Solargiga Energy Holdings Limited

阳光能源控股有限公司

股票代码： 00757.HK

2024年度中期业绩

2024 Interim Results

Solargiga Energy

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1.1 Global Installed PV Capacity Continues to Grow

BloombergNEF: expects global newly installed PV capacity to reach 592GW in 2024

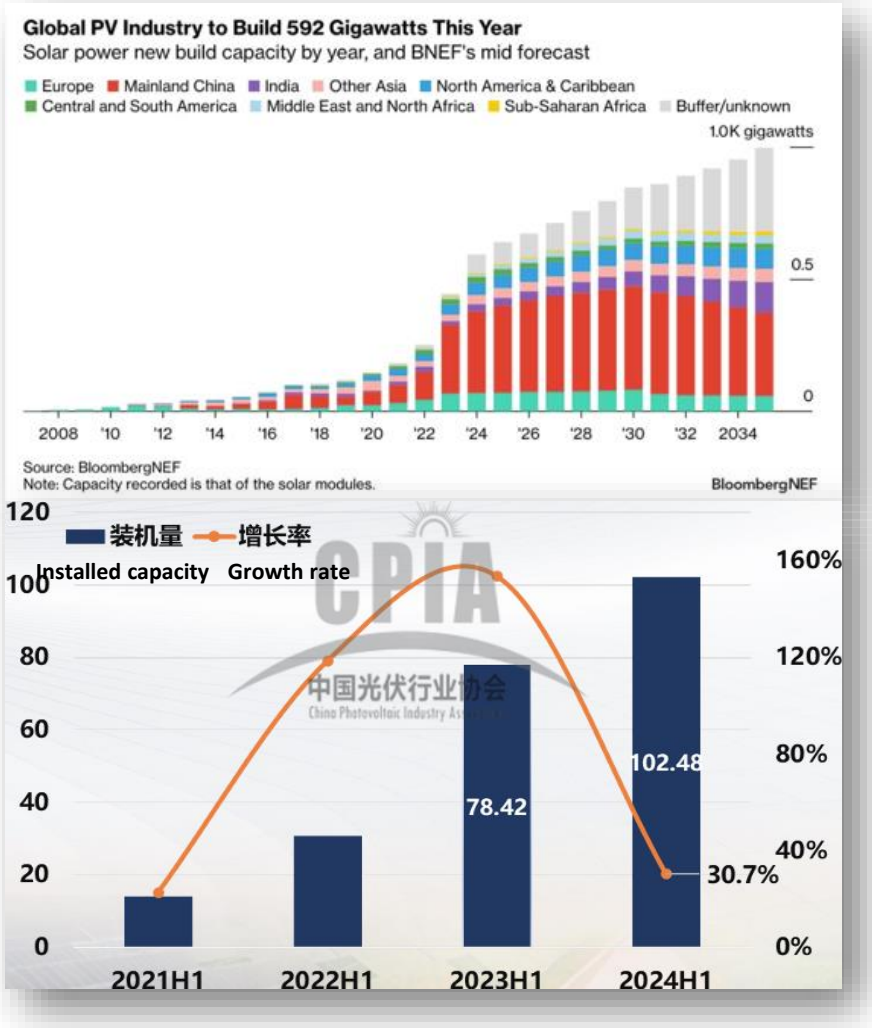
- Globally, the first half of 2024 saw an increase in installed capacity, both domestically and internationally, compared with 2023, and the overall demand for PV will continue to grow.

Global installed capacity forecast:

- According to the latest BloombergNEF report, the global solar industry is expected to install 592GW of modules this year, an increase of around 33% from 2023.
- Excluding the mainstream PV markets of China, Europe and the United States, emerging markets such as India and the Middle East are expected to grow at relatively high rates in 2024:
  - Grid-connected PV capacity in India is expected to reach 25-26GW, with a year-on-year growth rate of 55%
  - Installed capacity in the Middle East is expected to double to 16GW

Overall demand in China:

- In the first half of the year, newly installed PV capacity in China increased by 30.7% year-on-year to 102.48GW. It is expected that the newly installed PV capacity will reach 190-220GW for the full year.
  - The newly installed capacity of centralized PV power plants was 49.60GW, a year-on-year increase of 32.4%
  - The newly installed capacity of distributed PV power plants was 52.88GW, a year-on-year increase of 29.1%.



1.2 PV Industry Faces Many Short-term Challenges

Periodic overcapacity affects corporate profitability

- Periodic overcapacity has led to oversupply in the market, continued decline in product prices, and fluctuations in raw material costs, which have periodically affected the profitability of PV module manufacturers.
- In the face of technological advancement and increasing market demand, PV companies continue to face the dual challenges of controlling costs and improving product performance in the short term.

Cash flow from operating activities under short-term pressure

- Affected by the rapid decline in overall supply chain prices, China's domestic installed capacity of PV products (silicon wafers/cells/modules) and overseas exports generally showed a trend of increasing volume and decreasing prices in the first half of 2024.
- Supply and demand imbalance and price competition place short-term pressure on enterprises' profitability and cash flow, and overcapacity and technology iteration cycles increase investment return risk for enterprises, etc.
- The significant fluctuations in raw material prices and the squeeze on profit margins at various stages further impact the profitability and cash flow of enterprises in the industry.

Competition in the industry appears to be intensifying in the short term

- Due to the tightening of financing policies in the PV industry, companies have been more cautious about implementing new capacity expansions. However, as a result of the large amount of new production capacity in the past two years, the oversupply situation has not fundamentally changed in the short term.
- In 2024, the PV manufacturing sector is clearly experiencing a relaxed supply-demand balance and intensified competition, and profitability is expected to remain under pressure.

1.3 Broad Prospects of PV Industry, Poised for Long-term Growth

Energy transition drives market demand growth

- As the worsening energy crisis drives people to find sustainable energy solutions, and PV plays a key role in the energy transition, governments around the world are actively formulating policies to vigorously promote its development.
- BloombergNEF: If the total installed capacity of electricity in the world is around 10TW by 2030, the installed PV capacity could reach 6.7TW. In the next 3-5 years or even 10 years, the newly installed PV capacity is expected to maintain rapid growth.
- International Energy Agency: Global renewable energy will experience rapid growth from 2023 to 2028, and the global installed renewable energy capacity is expected to reach 7.3TW during this period.

Policy support continues to create a good business environment

- The global energy transition faces challenges due to the recovery of carbon-intensive economies and profound shifts in energy dynamics caused by international geopolitical conflicts after the pandemic. As a result, various regions have increased their support for energy transition: the United States has introduced the Solar Investment Tax Credit (ITC) and enacted the Inflation Reduction Act, and the EU has approved the National Energy and Climate Plans and the Green Deal Industrial Plan.
- The Action Plan for Energy Conservation and Carbon Reduction Work Plan for 2024-2025 issued by the State Council of China clearly establishes the important position of photovoltaics within the energy structure from a planning perspective. The Ministry of Industry and Information Technology has issued the Photovoltaic Manufacturing Industry Normative Conditions 2024 Edition and Draft Administrative Measures for Public Consultation to curb the imbalance between supply and demand in the industry, and has also issued policies on subsidies for distributed PV projects and the regular management of additional funds for renewable energy electricity prices to encourage enterprises to increase relevant investment.

