estimated that the new photovoltaic installations will be around 11.1GW for the year, which will be the same as in 2017, with a total installed capacity reaching 60GW. It is also expected that the total photovoltaic capacity in the United States will more than double in the next five years. By 2023, the United States will install more than 14GW of new photovoltaic installation capacity per year.
- ■ According to the US Energy Information Administration (EIA), non-hydro renewables such as solar and wind will become the fastest growing sources of power generation in the United States in the next two years.

## India

- ■ In the Indian market, the cumulative installed capacity at the end of the third quarter of 2018 has reached 25GW. The Ministry of New and Renewable Energy said that India will target the installed capacity of all renewable energy technologies to 500GW by 2030, of which 350GW will be solar energy power generation. It is planned to have 100GW of solar energy by 31 March 2022. It is estimated that India's renewable energy installed capacity will increase by 15.86GW in 2019, which is likely to surpass the U.S. as the world's second largest photovoltaic market.





# Market Overview

## Japan

- According to the government, the newly revised “Energy Basic Plan” on 3 July 2019, aims to position renewable energy sources such as solar energy and wind energy as the main power source. It targets, by 2030, the proportion of renewable energy power generation in total power generation will be increased to 22% to 24%, of which photovoltaic power generation will reach the target of 7%, and making renewable energy the mainstream in 2050.

## Europe

- In European markets in 2018, the European Union ended anti-dumping and anti-subsidy measures on Chinese solar imports and the Minimum Import Prices (MIP) measures. According to Photovoltaic Market Alliance (Photovoltaic MA) research, the European market was mainly led by Germany and Denmark, with an installation of about 8.5GW, which is more than 40% compared to 5.9GW in 2017.
- By eliminating the trade measures for solar panels and ensuring a very positive solar framework through a clean energy package, it is expected that Europe will see strong demand for solar energy in the next two years and become the starting point for a long-term upward trend in European solar development.

## Emerging Markets

- Several emerging and mature markets on the different continents, including Australia, South Korea, United Arab Emirates, Egypt, Mexico and Brazil, have begun to increase their effort, with a total of at least 19.5GW already installed. IHS Markit's research and analysis showed that 2018 was a key year for photovoltaic installations in the Middle East and North Africa, with approximately 3.6GW of photovoltaic installed in the region, marking a four times increase to that of less than 1GW in 2017.



