Solargiga Energy

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

2022 Interim Results
二零二二年度中期业绩

香港聯交所上市股份編號：757

诚信 创新 竞争 卓越

HONESTY INNOVATION COMPETITION PROMINENCE

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PART 01

Corporate Overview

Corporate Overview

- Established in 2001, Solargiga is the largest and top-ranked photovoltaic manufacturer in Northeast China, focusing on manufacturing monocrystalline products, providing one-stop solutions including development, design, construction, operation and maintenance of monocrystalline ingots, wafers, modules and power generation system.

- **Achievements**

  Listed in Hong Kong on 31 March 2008 (757.HK)

  Top 20 PRC PV Module Companies in 2022 (12)

  Top 20 PRC Comprehensive Companies in 2022 (19)

  Global Top 500 New Energy Companies (173)

  Top 500 PRC Energy Group Companies (267)

  Top 100 New Energy Companies Global Competitiveness (92)

Laboratory Accreditation

On July 27, 2022, the Group received the Laboratory Accreditation Certificate (Certificate No.: CNAS L16766) issued by China National Accreditation Service for Conformity Assessment (CNAS), which means that Solargiga PV Testing Center has officially entered the team of nationally recognized international laboratories.

Shareholding Structure as at 30 June 2022

Mr. Tan Wenhua and his associates 21.43%

Hiramatsu International Corp. 9.15%

Madam Sze Tan Hung 7.14%

Public shareholders 62.28%

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

Number of issued shares 3,323,771,133

Manufacturing Base

China

- Main production base located at Jinzhou of Liaoning, Quijing of Yunnan and Yancheng of Jiangsu
- Monocrystalline silicon ingot capacity: 6.2 GW
- Monocrystalline silicon wafer capacity: 4.5 GW
- Photovoltaic module capacity: 7.2 GW
- Group’s marketing centers located in Suzhou

Capacity distribution - “one base, two wings”

Manufacturing Base and Customers Distribution

Japan & Germany

- Established subsidiaries to enrich our distribution channels of all products and expand customer base
- A joint venture company DCH Solargiga GmbH with power plant construction company in Germany, which is mainly engaged in photovoltaic systems business

Others

- Developing EPC business in America, Turkey, Pakistan, Southeast Asia, Africa and other countries and regions

Major Customers

Production Capacity and Product Range

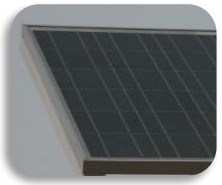
Mono-crystalline Silicon Ingot

- 6.2GW

Mono-crystalline Silicon Wafer

- 4.5GW

Module



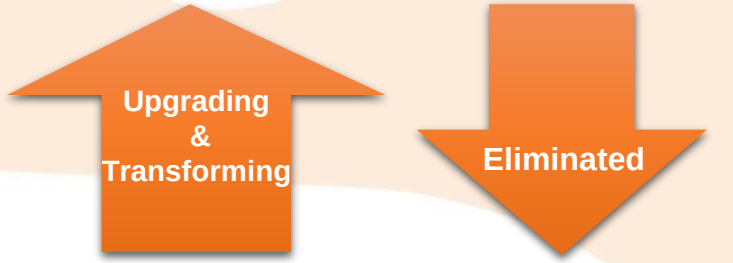
- 7.2GW

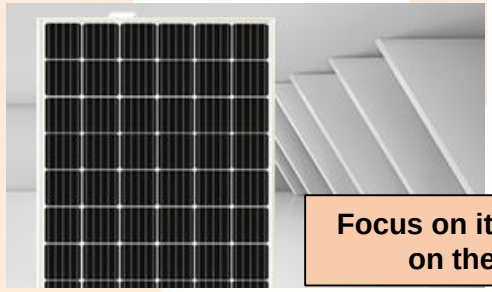
System

The Group's photovoltaic system business includes traditional distributed power station EPC business, Building Applied Photovoltaics (BAPV) business and Building Integrated Photovoltaics (BIPV) business. Relying on the rich technological experience accumulated in the photovoltaic industry, the Group is carrying out a series of research and development projects in cooperation with Shenyang Jianzhu University, the National Housing and Residential Environment Engineering Technology Research Center and other institutions, of which four series of BIPV products have passed China Compulsory Certificate ("CCC") certification, China GB8624– Quality Certificate Centre ("CQC") certification, and 2012 building materials and products combustion performance test certification.

Operation Strategy

- With the rapid advancement of photovoltaic production technology in the past ten years, the production cost per watt of power generation has dropped sharply. Strictly speaking, the current photovoltaic application has reached the target of grid parity, and explosive sales growth is foreseeable in the future.
- Since 2018, the Group has been investing in upgrading and transforming existing production capacity and invest in low-cost, high-efficiency new production capacity. Mass output by comprehensive upgrade of production capacity and new high-efficiency production capacity have also been realized.
- Strategy: By adopting a dual-core products strategy of continuous development of upstream monocrystalline silicon ingots and wafer product as well as downstream module products, the Group effectively utilises its existing resources.