Technological innovation drives the sustainable development of the industry

- Through continuous technological innovation, the PV industry is promoting the sustainable development of the industry on both the supply and application sides. High-efficiency solar cell technologies such as TOPCon/HJT/BC/perovskite technologies, and innovative technologies such as smart PV systems continue to emerge to improve the efficiency and stability of power generation and reduce costs.
- The integration and innovation of PV with other sectors bring new opportunities:
  1) The integration of PV with the **construction sector** creates green buildings with power generation functions
  2) The integration of PV with the **transportation sector** promotes the development of green transportation
  3) PV technology can be used in **the construction of transportation infrastructure** such as roads and railways to provide power support for traffic signals, lighting and other facilities

Corporate Overview 2

2.1 Company Profile

Make the World a Better Place

Solargiga was established in 2000 and listed in Hong Kong in 2008 (stock code: 00757.HK). The company integrates R&D, production, sales and applications of solar photovoltaic (PV) modules, the design, installation, operation and maintenance of PV systems, the R&D, production and sales of semiconductor monocrystalline silicon. With more than 2,000 employees, the Company's production bases are located in Jinzhou, Liaoning and Yancheng, Jiangsu, and branches in Suzhou, Beijing, Japan, Germany and Australia. Its business footprints cover domestic and major global PV markets. After more than 20 years of development, Solargiga is committed to providing high-quality PV products and services to global customers and promoting the development of the clean energy industry.

Achievements

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

Top 20 PRC PV Module Companies in 2024 (NO.14)

PVBL Global Photovoltaic Brand Value (Module) Top 20 (No.12)

The Most Influential PV Module Companies in 2023

China's High-quality Household and Industrial and Commercial Photovoltaic Module Brand 2023

Leading China's Top 100 Renewable Energy Photovoltaic Enterprises 2023

National Green Factory

First Prize for China's Industry-Academic Cooperation Innovation Achievement

Joint Funds of the National Natural Science Foundation of China

National Intelligent Photovoltaic Pilot Demonstration Enterprise

National Intellectual Property Advantage Enterprise

Liaoning Province Outstanding Contribution Award for Comprehensive Revitalization Breakthroughs (First Year)

Jiangsu Province's First Cohort of Carbon Peaking and Carbon Neutrality Pilot Enterprises

Jiangsu Province Intelligent Photovoltaic Manufacturing Demonstration Enterprises

Jiangsu Industrial Internet Platforms

Yancheng Mayor's Quality Award

2.2 Shareholding Structure

阳光能源控股有限公司
SOLARGIGA ENERGY HOLDINGS LIMITED

Mr. Tan Wenhua
and his associates
21.43%

Hiramatsu
International Corp.
9.15%

施丹红女士

Madam Sze
Tan Hung
6.57%

HKEX 香港交易所

Public Shareholders
62.85%

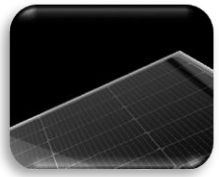
** as of June 30, 2024*

2.3 Production Capacity and Product Range

Continuing Operations

Main Business:

As a leading high-tech enterprise, Solargiga Energy Holdings Limited’ s main business covers the R&D, production and sales of solar PV modules, PV systems and semiconductor materials. The Company is devoted to promoting the development of renewable energy, providing efficient and reliable clean energy solutions through continuous technological innovation and industry chain integration.

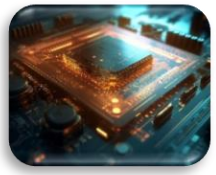


Module

The monocrystalline products have become mainstream in the market. Solargiga is committed to the development and sales of monocrystalline high-efficiency module products, such as N-type high-efficiency modules, large-format modules, zero busbar modules, flexible modules, offshore floating modules, anti-glare modules and multi busbar cell modules etc. high-end products.

System

The photovoltaic system business includes traditional distributed power station EPC business, Building Applied Photovoltaics (BAPV) business and Building Integrated Photovoltaics (BIPV) business, including customized building materials crystalline silicon modules (pure color, imitation stone, pattern series, featured with self-sufficiency in energy, enabling off-grid and moveable zero-carbon mobile building products etc , offering customers green building, LEED, near-zero energy building consultancy services, customized design and certification services.



Semiconductor

The 6 inches/ 8 inches/ 12 inches/ 14-16 inches semiconductor monocrystalline silicon production is divided into four main categories: ① silicon substrate for integrated circuit applied to memory/ IGBT/ energy storage power supply/ CMOS/ discrete devices, etc. ② master alloy for solar cells ③ silicon base for optoelectronic devices ④ silicon components for semiconductor devices.

2.5 Global Customers

Overall Strategy:

Based in China, Solargiga is deeply cultivating the Asian market, and at the same time vigorously expanding the markets of Europe, South America and Australia.

Key Layout:

Domestically, Solargiga has established the branch in Suzhou and Beijing to expand the marketing presence, meanwhile to strengthen the service and development of large state-owned enterprise customers and further consolidated the sales channel strategy.
Overseas, Solargiga has established branches in Osaka **Japan**, Siegen **Germany**, and Sydney **Australia**, to develop various product sales channels and develop new customer bases.

Global footprints:

Solargiga has been actively cooperating with global customers, with business footprints in more than 30 major PV and semiconductor markets domestically and globally.

Core Business 3

3.1 PV Module Production Capacity Segment

Production Capacity 9.8GW

- Product sizes compatible with M10/G12

Jinzhou Base：1.8GW

Jianhu Base：8GW

3.1 Business Performance

PV module business

In the first half of 2024, the Group achieved the following business objectives and results through coordinated efforts in marketing, technology, and production:

1. Increased the proportion of its own orders, and strategically reduced production and optimized the order structure under specific market conditions
2. Continuously expanded through market channels, optimized customer structure, and reserved orders
3. Took advantage of the "small, fast, and flexible" strategy in the new round of the industry adjustment cycle
4. Maintained investment in research and development and promoted sustainable business through technological innovation
5. Continuously optimized production and manufacturing, and enhanced production capacity technology and cost efficiency