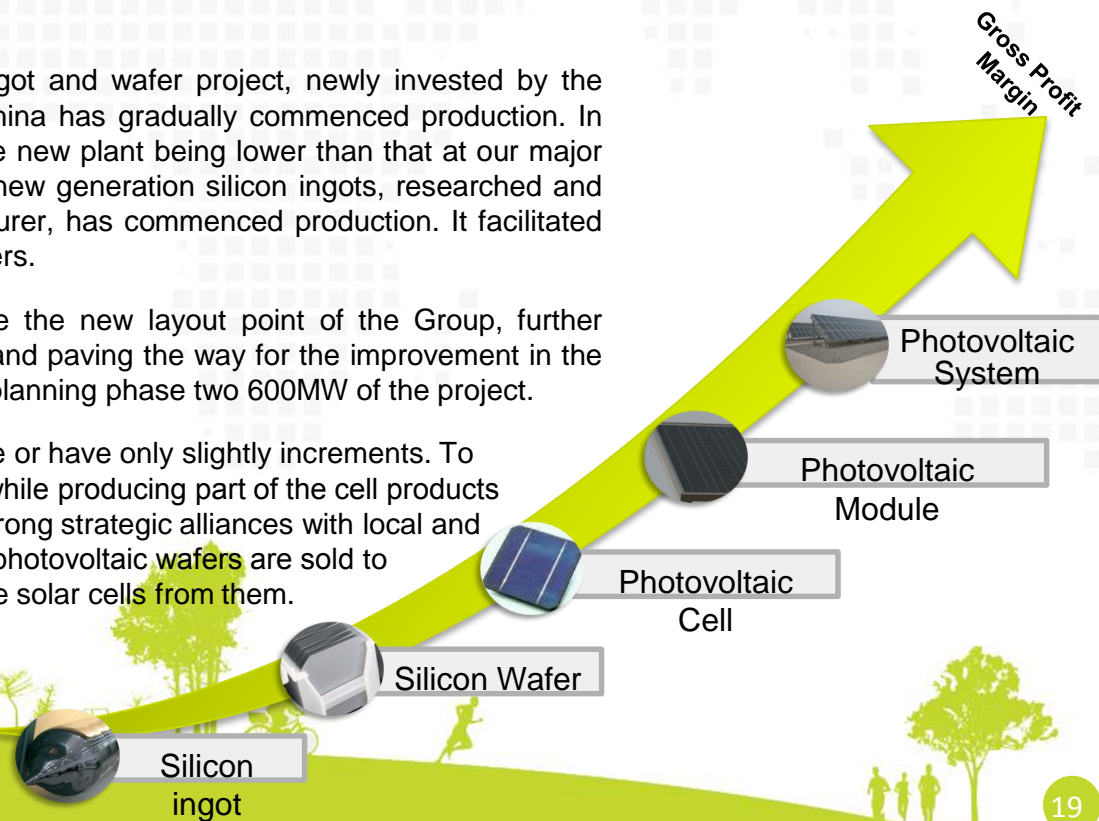


# Business Review



## 1. Focus on the vertical integration of monocrystalline products, concentrate internal resources, and strengthen upstream monocrystalline silicon ingot/wafer products and downstream terminal components products sales

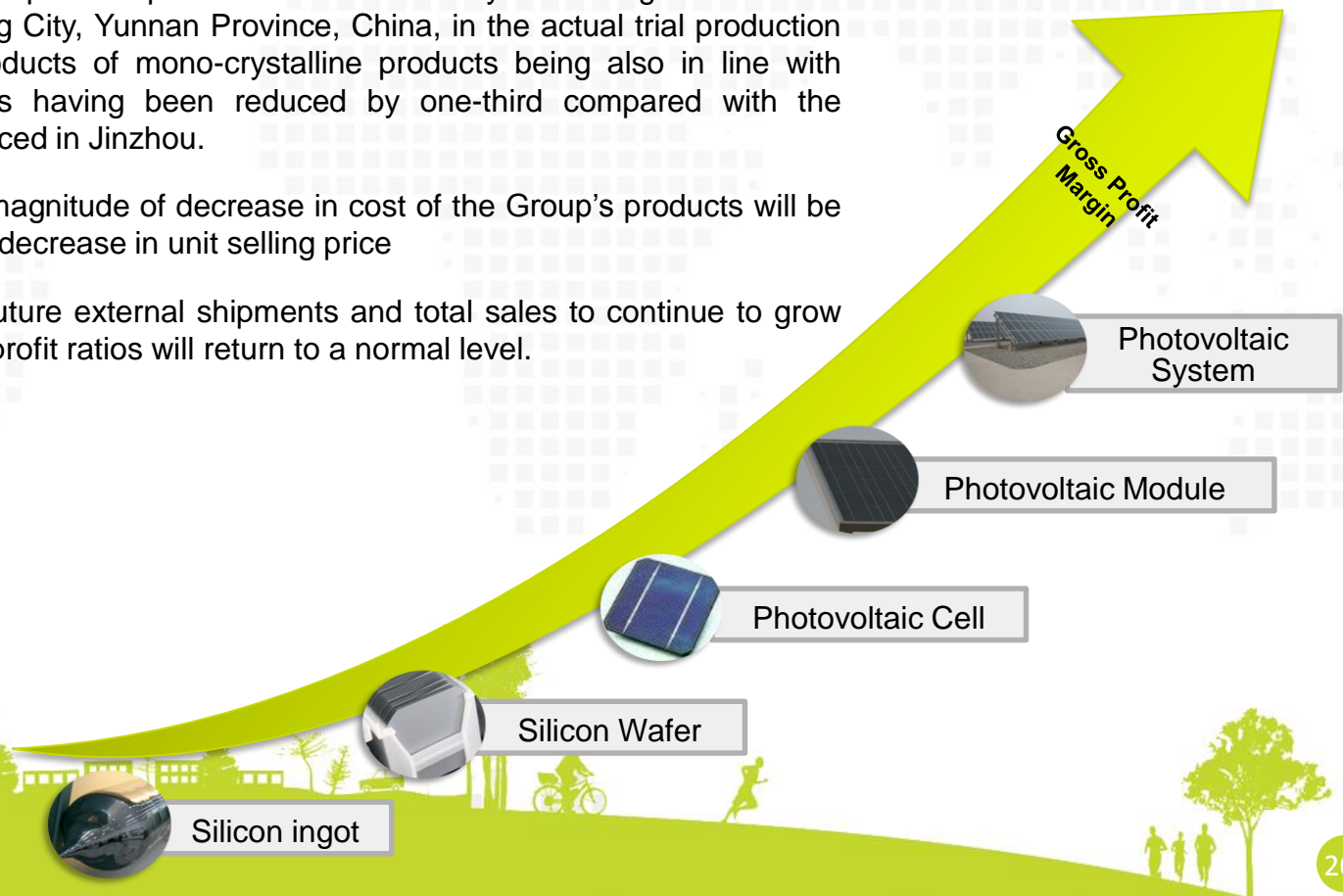
- The Group focuses on the vertical integration of photovoltaic monocrystalline products. Through satisfying external demands for its photovoltaic modules, at the same time, boosting the internal demands for its monocrystalline silicon ingots/wafers. To bring out the upstream high-end monocrystalline silicon ingot and wafer products and through the potential of continuous improvement in production costs of the upstream high-end mono-crystalline ingot and wafer products, the Group's innate advantage will be demonstrated.
- phase one 600MW monocrystalline silicon solar ingot and wafer project, newly invested by the Group, located in Qujing City, Yunnan Province, China has gradually commenced production. In addition to the local water and electricity costs at the new plant being lower than that at our major production base, the manufacturing facilities of the new generation silicon ingots, researched and developed in association with a specialist manufacturer, has commenced production. It facilitated the lowering of manufacturing cost of ingots and wafers.
- The Group expects the Qujing Project will become the new layout point of the Group, further improving the Group's overall manufacturing costs, and paving the way for the improvement in the Group's gross profit. The Group is currently actively planning phase two 600MW of the project.
- For solar cell segment, it will maintain the current size or have only slightly increments. To strengthen the Group's vertical integration strategy, while producing part of the cell products internally, at the same time, the Group established strong strategic alliances with local and overseas manufacturers, through which the Group's photovoltaic wafers are sold to our strategic partners and the Group in turn purchase solar cells from them.





