

## 2017 Annual Results







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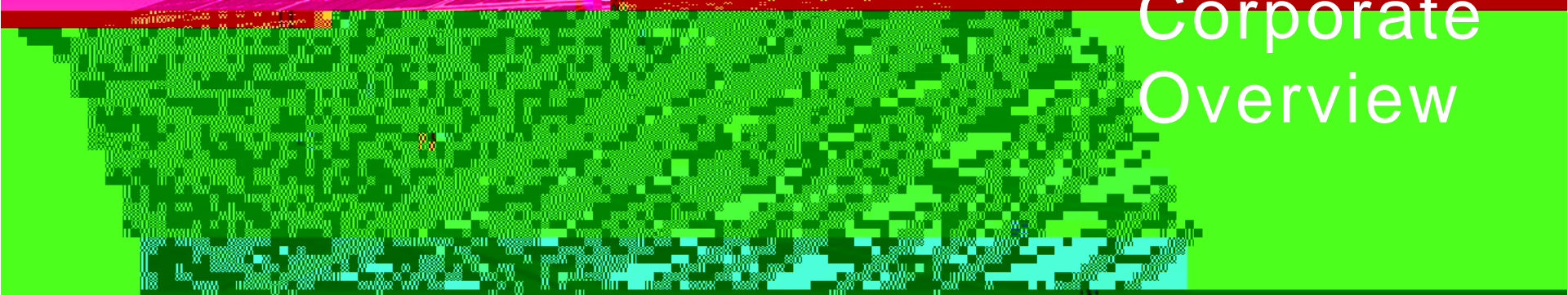


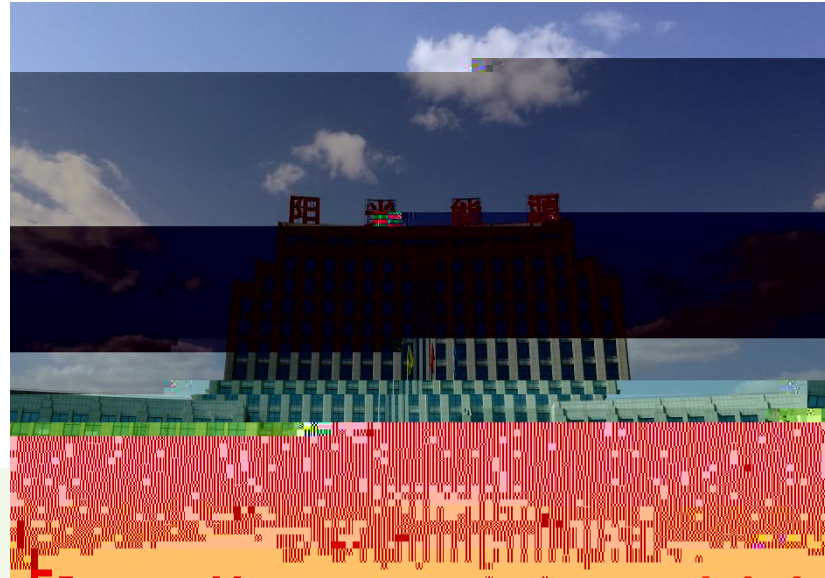
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# Corporate Overview