Focus on its limited resources on the Development

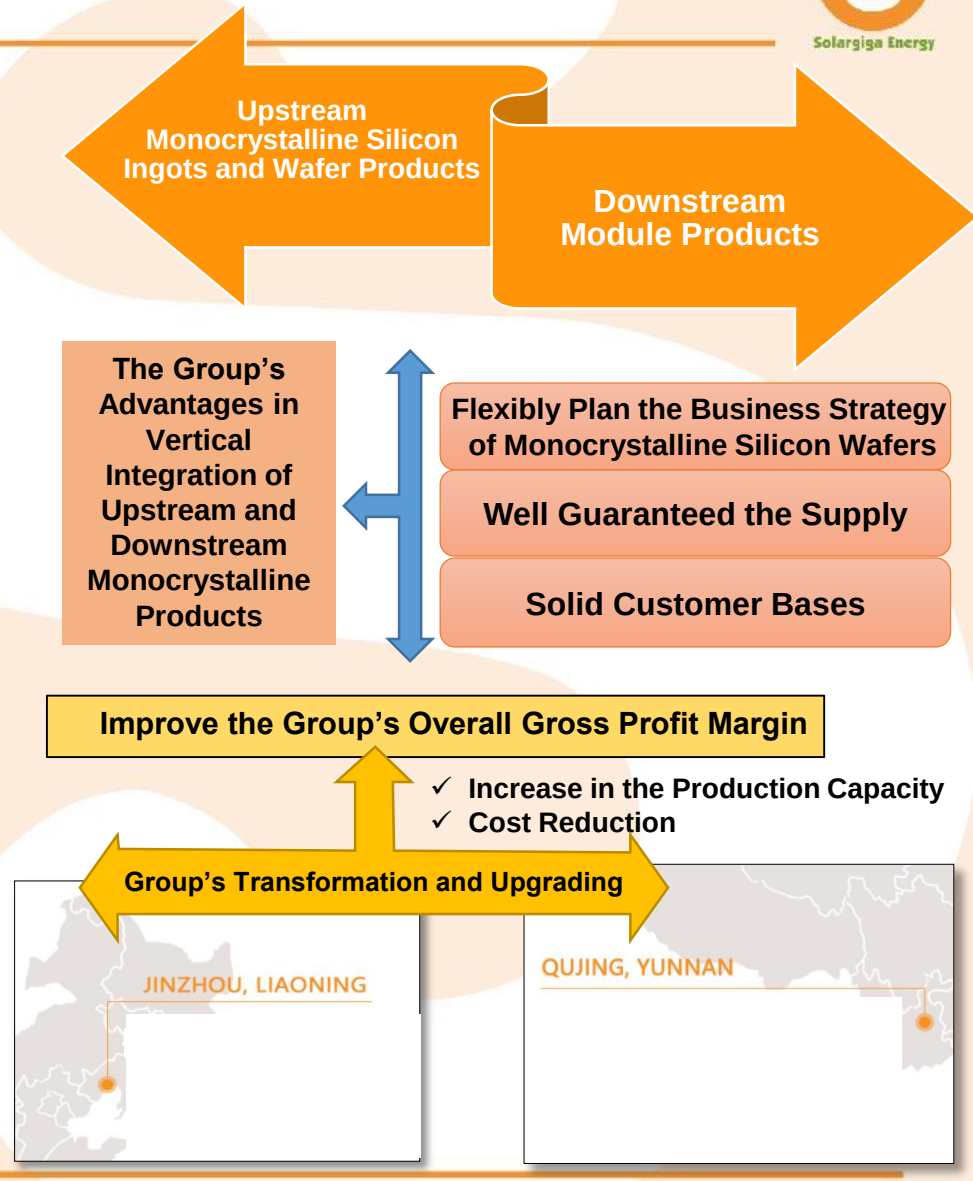
PART 02

Silicon Ingots and Silicon Wafers

- Operation Strategy
- Operating Performance
- Product Process

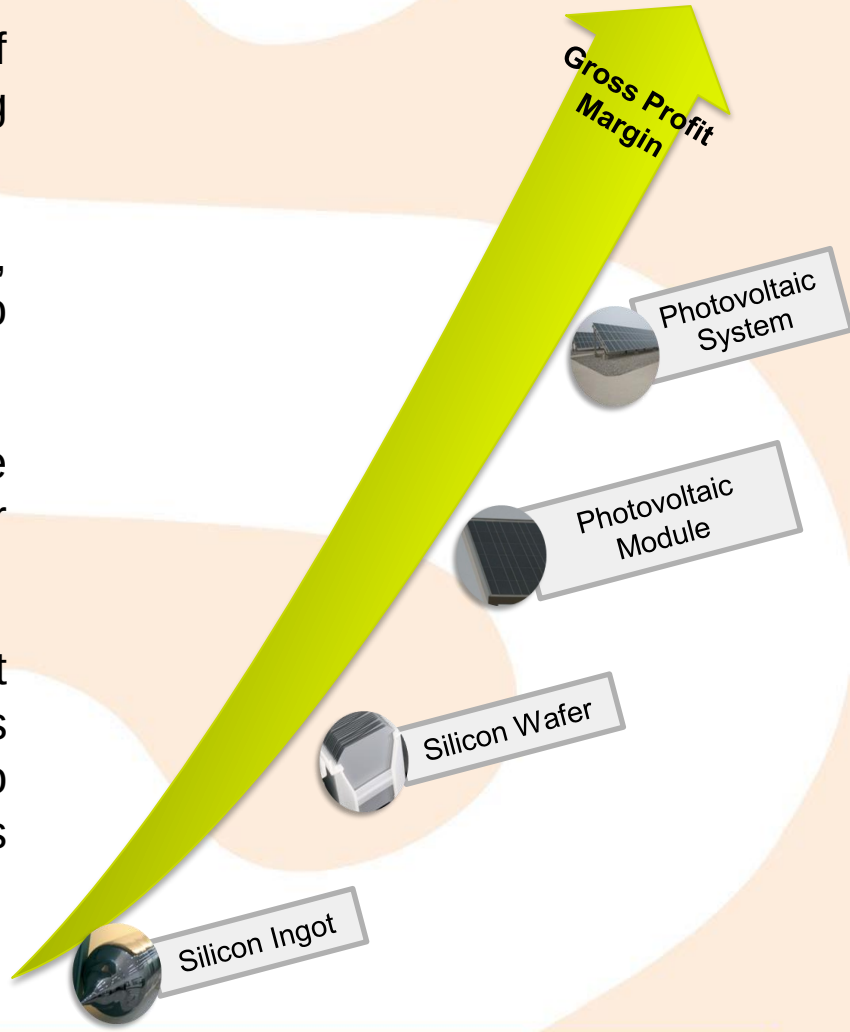
Operation Strategy

- By adopting a dual-core products strategy of continuous development of upstream monocrystalline silicon ingots and wafer product as well as downstream module products, the Group effectively utilises its existing resources.
- Regarding the production of upstream monocrystalline silicon ingot and wafer products, the Group continued to pursue excellence in its production efficiency due to greater economies of scale.