### 2. Highly competitive supporting outsourced production, and the progressive commissioning of the high-efficiency production equipment in order to maintain the gross profit margin

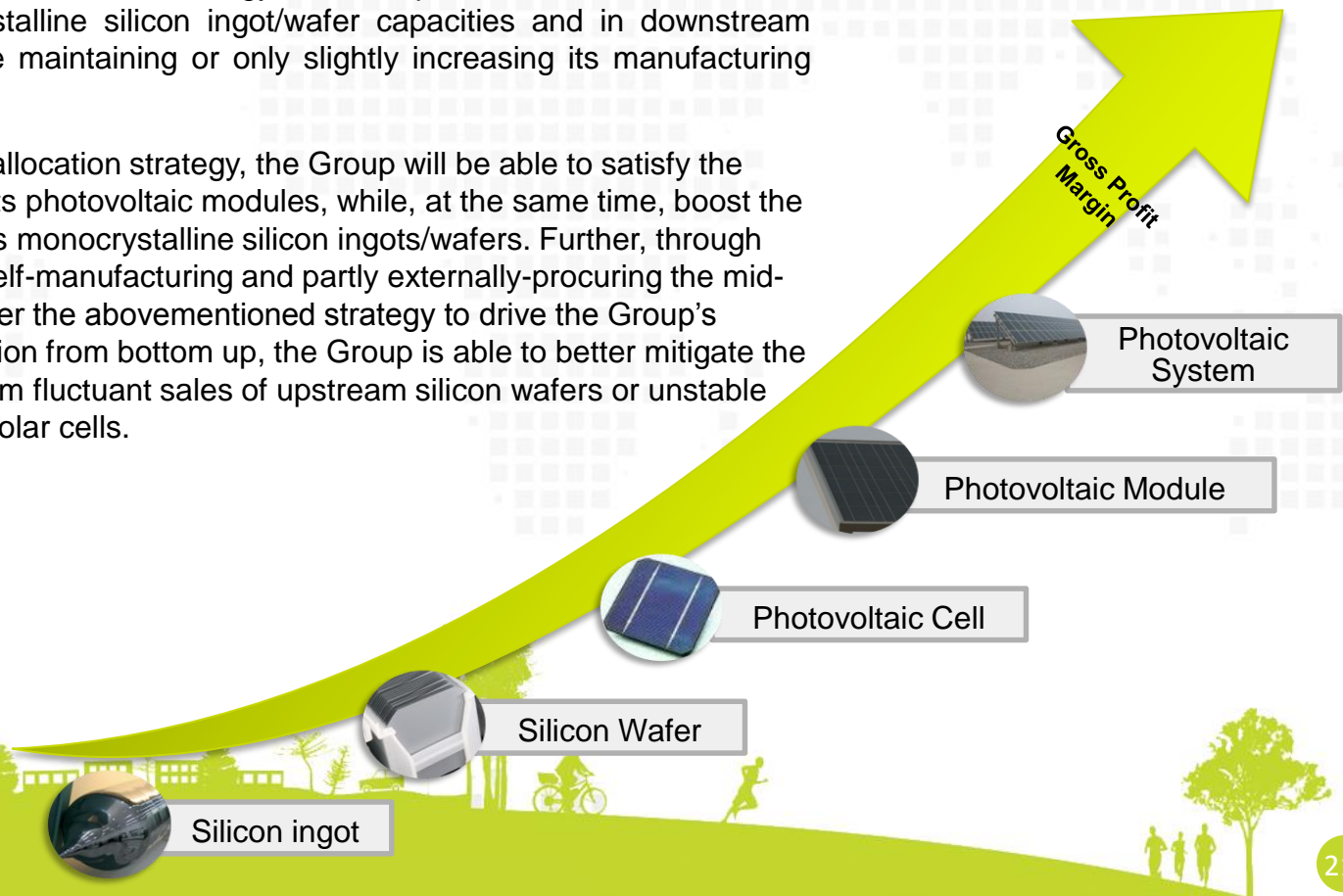
- With regard to the Group's first phase 600MW mono-crystalline ingot and wafer project located in Qujing City, Yunnan Province, China, in the actual trial production stage, the finished products of mono-crystalline products being also in line with expectations, the costs having been reduced by one-third compared with the finished products produced in Jinzhou.
- It is expected that the magnitude of decrease in cost of the Group's products will be greater than that of the decrease in unit selling price
- The Group expect its future external shipments and total sales to continue to grow and the Group's gross profit ratios will return to a normal level.