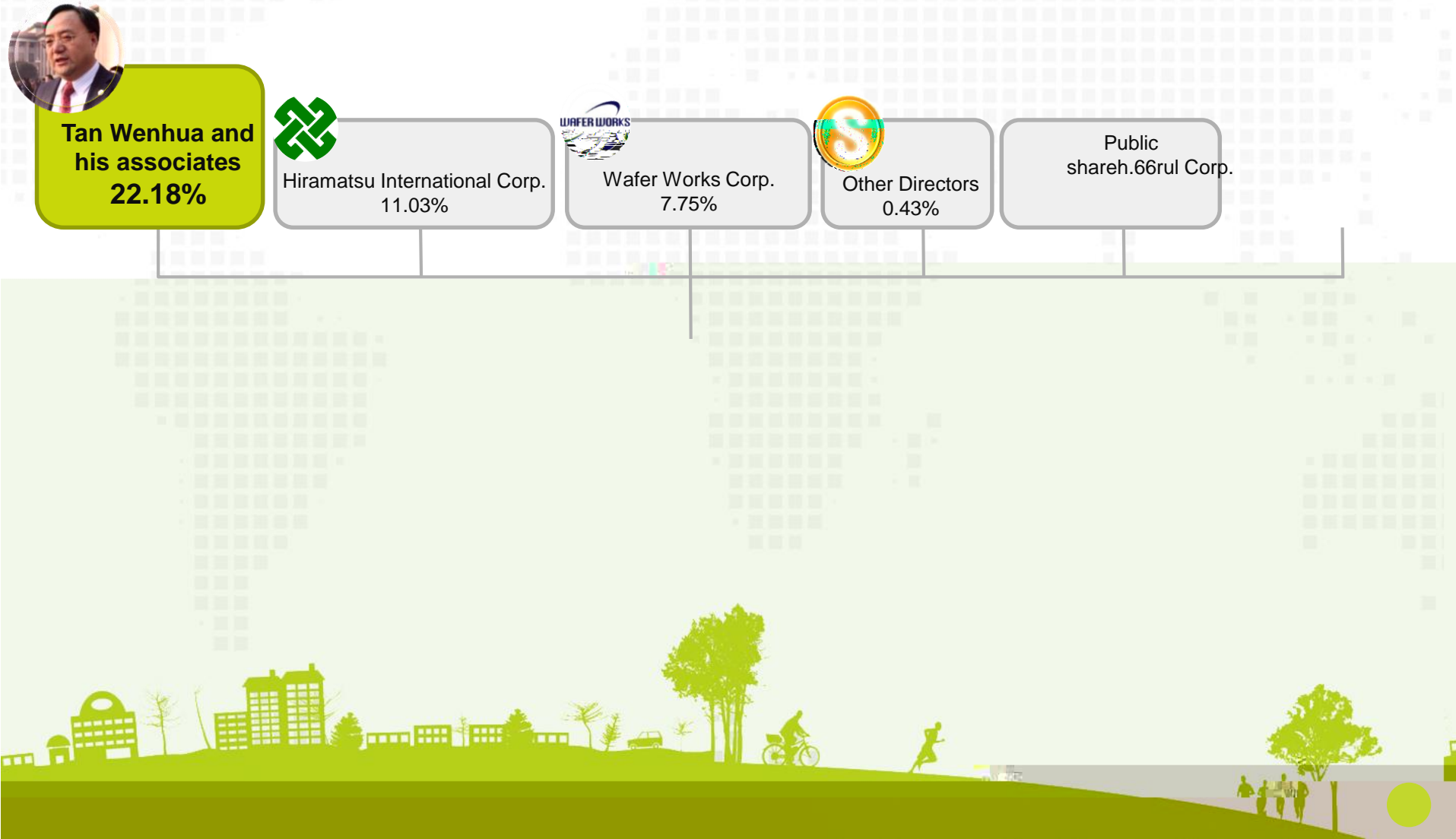


- Established in 2001, the largest in Northeast China, high ranked photovoltaic manufacturer of the country. Focus on vertical integration for monocrystalline products, providing one-stop solutions from ingots, wafers, cells, modules to the development, design, construction, operation and maintenance of PV System.
- Listed in Hong Kong on 31





# Shareholding Structure as at 31 December 2017





# Manufacturing base









## 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,

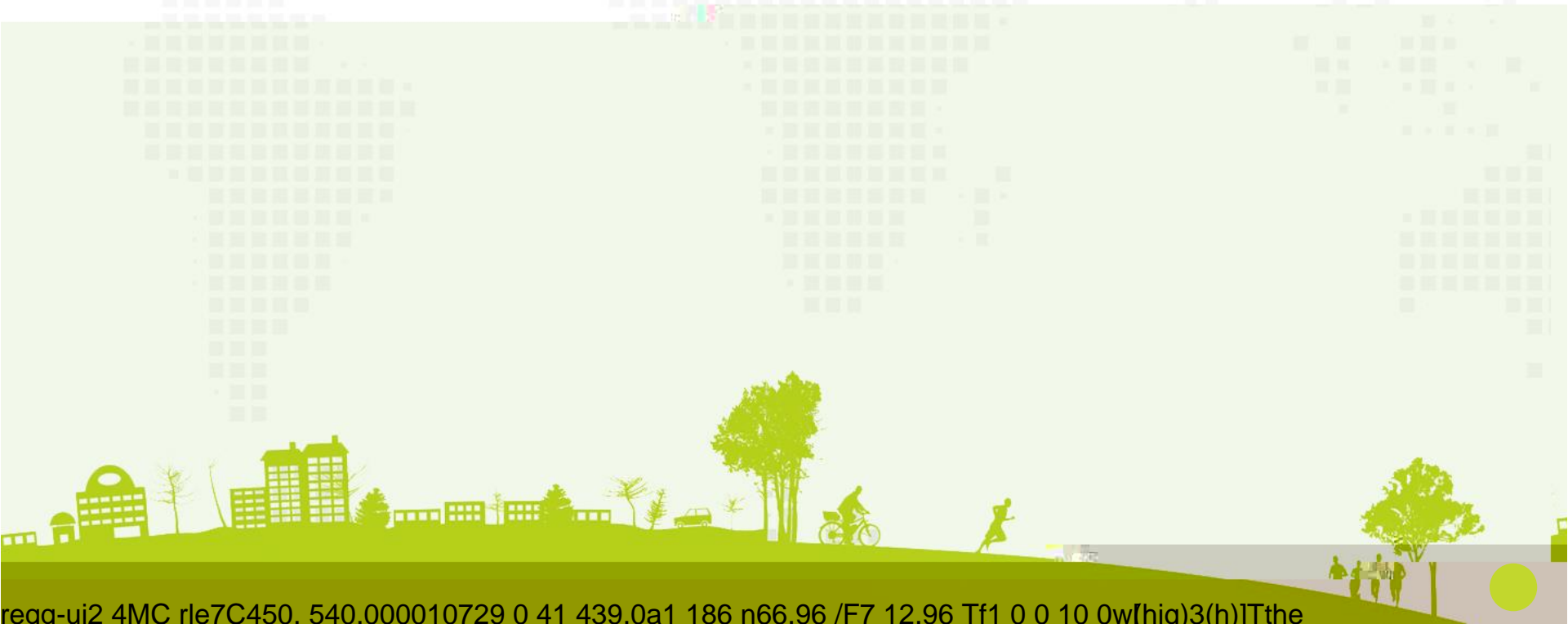




## Product Procedure: 3. Solar cells



- 8 standard cell production lines, 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 Em(oBT/F7 11000010729 0 720 540 reW\*nBT/F7 12.96 Tf1 0 0







