**Shanghai Putailai New Energy Technology Co., Ltd.**

**2025 Semi-annual Report Summary**

* 1. **Company Information**

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| --- | --- |
| Company Name (Chinese) | 上海璞泰来新能源科技股份有限公司 |
| Abbreviation (Chinese) | 璞泰来 |
| Company Name (English) | Shanghai Putailai New Energy Technology Co., Ltd. |
| Abbreviation (English) | Putailai, PTL |
| Legal Representative | Liang Feng |

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| --- | --- | --- |
|  | **Secretary of the Board** | **Representative for Securities Affairs** |
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* 1. **Introduction of Main Business**

As an integrated solution provider and platform-based enterprise specializing in key materials for new energy batteries, automated equipment, and related services, PTL's core business spans two major segments: new energy battery materials and supporting services. The material portfolio includes anode materials, coated separators, polyvinylidene fluoride (PVDF) and binders, nano-alumina, boehmite, aluminum-plastic composite films, and composite current collectors. On the service front, the company offers automated equipment and Coating as a Service (CAAS) tailored for the new energy battery industry.

Driven by power batteries and energy storage batteries, the global new energy battery market maintained a robust growth trajectory in the first half of 2025. Leveraging its R&D and process innovation advantages, PTL actively addressed downstream customer demands with a differentiated portfolio of new products, solidifying its competitive position in the rapidly evolving industry. During the reporting period:

Overall, the orders for the separator coating processing business were full. While closely matching the incremental demand from power battery customers, the company achieved significant breakthroughs in the energy storage field, with its market share continuously increasing and sales growth outpacing the industry average.

Breakthroughs in base film products and new ultra-fine alumina products provided strong support for the development of the company's coating processing business.

The PVDF business effectively seized market opportunities and secured incremental orders through stable product quality control.

In the anode materials business: by optimizing product design, upgrading process technologies, and making major innovations in production and testing equipment, PTL achieved cost reduction and efficiency improvement, with its operating conditions gradually improving. The company accelerated the development of new products, many of which had obvious leading advantages in performance, and the mass production introduction by downstream customers progressed in an orderly manner. The first-phase capacity of the Sichuan integrated anode factory was gradually put into production, laying a solid foundation for improving costs and capturing customer markets.

In the automated equipment business: Leading battery customers actively expanded production to meet market demand and the company saw a significant rebound in the amount of newly received orders in the first half of the year relying on the leading technical capabilities and market position, and its market share of mid-to-late-stage equipment (such as liquid injection machines, lamination machines, formation machines, and wrapping machines) continued to increase.

* 1. **Key Accounting Data and Financial Indicators in the past**
  2. **Key accounting data**

Unit: CNY

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| --- | --- | --- | --- |
| **Item** | **H1 2025** | **H1 2024** | **Change(%)** |
| Operation revenue | 7,087,860,729.92 | 6,331,503,447.13 | 11.95 |
| Total profit | 1,307,328,545.13 | 1,054,060,431.57 | 24.03 |
| Net profits attributable to shareholders of the listed company | 1,055,331,469.87 | 857,818,309.78 | 23.03 |
| Net profits attributable to shareholders of the listed company after deduction of non-recurring gains and losses | 992,110,848.63 | 768,067,187.61 | 29.17 |
| Net cash flow from operating activities | 1,223,116,085.18 | -360,684,896.96 | 439.11 |
| **Item** | **30 June 2025** | **31 Dec 2024** | **Change(%)** |
| Net assets attributable to shareholders of the listed company | 19,091,627,461.43 | 18,387,096,048.41 | 3.83 |
| Total assets | 44,425,215,865.38 | 42,103,555,050.29 | 5.51 |

* 1. **Key Financial Indicators**

Unit: CNY

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| --- | --- | --- | --- |
| **Key Financial Indicators** | **H1 2025** | **H1 2024** | **Change(%)** |
| Basic earnings per share (CNY/share) | 0.49 | 0.40 | 22.50 |
| Diluted earnings per share (CNY/share) | 0.49 | 0.40 | 22.50 |
| Basic earnings per share after deducting non-recurring gains and losses (CNY/share) | 0.46 | 0.36 | 27.78 |
| Weighted average ROE (%) | 5.58 | 4.71 | 0.87 |
| Weighted average ROE after deducting non-recurring gains and losses (%) | 5.25 | 4.23 | 1.02 |