### 3. Under capacity allocation strategy, and through the natural integration mechanism of vertical integration, to reduce the risk of market fluctuations.

- Regarding the capacity allocation strategy, the Group is to focus its investments in upstream monocrystalline silicon ingot/wafer capacities and in downstream module capacity, while maintaining or only slightly increasing its manufacturing capacity in solar cells.
- Through this capacity allocation strategy, the Group will be able to satisfy the external demands for its photovoltaic modules, while, at the same time, boost the internal demands for its monocrystalline silicon ingots/wafers. Further, through the strategy of partly self-manufacturing and partly externally-procuring the mid-stream solar cells, under the abovementioned strategy to drive the Group's overall capacity utilisation from bottom up, the Group is able to better mitigate the market risks arising from fluctuant sales of upstream silicon wafers or unstable supply of mid-stream solar cells.





## Group: Operations Strategy (Continued)

### 3. Under capacity allocation strategy and through the natural integration mechanism of vertical integration, to reduce the risk of market fluctuations. (continued)

Example of our strategy at work is the recent decline in wafer prices. By satisfying orders from downstream module customers with the Group's self-manufactured silicon wafers, we did not have to follow the market trend of slashing wafer prices. We consequently were able to effectively mitigate risks arising from market fluctuation, and protect the interests of all manufacturing segments of the Group.

*Scenario A: Price of wafers drops*

*A. Price of wafers drops*

Group's strategy :

- Wafer not sold externally, subcontract production into solar cells, and to be used for Group's modules.

Benefit:

- Risk of wafer price drop no longer exists in the natural defense mechanism of vertical integration. profitability can still be maintained from the sales of modules end products.

*Scenario B: Price of wafers rises*

*B. Price of wafers rises*

Group's strategy :

- Wafer sold externally, procure solar cells externally






Benefit:

- Rise in wafer prices, under vertical integration, both wafer and module sales will drive overall gross profit and maximise bottom line



# Business Overview: Ingot & Wafer Segment



-  With the continued realisation of advantages in better improvement in conversion efficiency, more stable decay rate in its photovoltaic systems, continued reduction in unit costs, etc. of monocrystalline products, it is expected that the advantages of monocrystalline products will become more obvious in the field of photovoltaic power generation, and the market share of monocrystalline silicon products will further increase significantly.
-  Through long-term strategic partnerships with well-known solar cell-focused manufacturers, the Group may enjoy priority distribution channels for the sales of its monocrystalline wafers, and ensure long-term stable utilisation of the Group's capacity and shipment volume.
-  During the year, the external shipment volume of mono-crystalline silicon ingots was 413.8MW, representing an increase of 32% compared to 313.5MW in 2017. External shipment volume of mono-crystalline silicon wafers has remained stable at 850.3MW (822.3MW in 2017).
-  In addition, phase one 600MW monocrystalline silicon solar ingot and wafer project, newly invested by the Group, located in Qujing City, Yunnan Province, China has gradually commenced production. In addition to the local water and electricity costs at the new plant being lower than that at our major production base, the manufacturing facilities of the new generation silicon ingots, researched and developed in association with a specialist manufacturer, has commenced production. It facilitated the lowering of manufacturing cost of ingots and wafers.
-  The Group expects the Qujing Project will become the new layout point of the Group, further improving the Group's overall manufacturing costs, and paving the way for the improvement in the Group's gross profit. The Group is currently actively planning phase two 600MW of the project.