# Products: Module Product Certification



TUV VDE UL Certification

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



认证

## 太阳能产品认证证书

证书编号: CQC14024140155

申请人名称及地址

锦州锦德光伏科技有限公司  
辽宁省锦州市经济技术开发大道东段1-10号

制造商名称及地址

锦州锦德光伏科技有限公司  
辽宁省锦州市经济技术开发大道东段1-10号

生产企业名称及地址

锦州锦德光伏科技有限公司 (VU22992)  
辽宁省锦州市经济技术开发大道东段1-10号

产品名称和系列、规格、型号

地面用晶体硅光伏组件

见附件

产品标准和技术要求

IEC61730-2:2004

认证模式

产品型式试验+初次工厂检查+获证后监督

上述产品符合CQC33-471541-2009认证规则的要求, 特发此证。

发证日期: 2016年03月03日

证书有效期内本证书的有效性依据获证机构( ) 授权保持。



主任: [Signature]



中国质量认证中心

分部·北京·西四环南路188号B座100070  
http://www.cqc.com.cn

## 太阳能产品认证证书

证书编号: CQC15024133622

申请人名称及地址

锦州锦德光伏科技有限公司  
辽宁省锦州市经济技术开发大道东段1-10号

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

北京北控  
CGN





# Market Overview



## China

- China continues leading the global solar market. In 2017, China's newly installed capacity for photovoltaic power generation was 53.06 GW (2016: 34.54 GW), a year-on-year increase of 53.6%. Among which, 33.62 GW was large-scale photovoltaic power plants, distributed photovoltaic power plants accounted for 19.44 GW, an explosive growth of 3.7 times. China's cumulative installed capacity reached 130.25 GW (2016: 77.42 GW), ahead of and exceeding the installation target of 110 GW of solar energy for the 13th Five-Year Plan for Solar Energy (2016-2020) by 2020.
- As the scale of the industry continues to expand, production technology has kept its pace in improvement. Production costs has continued to decline and hence the industry gross profit margin has remained stable as a result. It is expected that China market will maintain a good growth trend.
- The National Energy Bureau launched the program of application of advance technology on construction of photovoltaic power generating plants, also known as "Golden Runner" focusing and promoting large-scale and advanced technology companies. "Golden Runner" sees efficient product development as its main focus, the main products include the "Golden Runner" N-type double-sided photovoltaic modules and other high-end products. They are expected to gain attention from the market.

## Japan

- The Japan zero-energy residential project is expected to continue to be the main catalyst for growth in the residential solar installation market. ZEH was launched in early 2016 to reduce the energy consumption of residential buildings and enhance its energy efficiency





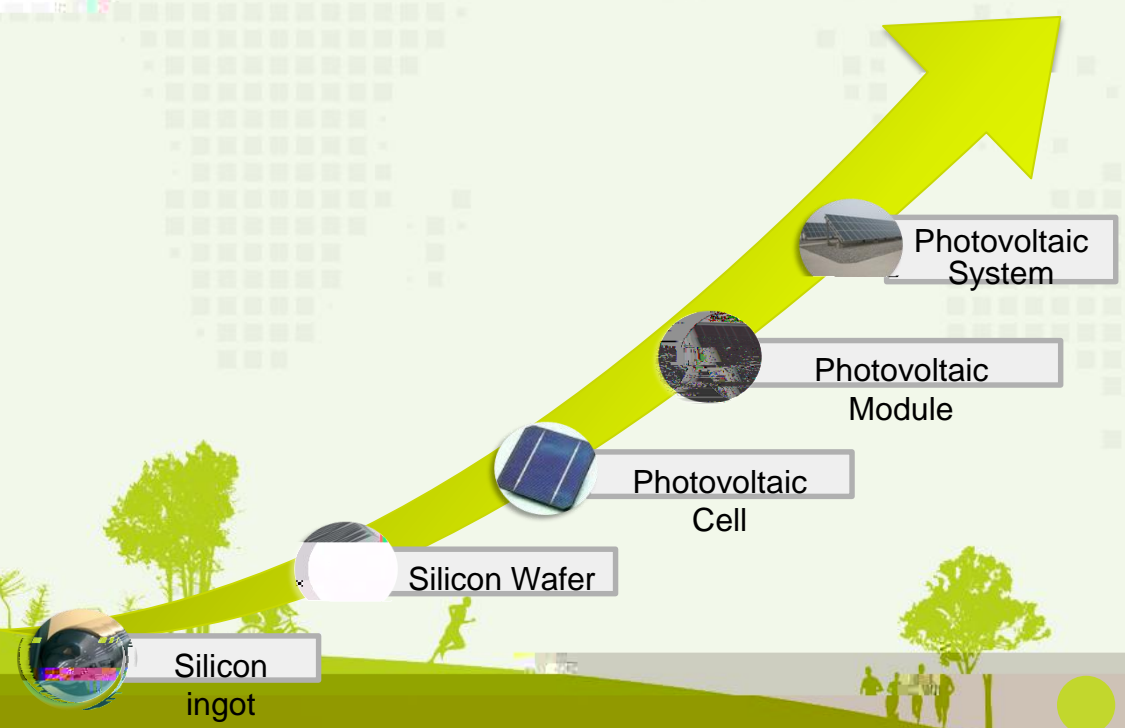
## USA

- According to the latest research data from GTM Research and the US Solar Energy Industry Association as of the end of 2017, the installed capacity