3.1.1 Optimized Order Structure, Increased the Proportion of Own Orders

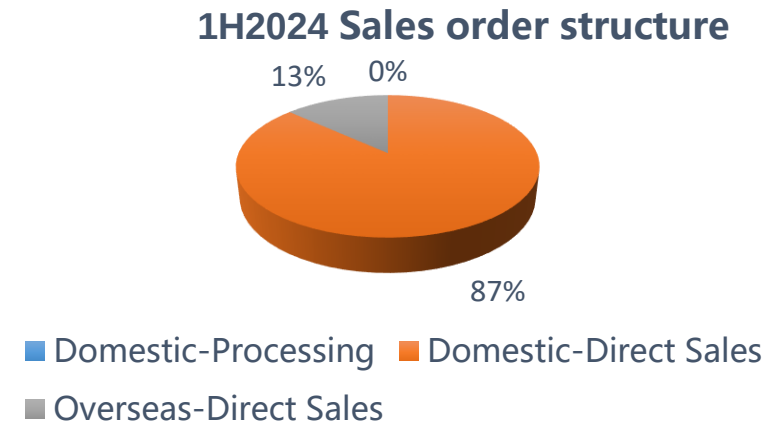
PV module business

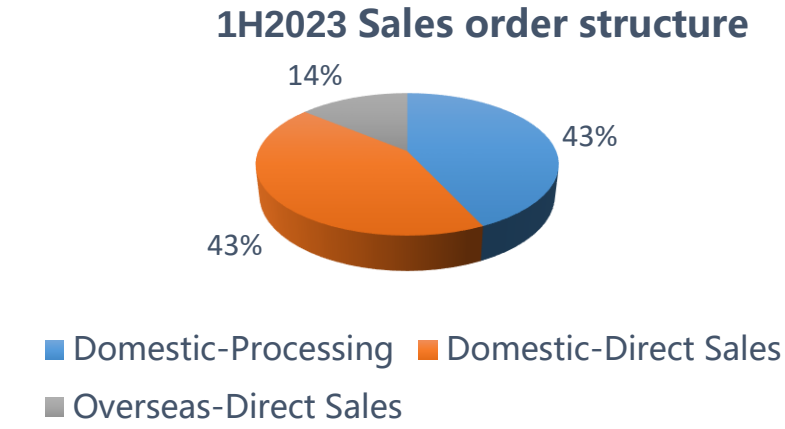
Volume of domestic direct sales orders increased by 44% year-on-year

- In 2024, the Company actively adjusted the order structure and put more efforts into developing its own orders.
- In the first half of the year, the domestic direct sales business increased by 44% year on year, and the domestic market share of its own brands increased significantly, improving the Company's profitability and strengthening its risk prevention capabilities.
- Actively cooperated with partners to jointly develop the market and achieved mutual benefits and mutually successful results.

Strategic production cuts

- Competition in the PV market became increasingly fierce, and product prices fluctuated frequently.
- The instability of raw material prices brought greater uncertainty to production costs.
- Periodic fluctuations in market demand increased the risk of blindly expanding production scale.
- In response to the complex environment, the Company took measures to reduce production, focused on improving product quality, and ensured the stability of the Company's operations, demonstrating its resilience and strong market adaptability.





3.1.2 Continuously Optimized Customer Structure, Reserved Orders Appropriately

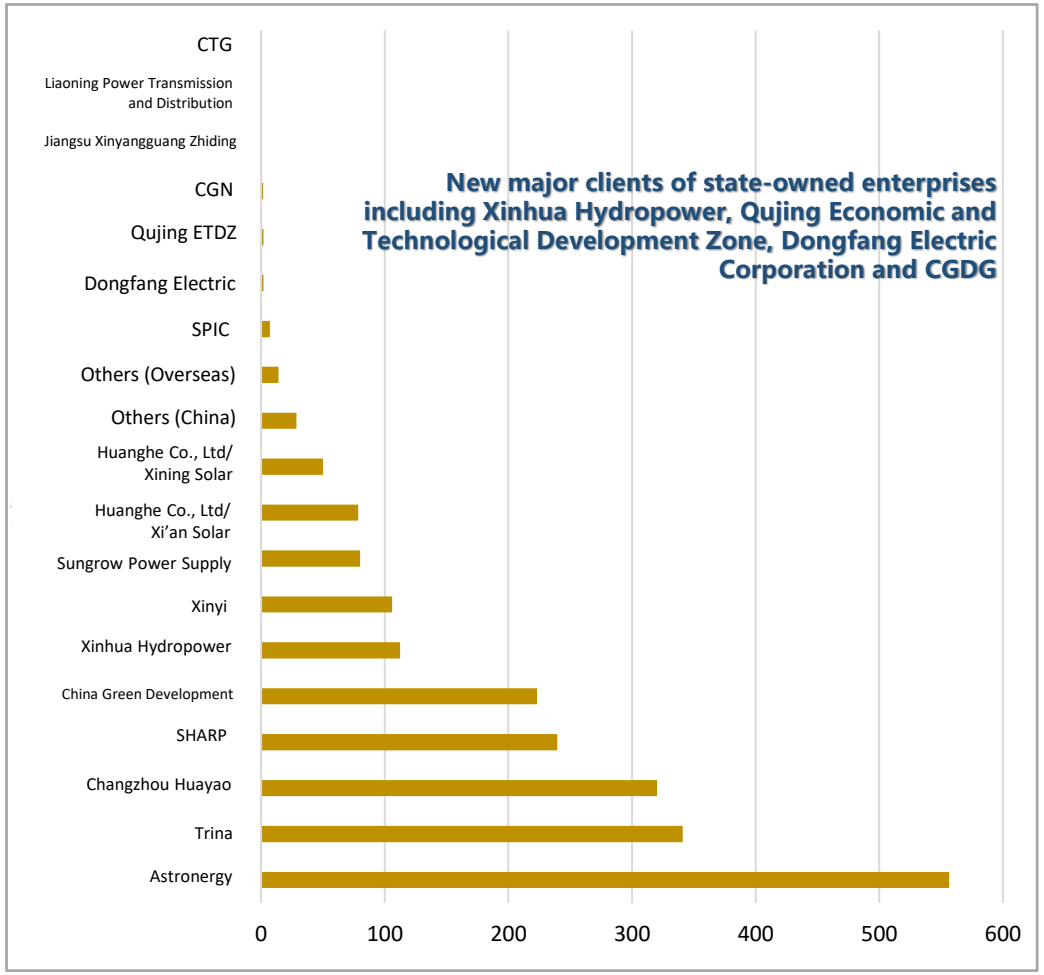
PV module business

Vigorously explored new channels and new customers

- In the first half of 2024, efforts were made to adjust the customer structure, with a steady increase in the proportion of distributed household PV products. The Group maintained stable cooperation with its newly developed leading household PV brands such as **Trina Power, Skyworth PV**, **Astronergy** and **Sungrow Household PV**.
- Leveraging the geographical advantage of its Beijing office, the Group actively sought new customers in other fields. In the first half year, it acquired new major clients of state-owned enterprises including **Xinhua Hydropower, Qujing ETDZ, DEC, and CGDG.**

Sufficient order reserve

- Sufficient order reserve in the module business ensured the stable operation and sustainable development of the enterprise.
- In the first half of 2024, the Group **secured a total of 12 projects** with a combined capacity of **2,139MW**. To date, the order reserve (excluding unallocated orders) for the second half of 2024 has exceeded **2,690.76MW.**
- Strengthened production management and supply chain management to ensure the smooth execution of customer orders.
- The 100MW monocrystalline double-sided single-glass modules supplied for the Da'an Wind and Solar Green Hydrogen Synthesis Ammonia Integration Demonstration Project of SPIC were successfully delivered. The Group is **the first enterprise in the industry to make deliveries using transparent mesh backplane modules.**



Customer structure of sales in 1H2024 (unit: MW)

3.1.3 Leveraging “Small, Fast, and Flexible” Strategy in the New Cycle

Core competitiveness of the Company

“Small”: The Group has continued to focus on the R&D and manufacturing of modules. It has concentrated resources on technology R&D and process improvement to enhance the performance and quality of PV modules, and also established closer cooperative ties with upstream raw material suppliers to ensure stable supply and reasonable price of raw materials, control costs, achieve refined management of production processes, reduce costs and improve efficiency.