# Business Overview: Cell Segment

- During the year, the annual production capacity of solar cells was 400MW (2017: 400MW). Solar cells are mainly provided internally to the downstream module business of the Group. Only a small portion of solar cells with special specifications are sold to our selected customers in China and Japan.
- The Group's solar cell manufacturing capacity is highly flexible. Our products range is hence extensive, which includes mono-crystalline, multi-crystalline, P-type high end, N-type double-sided solar cells, etc. Focusing on the implementation of the vertical integration strategy on monocrystalline products, most of the solar cells are mainly provided to the use of the Group's downstream solar modules companies.
- The Group has also been collaborating with university teams of the highest levels in the field of global perovskite (鈣鈦礦) research in projects to jointly develop perovskite solar cells in order to pave the way for solar cell development in the next decade and keep abreast of the latest trends in the photovoltaic industry.





# Business Overview: Module Segment



- The Group's external shipment during the year was 1,466.2MW, a 17% increase from the 1,251.7MW in 2017.
- Even though the overall solar market demand in China has been compressed, the excellent quality of the Group's products and price competitiveness offered by the Group have led to an increase in the Group's external shipments and total annual sales. Profitability of the module segment has grown significantly, marking new heights.
- External sales was mainly made to huge Chinese state-owned enterprises and Japanese multinational enterprises, such as China Huadian Corporation (中國華電集團公司) ( "Huadian" ), Beijing Enterprises Holdings Limited (北京控股集團有限公司) ( "BEGCL" ), SHARP Corporation and SANSHIN ELECTRONICS CO., LTD., etc.
- Being the company with the largest number of successful bids in the third batch of the Top Runner Program, China National Power Investment Corporation\* (中國國家電力投資集團) announced in July 2018 that the Group has become one of the three major module suppliers of the project, and will supply modules such as N-type monocrystalline silicon and P-type PERC modules for the project.
- In addition to flexibly supporting the manufacturing of mono- and multi-crystalline photovoltaic modules, the Group will continue to expand and strengthen the development and sales of monocrystalline silicon high-efficiency module products such as N-type double-sized glass photovoltaic modules, half-cell photovoltaic modules, P-type monocrystalline solar cell Passivate Emitter and Rear Cell (PERC), smart photovoltaic modules, and Super Runner Program-related high-end products. Among them, installation of the new production lines of our BS modules of N-type monocrystalline IBC solar cell, which produces higher current output, open circuit voltage, fill factor and other electrical performance advantages, have been completed. It will become one of the Group's major module products in 2019.