# Business Review



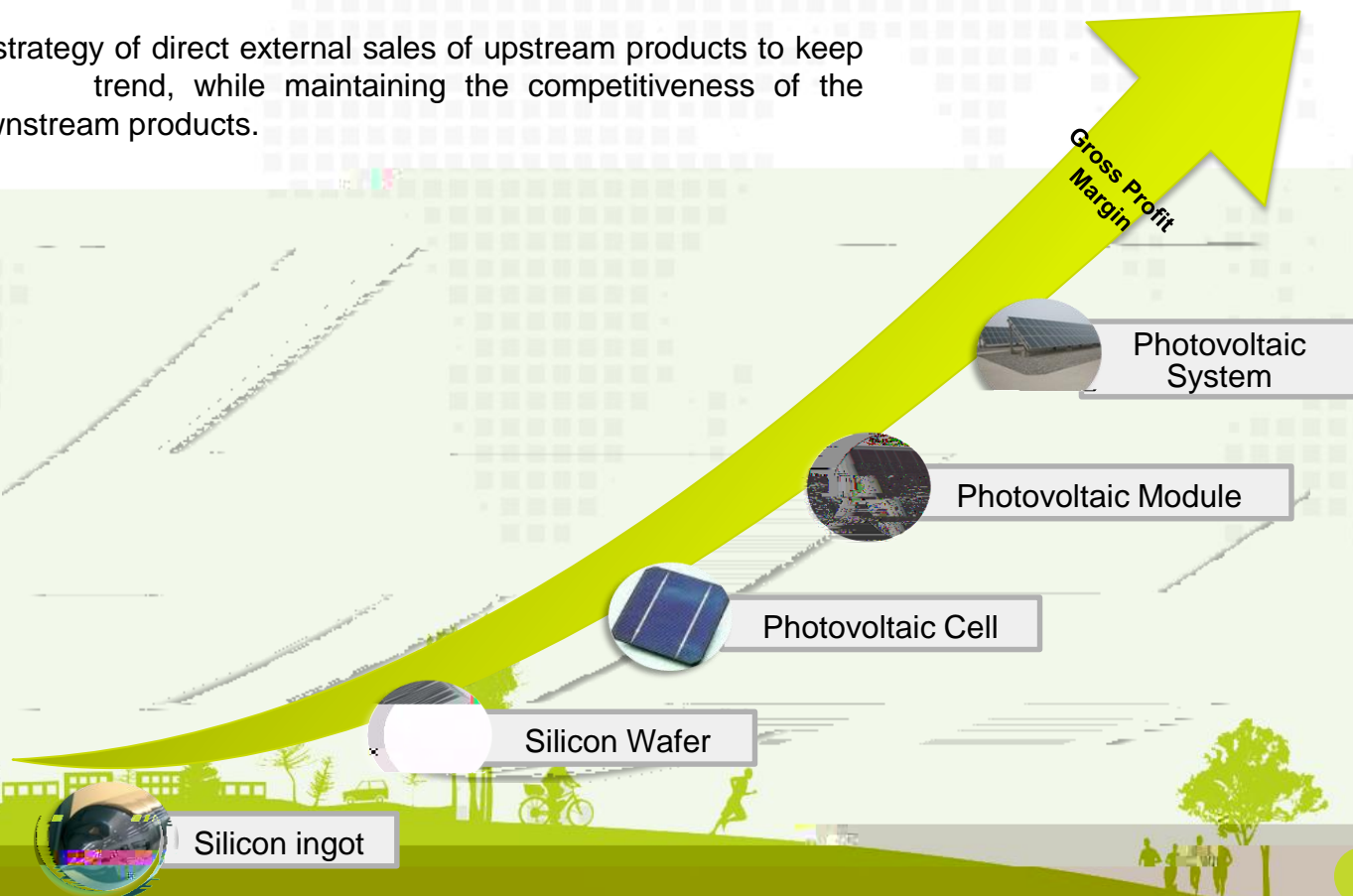


## 2. Improve overall gross profit margin under vertical integration, taking upstream products into account

The Group is a vertically integrated manufacturer of upstream and downstream monocrystalline products. It is able to effectively utilise the advantages of vertical integration to enhance the Group's gross profit margin of self-manufacturing module products, which drive to increase the profitability of the Group.