“Fast": With a clear corporate structure and flat management, information transfer is efficient and smooth, enabling quick response to market changes and opportunities, as well as quick decision-making to seize market opportunities.

“Flexible": Amidst rapid changes in market demand, a high degree of flexibility in management enables the Group to quickly modify its operating strategies and adjust production lines to meet the customization needs of customers. When cooperating with partners, the Group can establish diversified cooperation models with upstream and downstream enterprises according to different project requirements, integrate resources from all parties, and achieve complementary advantages.

3.1.4 Adhering to Technological Innovation to Drive Business Sustainability

Core competitiveness of the Company

New materials

- Realized the design, R&D and industrial application of the innovative S7xy junction box. The innovative self-designed S7xy junction box has undergone diode design optimization and reached the highest technical level in the industry.

New technologies

- By conducting validation experiments on various packaging materials, optical module loss is significantly reduced and module performance is improved.
- The use of double-layer coated liquid glass, reflective films, reflective busbars, and other efficiency-enhancing materials has increased the proportion of high-power modules and further reduced module costs.
- During the industrialization research of the new 0BB battery welding technology, the Group, through the systematic development and continuous optimization of the welding process, has developed the exclusive low-temperature 0BB battery welding technology using the solder paste printing process; taking the lead in innovating the 0BB battery welding technology.

New products

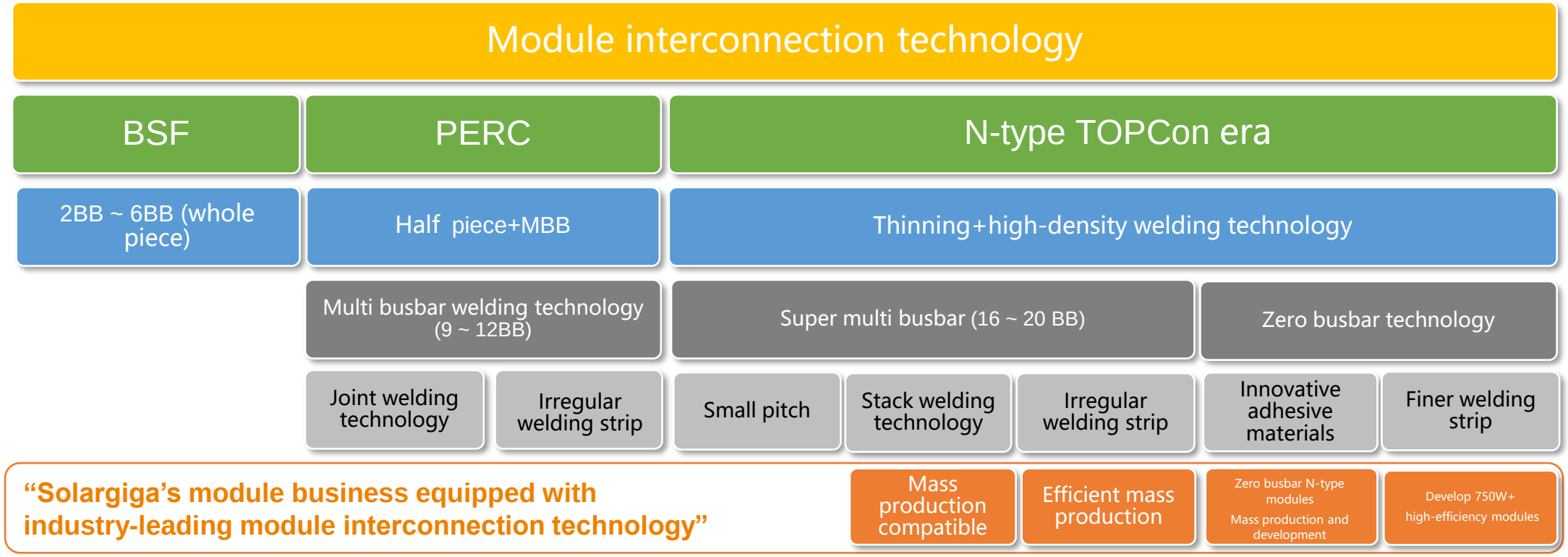
- To address market changes and tap the new product market, the Group has developed a variety of large-format rectangular chip modules and square chip modules. The maximum power of module shipments has reached 705-710W, achieving industry-leading standards.
- The Group’s technical R&D team has designed and developed differentiated products such as flexible modules, steel frame modules, polyurethane composite frame modules, dust-proof frame modules, 1.6mm double-glass lightweight modules, and ultra-high mechanical load modules. The team has also completed the floating integrated design and development of offshore modules to meet module demand from different markets and enhance competitiveness.

3.1.4 Industry-leading Module Interconnection Technology

Core competitiveness of the Company

The Group boasts industry-leading module interconnection technology with years of development in the PV sector

- The module interconnection technology has demonstrated outstanding performance and advantages in all aspects, from advanced welding technology to intelligent connection system, and from optimized circuit design to innovative material application.
- In terms of technical reserves, the Group started the R&D and mass production of N-type products as early as 2018. In addition, by proactively formulating the N-type TOPCon technology roadmap and promising technology roadmaps such as HJT and BC, as well as cooperating with Westlake University in the joint R&D of perovskite and other cutting-edge technologies, the Group has been able to enhance its core competitive advantages.
- Possessing extensive experience in the mass production of N-type modules, the Group can quickly respond to market demand, provide customers with high-quality and high-performance PV modules and green solutions, and drive the development of the entire PV industry.



3.1.4 Reliable Product Quality, Excellent Product Performance

Core competitiveness of the Company

Focus on R&D to drive business development

The Group has established a number of national and provincial innovation platforms and assembled a group of technical R&D personnel. Through these efforts, the Group has developed packaging solutions for single-glass TOPCon battery module packaging solutions, solved issues related to moisture resistance of TOPCon batteries, launched the brand-new TOPCon battery single-glass series products, and promoted the product design of a series of 18X battery modules, thus providing continuous impetus to the Company's development.

Product quality among the best in the industry

The Group has obtained the Laboratory Accreditation Certificate from CNAS, demonstrating that its laboratory meets the requirements of national accreditation standards in terms of technical capabilities, management standards and quality systems. To date, the Company has received certifications from several authoritative institutions in the industry, including CQC, VDE, TÜV Rheinland, TÜV SÜD for new products such as 183N/210R/210N/HJT. Among them, the N-type products performed well in the reliability test conducted by TÜV SÜD, achieving industry-leading standards. As of 1H2024, the Company has obtained 185 product patents, including 60 invention patents.

Excellent outdoor empirical test performance

The 182N/P modules has passed the extreme cold weather outdoor empirical test in Mohe, the northernmost part of China, and won the "Best Quality Award for Outdoor Empirical Test Performance under Extreme Cold Conditions in Mohe" (漠河極寒條件下戶外實證最佳品質獎). The Group’s 182N/210N/HJT products were among the first batch of modules to enter the outdoor empirical test base in Wenchang, Hainan, the southernmost part of China, which is characterized by high temperatures and humidity. These products achieved remarkable performance in terms of power generation and attenuation rate even under high temperature and humidity conditions. The module products also passed the most effective wind load resistance empirical test in the country, demonstrating extraordinary tolerance and stability.