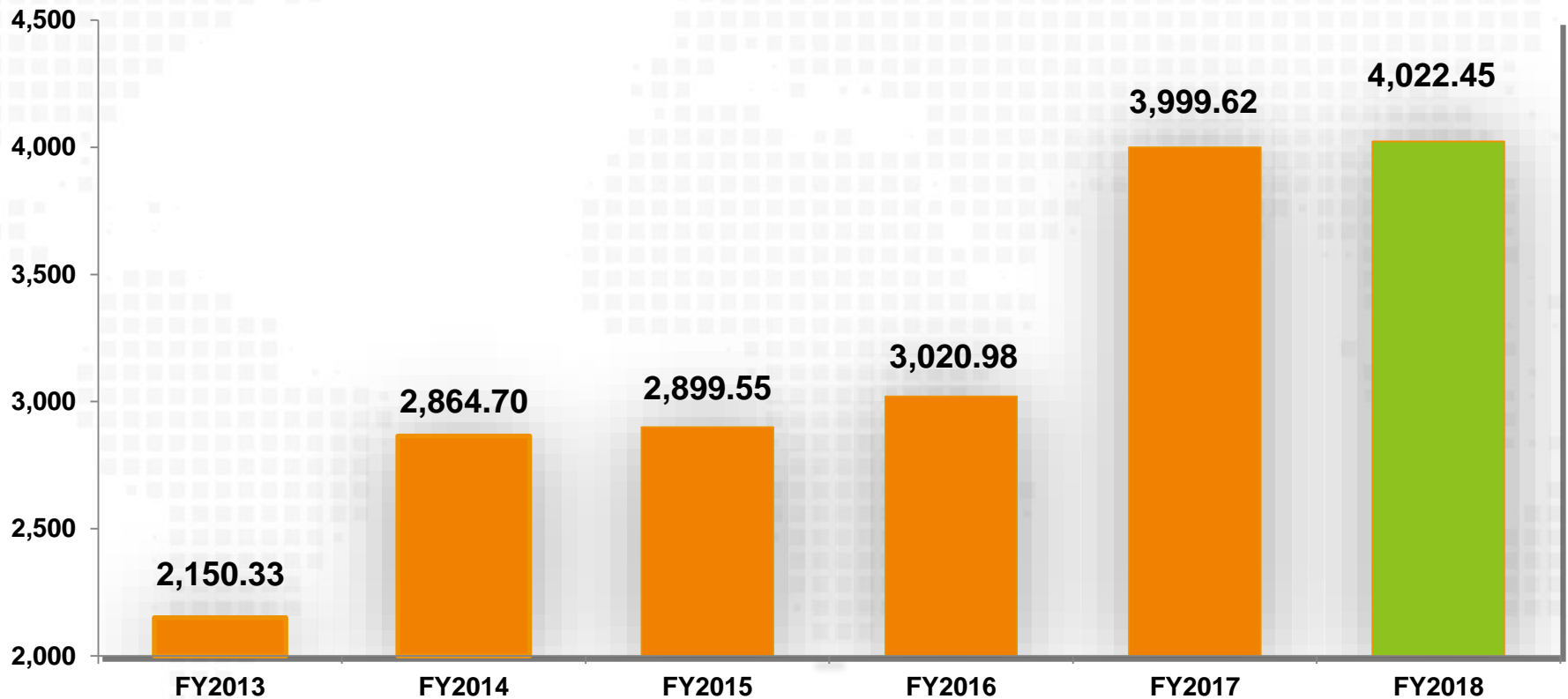


# Financial Performance



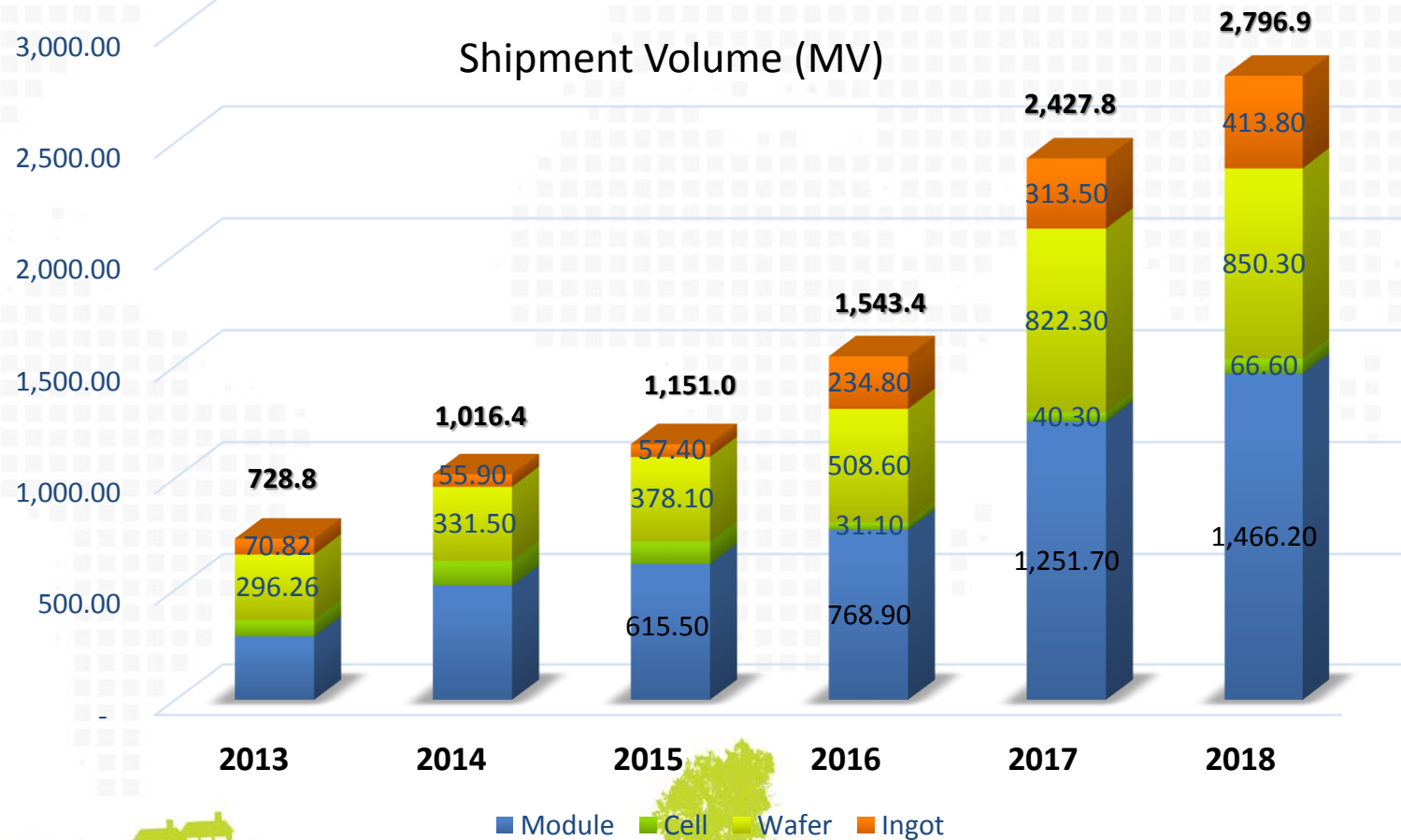
# Yearly Revenue - 2018

營業收入 (人民幣百萬元)