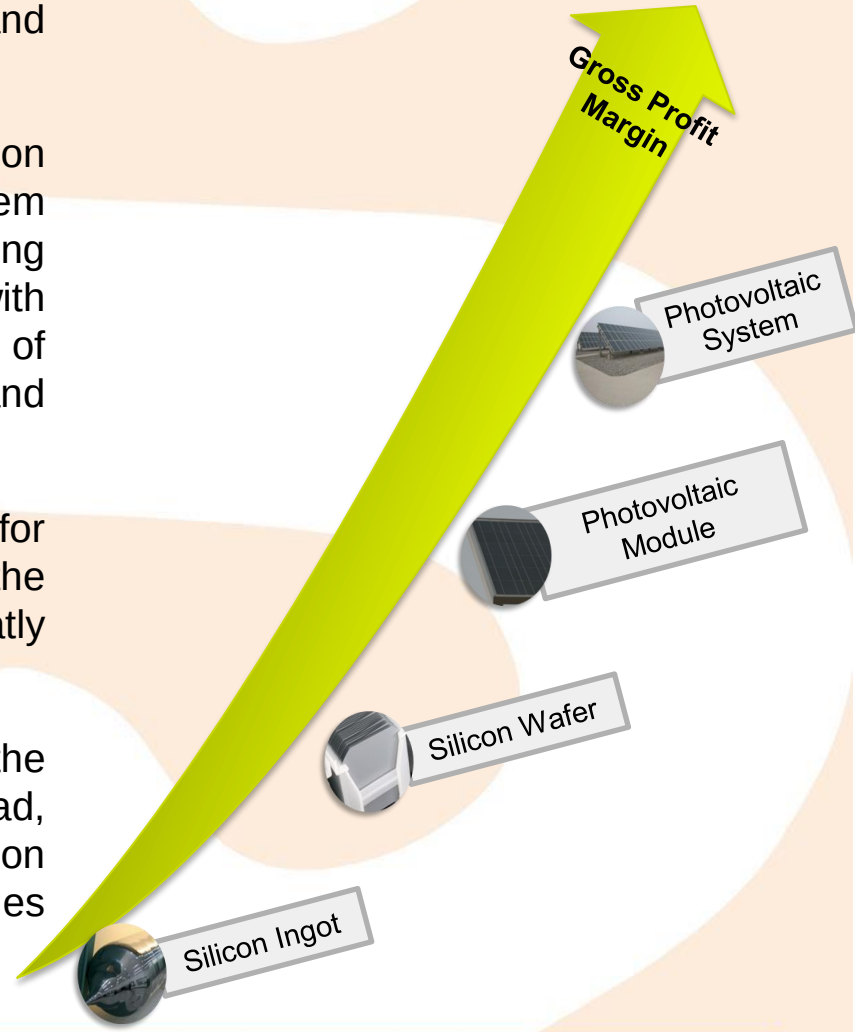
Operating Performance

- Due to the external environment of supply and demand and the release of low-cost and high-efficiency production capacity, the Group keeps making profit.
- During the period, the total external shipment volume of major products, monocrystalline silicon ingots and wafers, was 2,182.3MW, similar to 2,241.9MW in the same period of 2021.
- The Group believes it is necessary to maintain leading technology in the ever-advancing photovoltaic industry to build up a cost advantage in order to continuously make profits.
- The Group has gained success in research and development in recent years, and has overcome various production bottlenecks. The Group has successfully incorporated the most advanced production technologies into mass production, such that the production costs of our various product lines have significantly decreased.



Operating Performance

- Various advanced production technologies significantly reduced production costs and ensured product quality and stability is in a leading position in the industry.
- The Group has mastered a number of leading technologies for monocrystalline silicon ingots and silicon wafer production, such as with the upgrade of the thermal system required for the production of monocrystalline silicon ingots, the material feeding volume of monocrystalline furnace has increased by approximately 33% compared with last year which greatly reduced the production cost, the increase of growth rate of monocrystalline silicon ingot by 10% compared with last year through the research and development to design new type of the water-cooling and heat-conducting device.
- The long-life quartz crucible developed in cooperation with suppliers could be used for up to 500 hours, the RCZ production process which could draw 9 ingots in one pot, the weight of each silicon ingot increased by 18% compared with last year, which greatly enhanced the production capacity.
- For high quality N-type silicon wafers required for the next-generation N-type cell, the Group has also reached the technical position and accomplished marketisation ahead, and has achieved the development direction of leading N-type crystalline silicon products which could readily meet the market demands for shipment in large quantities at any time.



Product Process: Silicon Ingots

- Solargiga focuses on monocrystalline production. So far, it has 21 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, the Group owns 68 national utility model patents.

- In recent years, by upgrading the long crystal furnace and participating in the development and design of TDR140-CL and TDR160-CL single crystal furnace, the feeding capacity has reached over 800 kg, which is compatible with 10-inch and 12-inch single crystal production. At the same time, multiple crystal rods can be continuously drawn. By adding advanced electronic level control system, the fully automate control of the long crystal process have reduced labor cost and ensured stable quality of wafers. During the R&D process, we have obtained 7 invention patents, 20 utility model patents and 1 software copyright.

- The growth rate of monocrystalline silicon ingot can be increased from 1.25mm/min to 2.0mm/min, which improves the yield rate and production efficiency of the ingots, and to be industry-leading.

Product Process: Silicon Ingots

- The Group had developed a 500-hour long-life crucible, a major auxiliary material for the production of monocrystalline silicon ingot, jointly with specific suppliers, it could realize the RCZ production process of continuously drawing several ingots in one pot, which can significantly reduce the production cost.
- Monocrystalline silicon ingots are excellent in terms of technical indicators, and oxygen content is controlled to below 14 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 modules.
- By calculating and simulating the thermal system design, and jointly developing thermal system insulation materials with suppliers, it not only improves the insulation performance of the thermal system and reduces energy consumption, but also extends the service cycle of the thermal system. At present, the overall thermal system energy consumption has reached the advanced level in the industry.

Product Process: Silicon Wafers

- Solargiga has 16 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, the Group has 11 national invention patents and 43 national utility model patents.
- The 160μm thin-slice technology has matured and has been supplying to the market. It has also developed and put thinner silicon wafers into production, which will turn to 150μm in 2022, effectively increasing the output rate by more than 5%.
- Diamond wire of abrasive slicing machines are in use and the output of wafer increased by more than 17% over the same period that reduced manufacturing costs.
- 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 45μm electroplated diamond saw wire (金鋼綫) to 38μm electroplated diamond saw wire, and the output increased by more than 3% over the same period of last year.
- The existing process technology and equipment have the production capacity of silicon wafers with the size of 230mm and the thickness of 130μm, making reserves in advance to meet the higher needs of customers.

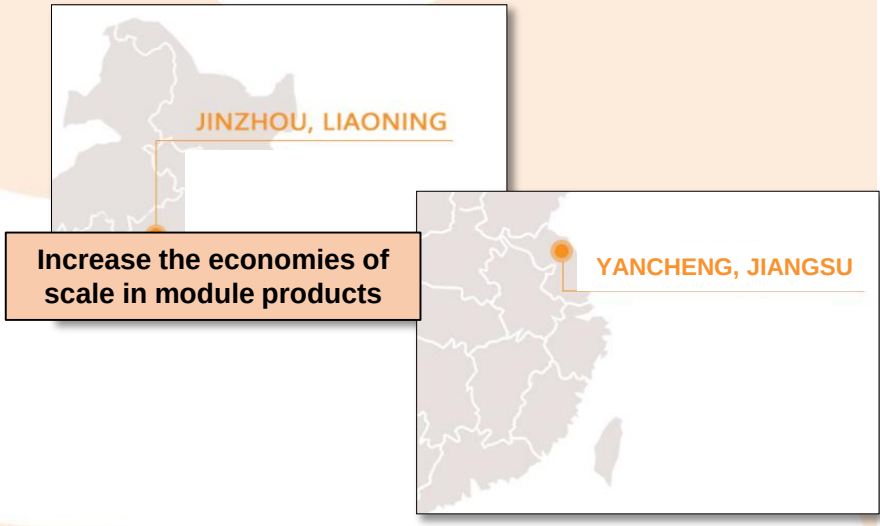
PART 03

Modules

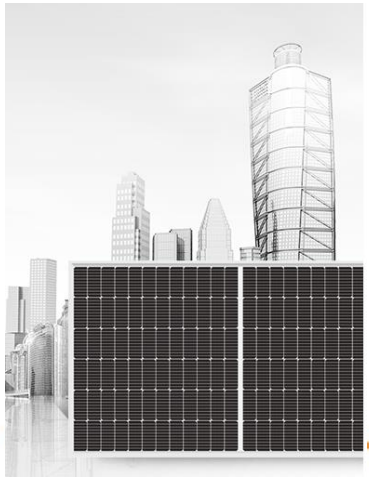
- Operation Strategy
- Operating Performance/Product Process
- Product Certification

Operation Strategy

- Since the photovoltaic module customers are mostly domestic state-owned enterprises or large multinational corporations, the market position and strength possessed by these module customers are the strongest in the overall photovoltaic industry chain.
- By continuously expanding module production capacity in Yancheng, Jiangsu, the group has established a direct supply relationship with large module customers · maintained a more stable terminal product estuary, and further strengthen the economic scale advantage of module products.