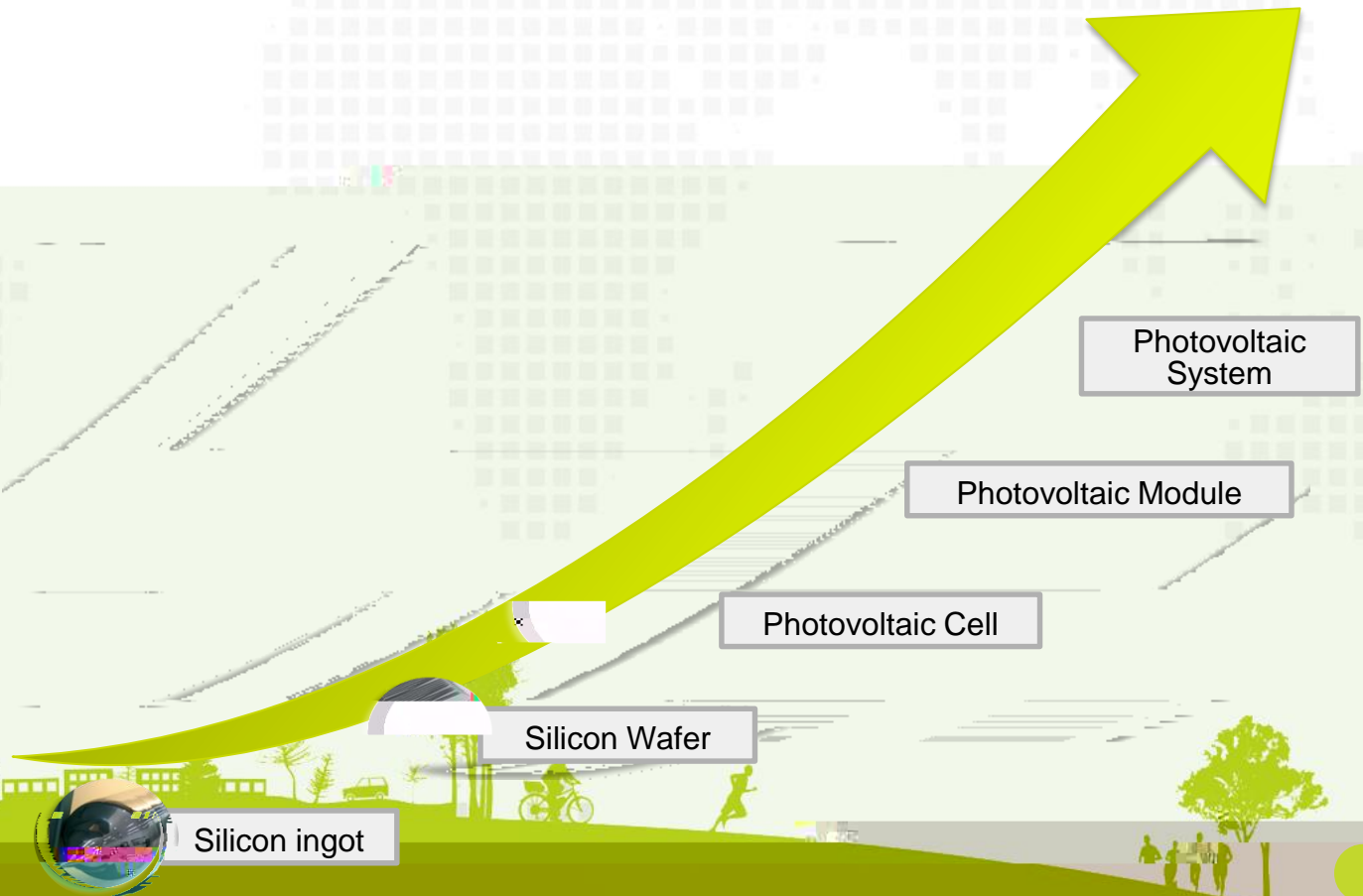
The Group also adopts a strategy of direct external sales of upstream products to keep abreast of upstream trend, while maintaining the competitiveness of the Group's upstream and downstream products.

In





# Group: Operations Strategy (Continued)

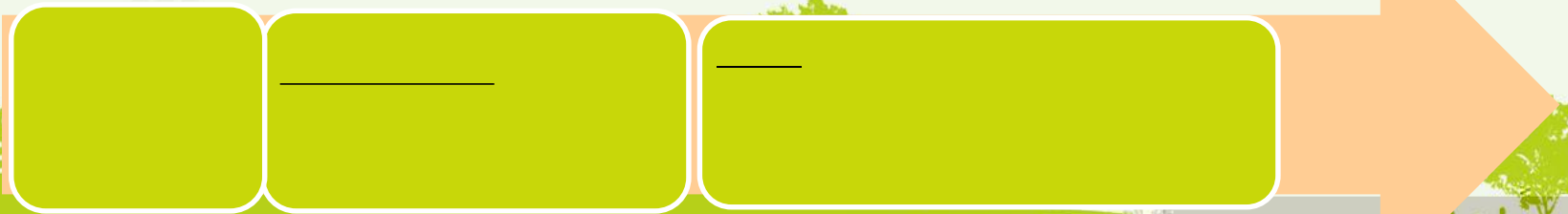




# Group: Operations Strategy (Continued)



3. Under capacity allocation strategy, downstream production capacity is slightly larger than upstream production capacity, and through the natural integration mechanism of vertical integration, to reduce the risk of market fluctuations. (continued)





# Business Overview: Ingot & Wafer Segment



 With the continued







# Business Overview: Module Segment



- During the year, external shipment of module products of the Group reached 1,252MW, compared to 769MW for 2016, representing an increase of **62%**. The increase in external shipment was mainly the result of the successful development of the **client** base, reflected in the significant growth in both the number of customers and in the **quantity** of their purchases. External sales was mainly made to huge Chinese state-owned enterprises and **Japanes** 19802522 multinational composite enterprises, such as CGN New Energy Holdings Co., Ltd





### Jinzhou Chuanghui Module Project (Addition of 1 GW)

- The module production capacity of the project is 1GW, which is expected to commence mass production at the end of the second quarter of 2018. After the expansion, the module capacity will reach 2.2 GW.
- After expansion, the Group will be able to cope with the substantial growth of customer demand for the Group's photovoltaic modules. By driving from the demand for downstream monocrystalline photovoltaic modules, it helps to strengthen the benefits of the Group's competitive advantage of its vertical integration.