# Yearly Shipment Volume



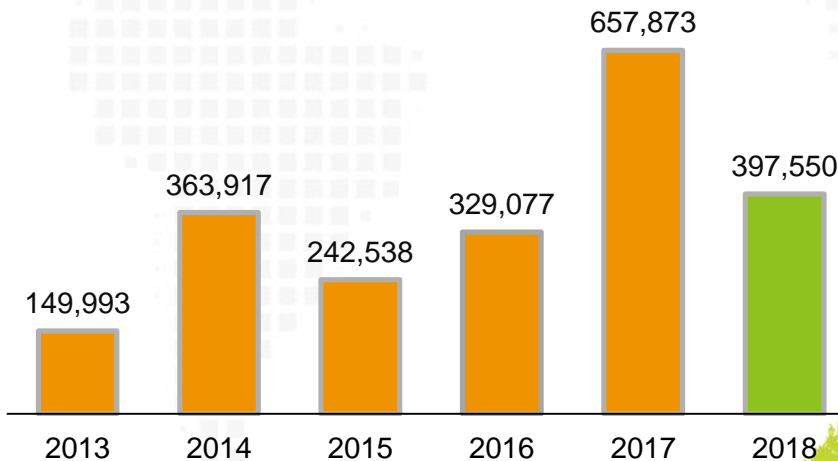


# Gross Profit and Gross Profit Margin

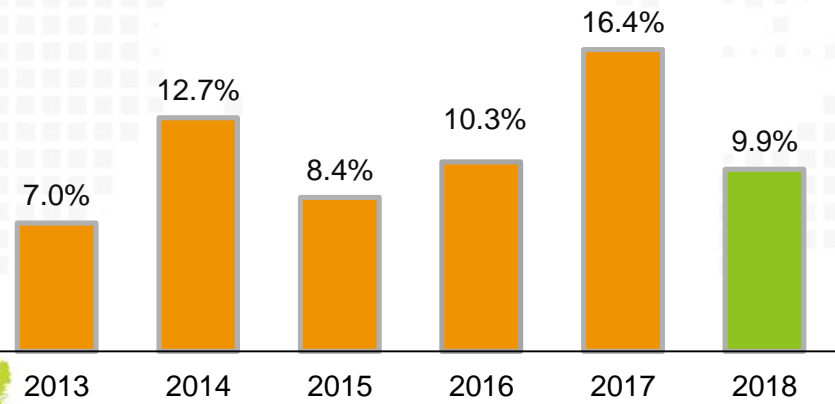


By the effect of the news of the “531 New Policy”, the sudden and rapid freezing of market demand causing the supply side to irrationally cut prices in the short term. However, not only did the price cuts failed to immediately stimulate demand, it even caused deferrals in procurement by the demand side resulting in substantial inventory provision. The Group’s overall gross profit was hence greatly compressed.

**Gross Profit (RMB'000)**



**Gross Profit Margin (%)**





# Financial Results Highlight

Although the average selling price during the year declined substantially over last year, as a result of successful customer development, the size of the customer base and the purchases by individual customers are showing continuous growing trends. The external shipment volume increased significantly by 15.2% compared to last year. As a result, for the year ended 31 December 2018, the Group recorded revenue of RMB4,022.452 million, a moderate increase from RMB3,999.616 million in 2017, and continued to maintain a growth trend.

During the year, the net cash inflow from operating activities was RMB921.479 million, a significant increase of RMB910.73 million from RMB10.749 million of last year.