* 1. **Discussion and analysis of business situation**

During the reporting period, the company achieved an operating revenue of CNY 7.09 billion, representing a yoy increase of 11.95%; the net profit attributable to shareholders of the listed company reached CNY 1.06 billion, with a yoy growth of 23.03%; and the net profit attributable to shareholders of the listed company excluding non-recurring gains and losses stood at CNY 992 million, posting a yoy rise of 29.17%. The main business operations of the company's various businesses during the reporting period are as follows:

**(I) New Energy Battery Materials and Services**

During the reporting period, the company's new energy battery materials and services business achieved a main business revenue of 5.38 billion yuan, a yoy increase of 15.59%. The specific conditions of each business are as follows:

1. Separator Materials and Coating Processing

As the world's only enterprise that has realized the industrial integration of "process, equipment, and materials" for separators, PTL has built core technological barriers in key material fields such as base films, key coating equipment, coating materials, and binders over the years, achieving sustained collaborative and innovative development. In terms of the innovation of next-generation new materials, the company has actively laid out businesses in composite current collectors, solid-state electrolytes, chip materials, materials related to humanoid robots, and micro-nano metal powder production technology, which is expected to open a new chapter in new fields.

(1) Separator and Coating Processing

The company closely followed the incremental demand of power battery customers and matched it with capacity support. At the same time, we achieved breakthroughs in shipment volume in the consumer and energy storage fields. In the first half of 2025, the processing volume (sales volume) of coated separators reached 4.77 billion m2, a yoy increase of 63.85%, outpacing the industry's average growth rate; this accounted for 42.62% of China's wet-process separator shipments (11.2 billion m2) in the same period, maintaining a leading market share. Benefiting from the gradual commissioning of efficient production capacity of Sichuan AET, the company's separator and base film products were continuously introduced to downstream power and energy storage customers in the first half of 2025, with the sales volume of base films reaching 528 million m2, achieving leapfrog growth.

The company's next-generation ultra-high-speed suspended separator coating equipment has been applied in batches; the self-developed next-generation ultra-wide width, low-energy consumption wet-process base film production lines have been successfully developed and actively deployed. In collaboration with the equipment team of Sichuan Katop, the company has orderly carried out the development of production lines with an annual capacity of 300 million m2, based on the existing single-line capacity of 200 million m2 per year. A series of next-generation separator products featuring high temperature resistance, puncture resistance, ultra-thinness, high porosity and high strength, as well as diverse morphologies and forms have been continuously launched. Flame-retardant separators, glued separators for digital silicon anode batteries, and fluorine-free water-based environmental protection new process technologies have entered the application stage, further consolidating the company's competitive advantage in the global coated separator industry.

Relying on its long-term in-depth cultivation in separator and coating material technologies, and through AI information integration and automated process iteration, the company has realized "lights-out factory" production in multiple bases and is moving towards the new goal of "zero-carbon factories". At present, the company has completed the localized deployment of AI hardware and systems; in the future, it will use AI technology to gradually reshape business processes, shorten emergency response time and improve production efficiency. Based on sound business systems and high-quality data, it will deepen lean production and operation management, and continuously promote the digital and intelligent transformation of AI in the company's manufacturing field.

(2) PVDF and Binders

In the first half of 2025, the lithium battery-grade polyvinylidene fluoride (PVDF) market was highly competitive. With excellent product performance and accurate market positioning, the company achieved a sales volume of 14,607 tons of PVDF and fine chemicals, a substantial yoy increase of 68.19%, and maintained a leading market share in lithium battery-grade PVDF. Focusing on fields such as separators and cathode, the company has continuously increased R&D investment in many new products to improve product adhesiveness, dispersibility, and flexibility, as well as enhance its technical service capabilities for customers.