CQC certification


VDE certification


Extra-stringent tests


INMETRO in Brazil


JET in Japan


Fire Prevention in Italy


CNAS certified laboratory

3.1.5 Continuous Lean Capacity and Production

Core competitiveness of the Company

Lean module production capacity

Production indicators exceed industry average

In 1H2024, the yield rate of 182mm modules of the Jinzhou production base exceeded 99.92%, and the fragmentation rate was below 0.17%, surpassing the industry' s advanced level. The Group' s Jianhu production base endeavored to build advanced intelligent production lines with an industry-leading automation rate of 87.5%. The energy consumption cost was controlled at RMB0.009/W, bettering the industry standard. All products underwent quality inspection, which was at the advanced level in the industry. For the 210R, 183.75 and 210N modules, the yield rate was 99.80%, 99.82% and 99.48% respectively, all better than the industry average.

Production takes full advantage of policy subsidies

The Group has actively launched R&D and experimental projects to ensure lean manufacturing. The research institute and test line at the Jianhu production base are entitled to government policy subsidies in Yancheng. These include:

- Newly purchased R&D testing equipment will receive government subsidies based on related investments;
- The government will provide financial rewards in proportion to Jianhu' s actual registered foreign investment;
- The factory of the Jianhu production base will be exempted from rent upon start of production;
- The factory buildings and supporting facilities used by the institute will be designed and renovated by the government free of charge.

3.2 Operating Performance

EPC Business

01

Construction and operation of PV power plants (EPC)

New production line completed: In the first half of 2024, the **BIPV crystalline silicon module R&D and production line with the largest unit capacity in China** was established in Yancheng, which realized the customization of module size and color, and launched special crystalline silicon module products such as imitation stones and color patterns, achieving low-cost mass production.

- During construction of the BIPV production line, a complete set of professional BIPV testing equipment was installed to conduct more in-depth research and development on the light transmittance, conversion efficiency, safety and durability of BIPV modules.
- Based on BIPV technology, a new type of zero-carbon mobile building product has been developed, which integrates small-scale prefabricated buildings with customized photovoltaics and energy storage, enabling off-grid energy operation and electricity, and providing customers with green buildings, LEED, near-zero energy building consulting, special design and certification services.
- In the first half of the year, zero-carbon mobile buildings launched a total of eight product series, which have been applied in Nanjing, Yancheng and other places.

3.2 Operating Performance

Semiconductor Business

02

R&D, production and sales of monocrystalline silicon semiconductors

In the first half of 2024, sales revenue increased by around **30%**↑ year-on-year, and the business turned profitable, with a significantly improved performance compared with the same period last year

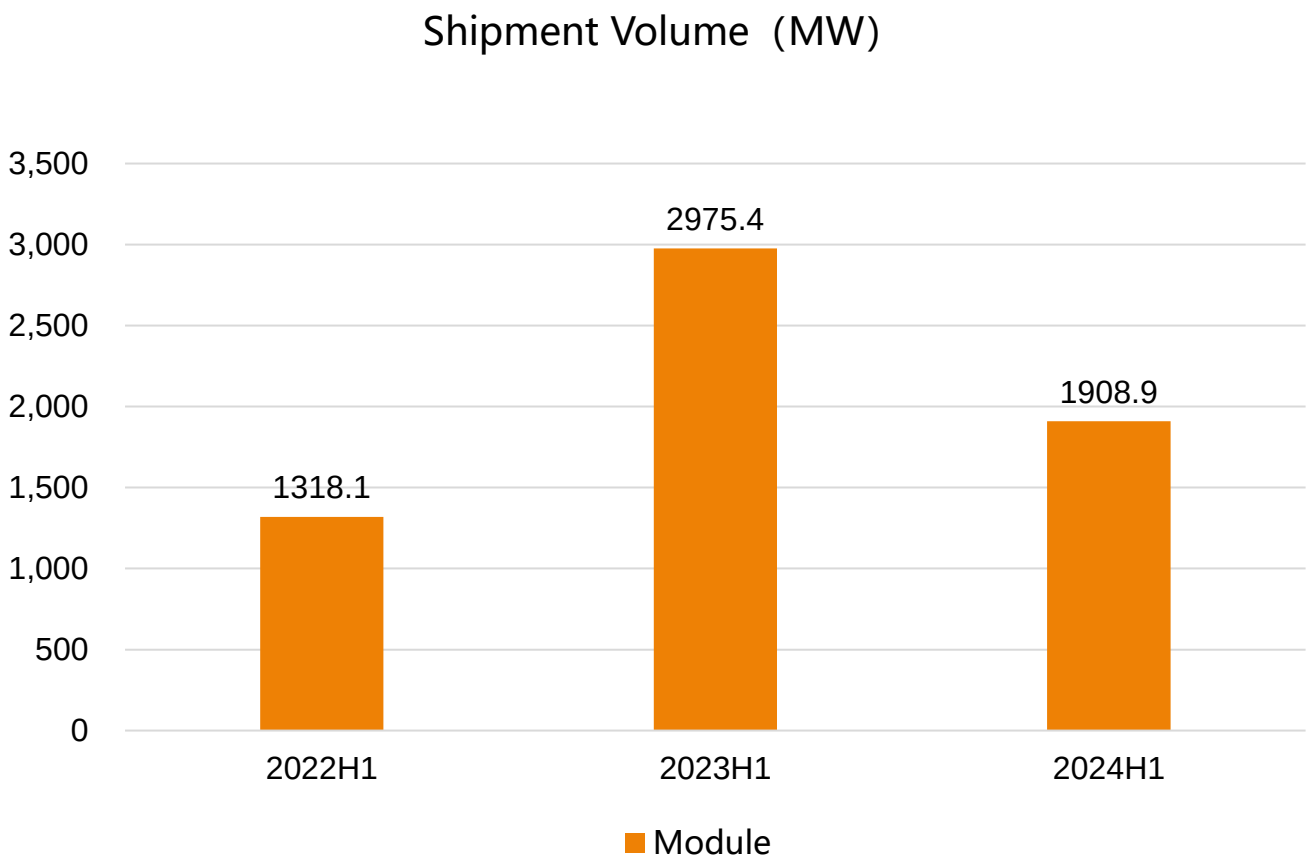
Upgrade of monocrystalline silicon semiconductor production equipment

- In the first half of the year, 20 sets of production equipment were added and 10 sets of production equipment were upgraded
- A new 2,000 sqm factory was constructed, adding 120 tons of advanced 6-16-inch production capacity.
- Eliminated outdated 4-5-inch production capacity and converted obsolete equipment to produce 6-inch monocrystalline silicon
- Once in production, the new project will help boost revenue and profitability