(RMB'000)	2018	2017	Change
<b>Revenue</b>	<b>4,022,452</b>	3,999,616	0.6%
<b>Gross Profit</b>	<b>397,550</b>	657,873	(39.6%)
<b>Gross Profit Margin (%)</b>	<b>9.9%</b>	16.4%	(6.5pp)
<b>(Loss)/Profit Attributable to Equity Shareholders of the Company</b>	<b>(222,402)</b>	107,462	n/a
<b>Basic (loss)/earnings per share (RMB cents)</b>	<b>(6.92)</b>	3.35	n/a

<b>Condensed Statement of Cash flow</b>			
<b>Net cash flows generated from operating activities</b>	<b>921,479</b>	10,749	910,730
<b>Net cash flows used in investing activities</b>	<b>(275,932)</b>	(78,486)	(197,446)
<b>Net cash flows used in financing activities</b>	<b>(600,879)</b>	(30,205)	(570,674)



# Financial Results Highlight

(RMB'000)	As at 208.12.31	As at 2017.12.31	Change
<b>Current Assets</b>	<b>2,754,947</b>	2,821,891	(2.4%)
<b>Current Liabilities</b>	<b>3,431,772</b>	3,170,491	8.2%
<b>Total Assets</b>	<b>4,566,001</b>	4,611,210	(1%)
<b>Total Liabilities</b>	<b>4,239,763</b>	3,575,781	18.6%
<b>Net Assets</b>	<b>807,991</b>	1,035,429	(22%)
<b>Net asset per share (RMB)</b>	<b>0.22</b>	0.30	(0.08)
<b>Net asset per share (HKD)</b>	<b>0.26</b>	0.37	(0.09)

Note: RMB 1 = HKD 1.17





# Financial Ratios

- In terms of inventory reserve strategy, the Group has been focusing its efforts in raising inventory turnover and lowering the inventory turnover days in order to mitigate the risk of a sudden decline in inventory prices, help reduce committed capital and, at the same time, further strengthen the Group's operation working capital. As a result, the Group's inventory turnover days has been lowered to 37 days during the year (31 December 2017: 58 days).
- According to the terms of the industry's general module sales contract, the recovery of module receivable depends on the construction progress of the photovoltaic power plant. These warranties will generally be recovered in around one year. As a result, the trade receivables turnover days of module business are generally longer. As the Group's module sales has sustained rapid growth in the proportion of operating income, the trade receivables turnover days increased. From the rapid growth of the ratio of revenue in modules sales of the Group, the trade receivables turnover days of the Group increased to 141 days (31 December 2017: 96 days) in 2018.

	2018	2017	Change
<b>Turnover Day Analysis</b>			
Trade Receivables Turnover (Days)	141	96	45
Trade Payable Turnover (Days)	124	96	28
Inventory Turnover (Days)	37	58	(21)
<b>Gearing Analysis</b>			
	As at 2017.12.31	As at 2016.12.31	Change
Current Ratio (Times)	0.80	0.89	(0.09)
Net Debt to Equity Ratio (%)	139%	158%	(19 pp)




# Future Plans





# Action Plans



## Plans

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The Group will rely on (1) the comparative advantages from technological superiority of its diversified product lines; (2) the highly competitive supporting outsourced production, to significantly drive its production costs down; and (3) the progressive commissioning of the high-efficiency production equipment, particularly, with regard to the Group's first phase 600MW mono-crystalline ingot and wafer project located in Qujing City, Yunnan Province, China, in the actual trial production stage, the finished products of mono-crystalline products being also in line with expectations, the costs having been reduced by one-third compared with the finished products produced in Jinzhou, it is expected that the magnitude of decrease in cost of the Group's products will be greater than that of the decrease in unit selling price, adding to the planned mono-crystalline silicon ingot, wafer and module projects, not only does the Group expect its future external shipments and total sales to continue to grow, the Group's gross profit ratios will return to a normal level.
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The focus is on the production of upstream mono-crystalline silicon ingots and silicon wafers, and planning the downstream module production capacity, in order to focus on the production of upstream niche products, mono-crystalline silicon ingots and wafers, retaining only the existing scale or slightly increasing the solar cell manufacturing capacity, and through significant module production capacity, the Group not only maintains direct contact with downstream customers, but also keeps a finger on the pulse of the end-user market, and can also bring out the upstream high-end mono-crystalline silicon ingot and wafer products. Through the potential of continuous improvement in production costs of the upstream high-end mono-crystalline ingot and wafer products, the Group's innate advantage will be demonstrated.
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"531 New Policy" will accelerate the early arrival of grid parity. The market is currently undergoing a structural transformation, in terms of production capacity and product quality improvement, to encourage high-end and high-efficiency products, and promote technological advancement, reduce costs of power generation, reduce dependence on subsidies, promote industry to high quality development, and accelerate to reach grid parity. The problems in the power grid and energy storage are also improving continuously. Amongst all solar products, by focusing on the development of monocrystalline products, the Group commands industry-leading technology for the production of monocrystalline products. Through vertically integrating its upstream and downstream manufacturing capacities, apart from not self-producing polysilicon, the Group covers the whole industry chain of the photovoltaic industry, fully leveraging the synergy among different business segments of the Group.



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