### Yunnan Qujing Monocrystalline Ingot/wafer Project Phase I (Addition of 600 MW in Phase I)



- There are two phases of the Qujing project in Yunnan. The first phase will annually produce 3,000 tons of silicon ingots and 120 million pieces of wafers, each representing 60MW. It is expected to commence mass production by the end of the second quarter of 2018. The second phase of the 600 megawatts will be announced timely.
- Qujing, Yunnan has better production conditions. There is local suppliers for raw material, polysilicon, required for the project, which will significantly reduce the cost involved in raw material transportation; the local water and electricity costs at the new plant has to be lower than that at our major production base, to facilitate the lowering of manufacturing cost of ingots and wafers.



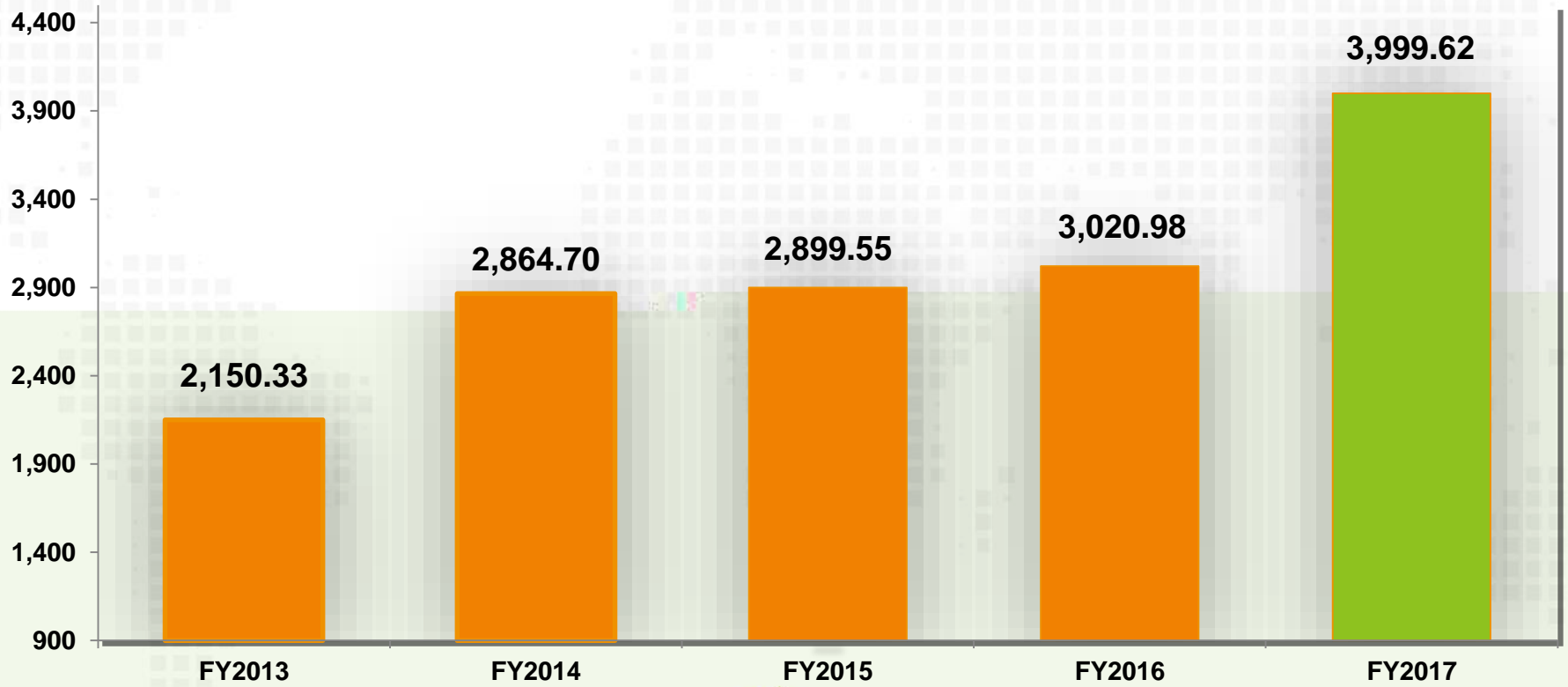


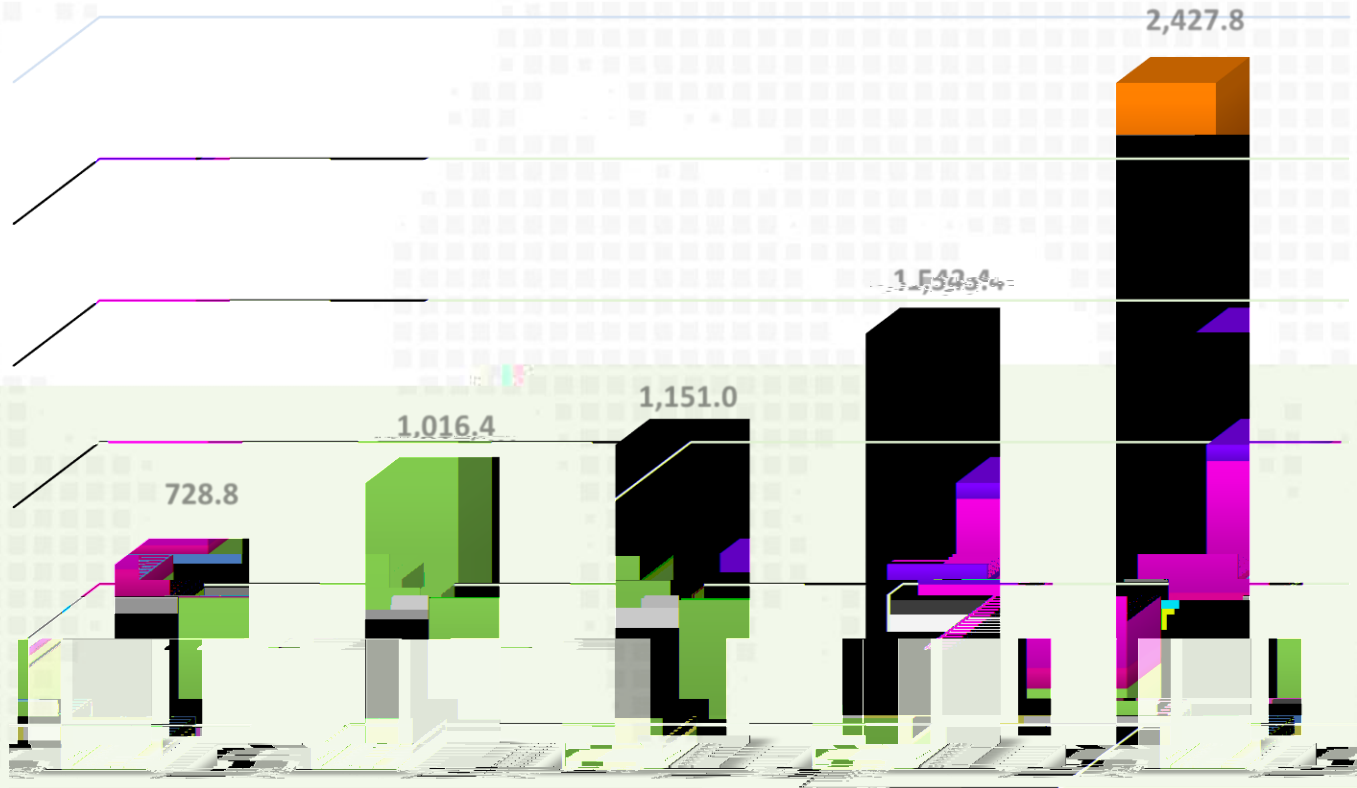
# Financial Performance



-  In 2017, upgrade and transformation work on manufacturing capacities has improved efficiency and (re)normal operations, along with successful development of the client base of downstream photovoltaic modules, and external shipment volume increased from 1,543.6MW in last year to 2,427.8MW in this year, representing an increase of 57%. The proportion of sales of the monocrystalline silicon photovoltaic modules to mono-to-multi-crystalline climbed to 75%:25%. This boosts production of its upstream self-manufacturing ingots/wafers from upstream products and thus improving integrated gross profit by vertical integration.
-  Long-term procurement contracts for high-prm03/d









- The technological transformation and renovation of production equipment of the Group has completed. Production is returning to normal operations and the benefits of economies of scale is resuming. The ratio of revenue in sales of monocrystalline solar products has rapid growth. The gross profit margin has growth continuously by increasing in the shipment volume of the vertical integration strategy in upper and lower stream monocrystalline silicon products.
- The Group recorded a gross profit of RMB657.873 million and a gross profit margin of 16.4% in 2017, as compared to a gross profit of RMB329.077 million and a gross profit margin of 10.9% in 2016, which improved significantly.