Financial Review 4

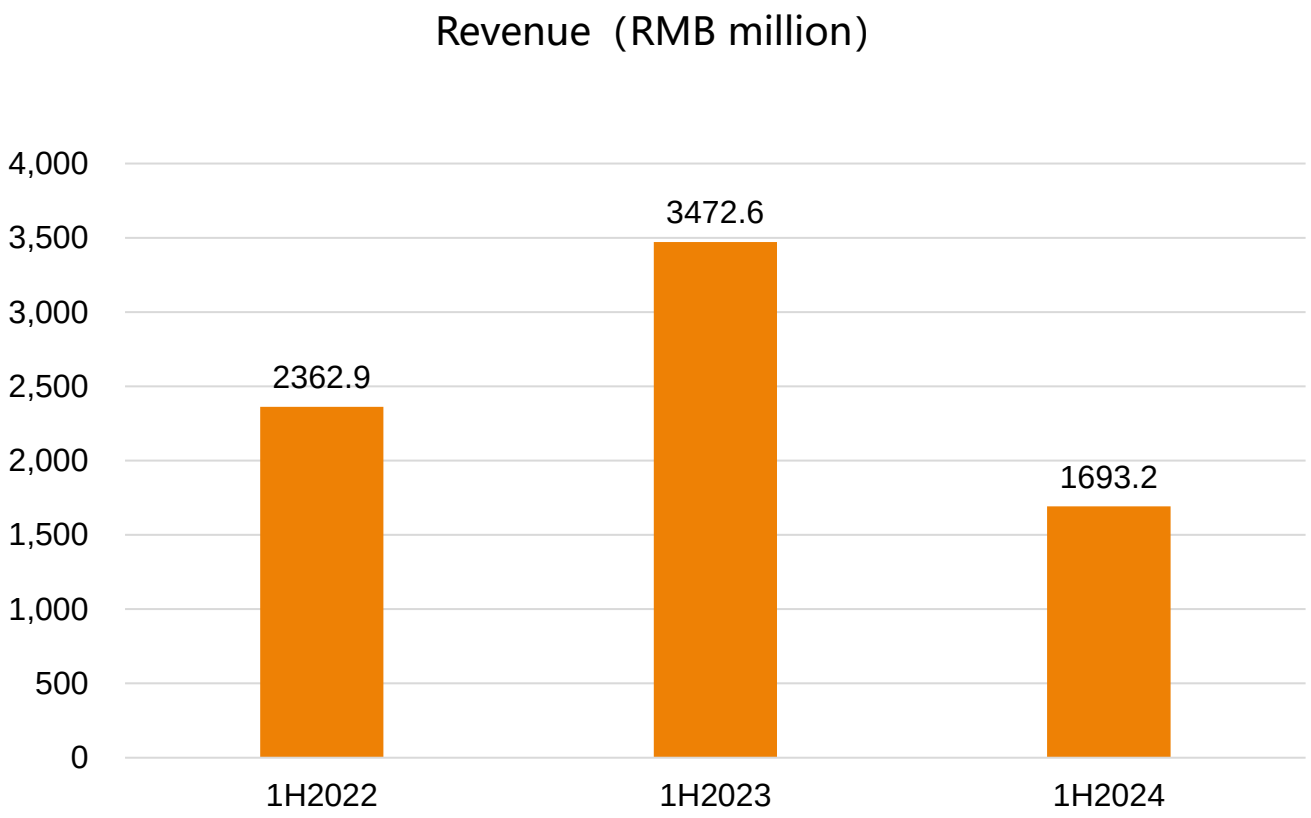
Financial Review

Shipment Volume



Financial Review

Revenue



Financial Review

2024 Interim Financial Results Highlights

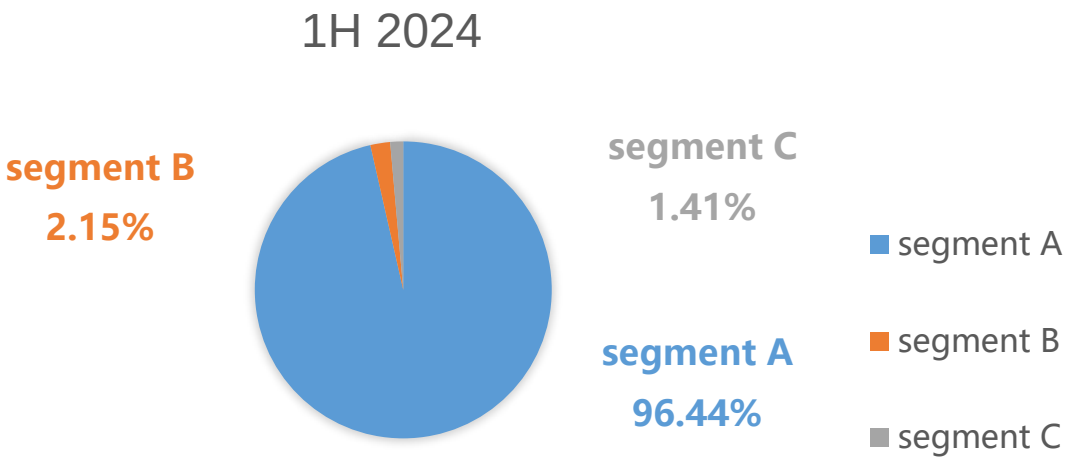
- The Group recorded a gross profit of approximately RMB22.0 million and a gross profit margin of 1.3% in the first half of 2024, as compared to a gross profit of approximately RMB233.8 million and a gross profit margin of 6.7% in the corresponding period in 2023. The decrease was mainly due to a sharp decline in photovoltaic module prices and write down of inventories.

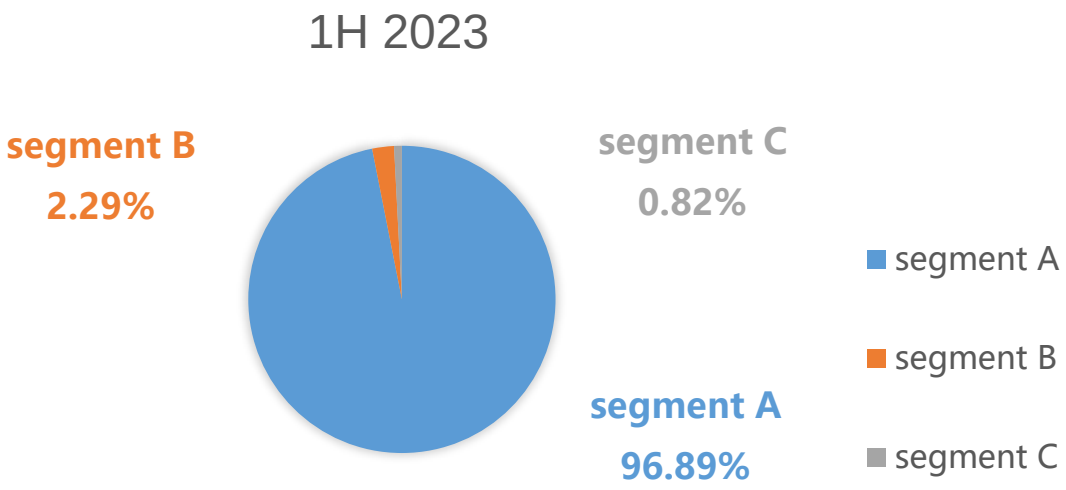
- During the period, the Group' s earnings before interest, taxes, depreciation and amortization ("EBITDA") was approximately RMB4.2 million (0.3% of the revenue) , as compared to approximately RMB263.5 million in the corresponding period of 2023 (7.6% of the revenue). The main reason for the decrease in EBITDA was attributed to the decrease in revenue and gross profit during the period.