Indigo, the company's associated enterprise, is the first enterprise in the industry mainly engaged in PAA-based water-based binders for lithium batteries. It holds a leading market share, has obtained nearly 100 domestic and overseas patents, and its products have prominent performance advantages, which can improve the comprehensive electrical performance, cycle life, and fast-charging capability of lithium batteries. Indigo responded to fierce competition through technological and product upgrades, and supported the sustained growth of its business through scale effects and customer stickiness. In the first half of 2025, it achieved a product sales volume of 38,200 tons, a yoy increase of 153.1%.

(3) Metal Composite Films

In the first half of 2025, the aluminum-plastic composite film market remained highly competitive. The company continuously improved product quality, made sustained efforts in the mid-to-high-end customer market, and expanded its customer share in the mid-to-high-end market. By increasing the self-supply rate of materials, upgrading equipment, optimizing processes, and improving supply chain management, it actively reduced costs and increased efficiency, partially offsetting the pressure from product price fluctuations and achieving business profitability. In the first half of 2025, the company's sales volume of aluminum-plastic composite films reached 9.66 million m2, a yoy increase of 28.97%. The company's composite copper foil and composite aluminum foil have completed testing and entered the preparation stage for mass production.

(4) Other New Material Products

Innovative products such as high-strength, high-elongation alloy foils suitable for the sulfide system of solid-state batteries, ultra-strong foils, and mesh-punched copper foils have been developed and entered the customer evaluation stage; oxide solid-state electrolytes (LATP, LLZO) have achieved mass production. Nano-alumina for chip polishing has undergone small-scale testing at customer sites; Low-α spherical alumina for chip packaging has been developed and is currently under customer evaluation. At the same time, the company is developing silicon nitride for bearings and substrate materials of humanoid robots, striving to achieve import substitution. In the field of additive manufacturing, the company has reserved a variety of micro-nano metal powder production technologies, which are expected to gain new application scenarios.

2. Anode Materials

(1) In recent years, prices in the anode materials industry have remained at a low level. The company has strictly controlled the shipment volume of low-priced products to maintain a healthy cash flow. In the first half of 2025, the company's anode materials shipments reached approximately 70,000 tons, representing a slight yoy increase. During the reporting period, through the implementation of various cost-reduction and efficiency-enhancement measures—such as raw material processing technology optimization, graphitization technical transformation, and supply chain management—the company's anode materials production costs have been reduced and profitability has been positively improved. By the end of the period, inventory had further decreased, and the overall inventory scale had moved toward a reasonable level.

(2) In terms of capacity construction, the first-phase capacity of Sichuan Zichen has been gradually put into production. The company has conducted pilot batch production for the core products that are about to enter mass production; test results show that the products meet customer requirements, and unit cost control is expected to reach the target level. The company's core customers have completed factory audits, and shipments have been gradually realized. In the second half of 2025, with the steady commissioning of the company's advanced production capacity and the expected mass supply of innovative products, the per-ton profitability of the company's anode materials business is expected to show a quarter-by-quarter improvement trend.

(3) In terms of new product development and customer onboarding, the company actively communicates with leading customers, continuously advances the upgrading, iteration, and mass production onboarding of key products, and maintains customer stickiness. During the reporting period, the company's multiple innovative product series—featuring high capacity, long cycle life, and ultra-fast charging—have demonstrated leading performance and distinct advantages, and downstream customers have successively entered the pilot batch production stage, with expected volume release in the second half of the year. The equipment installation and commissioning for the first-phase silicon-carbon anode capacity of Anhui Zichen have been basically completed, and the production capacity is now available. It is expected to gradually achieve volume application in the consumer electronics and UAV (unmanned aerial vehicle) fields.

**(II) New Energy Automation Equipment and Services**

During the reporting period, the company's new energy automation equipment and services business achieved operating income of CNY 1.84 billion, representing a slight yoy increase. The specific business conditions are as follows:

Since 2025, the global power and energy storage battery market has witnessed strong demand. Domestic consumption subsidy policies have driven the growth of demand for consumer electronic products; coupled with overseas new players actively deploying local production capacity, a new round of demand for lithium battery equipment has been stimulated. In the first half of 2025, the new orders received by the company's equipment business exceeded CNY 2.4 billion, showing a significant rebound, which ensures the stable development of the company's annual business scale.