Increase the economies of scale in module products

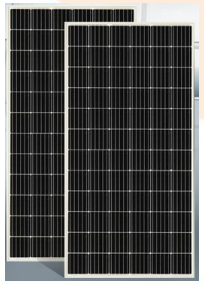


Establish a Direct Supply Relationship with Large Module Customers

Photovoltaic Module Customers

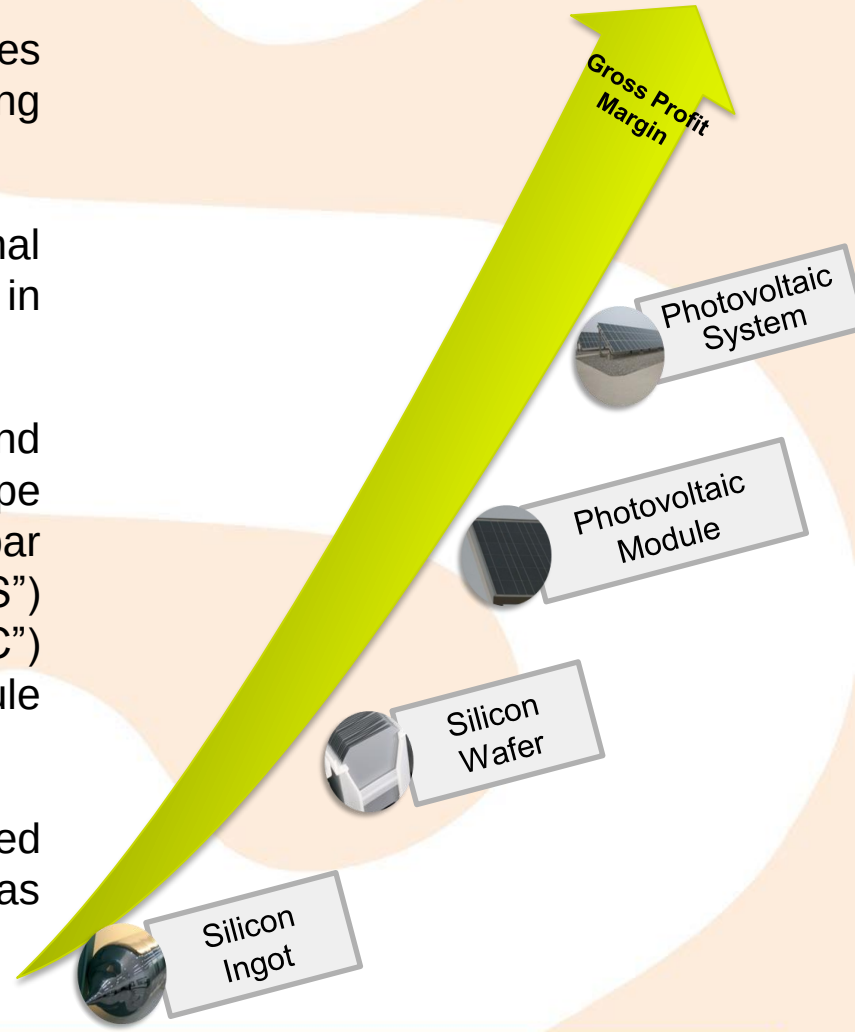
Domestic State-owned Enterprises/ Large Multinational Corporations
- ✓ **Market Position**
- ✓ **Strength**

- ✓ **Maintains a More Stable Terminal Product Estuary**
- ✓ **Indirectly drives the sales of monocrystalline silicon rods and silicon wafers in the upstream of the group**



Operating Performance/Product Process

- The external shipment volume of another major product, photovoltaic modules increased from 1,085.9MW in the same period last year to 1,318.1MW during the period, representing a growth rate of 21.4%.
- For photovoltaic module products in the first half of this year, the external shipment volume of modules increased due to the continued growth in downstream photovoltaic demand.
- For the monocrystalline modules， the Group devoted to the development and sales of monocrystalline high-efficiency module products, such as P-type double-sided double glass modules, half-cell photovoltaic modules, multi busbar cell module, and related high- end products. In particular, Black Solar (“BS”) module products of N-type monocrystalline Interdigitated Back Contact (“IBC”) solar cell uses the internationally leading and the first domestic FPC module packaging technology, and is in the leading position in the industry.
- During the period, certain new multi-busbar BS module products were launched which expanded the product range, provided more choices for overseas customers, and created more benefits for the modules.

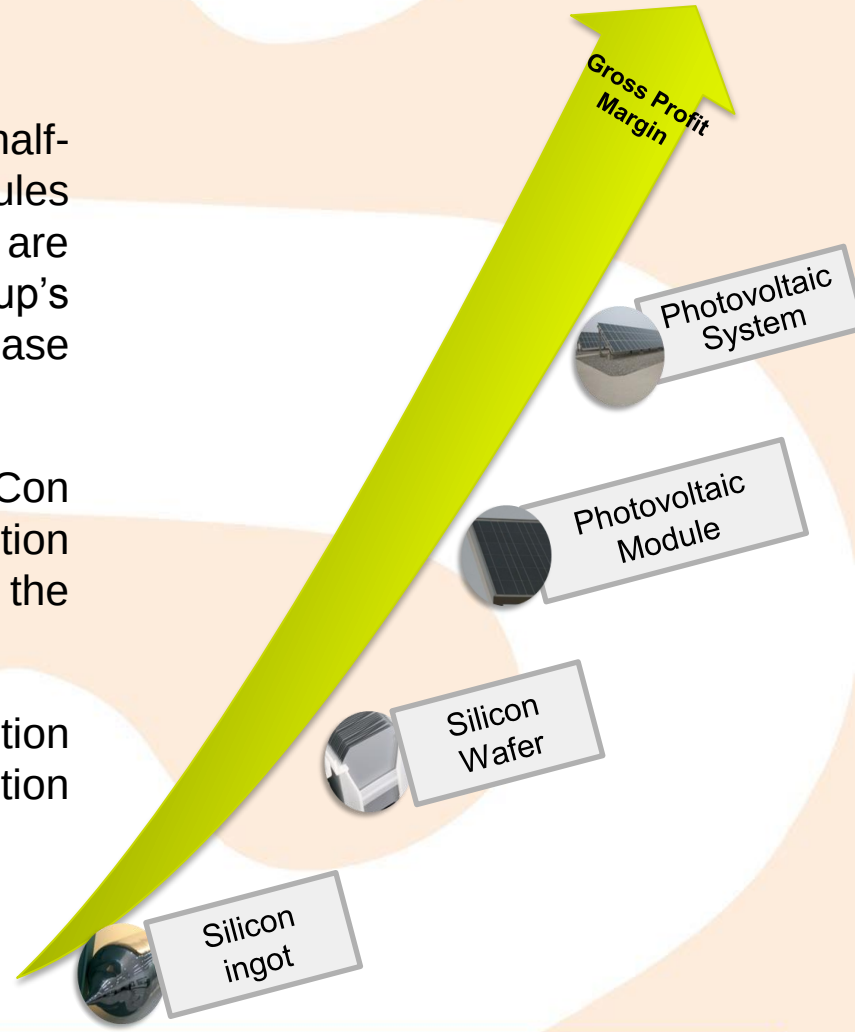


Operating Performance/Product Process

- the module production line of the Group can also produce multi-busbar half-cell double-sided double glass of 182mm and 210mm large-size modules which the conversion could reach more than 660 watts , these are mainstream products in the market, they could further enhance the Group's ability to increase the shipment volume and provide opportunity for an increase in gross profit margin.