Continuing Operations	1H2024	1H2023
Revenue (RMB million)	**1,693.2**	3,472.6
Gross Profit (RMB million)	**22.0**	233.8
Gross Profit Margin (%)	1.3%	6.7%
EBITDA from continuing operations (RMB million)	**4.2**	263.5
Profits for the year from continuing operations attributable to owners of the parent (RMB million)	**-101.1**	99.9
Basic Loss/earnings per share from continuing operations (RMB cents)	**-3.04**	3.01

Financial Review

1H2024 Revenue Breakdown

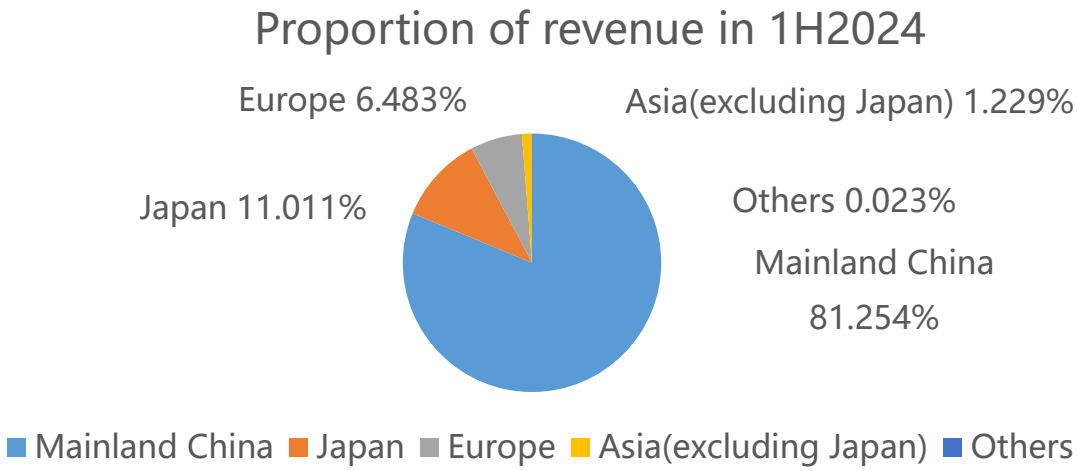


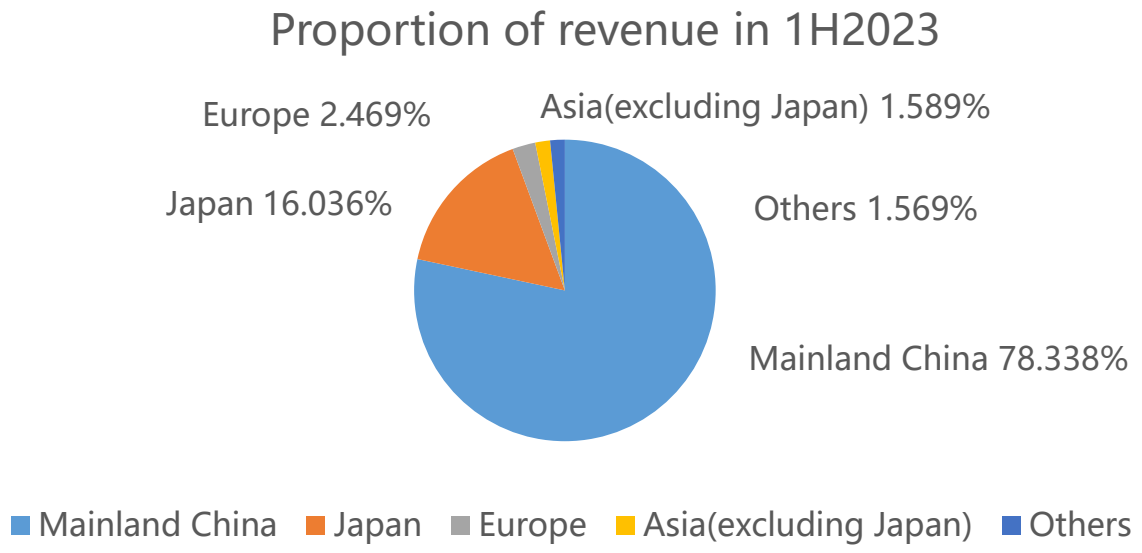


Segment	Operating business	1H2024 (RMB thousand)	1H2023 (RMB thousand)
A	The manufacture and trading of photovoltaic modules	**1,632,925**	3,364,532
B	The construction and operation of photovoltaic power plants	**36,341**	79,681
C	The manufacture and trading of semiconductor, the trading of monocrystalline silicon solar cells and others	**23,976**	28,384
	Total	**1,693,242**	3,472,597

Financial Review

Market Distribution





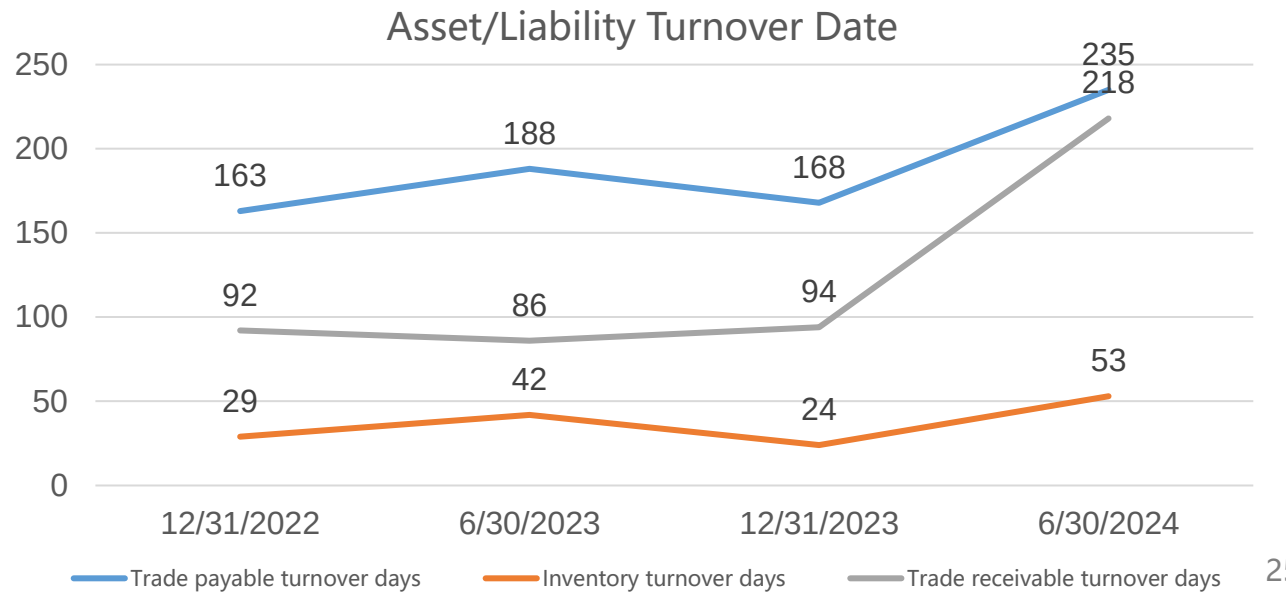
Revenue	1H2024 (RMB thousand)	1H2023 (RMB thousand)
Mainland China	**1,375,824**	2,720,350
Japan	**186,444**	556,862
Europe	**109,770**	85,740
Asia (excluding Japan)	**20,809**	55,170
Others	**395**	54,475
Total	**1,693,242**	3,472,597