During the reporting period, the company's pole piece coating machines continued to maintain a leading market share in China. The company has promoted cost-reduction and efficiency-enhancement work through various means, including optimized design, technological improvements, centralized material procurement, information construction, and refined management, and its profitability has remained relatively stable. Mid-to-late-stage equipment products—such as stackers, helium leak detectors, liquid injectors, formation and grading equipment, and coating machines—have achieved batch shipment and acceptance, enriching the company's revenue sources.

The company has made significant breakthroughs in the development of cutting-edge innovative fields such as solid-state batteries and battery material equipment, and has secured incremental orders. The equipment types include production equipment for the solid-state battery field (such as mixers, coating machine, calendering machine, film formers, compound machines, and lithium metal anode forming equipment) as well as special equipment for the battery material field (such as wet-process separators, composite current collectors, and CVD-deposited silicon-carbon anodes). With the continuous fulfillment of incremental orders on hand, the company is constantly accumulating process experience in the field of cutting-edge equipment, laying a solid foundation for its long-term development.

To further strengthen the long-term competitive advantages of the company's automation equipment business and expand financing ways, during the reporting period, Katop—the company's automation equipment business platform—launched the process of listing on the National Equities Exchange and Quotations (NEEQ). The program is progressing smoothly.

**(III) Coating Processing Service (CAAS)**

In the first half of 2025, the company officially established the Pole Piece Business Unit. Relying on its platform-based layout of "materials + equipment", PTL provides pole piece toll processing services for domestic and overseas battery manufacturers, automobile companies, and energy storage customers, and actively explores the "full-roll" delivery model. At present, the company's pole piece production lines can be matched with various types of batteries; the company is actively developing pole piece processing solutions that meet customer needs together with downstream battery customers, and has launched preliminary R&D cooperation with overseas customers, with expected gradual volume growth in the second half of the year. In the future, the company will actively expand markets and customers, continuously improve manufacturing yield and efficiency, further advance cost reduction and efficiency enhancement, constantly strengthen its integrated service capabilities and competitive advantages, and actively create value for customers.

* 1. **Shareholdings of the Top Ten Shareholders**

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| --- | --- | --- | --- | --- | --- | --- |
| Shareholdings of the top ten shareholders | | | | | | |
| Shareholder name  (full name) | Increase or decrease during the reporting period | Number of shares held at the end of the period | Proportion(%) | Number of shares held with restrictions on sales | Shares in pledge, marked or frozen | |
| Share Status | Quantity |
| Liang Feng | 0 | 531,510,881 | 24.87 | 0 | In pledge | 315,800,000 |
| Ningbo Shengyue Venture Capital Partnership (Limited Partnership) | 0 | 230,261,325 | 10.77 | 0 | In pledge | 93,000,000 |
| Ningbo Kuoneng Venture Capital Partnership (Limited Partnership) | 0 | 199,799,546 | 9.35 | 0 | none |  |
| Chen Wei | 0 | 176,698,100 | 8.27 | 0 | none |  |
| HKSCC | -9,299,025 | 92,540,408 | 4.33 | 0 | none |  |
| China Construction Bank Corporation - Huaxia Energy Innovation Equity Securities Investment Fund | 0 | 43,177,892 | 2.02 | 0 | none |  |
| Xiaodong Qi | 0 | 37,990,000 | 1.78 | 0 | none |  |
| China Construction Bank Corporation - China Asset Management Energy Innovation Equity Securities Investment Fund | 359,200 | 22,317,114 | 1.04 | 0 | none |  |
| Postal Savings Bank of China Co., Ltd. - Orient Fund Small and Medium-Cap Growth Open-End Hybrid Securities Investment Fund | -9,326,819 | 21,225,586 | 0.99 | 0 | none |  |
| Agricultural Bank of China Limited - CSI 500 Exchange-Traded Open-End Index Securities Investment Fund | 15,853,655 | 15,853,655 | 0.74 | 0 | none |  |

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