- the Group is also carrying out a number of research projects for TOPCon modules and BIPV products, aiming to upgrade the mass production technology of TOPCon modules and BIPV products, so as to expand the market sales of corresponding products.

- As of the end of June 2022, the module production capacity of the production base in Yancheng, Jiangsu was 5.4 GW, while the total module production capacity of the Group was 7.2 GW.



Product Certification

- TUV/JET/UL/VDE/CE/BIS/CQC Certification
- First batch of Photovoltaic Power Generation Top Runner Program (领跑者) certified enterprises

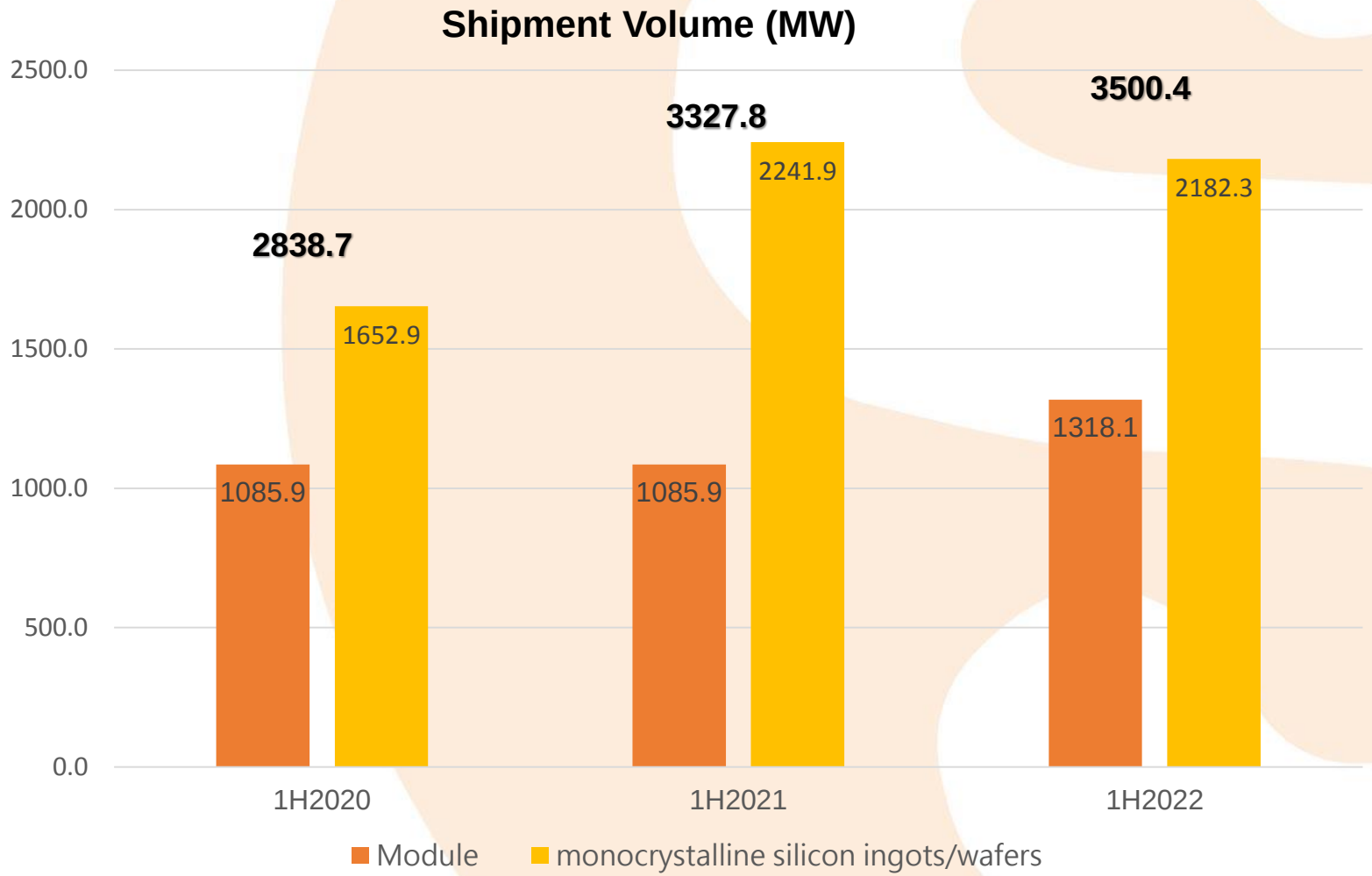
TUV Certified

VDE Certified

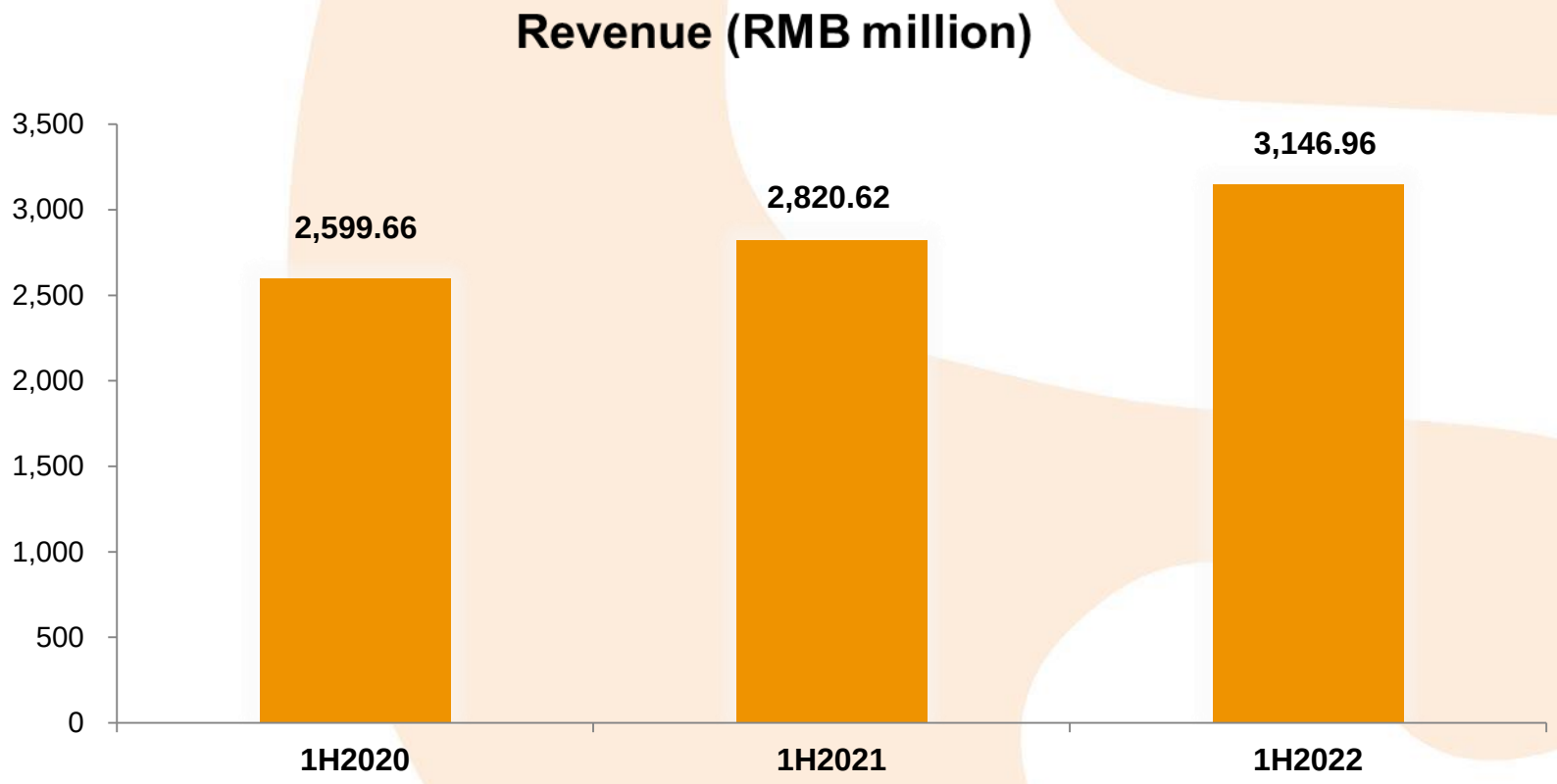
PART 04

Financial Review

Shipment Volume (for the past years)



Revenue (for the past years)



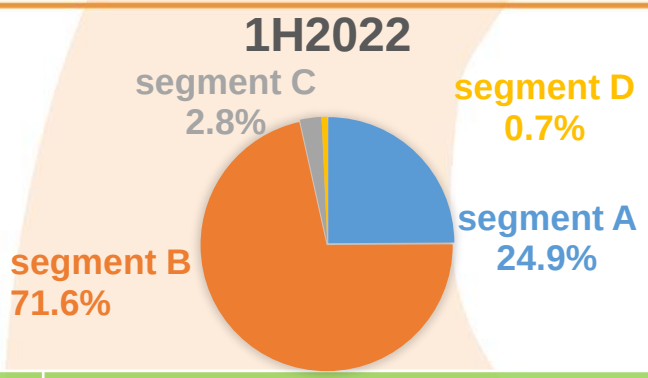
2022 Interim Financial Results Highlight

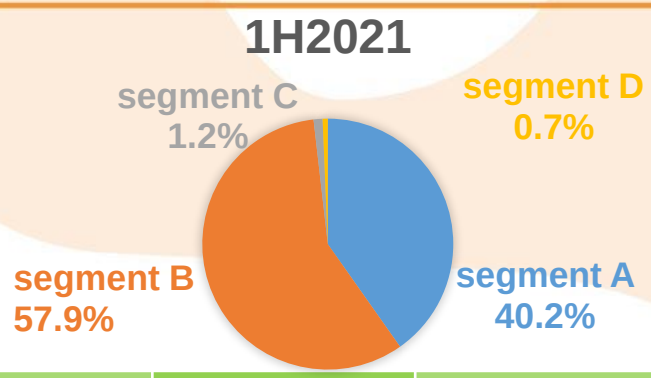
Financial Highlight

Continuing Operations	1H2022	1H2021	Change
Revenue (RMB million)	**3,147.0**	2,820.6	+11.6%