Financial Review

Key Financial Indicators

- Due to a reduction in the external shipping volume of photovoltaic modules, the inventory turnover days of the period increased to 53 days
- The sales of photovoltaic modules accounted for over 95% of the Group' s overall sales for the period. According to the standard terms of the industry' s module sales contracts, the recovery of certain 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 218 days due to the settlement delay by some customers. The Group did not experience any significant credit risks due to strict credit control policies
- The trade payables turnover day was 235 days for the period, which was significantly higher comparing to 168 days as at 31 December 2023. The Group would like to utilize its operating funds in a more strategic manner for business growth. Under stable and frequent co-operations, the suppliers have increased our credit lines and payment terms

Turnover Day Analysis	30/6/2024	31/12/2023
Inventory Turnover (Days)	53	24
Trade Receivables Turnover (Days)	218	94
Trade Payable Turnover (Days)	235	168



Financial Review

Key Financial Indicators

- The operating activities resulted in a net cash outflow of approximately RMB121.7 million in the first half of 2024, compared to a net cash outflow of approximately RMB314.8 million in the same period of 2023. The main reason for the net cash outflow from operating activities are the reduction in revenue and gross profit
- The Group's overall liabilities was reduced by RMB869.5 million to reduce liabilities levels and financial costs

Cash flow	1H2024 (RMB million)	1H2023 (RMB million)
Net cash outflow from operating activities	-121.7	-314.8
Net cash (inflow)/outflow from investing activities	-82.1	405.2
Cash outflow from financing activities	-175.8	-439.1
Liabilities	**As of 30/6/2024 (RMB million)**	**As of 31/12/2023 (RMB million)**
Total current liabilities	3,301.1	4,121.8
Total non-current liabilities	304.4	353.3

Future Prospects & Strategies

5

5.1 Future Prospects and Strategies

Module Business

Increase investment and deepen intelligent manufacturing

- **Increase investment**: Renovate and expand the capacity of two major production bases and increase investment in technology research and development to accurately meet the customization needs of overseas customers and respond to the ever-changing market environment:

1. The second workshop of the Jinzhou production base will be upgraded to the latest automated production line, with an estimated investment of approximately RMB170 million
2. The second workshop of the Jianhu production base is planned to upgrade part of the string welding machines and automated equipment, with an estimated investment of approximately RMB60 million
3. Invest in a new laboratory and R&D line in Jianhu, Jiangsu, with an estimated investment of approximately RMB40 million

- **Intelligent manufacturing**: Introduce advanced production technologies and automation systems, and use IoT and big data analytics to achieve intelligent monitoring and optimization of production processes

Technological innovation and intellectual property cooperation

- **Deploy high-end technologies**: Deploy high-end technologies in the new module laboratory and test line in Jianhu, Jiangsu, with the aim of transforming scientific and technological achievements and creating 750W+ modules
- **Industry-university-research cooperation**: Establish a joint R&D platform with West Lake University and other key universities to conduct research on cutting-edge technologies such as perovskite
- **Product technology R&D path**: In the short term, it will focus on iterating and upgrading existing products, and in the medium to long term, it will continue to research and develop N-type BC modules, over 750W+ high-power modules and other high-efficiency products

Sustainable operation and stable development

- **Strengthen cost control and risk management**: Refine cost management, strengthen supply chain management, establish an early risk warning mechanism, and identify and respond to various risks in a timely manner
- **Global layout strategy**: Deeply cultivate key regional module export markets, and develop networks in Asia, Europe, Latin America, and the Middle East and Africa; actively map out zero-carbon mobile building products overseas
- **Make full use of national policies favorable to sustainability**: Interpret and respond to favorable policies such as the "Implementation Opinions on Promoting the Innovative Development of Future Industries" and the "2024-2025 Action Plan for Energy Conservation and Carbon Reduction"

Market expansion and brand building

- **Retain long-term customers and secure new customers**: Strengthen cooperation with existing key customers, explore potential customer groups, secure order base and build a sustainable customer structure
- **Establish close business relations with state-owned enterprises**: Actively participate in projects of state-owned enterprises, establish close business ties with more state-owned enterprises through strategic cooperation and resource cooperation, and establish new sales and customer resources
- **Strengthen the formation and dissemination of brand image**: Increase brand awareness and reputation through multiple channels; actively participate in charitable activities, fulfill social responsibilities, and enhance social image

5.2 Future Prospects and Strategies

EPC Business

Seek entry points for new business cooperation:

- Develop the operation and maintenance market and undertake operation and maintenance projects outside the Group
- Based on the existing business, the Company started to develop the "self-supported power plant" and "gifted power station" model to expand business scale

Actively respond to relevant national favorable policies:

- There is a large number of existing residential buildings available for renovation in the country, which will create continuous demand for customized BIPV modules as they better match the architectural beauty
- Due to its mobility and off-grid operation, the newly developed zero-carbon mobile buildings can be widely used in new industries such as cultural tourism, commerce, and urban management. The state issued the "Opinions on Promoting the High-Quality Development of Service Consumption" and other documents this year, emphasizing the need to strengthen the construction of national cultural and tourism consumption model cities and promoting the development of new businesses such as camping

Strengthen investment in production, education and research:

- Strengthen industry-university research cooperation with Southeast University in low-carbon construction, smart construction, carbon utilization and storage (CCUS), and promote the integration of PV buildings and zero-carbon building product technology

Lead industry standardization:

- Establish systematic protection of intellectual property rights. Zero-carbon mobile buildings integrate architecture, photovoltaics, and energy storage in technologies such as PEDF, building intelligence, and intelligent power integration
- Take the lead in national and local industry standardization and expand the application base of BIPV products

Global layout of new BIPV products:

- Based on the research and development of new products, adjust sales channels, expand into new industries and fields such as cultural tourism, urban management, and production base construction, and apply a series of zero-carbon building products
- Actively expand overseas markets and promote zero-carbon mobile building products to meet the needs of some countries for energy supply and saving construction labor

5.3 Future Prospects and Strategies

Semiconductor Business

Expand the market share of key products:

- Focus on the development of 6-inch semiconductor monocrystalline silicon and actively invest in the research and development of 8-inch semiconductor monocrystalline silicon
- Aim to establish a production and management system with 8-inch monocrystalline as the core product within three years to meet market demand for higher performance and larger size monocrystalline silicon

Cross-sectoral applications of silicon carbide semiconductors:

- Vigorously develop 8-inch monocrystalline silicon carbide, increase R&D investment, and optimize production processes to ensure mass production within three years

International cooperation to accelerate development of new products:

- Joint research and development with Japanese optoelectronic semiconductor companies to jointly develop optoelectronic semiconductor materials and devices
- Aim to achieve mass production of 12-inch optoelectronic semiconductor monocrystalline silicon within three years, and provide high-performance core materials for optoelectronic semiconductors

Map out differentiated paths such as special-shaped silicon:

- Previously developed and sold special-shaped silicon products in small batches, and will continue to expand the variety and production capacity to meet the growing demand for these products in the market

Solargiga Energy

THANK YOU