**Gross Profit Margin (%)**







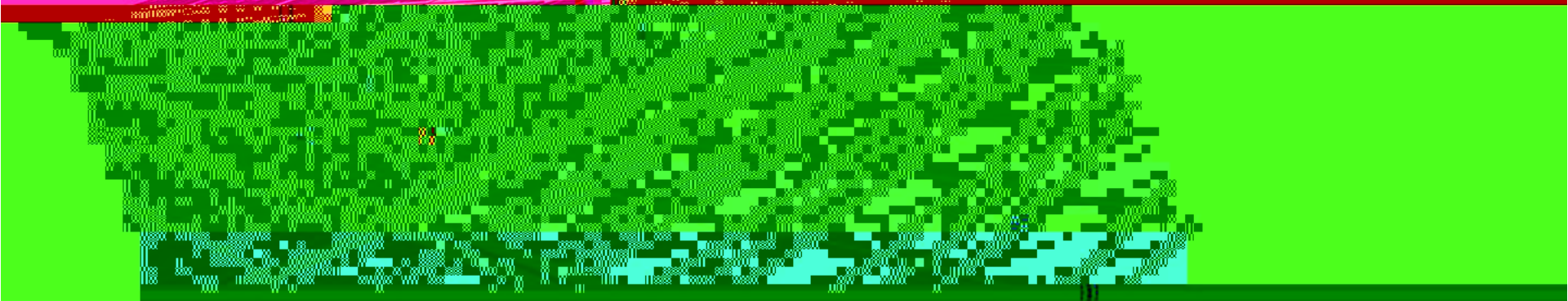
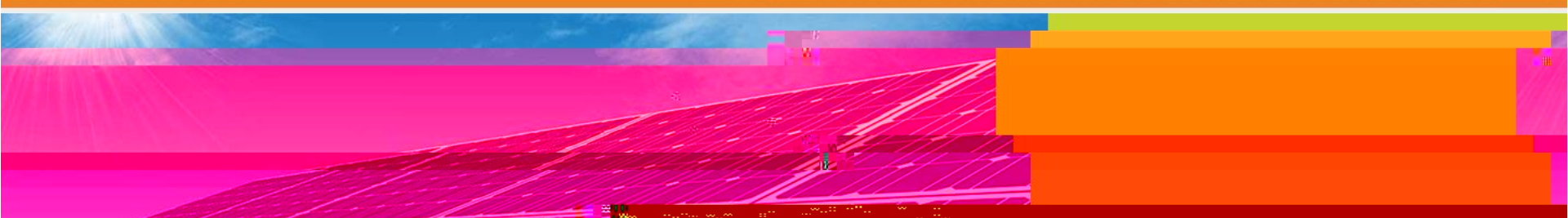
	As at 2017.12.31	As at 2016.12.31	Change
<b>Current Assets</b>	<b>2,821,891</b>	2,284,503	537,388
<b>Current Liabilities</b>	<b>3,170,491</b>	2,937,233	233,258
<b>Total Assets</b>	<b>4,611,210</b>	4,274,548	336,662
<b>Total Liabilities</b>	<b>3,575,781</b>	3,395,860	179,921
<b>Net Assets</b>	<b>1,035,429</b>	878,688	156,741
<b>Net asset per share (RMB)</b>	<b>0.30</b>	0.25	20%
<b>Net asset per share (HKD)</b>	<b>0.37</b>	0.31	19%

Note: RMB 1 = HKD 1.2375

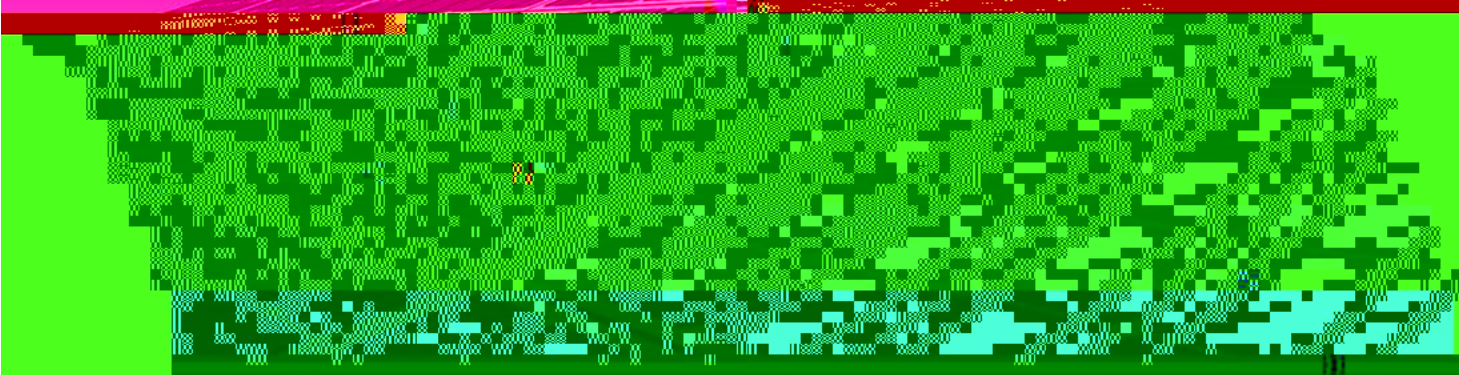
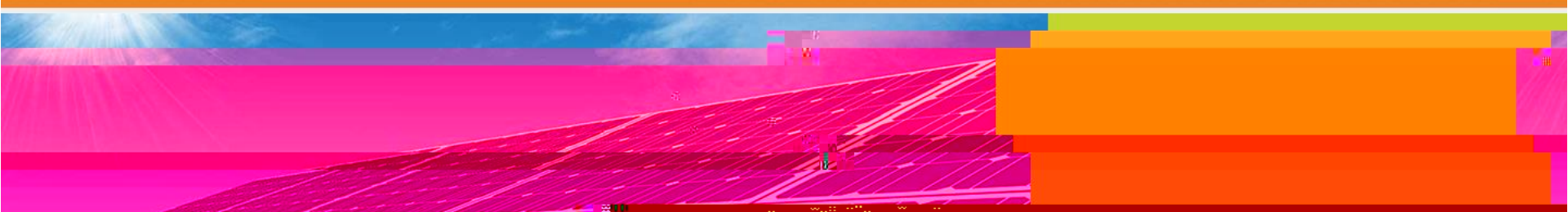




	2017	2016	Change
<b>Turnover Day Analysis</b>			
Trade Receivables Turnover (Days)	96	63	33
Trade Payable Turnover (Days)	96	102	(6)
Inventory Turnover (Days)	58	86	(28)
<b>Gearing Analysis</b>			
	As at 2017.12.31	As at 2016.12.31	Change
Current Ratio (Times)	0.89	0.78	0.11
Net Debt to Equity Ratio (%)	158%	175%	(17pp)







Q & A