Gross Profit (RMB million)	**267.1**	371.5	-28.1%
Gross Profit Margin (%)	**8.5%**	13.2%	-4.7pp
EBITDA (RMB million)	**373.1**	364.0	+2.5%
Profit attributable to shareholders of the parent company (RMB million)	**67.7**	61.3	+10.4%
Basic earnings per share (RMB cents)	**2.04**	1.86	+9.7%

2022 Interim Revenue Breakdown

Operating Business Distribution



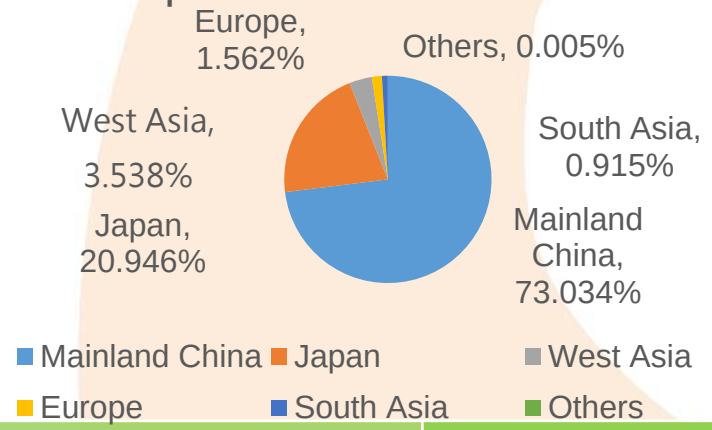


Segment	Operating business	1H2022 (RMB thousand)	1H2021 (RMB thousand)	Change
A	The manufacture of, trading of, and provision of processing services for monocrystalline silicon solar ingots/wafers and related products	**784,018**	1,134,807	-30.9%
B	The manufacture and trading of photovoltaic modules	**2,253,135**	1,634,502	+37.8%
C	The construction and operation of photovoltaic power plants	**86,557**	32,674	+164.9%
D	The manufacture and trading of semiconductor, the trading of monocrystalline silicon solar cells and others	**23,250**	18,640	+24.7%
	Total	**3,146,960**	2,820,623	**+11.6%**

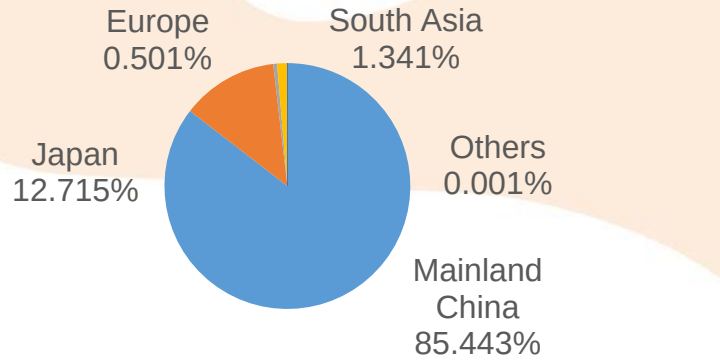
Market Distribution

Market Distribution

Proportion of revenue in 1H2022

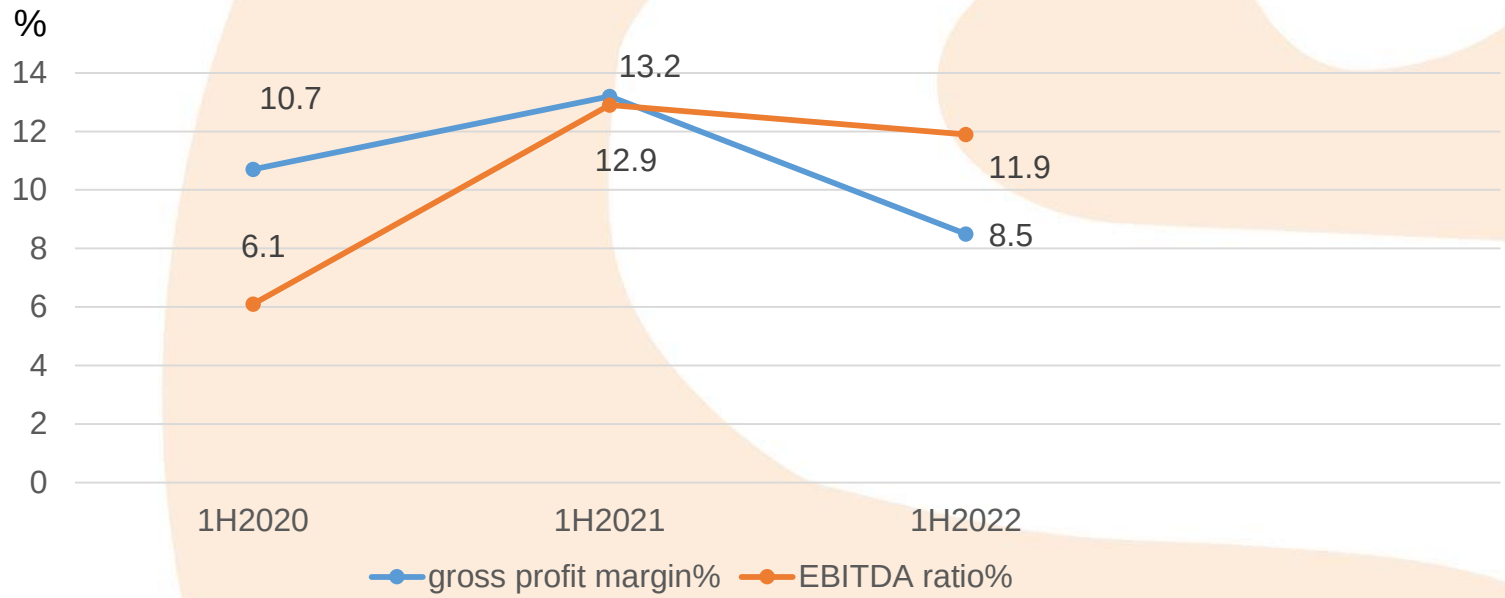


Proportion of revenue in 1H2021



Revenue (RMB thousand)	**1H2022**	1H2021	Change
Mainland China	**2,298,342**	2,410,015	-4.6%
Japan	**659,148**	358,639	+83.8%
West Asia	**111,325**	-	n.a.
Europe	**49,171**	14,128	+248%
South Asia	**28,805**	37,811	-23.8%
Others	**169**	30	+463%
Total	**3,146,960**	2,820,623	**+11.6%**

Key Financial Indicators



- The Group recorded a gross profit of approximately RMB267.1 million and a gross profit margin of 8.5% in the first half of 2022, as compared to a gross profit of approximately RMB371.5 million and a gross profit margin of 13.2% in the corresponding period in 2021, which decreased by 28.1% and 4.7% points respectively. The drop in gross profit margin was mainly due to the increase in cost of raw materials — polysilicon and increase in sales of one of the Group's major products, photovoltaic modules, with lower gross profit margin than other products.

- During the period, the Group's earnings before interest, taxes, depreciation and amortisation ("EBITDA") was approximately RMB373.1 million (11.9% of the revenue) (corresponding period of 2021：approximately RMB364.0 million, 12.9% of the revenue). The main reason for the increase in EBITDA was attributed to the increase in revenue and reversal of provision for warranty during the period.

Key Financial Indicators

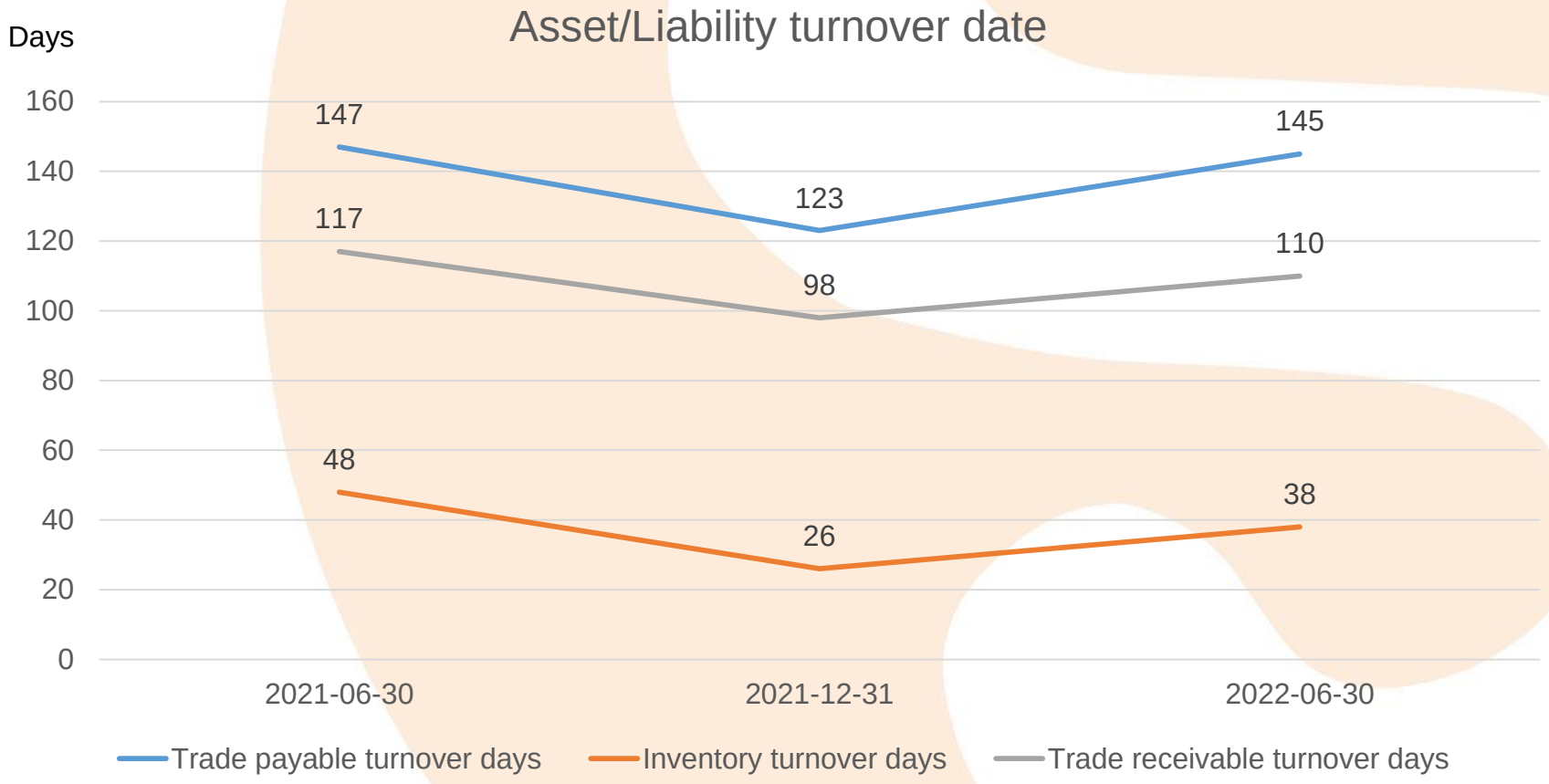
- In order to avoid the impact of price fluctuations of raw and auxiliary materials, the Group therefore increased the safety stock level of inventories. In addition, an increase amount of raw materials were purchased to cope with the utilisation of new high-efficient production capacity. Therefore, the inventory turnover days of the period increased to 38 days .

- The sales of photovoltaic modules accounted for about 72% of the Group's overall sales for the period. According to the standard terms of the industry's module sales contracts, the recovery of module receivables depends on the construction progress of the photovoltaic power plant. For instance, some trade receivables can only be recovered after the customer's photovoltaic power plant is connected to the grid. Therefore, the trade receivables turnover days of module business are generally longer. Trade receivables turnover days for the period has increased to 110 days, but is still at a reasonable level.

- The Group has completed a comprehensive upgrade on production capacity and addition of high-efficiency production capacity during the period. In addition, the Group has formed strategic partnerships with our major suppliers. Under stable and frequent co-operations, the suppliers have gradually increased our credit lines and payment terms. Therefore, trade payable turnover days of the period was significantly increased to 145 days.

Turnover Day Analysis	**30/6/2022**	31/12/2021
Inventory Turnover (Days)	**38**	26
Trade Receivables Turnover (Days)	**110**	98
Trade Payable Turnover (Days)	**145**	123

Key Financial Indicators



Key Financial Indicators

The Group continued to invest and upgrade the existing production capacity which, together with the economies of scale reflected in high-efficiency production capacity, resulted in an increase in operating profit. The net cash inflow from operating activities increased from approximately RMB306.9 million in the first half of 2021 to approximately RMB311.3 million for the period, representing a growth rate of 1.4%.

Condensed cash flow	**1H2022 (RMB million)**	1H2021 (RMB million)	Change (%)
Net cash inflow from operating activities	**311.3**	306.9	+1.4%

PART 05

Market Overview

China

- Entering 2022, China will continue to focus on increasing the scale of solar power generation as an essential task in the “14th Five-Year Plan”. In January 2022, the Ministry of Industry and Information Technology, together with five other departments, including the National Energy Administration and the Ministry of Housing and Urban-Rural Development, issued the “Smart Photovoltaic Industry Innovation and Development Action Plan (2021-2025)”. During the "14th Five-Year Plan" period, it will guide the industry's intelligent upgrade, improve the development quality and efficiency of the photovoltaic industry, and ensure China ranks first in terms of photovoltaic manufacturing and installation.
- In addition, nine departments under the National Development and Reform Commission and the National Energy Administration jointly issued the "14th Five-Year Plan for Renewable Energy Development" in June 2022, which clearly stated that by 2025, 3.3 trillion MW electricity per annum will be generated by renewable energy. The amount of wind and solar power has doubled, which shows the country's determination and support for the development prospects of the solar industry.
- According to statistics released by the National Energy Administration, in the first half of 2022, the installed capacity of solar power generation was approximately 340 million KW, a year-on-year increase of 25.8%. The China Photovoltaic Industry Association also pointed out that in the first half of this year, the new installation capacity reached 30.9 GW, a year-on-year increase of 137.4%. This data has exceeded the total installed capacity of the first ten months of last year, confirming the solid domestic demand for solar energy.
- China's solar energy industry continues to proliferate, demand for products is strong, and both volume and price are rising. Therefore, the China Photovoltaic Industry Association is optimistic that China's newly installed capacity will reach 85-100 GW in 2022.

USA

- The solar industry in the United States faced multiple challenges in 2022, with growth slowing significantly. According to a report published by the Solar Energy Industries Association (SEIA) and Wood Mackenzie, the United States installed 3.9 GW of solar power capacity in the first quarter of 2022, bringing the total installed capacity to 126.1 GW, and solar was still the dominant energy type in the first quarter in the United States, accounting for half of the new power generation. The utility-scale solar market saw its most significant decline in the first quarter of 2022, down 41% from the previous year. It was the lowest quarterly installation since 2019, with new additions falling to the lowest level since 2017.

- U.S. President Biden signed the Inflation Reduction Act in August 2022, which includes $370 billion in spending on renewable energy and climate measures, a 30% subsidy for rooftop solar panels, and a requirement to reduce carbon emissions by about 40% nationwide by 2030. The bill will not only help the United States meet its climate goals, but also provide a boost to the country's solar development and manufacturing technologies.

- The U.S. Energy Information Administration estimates that 20 GW of new solar capacity will be installed in 2022, implying an additional 31 billion kWh of power generation.

Europe & India

- In response to Russia's invasion of Ukraine, many European countries have boycotted oil and natural gas imported from Russia, and the energy supply has been dramatically affected. As a result, the European Commission has paid more attention to the issue of energy supply. It proposed the "REPowerEU" plan in May 2022, which aims to end Europe’s dependence on Russia's fossil fuels while addressing the climate crisis.

- With the exception of China, Europe is the region with the highest demand for solar energy products in 2022, and its solar energy demand will grow year by year, led by the strong market in Germany.

- The Indian market still has solid solar demand in 2022, with steady growth. BRIDGE TO INDIA, a renewable energy market consultancy, pointed out that the first quarter of 2022 was a bumper quarter for the Indian solar market, with 4,418 MW of new solar power capacity added during the period, representing the second highest capacity addition ever. The total installed capacity also reached 56,812 MW.

- India's cumulative installed renewable energy as of the end of the second quarter of 2022 reached a capacity of 159.8 GW. In terms of the proportion of renewable energy, solar systems continued to account for the largest share, with cumulative installed solar systems accounting for 14.2% of India's total installed capacity and 35.4% of total renewable energy capacity.

PART 06

Future Prospects and Strategies

- It is expected that the global newly installed capacity of photovoltaic power generation will continue to grow rapidly in 2022. Coupled with a series of government promulgated policies to support the development of the photovoltaic industry with an aim to lead the energy industry transition from traditional energy sources to renewable energy sources in an orderly manner, it is expected that PRC and the global mid and long-term demand for photovoltaic products will continue to experience robust growth.

- In order to grasp these historic opportunities and respond to the rapid increase in demand, the Group has been expanding production capacity of monocrystalline silicon ingot, wafer and modules to take advantage of the external production environment in different areas, enabling the Group to fully utilise its current technological advantages in production.

Products	Production capacity (GW)		
	2022	2021	Change
Monocrystalline silicon ingot	**7.4**	5.7	+30%
Monocrystalline silicon wafer	**7.4**	4.1	+80%
Module	**8.2**	7.2	+13.9%

- Following the grid parity, photovoltaic products will be able to move further towards full-scale marketised competition in the photovoltaic industry and away from policy subsidies, and will progress towards self sustainable development, advance technological progress, reduce cost of power generation to promote the achievement in comprehensive grid parity and will draw explosive growth in demand.

- As a renewable and clean energy source, in respect of photovoltaic power generation, the road to grid parity may be a painful change, but the expected explosive growth in the market after reaching grid parity will provide an opportunity for the industry. Positing itself as a leading supplier of monocrystalline silicon ingots/wafers and photovoltaic modules, the Group is fully prepared by relying on its existing advantages and will do its utmost, to embrace the long-term promising prospect for the photovoltaic industry, help achieve the goal of “carbon neutrality” in 2060 in China and contribute to the sustainable development of the global environment.

THANKS FOR WATCHING